

Cardiovascular Diseases (BMM9) Course 2010-2011

**Lectures: 17 January - 4 February 2011
(09:00-11:30 h)**

17 – 20 January Lectures on Vascular Biology and Inflammation

17 January (09:00 to 11:30 h) – Monday

Vascular Biology I: The vessel wall: metalloproteinases and related molecules in vascular homeostasis and angiogenesis.

Speaker: **Alicia García Arroyo (CNIC)**

Vascular Biology II: Calcineurin pathway in experimental models of angiogenesis, aortic aneurism and aortic valve stenosis.

Speaker: **Juan Miguel Redondo (CNIC)**

18 January (09:00 to 11:30 h) - Tuesday

Signaling I: Functional integration of membrane trafficking, signaling and cytoskeleton dynamics: novel approaches and functional impact at the cellular and whole organism levels.

Speaker: **Miguel Ángel del Pozo (CNIC)**

Signaling II: Signaling pathways in animal models of metabolic syndrome (insulin-resistance and obesity).

Speaker: **Guadalupe Sabio (CNIC)**

19 January (09:00 to 11:30 h) - Wednesday

Inflammation I: Leukocyte-endothelium interactions. Soluble mediators in inflammatory processes: chemokines and their receptors.

Speaker: **Francisco Sánchez-Madrid (CNIC)**

Inflammation II: Immunological basis of cardiovascular disease.

Speaker: **David Sancho (CNIC)**

20 January (09:00 to 11:30 h) - Thursday

Inflammation III: Immunoregulation in cardiac pathology: new approaches and experimental models (myocarditis and heart transplant).

Speaker: **Pilar Martín (CNIC)**

Inflammation IV: Pro-inflammatory and oxidative mechanisms in vascular dysfunction: link to diabetes mellitus and aging.

Speaker: **Carlos Sánchez-Ferrer** (Univ. Autónoma de Madrid)

21 – 25 January

Lectures on Cardiovascular Developmental Biology

21 January (09:00 to 11:30 h) - Friday

Introduction: history of cardiology and evolution of the knowledge of the cardiovascular system. Development, physiology and congenital diseases of the heart.

Speaker: **José María Pérez Pomares** (Univ. de Málaga)

Development of the epicardium and its role in tissue homeostasis of the heart.

Speaker: **José María Pérez Pomares** (Univ. de Málaga)

24 January (09:00 to 11:30 h) - Monday

Embryonic heart development I: General introduction, Cardiac fields specification, myocardiogenesis, heart tube morphogenesis.

Speaker: **Antoon Moorman** (Univ. Amsterdam)

Cross-talk of the endocardium and myocardium in valve development and disease

Speaker: **José Luis de la Pompa** (CNIC)

Vasculogenesis, angiogenesis and lymphangiogenesis during embryonic development.

Speaker: **Miguel Torres** (CNIC)

25 January (09:00 to 11:30 h) - Tuesday

Embryonic heart development II: Chamber formation and septation, genetic basis of heart morphogenesis and regionalization.

Speaker: **Antoon Moorman** (Univ. Amsterdam)

General discussion, questions, perspectives.

26 – 28 January

Lectures on Epidemiology, Atherothrombosis and Cardiovascular Imaging

26 January (09:00 to 11:30 h) – Wednesday

9:00-9:40 Epidemiology of cardiovascular disease. General Overview

Speaker: **Manuel Franco** (CNIC)

9:40-10:10 Epidemiology of metabolic cardiovascular risk factors

Speaker: **Martín Laclaustra** (CNIC)

10:10-10:25 Recess

10:25-11:00 Diet, lifestyle and cardiovascular disease risk

Speaker: **José Luis Peñalvo** (CNIC)

11:00-11:30 Principles of biostatistics for cardiovascular research

Speaker **Pedro López Romero** (CNIC)

27 January (09:00 to 11:30 h) - Thursday

9:00-9:45: Atherosclerotic process: from atherogenesis to restenosis

Speaker: **Vicente Andrés** (CNIC)

9:45-10:30 Inflammation and atherothrombosis

Speaker: **Andrés hidalgo** (CNIC)

10:30-10:45 Recess

10:45-11:30 Cardiovascular remodeling: from the vessel wall to the myocardium.

