

## BMM7 Module

### Frontiers in Cardiovascular Research Course 2022-2023

**January 9, 2023**

#### CNIC Auditorium

10:00-10:30 Welcome by BMM7 coordinators:  
Valentín Fuster, Pilar Martín, Carlos Pérez Medina y Fátima Sánchez-Cabo (CNIC)

#### Form and function of the cardiovascular system

10:30-11:30 Cardiovascular disease: Needs and opportunities for translational research  
**Héctor Bueno**, CNIC

**January 10, 2023**

#### CNIC Auditorium

10:00-11:30 Developmental biology of the heart I  
**Bjarke Jensen**, University of Amsterdam

**January 11, 2023**

#### CNIC Auditorium

10:00-10:45 Developmental biology of the heart II  
**José Luis de la Pompa**, CNIC

10:45-11:30 Angiogenesis and its relevance for cardiovascular disease  
**Rui Benedito**, CNIC

**January 12, 2023**

#### Seminar Room 3<sup>rd</sup> Floor

10:00-11:30 Anatomy and physiology of the heart (I): Basic concepts of heart anatomy (i.e. pig heart dissection)  
**José María Pérez-Pomares**, Universidad de Málaga

## January 13, 2023

### Seminar Room 1<sup>st</sup> Floor

10:00-11:30 Anatomy and physiology of the heart (II): Basic concepts in cardiac echocardiography: in situ echocardiogram; interpretation of normal heart and basic anomalies  
**Inés García Lunar, CNIC**

## January 16, 2023

### CNIC Auditorium

10:00-11:30 Translational research in myocardial disease: from ischemia/reperfusion injury to cardio-toxicity  
**Borja Ibáñez, CNIC**

## January 17, 2023

### CNIC Auditorium

09:00-09:45 The normal heart rhythm and its functional and structural alterations that may lead to sudden cardiac death  
**David Filgueiras, CNIC**

09:45-10:30 Interpreting statistics in clinical trials  
**Stuart Pocock, CNIC/London School of Hygiene and Tropical Medicine**

## January 18, 2023

### CNIC Auditorium

10:00-10:45 Translational research in cerebrovascular pathophysiology  
**María Ángeles Moro, CNIC**

## Pathology of the cardiovascular system

## January 19, 2023

### CNIC Auditorium

10:00-10:45 Experimental models in cardiovascular research: Cardiac ischemia  
**Enrique Lara-Pezzi, CNIC**

10:45-11:30 Experimental models in cardiovascular research: Lentiviral-mediated gene therapy and mouse models of aortic diseases  
**Juan Miguel Redondo, CNIC**

## January 20, 2023

### CNIC Auditorium

10:00-10:45 Pathophysiology of atherosclerosis: Insight gained from experimental models  
**Jacob Fog Bentzon, CNIC**

10:45-11:30 Aging and cardiovascular disease: From the rarest to the most common  
**Vicente Andrés, CNIC**

## January 23, 2023

### CNIC Auditorium

10:00-11:30 Cardiovascular disease: Present and Future  
**Valentin Fuster**

## January 24, 2023

### CNIC Auditorium

10:00-10:45 Novel diagnosis and therapy for myocarditis  
**Pilar Martín, CNIC**

10:45-11:30 Nanomedicine for cardiovascular disease  
**Carlos Pérez Medina, CNIC**

## Cardiovascular genetics

## January 30, 2023

### CNIC Auditorium

09:00-09:45 Genetic heart diseases  
**Pablo García Pavía, CNIC**

09:45-10:30 Functional assessment of genetic variants linked to heart disease  
**Jorge Alegre-Cebollada, CNIC**

## Population studies: Genomics, epidemiology and clinical trials

## January 31, 2023

### CNIC Auditorium

- 10:00-10:45 Research and development in medicine: The industry's vision  
**Enrique Samper**, NIMGenetics
- 10:45-11:30 The Fuster-CNIC-Ferrer cardiovascular polypill project: A new paradigm in cardiovascular therapeutics innovation  
**José M<sup>a</sup> Castellano**, HM Hospitales

### February 1, 2023

#### CNIC Auditorium

- 10:00-10:45 How do cells and tissues sense, adapt and respond to mechanical forces? An emerging perspective in biomedicine  
**Miguel Ángel del Pozo**, CNIC
- 10:45-11:30 Cardiovascular epidemiology: Descriptive, intervention and health promotion studies  
**Juan Miguel Fernández Alvira**, CNIC

