

## Week 1 - Seminars

All seminars in room: A2.07; \* Virtual Seminar

		13/03/23	14/03/23	15/03/23	16/03/23	17/03/23				
09:00 – 09:15										
09:15 – 09:30										
09:30 – 09:45	<b>Course introduction</b> - Ana Marote, António Salgado									
09:45 – 10:00										
10:00 – 10:15	<b>Session I – From pluripotency to functionality and back?</b>	<b>Introduction to Stem Cell Biology</b> - António Salgado, ICVS, PT	<b>Using microfluidics to study neuronal development</b> - Ramiro Almeida, iBiMED, PT	<b>In vitro cardiac tissue differentiation</b> - José Belo, CEDOC, PT	<b>Human neurodevelopment in vitro</b> - Pedro Rifes, UCPH, DK					
10:15 – 10:30										
10:30 – 10:45										
10:45 – 11:00										
11:00 – 11:15										
11:15 – 11:30										
11:30 – 11:45		<b>Embryonic development</b> - Ana Ribeiro, IMM, PT *	<b>Engineered tissue models for nervous system research</b> - James Philips, UCL, UK *	<b>Hepatic 3D models for preclinical drug development</b> - Catarina Brito, ITQB-NOVA & iBET, PT	<b>Modeling the gastric environment: From 2D to advanced 3D models</b> - Daniel Ferreira, i3S, PT	<b>Parkinson's disease in vitro models</b> - Carles Calatayud Aristoy, VIB Leuven, BE				
11:45 – 12:00										
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14:00 – 14:15	<b>Defining Pluripotency</b> - José Bragança, ABC-RI, PT	<b>(Micro)Templating Fabrication and Bioprinting</b> - Paul Wieringa, Maastricht University, NL	<b>In vitro models of vascularization</b> - Cristina Barrias, i3S, PT	<b>In vitro models of vascularization</b> - Cristina Barrias, i3S, PT	<b>Understanding cellular origin and development of neurodegenerative disease using iPSCs</b> - Laurent Roybon, Van Andel Institute, USA *					
14:15 – 14:30										
14:30 – 14:45										
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15:00 – 15:15										
15:15 – 15:30										
15:30 – 15:45	<b>A practical overview of iPSCs culture</b> - Ana Marote, ICVS, PT	<b>Advancing 3D cell culture with bioreactor technology</b> - Catarina Brito, ITQB-NOVA & iBET, PT	<b>Human blood-brain barrier in vitro development</b> - Susana Rosa, CNC, PT	<b>Human blood-brain barrier in vitro development</b> - Susana Rosa, CNC, PT	<b>Modeling the spinal cord and motor system in vitro</b> - Jimena Andersen, Emory University, USA *					
15:45 – 16:00										
16:00 – 16:15										
16:15 – 16:30	<b>Gene editing tools</b> - Pedro Ferreira, ICVS, PT									
16:30 – 16:45										
16:45 – 17:00										
17:00 – 17:15										
17:15 – 17:30										

**In vitro modeling of Parkinson's disease with patient specific midbrain organoids** - Jens Schwamborn, Université du Luxembourg, LU \*

**The use of organoid cultures in toxicology research** - Thomas Hartung, Johns Hopkins University Bloomberg School of Public Health, USA \*

**Ethics in Animal Research** - Magda Castelhana-Carlos, ICVS, PT

**Round-table discussion**

## Week 2 - Hands-on sessions/Mini-projects

	20/03/23	21/03/23	22/03/23	23/03/23	24/03/23					
09:00 – 09:15		<b>StemCell Technologies Workshop</b>	<b>StemCell Technologies Workshop</b>							
09:15 – 09:30										
09:30 – 09:45	<b>Project assignment</b> G2.02					<b>Welcome &amp; Introduction</b> Room G2.02	<b>Lecture 2: PSC Quality</b> G2.02	<b>Project preparation</b> G2.02	<b>Project preparation</b> G2.02	
09:45 – 10:00										
10:00 – 10:15	<b>Project preparation</b> G2.02					<b>Lecture 1: Maintaining and Assessing High-Quality hPSC Cultures</b> Room G2.02	<b>Lecture 4: Principle of Differentiation</b> G2.02			
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12:30 – 12:45						<b>Practical Session 1: Evaluate the Quality of hPSC Cultures and Plate Coating</b>	<b>Practical Session 4</b>			
12:45 – 13:00							<b>Practical Session 5: Generate EBs and Prepare hPSCs as Single Cells for Monolayer-Based Protocol</b>			
13:00 – 13:15							<b>Wrap Up Session</b> G2.02			
13:15 – 13:30										
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13:45 – 14:00										
14:00 – 14:15	<b>Basic techniques in Cell Culture</b> - Ana Marote G2.02	<b>Practical Session 2 Passaging hPSCs</b>	<b>Project preparation</b> A1.12	<b>Project preparation</b> G2.02	<b>Project preparation</b> G2.02					
14:15 – 14:30										
14:30 – 14:45										
14:45 – 15:00	<b>Visit to ICVS Cell Culture facilities</b>									
15:00 – 15:15										
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15:45 – 16:00	<b>Project preparation</b> G2.02					<b>Practical Session 3: Cryopreservation</b>				
16:00 – 16:15										
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16:45 – 17:00										
17:00 – 17:15										
17:15 – 17:30			<b>Wrap Up Session</b> Room G2.02							

### Week 3 - Evaluation

	27/03/23	28/03/23	29/03/23	30/03/23	31/03/23
09:00 – 09:15	Self-study	Self-study	Self-study	Self-study	
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**Exam**  
A2.08

**Project presentation**  
A2.07