

**Summer School in Cardiovascular Medicine:
Clinical & Experimental
X Edition**

**Polo Didattico Monastero “Le Benedettine”
Piazza S. Paolo a Ripa d’Arno, Pisa**

July 21-25, 2025



Organizing Committee: Raffaele De Caterina, Rosalinda Madonna, Doralisa Morrone,
Marco De Carlo, Luna Gargani, Riccardo Liga, Alessandro Sticchi, Matteo Mazzola,
Gabriele Masini, Simona Chiusolo, Carlo Palombo, Giulio Zucchelli

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Summer School in Cardiovascular Medicine: Clinical & Experimental X Edition

Rationale and Presentation

The **Summer and Winter Schools** Initiative of the **University of Pisa** was launched in the year 2013 with the aim of opening new horizons to the exchange of students and postgraduate doctors and cooperation with foreign Universities, under the assumption that sharing knowledge, academic perspectives and research projects are a cornerstone for an accomplished thinking and a better world.

The solicitation coming from the Academic Authorities with the valuable support of the International Division of the University of Pisa was enthusiastically endorsed by many Departments and Research Groups in most cultural fields, from Math-Phys to Human Sciences and Health Sciences. Among these, a Cardiovascular Summer School was one of the first to be activated in 2013, and has been re-iterated yearly until today, with the forced two-year interruption during the COVID-19 pandemic. Over the time it changed denomination according to the central issues here addressed, from the initial "Updates in Cardiovascular Pathophysiology", to "Cardiolung: Updates in Cardiovascular and Pulmonary Pathophysiology", to this present 2025 Edition named "Summer School in Cardiovascular Medicine: Clinical and Experimental", with a progressively increased attendance, from an initial number of 20 up to the current capped 100 participants.

The Summer School is conceived as an intensive course (usually one week) with a strong translational and multidisciplinary approach. It is oriented to provide state-of-the-art and cutting-edge knowledge developments in major cardiovascular issues, from basic sciences to pathophysiological perspectives, to clinical approaches, with special attention devoted to promote scientific thinking through interactive discussions between the Faculty and the participants. Target groups have been traditionally mainly undergraduate and early postgraduate students of Medicine and Life Sciences, PhD students and students in the early years of postgraduate medical schools. This year, the course will be open to practicing physicians (mostly cardiologists), for a deep dive in the areas of fastest development in research and innovation. The Course offers a unique opportunity for participants to be exposed, in a friendly atmosphere, to qualified local and external lecturers coming from prestigious Italian and foreign Institutions and addressing relevant clinical issues and emerging scientific topics in most aspects of cardiovascular medicine and pathophysiology.

The Pisa "Cardiovascular Summer School: Clinical and Experimental" is officially acknowledged with European Credits (ECTS, usually from 3 to 4) and Italian credits, with the younger participants becoming temporary students at the University of Pisa, with all related facilities and privileges.

Further information about the Cardiovascular Summer School is available at the website:

<http://summerschool.cardiovascular.med.unipi.it>, as well as in various international portals, such as: <https://www.summerschoolsineurope.eu> www.Educations.com, Keystone Academic Study Portals, etc.

Contact mails:

cardiovascularsummerschool@unipi.it (for scientific purposes)

support.summerschool@unipi.it (for administrative purposes)

Further information available at: <https://www.unipi.it/index.php/health-sciences/item/22266-cardiovascular-summer-school>

Raffaele De Caterina – Course Director

Organization: 8 half-day slots from July 21 morning to July 25 at lunchtime, with a free afternoon on Wednesday July 23; Social Event on Thursday July 24 evening



University of Pisa Summer School

Summer School in Cardiovascular Medicine 2025

July 21 morning

Introduction to the Summer School - Raffaele De Caterina (Pisa)

The University of Pisa and its Internationalization Program – TBD (Pisa)

Hot Topics I

Principles of Cardiovascular Physiology and Pathophysiology

Raffaele De Caterina and Carlo Palombo, Chairs

Myocardial metabolism in the health and disease – **Giuseppe Rosano (London, UK)**

Left and right heart mechanics - **Fabio Recchia (Pisa)**

Large artery structure and function – **Carlo Palombo (Pisa)**

The autonomic nervous system control of cardiovascular functions - **Gianfranco Parati (Milan, Italy)**

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July 21 afternoon

Hot Topics II

Atherothrombosis and risk factors for cardiovascular disease

Chairs: Stefano Taddei and Agostino Virdis

Atherothrombosis – a 2025 update – **Gemma Vilahur** (Barcelona, Spain)

Obesity and the obesity paradox – **Monica Nannipieri** (Pisa, Italy)

Lifestyle interventions: the new frontier - **Luigi Fontana** (Sydney, Australia)

Break

Updates in arterial hypertension – **Stefano Taddei (Pisa)**

Prediabetes and diabetes: mechanisms and therapeutic targets – **Stefano Del Prato** (Pisa, Italy)

Current and Forthcoming Lipid-lowering therapies - **Alberico Catapano** (Milan, Italy)

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July 22 morning

Hot Topics III

Myocardial ischemic syndromes – Pathophysiology and Endotypes

Doralisa Morrone and Raffaele De Caterina, Chairs

Endothelial dysfunctions as the final common pathway of atherosclerotic vascular disease -
Lorenzo Ghiadoni (Pisa)

