



European  
Society of  
Hypertension



# ESH SUMMER SCHOOL 2025

Säröhus, Sweden, September 14<sup>th</sup>-19<sup>th</sup>

A scenic photograph of a lighthouse on a rocky island at sunset. The lighthouse is a two-story white building with a dark roof and a small tower. The sky is a mix of orange, pink, and blue. The water is calm, reflecting the colors of the sky. A small boat is visible in the distance on the left.

**FINAL PROGRAM**

# European Society of Hypertension

## ESH Summer School 2025

*Hypertension, cardiometabolic disorders and kidney disease*

### INTERNATIONAL FACULTY

Professor **Thomas Weber**, Austria, ESH President

Professor **Andrzej Januszewicz**, Poland, ESH Vice President

Professor **Christian Delles**, UK, ESH Secretary

Professor **Jan Danser**, Netherlands, ESH Treasurer

Professor **Jana Brguljan**, Slovenia, Coordinator ESH Summer School

Professor **Alexandre Persu**, Belgium, Coordinator ESH Working Groups

Professor **Michael Doumas**, Greece, Coordinator ESH Excellence Centres

Professor **Reinhold Kreutz**, Germany, Past President and Co-Chair of the 2023 ESH Guidelines

Professor **Krzysztof Narkiewicz**, Poland, Past President of ESH

Professor **Sverre Kjeldsen**, Norway, Past President of ESH

Dr **Diana Ferrao**, Portugal

Professor **Michel Burnier**, Switzerland

Professor **Atul Pathak**, Monaco

Professor **Enrique Rodilla Sala**, Spain

Dr **Lene Halvorsen**, Norway

Professor **Teemu Niiranen**, Finland

### LOCAL FACULTY

Associate Professor **Mattias Brunström**, Umeå University, ESH Executive Officer

Professor **Jonas Spaak**, Karolinska Institute

Associate Professor **Karin Rådholm**, Linköping University

Professor **Thomas Kahan**, Karolinska Institutet

Professor **Peter Nilsson**, Lund University

Associate Professor **Sara Bergstrand**, Linköping University

Professor **Johan Sundström**, Uppsala University

Professor **Petter Ljungman**, Karolinska Institute

Dr **Helge Brandberg**, Karolinska Institute

### DAY 1 - SUNDAY AFTERNOON, SEPTEMBER 14TH, 2025

Afternoon	ARRIVAL OF HYPERTENSION SUMMER SCHOOL STUDENTS, Säröhus, Särö, Sweden
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#### 17:00-19:00 PART I - MEETING INTRODUCTION

17:00-17:10 Welcome to ESH Summer School 2025  
(Mattias Brunström & Thomas Weber)

17:10-17:20 ESH Summer School – the past, the present and the future  
(Jana Brguljan)

17:20-17:30 ESH young investigators  
(Diana Ferrao)

17:30-17:40 Engage in the ESH – presentation of working groups  
(Alexander Persu)

17:40-18:00 Presentation of participants, faculty and groups  
(Jonas Spaak)

18:00-19:00 Group activity (ICEBREAKING) – speed dating  
(All faculty and participants)

19:00-22:00 Welcome reception & dinner

Participants will be grouped according to clinical/research interest (appr. 10 people per group). Groups will work together with critical appraisal of guidelines, presentation of research projects and clinical cases. Workshops will be chosen by students themselves.



## DAY 2 - MONDAY, SEPTEMBER 15TH, 2025 - GUIDELINES

08:30-10:00 GUIDELINES - INTRODUCTION  
Chairs: Thomas Weber & Jana Brguljan

The purpose of and introduction to the ESH guidelines – Reinhold Kreutz (20 min)  
Workflow and assessment of the evidence – Mattias Brunström (20 min)  
Navigating different guidelines in primary care – Peter Nilsson (20 min)  
Discussion (30 min)

COFFEE

10:30-12:00 GROUP ACTIVITY – CURRENT GUIDELINES  
Chairs: Mattias Brunström & Christian Delles

Critical appraisal of the ESH guidelines – what and why?

Each group assigned a topic:

- Epidemiology of hypertension
- Blood pressure measurement in clinical practice
- Cardiovascular risk assessment and evaluation of end-organ damage
- General treatment strategy
- Resistant hypertension
- Adherence and follow-up

12:00-13:30 LUNCH

13.30-16:00 GUIDELINES – PRESENTATION & DISCUSSION  
Chairs: Mattias Brunström & Christian Delles

Each group present their topic (10 min) with faculty discussant (10 min):

- Epidemiology of hypertension – Discussant Peter Nilsson
- Blood pressure measurement in clinical practice – Discussant Teemu Niiranen
- CV risk assessment and evaluation of end-organ damage – Discussant Thomas Weber

SHORT BREAK

- General treatment strategy – Discussant Enrique Rodilla Sala
- Resistant hypertension – Discussant Alexandre Persu
- Adherence and follow-up – Discussant Michel Burnier

16:00-16:30 SWEDISH FIKA

16:30-17:30 STUDENT PRESENTATIONS IN GROUPS (appr 10 students)  
Discussants: 1-3 faculty per group

2 students (10-15 min presentation, 10-15 min discussion per student)

17:30-19:00 HYPERTENSION IN PERSPECTIVE  
Chairs: Thomas Weber & Karin Rådholm

Hypertension in minorities – Christian Delles (20 min)  
War, post-traumatic stress and cardiovascular risk – Alexandre Persu (20 min)  
Climate change and cardiovascular disease – Petter Ljungman (20 min)  
Discussion (30 min)

19.00- 22.00 DINNER



## DAY 3 - TUESDAY, SEPTEMBER 16TH, 2025 – SPECIAL POPULATIONS

08:30-09:30 FRONTIERS IN E-HEALTH AND TECHNOLOGY  
Chairs: Diana Ferrao & Andrzej Januszewicz