Speaker: **Carlos Zaragoza** (CNIC)

28 January (09:00 to 11:30 h) - Friday

Clinical manifestations of atherosclerosis based on the knowledge of the disease (I)

Speaker: **Valentín Fuster** (CNIC)

Clinical manifestations of atherosclerosis based on the knowledge of the disease (II)

Speaker: **Valentín Fuster** (CNIC)

31 January Lectures on Translational Cardiovascular Research

31 January (09:00 to 11:30 h) - Monday

9:00-9:45: Lipids and Atherothrombosis: role of HDL cholesterol.

Speaker: **Borja Ibáñez** (CNIC)

9:45-10:30 Cardiovascular Imaging

Speaker: **Jesús Jiménez-Borreguero** (CNIC)

10:30-10:45 Recess

10:45-11:30 Acute myocardial infarction: from ischemia to reperfusion.

Speaker: **Borja Ibáñez** (CNIC)

1 – 3 February Lectures on Regenerative Cardiology

1 February (09:00 to 11:30 h) - Tuesday

Biology of adult stem cells

Speaker: **Antonio Bernad** (CNIC)

The niche as an organizer of stem cell decisions

Speaker: **Simón Méndez** (CNIC)

2 February (09:00 to 11:30 h) - Wednesday

The clinical utility of stem cells

Speaker: **Kenneth McCreath** (CNIC)

Cardiac regeneration in animal models

Speaker: **Beatriz González** (CNIC)

Contribution of nuclear receptors to cardiovascular physiology: from stem cells to tissue regeneration

Speaker: **Mercedes Ricote** (CNIC)

3 February (09:00 to 11:30 h) - Thursday

Understanding the regenerative capacity of stem cells

Speaker: **Susana González** (CNIC)

Mitochondrial function and dysfunction in stem cells

Speaker: **José Antonio Enriquez** (CNIC)

Oral Presentations from Students: 4-8 February 2011 (09:00-12:30 h)

Practical Workshops: 9-18 February 2011 (09:00-12:00 h)

9 February (09:00 to 12:00 h) – Wednesday

The zebrafish model

Teachers:

Nadia Mercader, Eduardo Díaz (CNIC)

10 February (09:00 to 12:00 h) - Thursday

The mouse model – Intravital imaging

Teacher:

Antonio Jesús Quesada,

11 February (09:00 to 12:00 h) - Friday

Transgenesis – The mouse model

Teacher:

Luis Miguel Criado (CNIC)

Ultrasound equipment – The mouse model

Teacher:

Carlos Zaragoza (CNIC)

14 February (09:00 to 12:00 h) - Monday

Genomics

Teacher:

Ana Dopazo (CNIC)

15 February (09:00 to 12:00 h) - Tuesday

Proteomics

Teacher:

Juan Antonio López (CNIC)

16 February (09:00 to 12:00 h) – Wednesday

Advanced Confocal and live Cell Microscopy I

Teachers:

Valeria Caiolfa, Olga Barreiro (CNIC)

17 February (09:00 to 12:00 h) - Thursday

Advanced Confocal and live Cell Microscopy II

Teachers:

Valeria Caiolfa, Olga Barreiro (CNIC)

18 February (09:00 to 12:00 h) – Friday

Cytometry and/or high content screening platforms

Teachers: **María Montoya, José Manuel Ligos (CNIC)**

(Only for CNIC PhD Students - Course “APROXIMACIÓN AL CNIC”)

**Additional Workshops: 21-22 February 2011
(09:00-12:00 h)**

21 February (09:00 to 12:00 h) - Monday

How to look for bibliographic references and citations

Teacher: **Alicia Fátima Gómez (CNIC)**

22 February (09:00 to 12:00 h) - Tuesday

Communicating Science

Teacher: **Simon Bartlett (CNIC)**