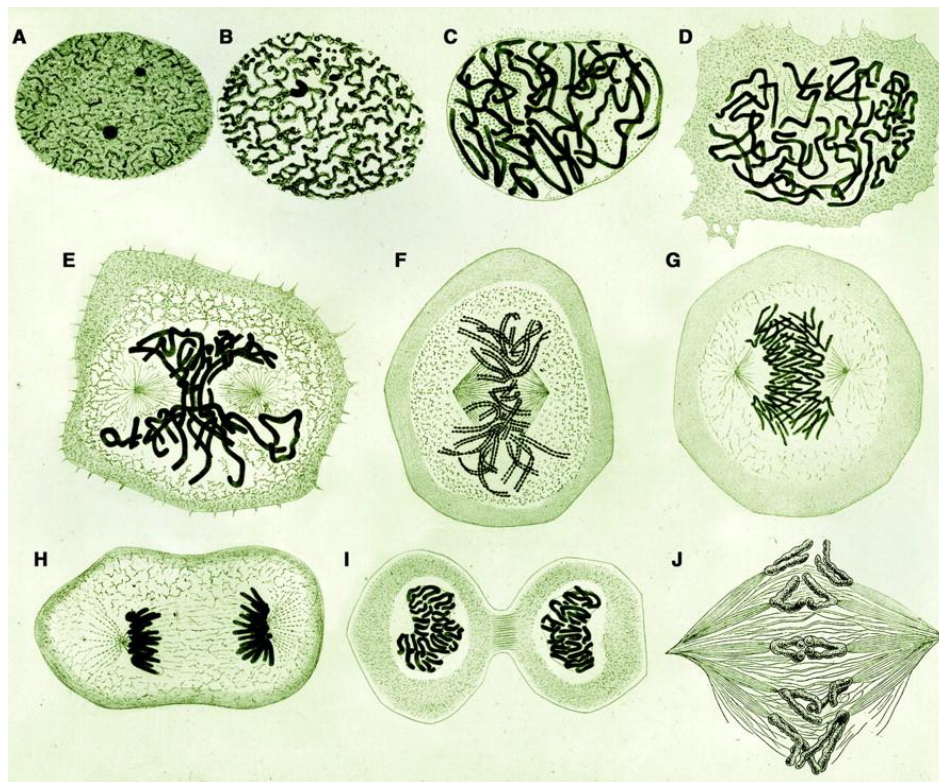


# *Cell Division & Differentiation*

*February 18- March 1, 2013*



*Course Coordinator: Helder Maiato*

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# Objectives

In this course, students will be exposed to key lectures on leading-edge, cell division-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 and research seminars on topics under development in IBMC laboratories. From the first day of the course, groups of 2 students will team up with a teaching assistant and will be assigned a research project to be carried out during the nearly 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 procedure for this course.

# Program

## Week 1 (Feb 18- Feb 22)

	Monday	Tuesday	Wednesday	Thursday	Friday
9:00-10:00	<i>Course overview &amp; Project assignment</i>	<b>Cytokinesis</b> <i>Ana Carvalho</i>	<b>Chromosome organization and centromeres</b> <i>Patrick Heun</i>	<b>Microtubules and Disease</b> <i>Inke Nathke</i>	<b>Mitosis in fission yeast</b> <i>Phong Tran</i>
10:00-11:00					
11:00-12:00	<b>Cell Cycle Regulation &amp; Checkpoints</b> <i>Claudio Sunkel</i>	<b>Centrosomes</b> <i>Mónica Bettencourt-Dias</i>	<b>Kinetochores</b> <i>Reto Gassmann</i>	<b>Molecular Mechanisms of Microtubule tip tracking and centriole formation</b> <i>Michel Steinmetz</i>	
12:00-13:00					<b>IBMC Seminar: Cell division: how to ensure 92 divided by 2 equals 46</b> <i>Jonathon Pines</i>
13:00-14:00	Lunch break	Lunch break	Lunch break	Lunch break	Lunch break
14:00-17:00	<b>Mitosis</b> <i>Helder Maiato</i>	<b>Projects</b>			
17:00-18:00	<b>Microscopy Overview</b> <i>Paula Sampaio</i>				
18:00-19:00	<i>Visit microscopes</i>				

## Week 2 (February 25-March 1)

	Monday	Tuesday	Wednesday	Thursday	Friday
10:00-12:00	<h1>Projects</h1>				Projects discussion
12:00-13:00					IBMC Seminar: <i>“Role of the nuclear envelope and its dynamics in cellular ageing”</i> Yves Barral
13:00-14:00					Lunch break
14:00-16:00					Projects discussion
16:00-17:00					Closing session and course evaluation
					<b>Beer party</b>

### *Microscopy Overview*

*Monday 18/02, 18:00-19:00 (visit to the microscopes: 2 groups, 2x 30 min rotations)*

**Scanning confocal, Spinning-disk confocal**

Paula Sampaio

**Laser microsurgery, wide-field/3D-deconvolution,**

Marin Barisic

## 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>Monica Bettencourt-Dias</b>            Instituto Gulbenkian de Ciência            (mdias@igc.gulbenkian.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>Jonathon Pines</b>            Gurdon Institute            University of Cambridge            Cambridge, UK            (jp103@cam.ac.uk)</p>	<p><b>Patrick Heun</b>            Max-Planck Institute of Immunobiology            Freiburg, Germany            (heun@immunbio.mpg.de)</p>
<p><b>Phong Tran</b>            Institut Curie            Paris, France</p>	<p><b>Yves Barral</b>            ETH            Zurich, Switzerland            (yves.barral@bc.biol.ethz.ch)</p>
<p><b>Inke Nathke</b>            University of Dundee,            Scotland, UK            (i.s.nathke@dundee.ac.uk)</p>	<p><b>Michel Steinmetz</b>            Paul Scherrer Institute            Villigen, Switzerland</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>Paula Sampaio</b>            Instituto de Biologia Molecular e Celular            Universidade do Porto            (sampaio@ibmc.up.pt)</p>
<p><b>Cristina Ferrás</b>            Instituto de Biologia Molecular e Celular            Universidade do Porto            (cristinaferras@gmail.com)</p>	<p><b>Olga Afonso</b>            Instituto de Biologia Molecular e Celular            Universidade do Porto            (olga.afonso@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>Tatiana Moutinho</b>            Instituto de Biologia Molecular e Celular            Universidade do Porto            (tmoutinh@ibmc.up.pt)</p>
<p><b>João Barbosa</b>            Instituto de Biologia Molecular e Celular            Universidade do Porto            (joao.barbosa@ibmc.up.pt)</p>	