

ADVANCED THERAPIES

CNC Advanced Courses 2021

Doctoral Program in Experimental Biology and Biomedicine (PDBEB)

April 19 - 23, 2021

Coordinators:

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PROGRAM

MONDAY | APRIL 19TH

9:00-10:00 – “Mechanomodulation of stem and progenitor cells”
Mario Grãos (CNC)
10:00-11:00- “Reprogramming cells for medicine”
Ricardo Neves (CNC)
11:00-11:15- *Coffee break*
11:15-12:15- “Biomolecular engineering for regenerative medicine”
Hugo Fernandes (Univ. Coimbra)
12:15- 14:00- *Lunch*
14:00- 15:00 “Biomaterials to regulate cell activity”
Lino Ferreira (CNC and Univ. Coimbra)
15:00- 16:00 “Engineered nanomaterials for fighting bacteria and healing wounds”
Akhilesh Rai (CNC and Univ. Coimbra)
16:00- 16:15- *Coffee break*
16:15- 17:15 “Biomaterial-based cell therapies for the revascularization of ischemic tissues”
Cristina Barrias (Univ. Porto)

TUESDAY | APRIL 20TH

9:00- 10:00- “Pluripotent stem cells: biology and applications”
Lino Ferreira (CNC and Univ. Coimbra)
10:00- 11:00- “Engineering specialised heart muscle cells for disease modelling and pharma-use using human pluripotent stem cells”
Andreia Bernardo (Crick Institute)
11:00- 11:15- *Coffee break*
11:15- 12:15- “Use of pluripotent stem cells for drug discovery applications”
Xavier Nissan (I-STEM, Paris)
12:15- 14:00- *Lunch*
14:00- 15:00- “Stem cell based therapies in retinal disease: a preclinical roadmap”
Alexandra Capela
15:00- 16:00- “MicroRNA therapy: from basic science to clinical reality”
Paula Costa Martins (Univ. Maastricht)

WEDNESDAY | APRIL 21ST

9:00- 10:00- “Molecular therapies for brain disorders”
Luís Pereira de Almeida (CNC)
10:00- 10:45- "Thinking small: miRNA-mediated gene silencing and miRNA-based therapeutic approaches"
Sónia Duarte (CNC)

10:45- 11:15- "miRNA dysregulation in Machado-Joseph Disease"

Diana Santos (CNC)

11:15- 11:30- *Coffee Break*

11:30- 12:15- “Intravenous delivery of the brain-targeting AAV-PHPeB encoding CYP46A1 to overcome brain cholesterol deregulation in neurodegenerative disorders – focusing on Machado Joseph disease”

Rita Perfeito (CNC)

12:15- 14:00- *Lunch*

14:00- 14:45- “Stem cell transplantation for brain regeneration and neuroprotection”

Liliana Mendonça (CNC)

14:45- 15:30- “iPSC-derived neuroepithelial stem cells depleted for mutant ataxin-3 for Machado-Joseph disease treatment”

Sandra Braz (CNC)

15:30- 15:45- *Coffee Break*

15:45- 16:30- “Therapies based on gene editing: Potentialities and limitations”

Sara Lopes (CNC)

16:30- 17:15- "Genome editing 2.0: CRISPR-base editors"

Pedro Perdigão (CNC)

THURSDAY | APRIL 22ND

09:00- 09:45- “Mesenchymal Stem Cells for Brain Disorders - the Particular Case of Machado-Joseph Disease”
Catarina Miranda (CNC)
09:45- 10:30- "Proteolysis as a target in neurodegenerative disorders and the particular case of Machado-Joseph Disease"
Dina Pereira (CNC)
10:30- 10:45- *Coffee Break*
10:45- 11:30- “Addressing the cancer patients’ needs with nanomedicine-based strategies”
João Nuno Moreira (CNC)
11:30- 12:15- “Differential effect of F3 peptide-targeted liposomes containing doxorubicin and C6-ceramide and non-targeted drug combinations against nucleolin-overexpressing cancer cell lines”
Ana Filipa Cruz (CNC)
12:15- 14:00- *Lunch*
14:00- 14:45- “Viral vectors for Gene therapy: from the lab to the clinic”
Rui Nobre (CNC, Vira-Vector UC)
14:45- 15:30- “Extracellular vesicles as a therapeutic approach for CNS disorders”
Patrícia Albuquerque (CNC)
15:30- 15:45- *Coffee Break*
15:45- 16:30- “Shedding Light on Chitosan-based Nanoparticles as Intranasal Vaccine Adjuvant”
Olga Borges (CNC)
16:30- 17:15- "Biomarkers in drug development"
Magda Santana (CNC)

Friday | April 23rd

09:00- 12:30- Assignments- Presentation of papers
12:30- 14:00- *Lunch*
15:30- “Overcoming barriers for brain gene therapy”
Prof. Beverly L. Davidson, PhD
Perelman School of Medicine, University of Pennsylvania, USA