

fundamentalsin neuroscience

PROGRAMME

PART1.1: Brain anatomy and function

September 23rd to October 11th

Monday, September 23rd

- 09:15 - 09:30 *Course presentation* [G2.02]
09:30 - 11:30 *Development of brain cells* [G2.02]
- Hugo Almeida (9:30-10:10)
- Luisa Pinto (10.10-10.50)
- João Oliveira (10:50-11:30)
12:00 - 13:00 *Brain Anatomy* - Tiago Gil Oliveira [G2.02]

13:00 - 14:30 *Lunch*

- 14:30 - 16:00 *Brain Anatomy - hands-on - #1* - Carina Cunha, Sara Silva, Ana Verónica Domingues [Lab I2.04]
16:00 - 17:30 *Brain Anatomy - hands-on - #2* - Carina Cunha, Sara Silva, Daniela Fernandes [Lab I2.04]

Tuesday, September 24th

- 09:00 - 10:15 *Nervous impulse* - Hugo Almeida [G2.02]
10:15 - 11:15 *Neurotransmission and neurotransmitters* - João Carlos Sousa [G2.02]
break
11:30 - 12:15 *Electrophysiology: Basic Background* - Sara Calafate [G2.02]

12:15 - 13:45 *Lunch*

- 13:45 - 14:30 *Methods for recording electrophysiological activity* - Bárbara Coimbra [G2.02]
break
14:45 - 17:30 *Methods for recording electrophysiological activity - hands on* - Leandro Aguiar, João Oliveira, Filipa Pinto-Ribeiro

PART1.2: Systems of the brain

Wednesday, September 25th

10:15 - 10:45 Quiz1 [\[A2.08\]](#)

11:00 - 12:30 *Sensory and Motor Systems* - João Cerqueira [\[G2.02\]](#)

14:00 - 17:00 self study

Thursday, September 26th

09:30 - 10:30 *Learning, Memory, and cognition* - Carina Cunha [\[G2.02\]](#)

break

11:00 - 12:00 Emotional behavior - João Bessa [\[G2.02\]](#)

12:00 - 13:00 Lunch

13:00 - 14:00 *Behavioral Flexibility and decision-making* - Pedro Morgado [\[G2.02\]](#)

break (15 min)

14:15 - 15:15 *Regulatory Systems - Neuroendocrinology* - Joana Palha [\[G2.02\]](#)

15:15 - 16:00 *PHAS Research: Interface Neuroscience/Endocrinology* - Joana Palha [\[G2.02\]](#)

break

16:15 - 17:00 *Barriers of the brain and brain metabolism* - Fernanda Marques [\[G2.02\]](#)

Break

17:00 - 18:00 Quiz2 [\[A2.08\]](#)

PART1.3: Monitoring and manipulating brain function

Friday, September 27th

9:30 - 12:30 *Motor Behavior hands on* - Sara Silva, Marta Costa **[G2.02]**

12:30 - 14:00 *Lunch*

14:00 - 17:00 *Mini-workshop 2: Imaging tools - neuronal function & modulation* - Carina Cunha, Bárbara Coimbra **[G2.02]**

PART2: Project

Monday, September 30th

09:30 - 10:30 Project assignment - António Salgado, Carina Cunha, Sara Silva [\[G2.02\]](#)

10:30 - 18:00 Monitoring of progress concerning projects - António Salgado, Carina Cunha, Sara Silva [\[G2.02\]](#)

PART3: The Brain at a Glance

Tuesday, October 1st

09:00 - 18:00 *Self-study - working groups (supervised)* - António Salgado, Carina Cunha, Sara Silva

Wednesday, October 2nd

09:30 - 11:30 Novel approaches for nervous system regenerative medicine - ReNeu team, António Salgado, Nuno Silva, Susana Monteiro [\[G2.02\]](#)

11:30 - 11:45 *break*

11:45 - 12:45 Mechanisms of memory and Alzheimer's disease pathogenesis - Tiago Gil, MEMAD team [\[G2.02\]](#)

12:45 - 14:15 *Lunch*

14:15 - 16:15 Inflammation at the nervous system - João Cerqueira, Fernanda Marques, Ana Falcão, João do Canto, Cláudia Nóbrega INSI team [\[G2.02\]](#)

16:15 - 16:30 *break*

16:30 - 17:30 Neurobiology of Pain - Hugo Almeida, NoPain team [\[G2.02\]](#)

Thursday, October 3rd

9:00 - 10:00 The Aging Brain - Nadine Santos, AGEDIGITAL team [\[G2.02\]](#)

10:00 - 10:15 *break*

10:15 - 12:15 Brain Circuits and Neuron-Glia adaptations - Luisa Pinto, Ana João Rodrigues, João Oliveira, João Bessa, C2B team [\[G2.02\]](#)

12:15 - 13:45 *Lunch*

13:45 - 14:45 Stress effects on the Brain - Pedro Morgado, STRESS.COM team [\[G2.02\]](#)

14:45 - 15:00 *break*

15:00 - 17:00 Neurodevelopment and neurogenetic diseases - Patrícia Maciel, TransNeu team (1-4 people) [\[G2.02\]](#)

Friday, October 4th

Neurosciences interface

09:30 - 10:15 *Brain Cancers* - Bruno Costa [\[G2.02\]](#)

10:15 - 10:30 *break*

10:30 - 11:15 *Malaria and the brain* - Pedro Ferreira [\[G2.02\]](#)

small break (5 min)

12:00 - 13:30 *Lunch*

13:30 - 17:30 *Hands-on classes: Cell culture*

PART4: Final Evaluation

Monday, 7th October

9:00-12:00 - *Self-study*

14:00 - 17:00 *Mini-workshop 1: A Primer on Brain Imaging* - Tiago Gil Oliveira, Neuroimaging team **[G2.02]**

Tuesday, 8th October

Self-study

Wednesday, October 9th

14:00 - 15:30 Written exam **[A2.08]**

Thursday, October 10th

09:00 - 18:00 Project preparation

Friday, October 11th

09:00 - 13:00 Project presentation **[G2.02]**