

Carlo Palombo, MD, FESC

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Degrees

Graduation in Medicine, cum laude, at the University Medical School, Pisa (1976). Specialties: (a) Cardiology (1979), (b) Nuclear Medicine (1982), (c) Clinical Pharmacology (1986).

Present position

- *University*: Honorary Associate Professor of Medicine at the Cardiology Division, Department of Surgical, Medical, Molecular Pathology and Critical Area, University of Pisa, with an appointment for research activity

Previous positions

- *Academic*:

1976-1980: Postgraduate Fellow at Medical Pathology Institute, University of Pisa

1982-1988: Researcher at the Clinical Physiology Institute, National Research Council (CNR)

1988-2002: Assistant Professor at the University of Pisa, School of Medicine, Internal Medicine Department.

- 2002-2021: Associate Professor of Medicine at the Cardiology Division, Department of Surgical, Medical, Molecular Pathology and Critical Area, University of Pisa

- *Hospital* :

1980-2005. Clinical Cardiologist at Clinical Physiology Institute, National Research Council (CNR), in Coronary Care Unit, Cardiovascular Ward, Hypertension Clinic, Ergometry, Cardiovascular Ultrasound (standard, stress and transesophageal echocardiography; vascular, superficial arteries).

2005-2010. Clinical Cardiologist at III Internal Medicine Division for Metabolic Disorders, Pisa University Hospital (ward, outpatient cardiovascular and hypertension clinic, cardiovascular ultrasound laboratory)

2011-2015. Clinical Cardiologist at the University Division of Anesthesiology, Pisa

2016-2021. Clinical Cardiologist at the University Division of Cardiology, Pisa

Past foreign research fellowships

a) New England Medical Centre, Tufts University, Boston, Noninvasive Cardiac Laboratory (Director Prof NG Pandian: 3D and Transesophageal echocardiography (1994, may)

b) Clinique Pasteur, Unité de Thérapie Interventionnelle, Toulouse (Director Prof J Marco): studies on adrenergic control of coronary microcirculation (six months between 1995 and 1998)

c) Cardiovascular Research Institute, University of Wales, Cardiff : research project of "Ventricular-arterial coupling by wave intensity analysis", British Partner: Prof AG Fraser (november 2005).

Main current research fields

Research in Cardiovascular Pathophysiology and Imaging, currently focused on:

- a) Wave separation analysis and ventricular-arterial coupling in static and dynamic conditions (collaborations with Imperial College and University College of London -proff Kim Parker and Alun D Hughes- and Cardiovascular Research Institute and Wales College of Medicine, Cardiff – prof Alan G Fraser)
- b) Local arterial mechanics and cardiovascular pathophysiology and risk stratification (Collaborations with Lund University –proff Jan Nilsson and Peter M Nilsson-, King’s College of London –prof Kennedy J Cruickshank-, Brunel University London –prof Ashraf W Khir, and Esaote Europe, Maastricht- Dr Eng Peter Brands)
- c) Development and clinical validation of new advanced ultrasound techniques based upon multigate Doppler system and shear rate assesment for the evaluation of vascular function and carotid plaque vulnerability (collaboration with University of Florence, Department of Information Engineering, Research Project PRIN 2010 – prof P Tortoli- and Peninsula University, Exeter, UK, prof A Shore)
- d) Macrovascular abnormalities in diabetes mellitus (collaboration with University of Florence, Department of Information Engineering, and University of Lund, Sweden, FP7 Project “Surrogate Markers of Cardiovascular Disease in Diabetes”)

Previous research fields

- a) Pathophysiology of hypertensive heart disease
- b) Coronary microcirculatory dysfunction in arterial hypertension and hibernating-stunned myocardium
- c) Cardiovascular function in diabetes and metabolic syndrome
- d) Cardiovascular adaptation to microgravity (research project Italian Space Agency, ASI)
- e) Preclinical markers of cardiovascular atherosclerotic disease
- f) Development and clinical validation of 3D US system for carotid plaque volume evaluation
- g) Cardiovascular and large artery function in morbid obesity, effects of bariatric surgery and Xenon anesthesia (Ministry of Health and Regione Toscana research project 2010)
- h) Cerebrovascular reactivity in critical conditions (Collaborations with Extreme Centre at Scuola Superiore S. Anna, Pisa, and Department of Neurological, Neuropsychological, Morphological and Movement Sciences, University of Verona)
- i) Predictors and mechanisms of cardiovascular instability in general surgery
- j) Neuroautonomic integration of cardiovascular functions in preclinical cardiovascular disease and critical states (collaborations with Centre for Neurovegetative Therapy, University of Milan, and Humanitas Research Hospital, Milan, proff D Lucini and M Pagani)

Scientific publications

- a) About 280 full papers, mostly published in international peer-review journals (about 200), international books and national journals/books;

Impact Factor about 700; h index 37 (source Scopus 2023)
b) 700 abstracts of congress presentations (480 international)
(detailed list available at major international databanks and :
<http://unimap.unipi.it/cercapersone/prodottiricerca.php?iddoc=007136>)

Scientific Affiliations: Eur Soc Cardiol (ESC), Eur Soc Hypertens (ESH), Artery Society, Eur Ass Cardiovasc Imaging (EACVI), ESC Council on Stroke, ESC WG on Microcirculation and Coronary Function

Invited lectures: Invited lecturer at international meetings of European Society of Cardiology, European Society of Hypertension, American Heart Association, Artery Society, European Association of Cardiovascular Imaging (previously European Society of Echocardiography), Japan Society of Ultrasound in Medicine, Russian Association of Specialists of Ultrasound in Medicine

Grants: Responsible of research units of University of Pisa at several projects of the Italian Ministry of University and Research (MIUR, PRIN projects), Italian Space Agency (ASI), and FP7-IMI "SUMMIT" project (coordinating centre Lund University)

Reviewer for International Journals

Eur J Hypertens, Hypertension, Stroke, ATVB, Circulation, NMCD, Eur J Appl Physiol, UMB, Cardiovasc Diabetol, JAHA CV Imaging, JACC CV Imaging

Reviewer for Grants and Academic Developments

- External reviewer for PhD Thesis at Université Claude Bernard, Lyon (2006), Imperial College of London (2011), Wales College of Medicine (2016)
- Project evaluator for Cyprus Research Foundation (CFR), MIUR, ANVUR, APVV, Slovakia

Editorial Boards Membership

- ISRN Cardiology (Hindawi Publishing Corporation)
- Frontiers in Physiology, Review Editor for Vascular Physiology,
- Frontiers in Cardiovascular Medicine, Associate Editor for Atherosclerosis and Vascular Medicine,
- Vessel Plus Journal (<http://vpjournal.net>)
- Madridge Journal of Cardiology"
- Editorial Board Member, SciFed Journal of Obesity Research (SFJOR)

Teaching activity

- Internal Medicine, Emergency Medicine and Cardiovascular Medicine at Master Courses of Medicine, Nursing and Allied Sciences; Specialization Courses and PhD course on Clinical Pathophysiology
- In the last 10 years, tutor at 30 Theses of graduation in Medicine (mostly) and Nursing, PhD in Clinical Pathophysiology, Specializations in Medicine and Anesthesiology.

Pisa, December 3rd, 2023

Prof Carlo Palombo

