

SYNAPSES NEURONAL CIRCUITS AND BEHAVIOR

9 - 20 April, 2018
CNC Auditorium - 2nd floor

April 9 | Monday

9h - Structure of the course; Introduction of students and lecturers
 9h15 - Neuronal migration: inter- and intracellular signaling - **Ricardo Rodrigues**
 11h - Molecular triggers of synapse formation and maturation - **Ramiro D. Almeida**
 12h30 - Lunch
 14h - Electrophysiology: a primer (I) - **João Peça**
 16h - Electrophysiology: a primer (II) - **Paulo Pinheiro**

April 10 | Tuesday

9h - Introduction to synapses: structure-function and molecular composition - **Ana Luísa Carvalho**
 11h - Presynaptic function - **Paulo Pinheiro**
 12h30 - Lunch
 14h - Postsynaptic receptor function - **Ana Luísa Carvalho**
 16h - Synaptic plasticity & molecular mechanisms - **Ana Luísa Carvalho**

April 11 | Wednesday

9h - Computational modelling of synaptic plasticity - **Rui Ponte Costa**
 11h - Computational modelling of synaptic plasticity (practical session) - **Rui Ponte Costa**
 12h30 - Lunch
 14h - Molecular mechanisms in long-term memory formation - **Ana Oliveira**
 15h30 - Synaptic sculpting by microglia in health and disease - **Ana Luísa Cardoso**

April 12 | Thursday

9h - Multi-photon microscopy: principles and applications; Live imaging of neurons and synapses in vivo - **Luísa Cortes**
 10:30h - 17:30h: Practical sessions
 (1) Electrophysiology - Measurement of synaptic parameters in rat hippocampal slices and in cultured rat hippocampal neurons - **Paulo Pinheiro & João Peça/Joana Guedes**
 (2) Two-photon microscopy - Imaging spine dynamics in organotypic hippocampal slices - **Luísa Cortes**

April 13 | Friday

9h - The memory engram - **Ana Oliveira**
 10h30 - Neuromodulation - **Carlos Duarte**
 12h - Lunch
 14h - "DNA methylation players in memory formation" - **Seminar by Ana M.M. Oliveira**
 15h30 - "Principled views on synapses and circuits: statistical and deep learning" - **Seminar by Rui Ponte Costa**
 17h - Time to meet with tutors for grant proposal

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April 16 | Monday

9h30 - Introduction to the second week of the course and objectives - **João Peça**
 10h - Optogenetics and tools for neuronal circuit dissection - **João Peça**
 11h15 - Synaptic and circuitry mechanisms of basal ganglia dysfunction - **Patrícia Monteiro**
 12h15 - Lunch
 14h - Lab talks (talks from senior Postdoc or Student)
 Studying human neurons in the lab - **Catarina Seabra**
 15h - To be announced

April 17 | Tuesday

9.30h-16.30h - Practical sessions
 (1) Electrophysiology - Measurement of synaptic parameters in rat hippocampal slices and in cultured rat hippocampal neurons - **Paulo Pinheiro & João Peça/Joana Guedes**
 (2) Two-photon microscopy - Imaging spine dynamics in organotypic hippocampal slices - **Luísa Cortes**

April 18 | Wednesday

10h30 - Circuit dysfunction in post-lesional bipolar disorder: from lesions to circuits - **Albino Maia**
 11h30 - Cortico-hippocampal neural circuits in memory-driven behaviors - **Miguel Remondes**
 12h30 - Lunch
 14h - Lab talks (talk from senior Postdoc or Student)
 15h - "Toward a circuit level understanding of cognition" - **Seminar by Joe Paton**

April 19 | Thursday

9h30 - Synaptic dysfunction in neuropsychiatric disorders - **Ana Luísa Carvalho**
 10h30 - Modulation of GABAergic inhibitory inputs in the hippocampus - **Ana Sebastião**
 11h45 - Hypothalamic circuits - **Susana Lima**
 12.45h - Prefrontal functional connectivity in animal models of chronic pain - **Vasco Galhardo**
 13h45 - Lunch
 15h - "Lessons from synaptic dysfunction in aging to model neurodegeneration" - **Seminar by Luísa Lopes**

April 20 | Friday

10h - Genetic dissection of autism spectrum disorders - **João Peça**
 11h - Social Neuroscience - **Rui Oliveira**
 12h30 - Lunch
 14h - "Neurobiology of social behaviour in zebrafish" Seminar - **Rui Oliveira**