



## BMM9/ Getting to know CNIC

# Insight into cardiovascular pathology research: a comprehensive molecular, physiological, clinical and practical approach (BMM9)

Course 2017-2018

09 January 2018

Second Floor Seminar Room

### BMM9

09.30 – 10.10

Welcome by BMM9 coordinators

## A. Form and function of the cardiovascular system

### All participants

10.30 – 11.45

Cardiovascular diseases: Needs and opportunities for translational research

Hector Bueno (CNIC)

12.00 - 13.00

Cardiac computational modelling on supercomputers

Mariano Vazquez (BSC)

Ground Floor "Auditorium"

10 January 2018

### BMM9

José María Pérez-Pomares (Univ. Málaga).

09.30 - 10.45 **Anatomy and Physiology of the Heart (I)**: Basic concepts of heart anatomy (i.e. pig heart dissection).

Third Floor Seminar Room

Second Floor Seminar Room and Human Imaging Unit

Gabriela Guzmán (Hospital Universitario de La Paz).

11.00 - 12.15: **Anatomy and Physiology of the Heart (II)**: Basic concepts in cardiac echocardiography: in situ echocardiogram; interpretation of normal heart and basic anomalies.

11 January 2018

### All Participants

09.30 - 10.30

Mechanisms controlling cardiac and vascular myocytes function

Ángel Cogolludo (UCM)

Ground Floor "Auditorium"



**10.35 - 11.35 Biomechanics of the cardiovascular system**  
Francisco Rojo (UPM)

**12 January 2018**

**All Participants**

**09.30 - 12.15**

**Developmental Biology of the heart I**  
Antoon Moorman (Univ. Amsterdam)

**12.30 - 13.30**

**Developmental Biology of the heart II**  
José Luís de la Pompa (CNIC)

Ground Floor "Auditorium"

**15 January 2018**

**All Participants**

**09.00 - 10.15**

**Anatomy and Physiology of the vasculature:** types of vessels, constitution of vessels. Physiology of vasculature: resistance, blood pressure, etc  
Gonzalo Pizarro (CNIC)

**10.30 - 11.30**

**Development of the vasculature:** Vasculogenesis, angiogenesis and lymphangiogenesis.  
Rui Benedito (CNIC)

Ground Floor "Auditorium"

## **B. Pathology of the cardiovascular system**

**16 January, 2018**

**All Participants**

**10.00 - 11:00**

**Clinical Utility of Advanced Imaging and Mathematical Analysis of Complex Cardiac Arrhythmias**  
David Filgueiras (CNIC)

**11.20 – 12.30**

**From drug re-purposing to gene therapy:** a personalized approach to treat cardiac arrhythmias  
Silvia Priori (CNIC/Università degli Studi di Pavia/IRCCS Fondazione Salvatore Maugeri)

Ground Floor "Auditorium"

**17 January 2018**

**All Participants**

**09.30 - 10.30**

**Inflammation and cardiovascular disease**  
David Sancho (CNIC)

**10.40 - 11.40**

**Metabolic disorders:** Basic and molecular concepts in obesity and diabetes.  
Guadalupe Sabio (CNIC)

**11.50 - 12.50**

**Providing energy to the heart**  
José Antonio Enríquez (CNIC)

Ground Floor "Auditorium"



**18 January 2018**

**All Participants**

09.30 - 10.45

**Cardiovascular disease: Present and future**  
Valentín Fuster (CNIC)

11.00 – 12:00

**Pathophysiology of atherosclerosis: insight gained from experimental models.**  
Jacob Fog Bentzon (CNIC)

12.15- 13.15

**Aging and cardiovascular disease: From the rarest to the most common**

Vicente Andrés (CNIC)

Ground Floor “Auditorium”

**19 January 2018**

**All Participants**

09.30 - 10.45

**Ischemic cardiovascular disease (I):** pathophysiology of myocardial infarction.(differential diagnosis versus heart arrest and heart failure).

11.00 - 12.15

**Ischemic cardiovascular disease (II):** experimental approaches to myocardial infarction (imaging and pig as experimental animal model).  
Borja Ibáñez (CNIC)

12.30 - 13.15

**Experimental models in cardiovascular research: Cardiac ischemia.**  
Enrique Lara-Pezzi (CNIC)

Ground Floor “Auditorium”

**22 January, 2018**

**All Participants**

9.30 - 10.30

**Experimental models in cardiovascular research: Vascular injury, hypertrophy and aneurysm.**  
Juan Miguel Redondo (CNIC)

10.40 - 11.40

**Novel diagnosis and therapy for Myocarditis**  
Pilar Martín (CNIC)

Ground Floor “Auditorium”

## C. Cardiovascular Genetics

**23 January 2018**

**All Participants**

09.30 - 10.30

**Introduction to Cardiovascular Genetics**  
Pablo García Pavía (H. Puerta de Hierro)

10.40 - 11.40

**From single molecules to heart disease**  
Jorge Alegre Cebollada (CNIC)

Ground Floor “Auditorium”



## D. Population studies: Genomics, Epidemiology and Clinical Trials

**24 January 2018**

**All Participants**

Third Floor Seminar Room

09.30 - 10.30

**Research and Development in Medicine: The industry's vision**

**Savion Gropper** (Boehringer Ingelheim Pharma GmbH & Co. KG)

10.40 - 11.40

**The Fuster-CNIC-Ferrer Cardiovascular Polypill Project: a new paradigm in cardiovascular therapeutics innovation**

**Jose M<sup>a</sup> Castellano (CNIC)**

**25 January 2018**

**All Participants**

First Floor Seminar Room

09.30 - 10.40

**Interpreting statistics in Clinical Trials**

**Stuart Pocock** (CNIC/London School of Hygiene and Tropical Medicine)

10.50 - 11.50

**Cardiovascular epidemiology: descriptive, intervention and health promotion studies**

**Juan M. Fernández Alvira (CNIC)**

12.00 - 13.00

**Oral antiplatelet treatment in ACS: from bench to bedside**

**Antonio Fernández-Ortiz (CNIC)**

## E. Frontiers in Cardiovascular Research

**29 January 2018**

**All Participants**

Ground Floor "Auditorium"

