



University of Pisa Summer School

Cardiovascular Summer School: Clinical & Experimental

VIII Edition

COURSE DIRECTOR:

Prof. Raffaele De Caterina

SCIENTIFIC COMMITTEE:

Dr. Rosalinda Madonna, Dr Doralisa Morrone, Prof. Carlo Palombo

School of Medicine
Department of Surgical, Medical and Molecular Pathology and Critical Care
Medicine University of Pisa

VENUE:

POLO CONGRESSUALE LE BENEDETTINE

Piazza San Paolo a Ripa D'arno, 16 - Pisa

with the unrestricted support of



Pisa, July 4th - July 9th 2022

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 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 2022 Edition named *"Cardiovascular Summer School: Clinical and Experimental"*, with a progressively increased attendance, from an initial number of 20 up to the current capped 50-80 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 a special attention devoted to promote scientific thinking through interactive discussions between the Faculty and the participants. Target groups are mainly undergraduate and early postgraduate students of Medicine and Life Sciences, PhD students and students in the early years of postgraduate medical schools.

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 European Institution, and addressing relevant clinical issues and emerging scientific topics in cardiovascular medicine and pathophysiology.

The Pisa "Cardiovascular Summer School: Clinical and Experimental" is officially acknowledged with European Credits (ECTS, usually from 3 to 4), with the 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/>, Educations.com; Keystone Academic; Study Portals.

Contact mails:

cardiovascularsummerschool@unipi.it (for scientific purposes)

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



Monday July 4th

- 08:00** Registration of participants
- 08:30** The international promotion of teaching activities at the University of Pisa
Francesco Marcelloni (Pisa)
The Summer School within the framework of Department activities
Angelo Gemignani (Pisa)
Introduction to the course **Raffaele De Caterina** (Pisa)

INTRODUCTION to CARDIOVASCULAR MEDICINE and RESEARCH

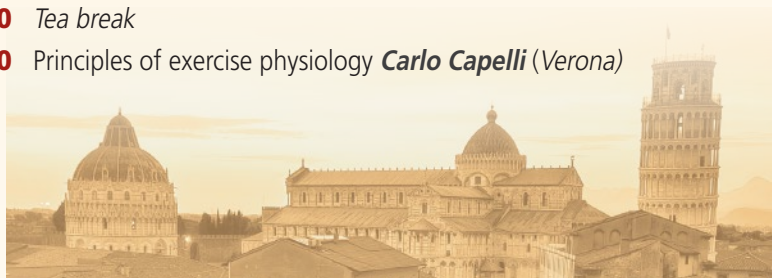
Chairs: **Raffaele De Caterina, Carlo Palombo**

- 09:00** Keynote Opening Lecture: Methodology of experimental and clinical medicine: evidence-based medicine, personalized medicine, systems medicine **Gian Franco Gensini** (Florence)
- 10:00** Keynote Lecture: Current and future directions in cardiovascular research
Filippo Crea (Rome)
- 10:45** Coffee break
- 11:15** Keynote Lecture: Drug development in the COVID-19 era
Peter Ferdinandy (Semmelweis University, Budapest)
- 12:15** Left and right heart mechanics **Fabio Recchia**, (Pisa)
- 13:15** Break

PRINCIPLES in CARDIOVASCULAR PHYSIOLOGY

Chairs: **Carlo Palombo, Doralisa Morrone**

- 14:30** The global burden of cardiovascular disease in the XXI century
Aldo Pietro Maggioni (Florence)
- 15:30** Tea break
- 16:00** Principles of exercise physiology **Carlo Capelli** (Verona)



Tuesday July 5th

THE CORONARY CIRCULATION and CORONARY ARTERY DISEASE (I part)

Chairs: **Raffaele De Caterina, Doralisa Morrone**

- 09:00** Risk factors and pathophysiology of coronary circulation **Danilo Neglia** (Pisa)
- 09:45** Ischemic heart disease: the atherothrombotic background
Raffaele De Caterina (Pisa)
- 10:30** Coffee break
- 11:00** Principles of diagnosis of myocardial ischemia **Doralisa Morrone** (Pisa)
- 11:45** Principles of treatment of chronic coronary artery disease
Giacinta Guarini (Pisa)
- 12:30** The University of (Pisa) for foreign students **Paola Cappellini** (Pisa)
- 13:00** Break
- 14:30** Assessment of large artery structure and function: from pathophysiology to clinical applications **Carlo Palombo** (Pisa)

THE CORONARY CIRCULATION and CORONARY ARTERY DISEASE (II part)

Chairs: **Carlo Palombo, Doralisa Morrone**

- 15:30** Principles of treatment of acute coronary syndromes **Marco De Carlo** (Pisa)
- 16:30** Tea break
- 17:00** Keynote Lecture: Antithrombotic therapy in patients with coronary artery disease **Steen Dalby Kristensen** (Aarhus-Denmark)



