

# International Post-Graduation Program

## Arterial Stiffness and Early Vascular Aging

5th Edition – 9th - 11<sup>th</sup> November, 2016.

*Center for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk, Internal Medicine Department, Guimarães – Centro Hospitalar do Alto Ave / Minho University. Portugal*

*Life and Health Sciences Research Institute (ICVS), School of Health Sciences, Minho University*

*ICVS/3B's - PT Government Associate Laboratory, Braga/Guimarães, Portugal*

*School of Health Sciences, University of Minho, Braga, PORTUGAL*

### 1.Scope

This will be the fifth edition of this International Post Graduation Course. The main goal is to create a scientific forum on new aspects and concepts concerning cardiovascular risk evaluation and stratification, as well as discussing interactions between aspects of the cardiovascular and the central nervous system disease process. At the end of this course, all participants should:

- 1) Understand the concept of Arterial Stiffness and know its clinical applicability;
- 2) Know how to measure arterial stiffness markers (Pulse wave velocity and Central Blood Pressure) both theoretically and practically;
- 3) Identify subjects with Early Vascular Aging syndrome and be aware of its clinical implications;
- 4) To discuss the connection between brain and arterial aging,
- 5) To recognize the relationship between micro and macrovascular changes, cognitive decline and cerebrovascular disease;

- 6) Acquire technical skills in Pulse Wave Velocity, Central Blood Pressure and Carotid Evaluation (Intima/Media thickness evaluation and Carotid Doppler).
- 7) To apprehend new research perspectives in the field of cardiovascular research involving the brain and arterial disease.

## **2.Faculty**

### **ORGANIZING COMMITTEE**

#### **Nuno Sousa, MD, PhD**

- Director of the Integrated Masters in Medicine  
Full Professor and Vice-President  
School of Health Sciences, University of Minho  
Braga, PORTUGAL

#### **Pedro Cunha, MD, PhD**

- Coordinator of the Hypertension and Kidney Disease Outpatient Clinic of the Centre for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk, Internal Medicine Department - Guimarães Hospital/Centro Hospitalar do Alto Ave, Guimarães, PORTUGAL
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#### **Jorge Cotter, MD, PhD**

- Director of the Centre for the Research and Treatment of Arterial Hypertension and Cardiovascular Risk
- Director of Internal Medicine Department, Guimarães Hospital/Centro Hospitalar do Alto Ave. Guimarães, PORTUGAL
- Assistant Professor – School of Health Sciences, University of Minho  
Braga, PORTUGAL
- Life and Health Sciences Research Institute (ICVS), School of Health Sciences, University of Minho
- ICVS/3B's - PT Government Associate Laboratory, Braga/Guimarães, Portugal

## **INVITED LECTURERS**

### **Angelo Scuteri, MD, PhD**

Scuola Specializzazione Geriatria  
Universita' di Roma Tor Vergata  
Roma, ITALY

### **Peter M Nilsson, MD, PhD**

Department of Clinical Sciences  
Lund University, University Hospital  
Malmö, SWEDEN

### **Pierre Boutouyrie, MD, PhD**

Pharmacologie, HEGP, APHP  
Paris, FRANCE

### **Stephane Laurent, MD, PhD**

Université René Descartes, Faculté de Médecine Paris V  
Unité INSERM U970 – Physiology and pharmacology of large arteries  
Pharmacologie, HEGP, APHP  
Paris, FRANCE

## 3. Preliminary Program

November 9<sup>th</sup>

9h00 – Post-Graduate Course/Opening Ceremony

**9h. Which components of the reflected wave are clinically useful (Prof. Pierre Boutouyrie)**

- 1) Components of the pulse wave and associations with cardiovascular risk.
- 2) Ventricular – vascular dysfunction – clinical and treatment implications.
- 3) Research opportunities

**10h30. Coffee Break**

**10h45. Targeting Central Blood Pressure through the macro and microcirculation cross-talk (Prof. Stephane Laurent)**

- 1) Effects of drugs on small artery structure and function in Hypertension;
- 2) Effects of drugs on Large artery structure and function in Hypertension;
- 3) Targeting Central BP Through the macro and micro circulation cross talk;
- 4) Research opportunities.

**12h15 Research Projects – Poster presentation and discussion with the faculty**

### Afternoon of the 9<sup>th</sup> of November

- **14h – 18h.** Practical component of the Course (Hands on practice in PWV/Central Blood Pressure and Carotid Evaluation -4h00 of practice for each technique)
- **16h.** Coffee Break

## November 10<sup>th</sup>

### **9h. Glucose Metabolism, Diabetes and the Arterial Wall (Prof. Peter Nilsson)**

- 1) Large artery changes in Diabetes Mellitus
- 2) Large Artery changes in Metabolic Syndrome and Obesity;
- 3) Clinical practical implications;
- 4) Research opportunities.

### **10h30. Coffee Break**

### **10h45. Impact of Arterial Aging on Early and Late stages of Brain Damage. (Prof. Angelo Scuteri)**

- 1) Cognitive decline, dementia and arterial aging;
- 2) Structural brain changes and arterial aging;
- 3) Therapeutic opportunities
- 4) Research opportunities

### **12h15. Healthy Vascular Aging (Prof. Pedro Guimarães Cunha)**

## **Afternoon of the 10<sup>th</sup> of November**

- **14h – 18h.** Practical component of the Course (Hands on practice in PWV/Central Blood Pressure and Carotid Evaluation -4h00 of practice for each technique)
- **16h.** Coffee Break

## November 11<sup>th</sup>

### **9h. Arterial Stiffness and Early Vascular Aging in the Iberian Peninsula**

- 1) Pedro Guimarães Cunha, Guimarães/Braga – Portugal
- 2) TBA

### **10h30. Coffee Break**

### **10H45. Arterial Stiffness and Early Vascular Aging in the Iberian Peninsula**

- 1) Pedro Guimarães Cunha, Guimarães/Braga – Portugal
- 2) TBA