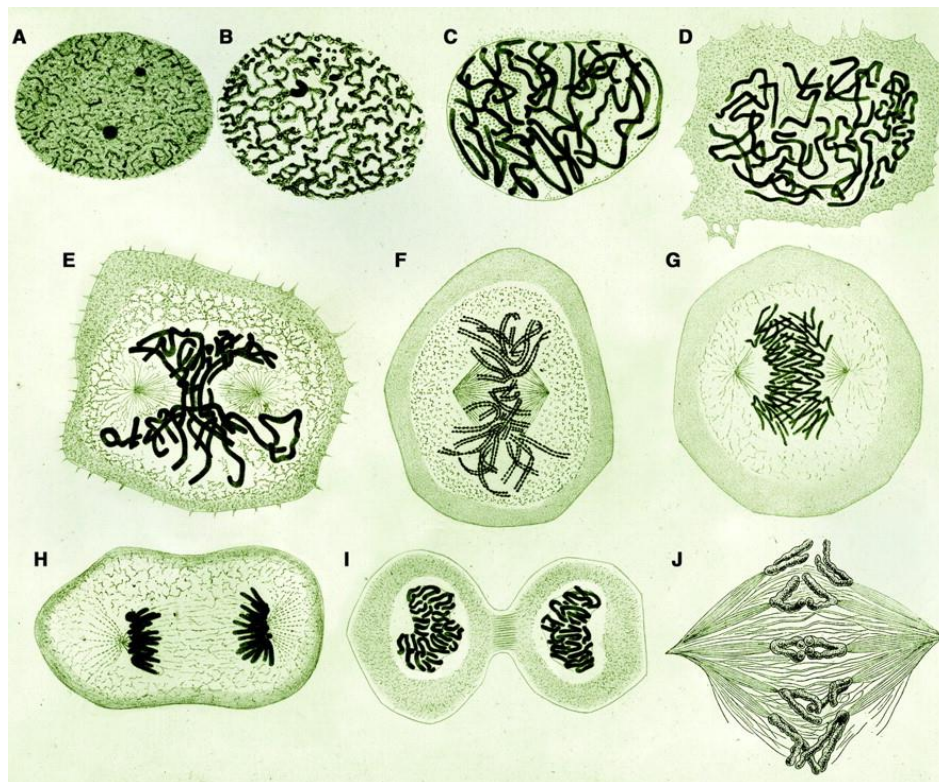


# *Cell Division & Differentiation*

*April 6- April 17, 2015*



*Course Coordinator: Helder Maiato*

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**IBMC**

INSTITUTO DE BIOLOGIA MOLECULAR E CELULAR  
INSTITUTE FOR MOLECULAR AND CELL BIOLOGY



# Objectives

In this course, students will be exposed to key lectures on leading-edge, cell division/differentiation-related topics by world-renowned experts. These lectures will cover fundamental concepts but will be specially oriented towards the identification of present challenges in the field and how they are being experimentally addressed. Lectures will be complemented with a short microscopy overview. From the first day of the course, the students will team up with a teaching assistant and will be assigned a research project to be carried out during the two weeks of the course. This includes the preparation of the necessary reagents, design and execution of experimental work, interpretation of the data, public discussion of the results and peer-review. The project work will represent the main student evaluation instrument for this course.