09.00-09.45

**Dual ifgMosaic: A Versatile Method for Multispectral and Combinatorial Mosaic Gene-Function Analysis."**

**Rui Benedito (CNIC)**

10.00 - 10.45

**Nitric oxide mediates aortic disease in mice deficient in the metalloprotease Adamts1 and in a mouse model of Marfan syndrome."**

**Juan Miguel Redondo (CNIC)**

11.00 - 11.45

**The Importance of Breakfast in Atherosclerosis Disease: Insights From the PESA Study."**

**Héctor Bueno (CNIC)**



## F. BMM9 STUDENT PRESENTATIONS

**31 January- 01 February (09:30- 11:30 h)**

**Second Floor Seminar Room**

Moderators: **Jorge Alegre-Cebollada, Andrés Hidalgo and Teresa González** (CNIC/UAM)

## G. BMM9 PRACTICAL WORKSHOPS

### BMM9

**02 February (09.30 to 11.30 h) (Groups 1, 2)**

**Third Floor Seminar Room**

Bioinformatics and Biostatistics  
**Fátima S. Cabo, Carlos Torroja** (CNIC)

**05 February (09.30 to 13.30 h)**

**Third Floor Seminar Room**

**9.30 - 10.30 h (Groups 1, 2)**  
MRI  
**Manuel Desco** (CNIC/Universidad Carlos III)

**10:30-11.30 h**  
PET  
**Izaskun Bilbao** (CNIC)

**11.30 – 12:30 h**  
**Group 1**  
Cardiovascular Image: RM  
**Izaskun Bilbao** (CNIC)

**Group 2**  
Cardiovascular Image: PET  
**Juan Pellico** (CNIC)

**12:30 – 13.30 h**  
**Group 2**  
Cardiovascular Image: RM  
**Izaskun Bilbao** (CNIC)

**Group 1**  
Cardiovascular Image: PET  
**Juan Pellico** (CNIC)

**06 February (09.00 to 12.00 h)**

**09.00-9.30 h (Groups 1, 2)**  
Introduction Seminar Microscopy Unit  
**Valeria Caiolfa** (CNIC)

**First Floor Seminar Room**

**09.30-10.00 h (Groups 1, 2)**  
Introduction Seminar on ES cell culture and differentiation  
**Giovanna Giovinzano** (CNIC)



**10.00 - 12.00 h**

**Group 1** (Third Floor Meeting Room)  
ES cell culture and differentiation  
**Elisa Santos, Belén Prados** (CNIC)

**Group 2** (First Floor Seminar Room)  
Advanced Confocal and live Cell Microscopy  
**Verónica Labrador, Elvira Arza** (CNIC)

Several Seminar Rooms

**07 February (09.30 to 11.30 h)**

**Group 1** (First Floor Seminar Room)  
Advanced Confocal and live Cell Microscopy  
**Helio Duarte, Moreno Zamai** (CNIC)

**Group 2** (Third Floor Meeting Room)  
ES cell culture and differentiation  
**Elisa Santos, Belén Prados** (CNIC)

**(11.30 h to 13.30)**

**Group 1** (Second Floor Meeting Room)  
Model systems (I): mouse-transgenesis  
**Jose M<sup>a</sup> Fernández** (CNIC)

Several Seminar Rooms

**08 February (09.30 to 11.30 h)**

**Group 2** (Third Floor Seminar Room)  
Model systems (I): mouse-transgenesis  
**Juan de Dios Hourcade** (CNIC)

Several Seminar Rooms

**12 February (09.30 to 11.00 h) (Groups 1, 2)**

Cell analysis techniques: Cytometry and High Content Screening  
**María Montoya** (CNIC)

First Floor Seminar Room

**13 February (09.30 to 12.00 h) (Groups 1, 2)**

Proteomics  
**Juan Antonio López** (CNIC)

Genomics  
**Ana Dopazo** (CNIC)

Third Floor Seminar Room

**14 February (09.30 to 12.00 h)**

**(Groups 1, 2)**  
Model systems (II): Zebrafish  
**Laura Andrés, Eduardo Díaz, María Galardi** (CNIC)

Third Floor Seminar Room



## Extra Workshops: GTKCNIC & voluntary for BMM9

**15 February (11.10 to 13.00 h)**

**Second Floor Seminar Room**

11.10 to 11.20 h

**Finance Department**

**José Alberto Alonso** (Finance Director, CNIC)

11.20 to 11.30 h

**Human Resources Strategy. The European Charter for Researchers and the CNIC Code of good scientific practices**

**Antonio Ureña** (HR Director, CNIC)

11.30 to 11.50 h

**CNIC Predoctoral Programme**

**Beatriz Ferreiro** (Science Management Director, CNIC)

12.10 to 12.40 h

**TT Office, Research Office (RO) & Projects Office (PO)**

**Noelia Lopez** (TT Officer, CNIC)

**Cristina Giménez** (RO Officer, CNIC)

**Inga Dreville** (PO Officer CNIC)

12.40 to 13.00 h

**“The CNIC Library and Information Service, how can we help you “**

**Irene Maseda Agüero** (Library and Scientific  
Production Officer, CNIC)