Wednesday July 6th

ANTITHROMBOTIC DRUGS: FROM BASIC PHARMACOLOGY TO CLINICAL USE

Chairs: **Raffaele De Caterina, Doralisa Morrone**

- 09:00** Principles of hemostasis: platelets, coagulation and fibrinolysis
Anna Maria Gori (Florence)
- 09:45** Antithrombotic therapy in atrial fibrillation **Raffaele De Caterina** (Pisa)
- 10:30** Coffee break
- 11:00** Keynote Lecture: Aspirin: yesterday, today and tomorrow
Carlo Patrono (Rome)
- 12:30** The University of Pisa Museums System **Chiara Bodei** (Pisa)
- 13:00** Break

MUSEUMS AFTERNOON

- 15:00** Guided tours of the Anatomy Museum and other museums of the University of Pisa
- 19:30** Social Dinner



Thursday July 7th

IMAGING IN CARDIOVASCULAR DIAGNOSIS AND DECISION MAKING

Chairs: **Raffaele De Caterina, Rosalinda Madonna**

- 09:00** Carotid plaque vulnerability and tissue characterization by ultrasound
Isabel Gonçalves (Lund-Sweden)
- 09:45** Imaging of the heart: nuclear cardiology from the origin to the XXI century: **Alessia Gimelli** (Pisa)
- 10:30** Coffee break
- 11:00** Advanced imaging of the heart and coronary vessels: principles of cardiac magnetic resonance and angio-computed tomography
Dante Chiappino (Pisa-Massa)
- 11:45** Thoracic ultrasound: pathophysiological background and clinical implications **Luna Gargani** (Pisa)
- 12:30** Break

PERSPECTIVES in HEART FAILURE RESEARCH

Chairs: **Carlo Palombo, Rosalinda Madonna**

- 14:00** Keynote lecture: Cardiopulmonary emergencies **Lorenzo Ghiadoni** (Pisa)
- 15:00** Microvessels structure and function: from bench to bedside:
Enrico Agabiti Rosei (Brescia)
- 15:45** Tea break
- 16:15** The cardiopulmonary exercise test: from pathophysiology to patients phenotyping and rehabilitation **Claudio Passino** (Pisa)
- 17:00** Iron therapy in heart failure: what evidence so far? **Gabriele Masini** (Pisa)



Friday July 8th

ARTERIAL DISEASE AND HYPERTENSION

Chair: **Raffaele De Caterina, Rosalinda Madonna**

- 09:00** Seminal steps and perspectives in hypertension research: from Riva Rocci and Bjorn Folkow to the XXI century **Stefano Taddei** (Pisa)
- 10:00** *Coffee break*
- 10:30** Keynote Lecture: Redefining ischemic heart disease: from “coronary stenosis” to myocardial ischemia: **Mario Marzilli** (Pisa)
- 11:30** Mechanisms and new treatment options for cardio-renal damage in type 2 diabetes **Anna Solini** (Pisa)
- 12:15** Definition, classification, pathophysiology and treatment of pulmonary hypertension: **Rosalinda Madonna** (Pisa)
- 13:15** *Break*

FOCUS on CARDIOMYOPATHIES

Chair: **Carlo Palombo, Rosalinda Madonna**

- 15:00** Hypertrophic cardiomyopathy **Mattia Zampieri** (Florence)
- 15:45** Cardiac Magnetic Resonance: focus on cardiomyopathies **Giovanni Aquaro** (Pisa)
- 16:30** *Tea break*
- 17:00** Diabetic heart disease **Stefano Del Prato** (Pisa)
- 17:45** Aortic diseases: pathophysiology, risk stratification and management: **Riccardo Liga** (Pisa)



Saturday July 9th

PERSPECTIVES in ARRHYTHMIAS and VALVULAR DISEASE

Chairs: **Raffaele De Caterina, Carlo Palombo**

- 09:00** Keynote Lecture: Risk stratification and prevention of cardiac sudden death in the young **Stefano Viani** (Pisa)
- 10:00** Perspectives in arrhythmia ablation research: new diagnostic tools, new devices, clinical improvement? **Giulio Zucchelli**, (Pisa)
- 11:15** Antithrombotic treatment with artificial heart valves **Raffaele De Caterina** (Pisa)
- 12:00** Closing Keynote Lecture: New approaches to treatment of mitral valve disease **Carlo Di Mario**, Florence and **Andrea Colli** (Pisa)
- 13:00** Closing remarks **Raffaele De Caterina** and **Carlo Palombo** (Pisa)
- 13:30** *Lunch*



Faculty

Enrico Agabiti Rosei (Brescia)
Giovanni Aquaro (Pisa)
Chiara Bodei (Pisa)
Carlo Capelli (Verona)
Paola Cappellini (Pisa)
Dante Chiappino (Pisa-Massa)
Andrea Colli (Pisa)
Filippo Crea (Rome)
Marco De Carlo (Pisa)
Raffaele De Caterina (Pisa)
Stefano Del Prato (Pisa)
Carlo Di Mario (Florence)
Peter Ferdinandy (Budapest)
Luna Gargani (Pisa)
Angelo Gemignani (Pisa)
Gian Franco Gensini (Florence)
Lorenzo Ghiadoni (Pisa)
Alessia Gimelli (Pisa)
Isabel Goncalves (Lund)
Anna Maria Gori (Florence)

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Mario Marzilli (Pisa)
Gabriele Masini (Pisa)
Doralisa Morrone (Pisa)
Danilo Neglia (Pisa)
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