# Program

## Week 1 (April 6- April 10)

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00-10:00		<b>Mitosis</b> Helder Maiato (Room C)	<b>Mitotic Spindle</b> Stephen Royle (Main room)	<b>Kinetochores</b> Reto Gassmann (Room C)	<b>Centrosomes and Cilia</b> Mónica Bettencourt-Dias (Room C)
10:00-11:00	Course overview & Project assignment (Room C)				
11:00-13:00	<b>Cell Cycle Regulation &amp; Checkpoints</b> Claudio Sunkel & Carlos Conde (Room C)	<b>Cytokinesis</b> Ana Carvalho (Room C)	<b>Mitosis Regulation</b> Anna Santamaria (Main room)	<b>Ageing and Aneuploidy</b> Elsa Logarinho Room C)	<b>Epithelial Cell Polarity</b> Eurico Morais de Sá (Room C) <b>IBMC Seminar: Different cells count differently: centrosome number and structure regulation in development and disease</b> Mónica Bettencourt-Dias (Main room)
13:00-14:00	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
14:00-16:00	<b>Quantitative Microscopy</b> António Pereira (Room C)	<b>Projects</b>			
16:00-17:00	<b>Visit microscopes</b> António Pereira, Paula Sampaio & André Maia				
17:00-	<b>Projects</b>				

## Week 2 (April 13-April 17)

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00-11:00	<b>Projects</b>				Projects discussion (Room C)
11:00-12:00					
12:00-13:00					IBMC Seminar: <i>Molecular mechanisms and biological functions of microtubule diversity</i> Carsten Janke (Main room)
13:00-14:00					Lunch break
14:00-16:00					Projects discussion (Room C)
16:00-17:00					Closing session and course evaluation (Room C)
17:00-18:00					Beer party

### *Visit microscopes*

Monday 06/04, 16:00-17:00 (visit to the microscopes: 3 groups, 3x 20 min rotations)

#### **Laser microsurgery and Spinning-disk confocal**

António Pereira

#### **Scanning confocal and wide-field/3D-deconvolution**

Paula Sampaio

#### **High-content screening microscope**

André Maia

## Faculty & Invited Speakers

<p><b>Claudio Sunkel</b>          Instituto de Biologia Molecular e Celular          Instituto de Ciencias Biomedicas de Abel Salazar,          Universidade do Porto          (cesunkel@ibmc.up.pt)</p>	<p><b>Helder Maiato</b>          Instituto de Biologia Molecular e Celular          Faculdade de Medicina, Universidade do Porto          (maiato@ibmc.up.pt)</p>
<p><b>Reto Gassmann</b>          Instituto de Biologia Molecular e Celular          Faculdade de Medicina, Universidade do Porto          (rgassmann@ibmc.up.pt)</p>	<p><b>Ana Carvalho</b>          Instituto de Biologia Molecular e Celular          Faculdade de Medicina, Universidade do Porto          (anacarvalho@ibmc.up.pt)</p>
<p><b>Elsa Logarinho</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (elsa.logarinho@ibmc.up.pt)</p>	<p><b>Eurico Morais de Sá</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (eurico.sa@ibmc.up.pt)</p>
<p><b>António Pereira</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (apereira@ibmc.up.pt)</p>	<p><b>Carlos Conde</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (CConde@ibmc.up.pt)</p>
<p><b>Paula Sampaio</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (sampaio@ibmc.up.pt)</p>	<p><b>Marin Barisic</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (marin.barisic@ibmc.up.pt)</p>
<p><b>André Maia</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (afmaia@ibmc.up.pt)</p>	<p><b>Stephen Royle</b>          University of Warwick, UK          (S.J.Royle@warwick.ac.uk)</p>
<p><b>Anna Santamaria</b>          Vall Hebron Research Institute, Barcelona, Spain          (anna.santamaria@vhir.org)</p>	<p><b>Mónica Bettencourt-Dias</b>          Instituto Gulbenkian de Ciência          (mdias@igc.gulbenkian.pt)</p>
<p><b>Carsten Janke</b>          Institut Curie, Orsay, France          (carsten.janke@curie.fr)</p>	<p><b>João Barbosa</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (joao.barbosa@ibmc.up.pt)</p>
<p><b>Joana Macedo</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (joana.macedo@ibmc.up.pt)</p>	<p><b>Sofia Moreira</b>          Instituto de Biologia Molecular e Celular          Universidade do Porto          (Sofia.Moreira@ibmc.up.pt)</p>