



New Therapies and Technologies

February 17-21, 2014

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.

In this module the main components of this new therapeutic approach will be presented, as well as important supportive technologies that are being key for the quick progress that is being observed in the field.

Specific topics of the program include:

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

Speakers

Ana Paula Pêgo

INEB, NEWTherapies Group, Universidade do Porto, Portugal

"Introduction to tissue engineering and regeneration"

"Nanotechnology at the service of nerve regeneration"

Claúdia Lobato

Departamento de Bioengenharia and IBB-Instituto de Biotecnologia e Bioengenharia

Instituto Superior Técnico, Universidade de Lisboa, Portugal

"Scalable production of human stem/progenitor cells in microcarrier-based culture systems"

Clayton Adam

Paediatric Spine Research Group in the School of Chemistry

Physics and Mechanical Engineering at Queensland University of Technology in Brisbane, Australia

"Mechanics, Deformity and Mechanobiology in the Growing Spine"

"Trabecular bone nano-mechanics"

João Cortez

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

"The right pitch for your project"

Meriem Lamghari

INEB, NEWTherapies Group, Universidade do Porto, Portugal
 “NPY receptors in bone homeostasis”

M^a Cristina L Martins

INEB, NEWTherapies Group, Universidade do Porto, Portugal
 “Engineering surfaces to modulate biological responses”

Mário Barbosa

INEB, NEWTherapies Group, Universidade do Porto, Portugal
 “Inflammation at biomaterial/tissue repairing interfaces”

Pedro Granja

INEB, NEWTherapies Group, Universidade do Porto, Portugal
 “Life isn’t flat: cell behavior in real 3D”

Perpétua do Ó

INEB, NEWTherapies Group, Universidade do Porto, Portugal
 “HeartRegeneration vs. Repair: unlocking ontogenic boundaries?”

Salvador Pané

Institute of Robotics and Intelligent Systems (IRIS)
Swiss Federal Institute of Technology (ETH), Zurich, Switzerland
 “Materials and fabrication methodologies of micro- and nanorobots for biomedical applications”

Manuela Brás, Maria Lázaro and Ricardo Vidal

INEB, Universidade do Porto, Portugal
 Visits to SUIM and bIMAGE

PROGRAM

17 February	18 February	19 February	20 February	21 February
9:00-10:30* Ana Paula Pêgo <i>Break</i> 10:45-12:15* Perpétua Pinto do Ó	9:00-10:30 Ana Paula Pêgo <i>Break</i> 10:45-12:15 Cristina Martins	10:30-12:00 Meriem Lamghari	9:30-12:00 bIMAGE	10:00-11:30* Salvador Pané
14:00-15:30* Mário Barbosa <i>Break</i> 15:45-16:45* Clayton Adam <i>Break</i> 17:00-18:00* Clayton Adam	14:00-15:30* Claudia Lobato <i>Break</i> 15:45-17:15* João Cortez	14:00-15:30 Pedro Granja <i>Break</i> 16:00-17:15 Visit to SUIM	PROJECT	14:00-16:00* PROJECT PRESENTATION

Activities marked with an * will be held at the Main Auditorium of the LA IBMC-INEB. The other talks will take place at Auditorium C.