HUMAN iPSCs AND ADVANCED 3D ORGANOID PLATFORMS FOR DISEASE MODELLING

19 April – 7 May 2027

PROGRAMME — WEEK 1

Monday, 19 April

09:30–10:30 Course Introduction
Carla Lopes / Belém Sampaio-Marques / Nuno Silva (ICVS, University of Minho, Portugal)

11:00–12:30 Stem Cell Biology
António Salgado (ICVS, University of Minho, Portugal)

14:00–15:30 Embryonic development in vitro: gastruloids and self-organising development
José Belo (NOVA Medical School, Portugal)

15:45–17:00 Overview of hiPSC Culture
Carla Lopes / Sara Guerreiro (ICVS, University of Minho, Portugal)

Tuesday, 20 April

09:30–10:45 Genome Editing
Pedro Perdigão (CNC, Portugal)

11:00–12:30 CRISPR Disease Modeling
Marina Trombetta-Lima (University of Groningen, The Netherlands)

14:00–15:30 Biofabrication & Biomaterials
Nuno Silva (ICVS, University of Minho, Portugal)

15:45–17:00 Organ-on-chip
Lorena Diéguez (INL, Braga, Portugal)

Wednesday, 21 April

09:30–10:30 Cardiac Organoids
Maria Margarida Diogo (IST, Portugal)

11:00–12:30 Vascularisation Strategies
Cristina Barrias (i3S, University of Porto, Portugal)

14:00–15:30 Hepatic 3D Models
Catarina Brito (iBET/ITQB NOVA, Portugal)

15:45–17:00 Lung Organoids
Reinoud Gosens (University of Groningen, The Netherlands)

Thursday, 22 April

09:30–10:30 Cancer Organoids
Jorge Lima (Ipatimup, Portugal)

11:00–12:30 Intestinal Organoids
Daniel Ferreira (i3S, University of Porto, Portugal)

14:00–15:30 Assembloids/Neuromuscular Modelling
Jimena Andersen (Emory University, USA)

15:45–17:00 Clinical Therapies for CNS Injuries: Spinal Cord and Traumatic Brain Injuries
Zaida Álvares (Institute for Bioengineering of Catalonia, Spain)

Friday, 23 April

09:30–10:30 hiPSC-derived Microglia
Amalia Dolga (University of Groningen, The Netherlands)

11:00–12:30 Neuroimmune Cocultures and Organoids
Sally Cowley (University of Oxford, UK)

14:00–15:30 Parkinson’s Disease Midbrain Organoids and the Gut–Brain Axis
Jens Schwamborn (University of Luxembourg, Luxembourg)

15:45–16:45 Functional Phenotyping of Organoids
Nerea Urrestizala-Arenaza (Achucarro, Bilbao, Spain)

17:00–18:00 Round Table: The Future of Human Organoids

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PROGRAMME — WEEK 2

Monday, 26 April

09:30–10:45 Ethics & Regulation
Magda Castelhano-Carlos (ICVS, Portugal)

11:00–12:30 Can advanced human in vitro models replace animal experiments? (Round table)

14:00–15:15 Basic Cell Culture

16:00–17:30 ICVS Facility Visit

Tuesday, 27 April

09:30–10:45 Reprogramming Strategies

11:00–12:30 Practical Session 1: Assessing High-Quality hiPSC Cultures

14:30–15:30 Practical Session 2: Maintaining and Expanding hiPSC Cultures

16:00–17:15 Practical Session 3: Long-Term Storage and Recovery of hiPSCs

Thursday, 29 April

09:30–10:45 Practical Session 4: Organoid Formation

11:00–12:30 Practical Session 5: Organoid Differentiation

14:30–15:30 Industry Partners: MEA & Calcium Imaging

16:00–17:30 Project Preparation

Friday, 30 April

09:30–12:30 Industry Partners: Symposium / Workshops

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PROGRAMME — WEEK 3

Monday, 3 May

Project Development

Tuesday, 4 May

Project Development

Wednesday, 5 May

09:30–11:30 Career Development and Funding Opportunities
Natália Martins (ICVS, Portugal)

14:00–17:30 Project Development

Thursday, 6 May

09:00–12:00 Project Presentations

Friday, 7 May

09:00–10:30 Written Exam