



New Therapies and Technologies

March 6-10, 2017

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
- 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"

Cristina Barrias

INEB | i3S, Biocarrier - Biomaterials for Multistage Drug and Cell Delivery Group, Portugal

"Bioengineered 3D matrices as valuable models for stem cell and cancer research"

Dimitrios Zeugolis

*Regenerative, Modular & Developmental Engineering Laboratory (REMODEL), NUI Galway, Galway, Ireland
Science Foundation Ireland (SFI) Centre for Research in Medical Devices (CÚRAM), NUI Galway, Galway, Ireland*

"Scaffold-and scaffold-free systems in regenerative medicine"

João Cortez

INEB | i3S, Business Development & International Projects Officer, Universidade do Porto, Portugal

"Pitching your project for success"

Meriem Lamghari

INEB | i3S, nBTT – Nanobiomaterials for Targeted Therapies Group, Universidade do Porto, Portugal
“Neural pathways and skeletal systems interplay”

M^a Cristina L Martins

INEB | i3S | ICBAS, BioEngineered Surfaces Group, Universidade do Porto, Portugal
“NanoBiomaterials to fight infection”

Maria Lázaro

INEB | i3S, bIMAGE Platform, Universidade do Porto, Portugal
Bioimaging for Regenerative Therapies and Nanotechnology

Mário Barbosa

INEB | i3S, Microenvironments for NewTherapies Group, Portugal
“Inflammation at biomaterial/tissue repairing interfaces”

Perpétua Pinto do Ó

INEB | i3S, Microenvironments for NewTherapies Group, Portugal
“Stem Cells in Regenerative Biology and Medicine”

Ricardo Vidal

INEB | i3S, Biointerfaces and Nanotechnology Platform, Universidade do Porto, Portugal
Bioimaging and Nanotechnology for Regenerative Therapies

Sandra Van Vlierberghe

Brussels Photonics, Vrije Universiteit Brussel, Brussels, Belgium
Polymer Chemistry and Biomaterials Group, Ghent University, Ghent, Belgium
“3D printing of natural and synthetic polymers for tissue engineering applications”

PROGRAM

March 6	March 7	March 8	March 9	March 10
9:30-10:30 Ana Paula Pêgo <i>Break</i>	9:00-10:30 Mário Barbosa <i>Break</i>	9:00-12:00 Bioimaging and Nanotechnology for Regenerative Therapies	10:00-11:00 Dimitrios Zeugolis <i>Break</i>	PROJECT
11:00-12:30 Ana Paula Pêgo	11:00-12:30 Perpétua Pinto do Ó		11:30-12:30 Dimitrios Zeugolis	
14:30-16:00 Cristina Martins <i>Break</i>	14:30-16:00 Cristina Barrias <i>Break</i>	PROJECT	14:30-15:30 Sandra Van Vlierberghe <i>Break</i>	PROJECT PRESENTATION
16:30-18:00 João Cortez	16:30-18:00 Meriem Lamghari		16:00-17:00 Sandra Van Vlierberghe	

Lectures will be held at the MEETING ROOM B of i3S.

The practical session on Bioimaging and Nanotechnology for Regenerative Therapies will be held at the bIMAGE and BN services (Floor 0, i3S, rooms 004S2 and 004S3).