Understanding angina – **Mario Marzilli (Pisa)**

Polymorbidity and polypharmacy and frailty in cardiovascular disease - **Andrea Ungar (Florence, Italy)**

Break

Myocardial infarction with non-obstructive coronary arteries **Doralisa Morrone (Pisa)**

Acute and non-acute myocardial ischemic syndromes – The need for a new classification - **William E. Boden (Boston, MA, USA)**

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July 22 afternoon

Hot Topics IV – Congestion and Heart Failure

Luna Gargani (Pisa) and Pierpaolo Pellicori (Glasgow, UK), Chairs

What is congestion and what is heart failure - **John Cleland (Glasgow, UK)**

How to assess congestion at rest – **Luna Gargani (Pisa)**

How to assess congestion during exercise - **Nicola Riccardo Pugliese (Pisa)**

Congestion and assessment of fluid balance in the critically ill - **Francesco Corradi (Pisa)**

Break

Raffaele De Caterina (Pisa) and Luna Gargani (Pisa), Chairs

Hypertrophic cardiomyopathy: new therapeutic horizons - **Maurizio Pieroni (Florence)**

Treating congestion: the old – diuretics – and the new -the sodium-glucose transporter 2 (SGLT2) inhibitors - **Carmin Zoccali (New York, USA)**

Treating congestion: beta-blockers, ACE-inhibitors, angiotensin receptor antagonist/neprilysin inhibitors, glucagon-like peptide-1 agonists, sodium guanylate cyclase stimulators - **Alberto Giannoni (Pisa)**



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July 23 morning

Hot Topics V

Advanced cardiovascular imaging

Raffaele De Caterina and Emanuele Neri, Chairs

Advanced imaging of vascular disease - **Gabriele Masini (Pisa)**

Cardiac and lung ultrasound - **Luna Gargani (Pisa)**

Break

Cardiac computed tomography - **Filippo Cademartiri (Naples, Italy)**

Nuclear cardiology - **Duccio Volterrani (Pisa) and Alessia Gimelli (Pisa)**

Cardiac magnetic resonance imaging - **Giovanni Donato Aquaro (Pisa)**

July 23 afternoon

Free afternoon (optional: guided visit to the University of Pisa Anatomy Museum)

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July 24 morning

Hot Topics VI - Valvular heart disease – From diagnosis to treatment

Raffaele De Caterina and Marco De Carlo, Chairs

Aortic stenosis and transcatheter aortic valve implantation (TAVI): state of the art - **Carlo Di Mario** (Florence, Italy)

Transcatheter aortic valve implantation: a glimpse to the future - **Alessandro Sticchi** (Pisa)

Mitral transcatheter interventions: state of the art - **Tullio Palmerini** (Bologna, Italy)

Break

Tricuspid transcatheter interventions - **Marco De Carlo** (Pisa)

Cardiovascular Imaging to Guide Interventions in Valvular Heart Disease - **Cristina Giannini** (Pisa) and **Matteo Mazzola** (Pisa)

Medical therapy and surgery for mitral and tricuspid regurgitation - **Riccardo Liga** (Pisa)

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July 24 afternoon

Hot Topics VII

Electrophysiology and Arrhythmias

SESSION I Giulio Zucchelli and Raffaele De Caterina, Chairs

The electrophysiology study? How to find heart rhythm abnormalities **Raffaele De Lucia** (Pisa)

Sudden death and cardiomyopathies: How to identify patients at risk **Stefano Viani** (Pisa)

Treatments for ventricular tachycardias **Giulio Zucchelli** (Pisa)

Atrial cardiomyopathy: cause or bystander for future stroke? **Lin Yee Chen** (Minneapolis, USA)

Coffee Break

SESSION II

Gino Grifoni (Pisa) and **Marisa Carluccio** (Pisa), Chairs

Atrial fibrillation: pathogenesis-guided anti-arrhythmic therapy **Luca Segreti** (Pisa University Hospital)

Atrial fibrillation ablation: principles, techniques and results **Andrea Di Cori** (Pisa University Hospital)

Current and forthcoming antithrombotic approaches **Raffaele De Caterina** (University of Pisa)

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July 25 morning

Hot Topics VIII

Pulmonary Hypertension

Raffaele De Caterina and Rosalinda Madonna, Chairs

Introduction and Aims - **Raffaele De Caterina and Rosalinda Madonna**

SESSION I: Physiology and Pathophysiology of the Pulmonary Circulation

Pulmonary arterial hypertension: Definitions, classifications,
Diagnosis, risk stratification and treatment - **Pietro Ameri** (Genoa, Italy))

Right heart catheterization and provocative tests for pulmonary hypertension (theoretical-practical lesson) - **Michele D'Alto** (Naples, Italy)

Pathophysiology of the right ventricle and pulmonary-vascular interactions -
Fabio Guarracino (Pisa)

Break

SESSION II: Pulmonary arterial hypertension in special conditions

Chairs: **Rosalinda Madonna** (University of Pisa) **and Laura Carrozzi** (University of Pisa)

Pulmonary hypertension from left heart failure: pathophysiology and therapy -
Marco Guazzi (University of Milan)

Pulmonary arterial hypertension with rheumatologic diseases - **Alessandra della Rossa**
(Pisa)

Pulmonary hypertension secondary to lung disease
Roberta Pancani (Pisa)

Chronic thromboembolic pulmonary disease and hypertension
Rosalinda Madonna (Pisa)