Cuffless BP and wearables – Jonas Spaak (15 min)  
Pulse-wave analysis and usefulness of arterial stiffness – Thomas Weber (15 min)  
AI applications in health care – Helge Brandberg (15 min)  
Discussion (15 min)

COFFEE

10:00-12:00 WORKSHOPS & CLINICAL CASES – 55 min x2

1. Measurement of arterial stiffness, theory and practice – Weber / Lundwall / Nilsson
2. Assessing peripheral microvascular function, theory and practice – Bergstrand / PeriMed representative
3. Risk assessment beyond SCORE – risk modifiers – Niiranen / Rodilla Sala
4. Blood pressure, syncope and autonomic failure – Kahan / Delles
5. Malignant hypertension case discussions – Januszewicz / Persu

12:00-13:30 LUNCH

13:00-14:00 STUDENT PRESENTATIONS IN GROUPS (appr 10 students)  
Discussants: 1-3 faculty per group

2 students (15 min presentation, 15 min discussion per student)

14:00-16:00 WORKSHOPS & CLINICAL CASES – 55 min x2

1. Measurement of arterial stiffness, in theory and practice – Lundwall / Nilsson
2. Assessing peripheral microvascular function, in theory and practice – Bergstrand / PeriMed representative
3. What matters for guidelines – designing and appraising science – Brunström / Delles
4. Managing blood pressure in complex patients with multi-morbidity – Spaak / Burnier
5. Secondary hypertension case discussions – Persu / Januszewicz

18.00- 21.00 BOAT TRIP WITH DINNER



## DAY 4 - WEDNESDAY, SEPTEMBER 17TH, 2025 - TREATMENT

08:30-10:00 NEW THERAPIES ON THE HORIZON  
Chairs: Thomas Kahan & Michael Doumas

Endothelin Receptor Antagonists - Michel Burnier (15 min)  
Aldosterone Synthase Inhibitors and new MRA - Lene Halvorsen (15 min)  
Renal denervation - Atul Pathak (15 min)  
SiRNA - Jan Danser (15 min)  
Discussion (30 min)

COFFEE

10:30-12:00 CARDIOMETABOLIC AND RENAL PROTECTION  
Chairs: Atul Pathak & Lene Halvorsen

Obesity and cardiometabolic risk prevention - Krzysztof Narkiewicz (15 min)  
Lifestyle interventions for obesity and BP? - Karin Rådholm (15 min)  
Medical and surgical strategies for weight loss and BP - Michael Doumas (15 min)  
Crossroads of cardiology, nephrology and diabetology - Jonas Spaak (15 min)  
Discussion (30 min)

12:00-13:30 LUNCH

13:00-14:00 STUDENT PRESENTATIONS IN GROUPS (appr 10 students)  
Discussants: 1-3 faculty per group

2 students (15 min presentation, 15 min discussion per student)

14:00-16:45 CLINICAL DRUG DEVELOPMENT

14:00-14:45 BUS TO ASTRAZENECA RESEARCH FACILITY

14:45-16:45 SCIENTIFIC PROGRAM AT AZ FACILITY

- Round tour (AZ representatives)
- Drug development from early to late stage (Björn Carlsson)
- Clinical trials - academic trialist perspective (Sverre Kjeldsen)
- Discussion (Speakers and faculty)

16:45-17:15 BUS TO CENTRAL GOTHENBURG

17:30-23:00 CULTURAL ACTIVITY AND DINNER DOWNTOWN



## DAY 5 - THURSDAY SEPTEMBER 18TH 2025 - SCIENCE AND VASCULAR FUNCTION

08:30-09:30 PRO-CON debate: risk-based or blood pressure-based treatment of hypertension  
Chairs: Thomas Kahan & Krzysztof Narkiewicz

It is all about risk - Johan Sundström (20 min)  
BP treatment should be guided by BP level - Sverre Kjeldsen (20 min)  
Discussion (20 min)

COFFEE

10:00-12:00 WORKSHOPS & CLINICAL CASES - 55 min x2

1. Choosing statistical model and covariates - Sundström / Brunström
2. Clinical ECG interpretation in hypertension - Kjeldsen
3. ABPM interpretation and treatment - Narkiewicz / Doumas
4. Renal function and electrolytes - Halvorsen / Spaak
5. Assessing frailty and managing the elderly hypertensive patient - Rådholm / Nilsson

12:00-13:30 LUNCH

13:00-14:00 STUDENT PRESENTATIONS IN GROUPS (appr 10 students)  
Discussants: 1-3 faculty per group

2 students (15 min presentation, 15 min discussion per student)

14:00-16:00 ROUND TABLE DISCUSSIONS

1. How to make a critical appraisal of published research, and how to select a paper for publication  
- the Editor's perspective - Kahan / Brguljan / Kjeldsen

2. Round table discussion on career management (supported by Servier) - Brguljan / Halvorsen / Rådholm / Kjeldsen / Lundwall / Sundström /

COFFEE

17:00-18:00 STUDENT PRESENTATIONS IN GROUPS (appr 10 students)  
Discussants: 1-3 faculty per group

2 students (15 min presentation, 15 min discussion per student)

18:00-18:30 PART XIII - TAKE-HOME MESSAGE AND THE FUTURE  
Chairs: Mattias Brunström & Jana Brguljan

Summary of the week - Jana Brguljan

19:00-22:00 DINNER

## DAY 6 - FRIDAY SEPTEMBER 19TH 2025

END OF SUMMER SCHOOL  
DEPARTURE OF ALL PARTICIPANTS



# THANK YOU FOR YOUR SUPPORT

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