### February 2, 2023

#### CNIC Auditorium

- 10:00-10:45 Oral antiplatelet treatment in ACS: From bench to bedside  
**Antonio Fernández-Ortiz**, CNIC
- 10:45-11:30 Inflammation and immunity in cardiovascular disease  
**David Sancho**, CNIC

## Frontiers in cardiovascular research

### February 3, 2023

#### CNIC Auditorium

- 10:00-10:45 Human hereditary cardiomyopathy shares a genetic substrate with bicuspid aortic valve  
**José Luis de la Pompa**, CNIC
- 10:45-11:30 Heteroplasmy of wild-type mitochondrial DNA variants in mice causes metabolic heart disease with pulmonary hypertension and frailty  
**José Antonio Enríquez**, CNIC

## Practical Workshops

### February 6, 2023

#### Seminar Room 3<sup>rd</sup> Floor

- 10:30-11:00 Introduction Seminar Microscopy Unit  
**Valeria Caiolfa, CNIC**
- 11:00-11:30 Cardiovascular disease modelling: culture, differentiation and gene editing in mESC and hiPSC  
**Giovanna Giovinazzo, CNIC**

### February 7, 2023

- GROUP 1: Cell Culture Room**  
10:30-11:30 Cardiovascular disease modelling: culture, differentiation and gene editing in mESC and hiPSC  
**Elisa Santos, Belén Prados, CNIC**
- GROUP 2: Microscopy Unit 2<sup>nd</sup> Floor West**  
10:30-11:30 Advance confocal and live cell microscopy  
**Verónica Labrador, Alfonsa Diaz CNIC**
- GROUP 1: Microscopy Unit 2<sup>nd</sup> Floor West**  
11:30-12:30 Advanced confocal and live cell microscopy  
**Moreno Zamai, Elvira Arza, Olga Gimenez CNIC**
- GROUP 2: Cell Culture Room**  
11:30-12:30 Cardiovascular disease modelling: culture, differentiation and gene editing in mESC and hiPSC  
**Elisa Santos, Belén Prados, CNIC**

### February 8, 2023

#### Sótano -3 – Animal pequeño

- GROUP 1:**  
10:30-11:15 Cardiovascular image: RM  
**Daniel Calle, CNIC**
- GROUP 2:**  
10:30-11:15 Cardiovascular image: PET  
**Lorena Cussó, CNIC**

**GROUP 1:**

11:15-12:00 Cardiovascular image: PET  
**Lorena Cussó, CNIC**

**GROUP 2:**

11:15-12:00 Cardiovascular image: RM  
**Daniel Calle, CNIC**

**February 9, 2023**

**Seminar Room 3<sup>rd</sup> Floor**

10:30-12:00 Model systems (II): Zebrafish  
**Eduardo Díaz, María Galardi, CNIC**

**February 10, 2023**

**GROUP 1:**

10:30-11:15 Visit Animal Facility  
**Santiago Rodríguez, CNIC**

**GROUP 2:**

11:15-12:00 Visit Animal Facility  
**Santiago Rodríguez, CNIC**

**February 13, 2023**

**Seminar Room 3<sup>rd</sup> Floor**

09:00-10:30 Model systems (I): mouse-transgenesis  
**Juan de Dios Hourcade, CNIC**

**February 14, 2023**

**Seminar Room 3<sup>rd</sup> Floor**

10:30-12:00 Proteomics & Metabolomics  
**Juan Antonio López, CNIC**

## February 15, 2023

### Seminar Room 3<sup>rd</sup> Floor

10:30-12:00 Flow cytometry  
Beatriz Álvarez, CNIC

## February 16, 2023

### Seminar Room 3<sup>rd</sup> Floor

10:30-12:00 Genomics  
Ana Quintas, Rebeca Álvarez, M<sup>a</sup> Ascensión Rey, CNIC

## February 17, 2023

### Seminar Room 3<sup>rd</sup> Floor

10:30-12:00 Bioinformatics and Biostatistics  
Fátima Sánchez Cabo, Carlos Torroja, CNIC

## BMM7 students presentations

## February 20, 2023

### Seminar Room 3<sup>rd</sup> Floor

10:30-12:00 Students presentations  
Moderators: Pilar Martín and Carlos Pérez-Medina (CNIC)