



New Therapies and Technologies

February 16-20, 2015

Regenerative Medicine can be defined as the enhancement or trigger of the natural tissue regeneration process to restore normal function. It refers to a group of biomedical approaches that include (stem) cell-based therapies, the administration of biologically active molecules, the implantation of in vitro grown tissues or different combinations of the former.

Nanomedicine is the application of nanotechnology to achieve innovation in healthcare. It uses the properties developed by a material at its nanometric scale, which often differ in terms of physics, chemistry or biology from the same material at a bigger scale. Nanomedicine is understood to be a key enabling instrument for personalized, targeted and regenerative medicine by delivering the next level of new drugs, treatments and implantable devices to clinicians and patients, for real breakthroughs in healthcare.

In this module these two vibrant fields will be addressed and their intertwining presented.

Specific topics of the program include:

- Fundamentals of biomaterials science and engineering
- Stem Cells in Regenerative Biology and Medicine
- BioMaterial and scaffold design
- Biosensors
- Bioimaging
- Cell-material interactions
- Tissue engineering

Speakers

Ana Paula Pêgo

INEB | I3S, nBTT – Nanobiomaterials for Targeted Therapies Group, Universidade do Porto, Portugal

"Introduction – Biomaterials and Regenerative Medicine"

"Nanotechnology at the service of nerve regeneration"

Diana Nascimento

INEB | I3S, Microenvironments for NewTherapies Group, Portugal

"From Cells To Microenvironment and Back - New Hints to Improve Cardiac Repair"

Eduardo Mendes

Advanced Soft Matter Group, Dept. of Chemical Engineering

Delft University of Technology, The Netherlands

"Polymersomes for alpha-radionuclide therapy: Loading, recoil retention, in-vitro and in-vivo results"

"Towards large cilia arrays of multi responsive biocompatible gels"

Goreti Sales*BIOMARK, Sensor Research, Instituto Superior de Engenharia do Porto, Portugal*

"Merging photovoltaics and plastic antibodies in (bio)sensors"

João Cortez*INEB, Business Development & International Projects Officer, Universidade do Porto, Portugal*

"The right pitch for your project"

Meriem Lamghari*INEB | I3S, nBTT – Nanobiomaterials for Targeted Therapies Group, Universidade do Porto, Portugal*

"Neuro-skeletal circuits in bone defects"

M^a Cristina L Martins*INEB | I3S, nBTT – Nanobiomaterials for Targeted Therapies Group, Universidade do Porto, Portugal*

"Nanobiomaterials to control infection and thrombus formation"

Maria Lázaro*INEB | I3S, Universidade do Porto, Portugal*Visit to the bIMAGE (www.bimage.ineb.up.pt)**Mário Barbosa***INEB | I3S, Microenvironments for NewTherapies Group, Portugal*

"Inflammation at biomaterial/tissue repairing interfaces"

Pedro Granja*INEB | I3S, Biocarrier - Biomaterials for Multistage Drug and Cell Delivery Group, Portugal*

"Life isn't flat: cell behavior in real 3D"

Rachel Errington*Molecular Cellular Imaging and Systems Cytometry, Institute of Cancer and Genetics**School of Medicine, Cardiff University, UK*

"Images to numbers to models: tackling issues of chemoresistance"

PROGRAM

16 February	17 February	18 February	19 February	20 February
9:00-10:30* Ana Paula Pêgo Break	9:30-10:30 Eduardo Mendes Break	9:00-10:30 Cristina Martins	9:30-12:00 bIMAGE	9:00-10:30 Mário Barbosa
10:45-12:15* Pedro Granja	10:45-12:15 Eduardo Mendes	10:45-12:15 Ana Paula Pêgo		
14:00-15:30* Diana Nascimento Break	14:00-15:00 Rachel Errington Break		14:00-15:30 Goreti Sales	14:00-16:00 PROJECT PRESENTATION
15:45-17:15* Meriem Lamghari	15:15-16:15 Rachel Errington	PROJECT	PROJECT	
	16:30-17:30 João Cortez			

Lectures will be held at the Auditorium C of the IBMC-INEB.

The visit to the bIMAGE will be held at our facilities at the IPATIMUP.