

Essentials of Neurophysiology: from neurons to circuits to behaviors – 2018 Course Program

	Monday, April 23	Tuesday, April 24	Wednesday, April 25	Thursday, April 26	Friday, April 27
09:00-10:00		Morning Discussion Joel Glover	Morning Discussion Joel Glover	Morning Discussion Joel Glover	Morning Discussion Joel Glover
10:00-10:15	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
10:15-11:05		5. Ion Channels Joel Glover	9. Neurotransmitter Receptors and Postsynaptic Effects Joel Glover	12. Bursting Joel Glover	15. The Vestibulo-Ocular Reflex Circuit Joel Glover
11:15-12:05		6. The Action Potential Joel Glover	10. Synaptic Integration Joel Glover	13. Synaptic Plasticity Joel Glover	16. Locomotion and Locomotor CPGs Keith Sillar, St. Andrews University
12:15	Lunch	Lunch	Lunch	Lunch	Lunch
13:00-13:50	1. Introduction 2. Neuron Shape / Cytoskeleton Joel Glover	7. The Synapse Joel Glover	11. Firing Frequency Modulation Joel Glover	14. Neural Network Building Blocks and Basics of Central Pattern Generators (CPGs) Joel Glover	17. Circuit Interactions between Locomotion and Eye Movement Control John Simmers, CNRS Bordeuax
14:00-14:50	3. Resting Membrane Potential Joel Glover	8. Neurotransmitters and Release Joel Glover	Neuron Lab Joel Glover	Neuron Lab Joel Glover	Afternoon Discussion Keith Sillar, John Simmers, Joel Glover
15:00-15:50	4. Passive Electrical Properties of Neurons Joel Glover	Neuron Lab Joel Glover	Demo patch clamping, extracellular nerve recording Elena Kondratskaya, Oleksander Ievgjevskyi	Demo voltage sensitive dye imaging, calcium imaging Elena Kondratskaya, Oleksander Ievgjevskyi	Neuron Lab Joel Glover
16:00-19:00	Demo Neuron Lab Joel Glover	Neuron Lab Joel Glover	Demo patch clamping, extracellular nerve recording	Demo voltage sensitive dye imaging, calcium imaging	Neuron Lab Joel Glover

	Saturday, April 28	Sunday, April 29	Monday, April 30
09:00-10:00			Morning Discussion Joel Glover
10:00-10:15			Coffee break
10:15-11:05	Neuron Lab (optional)	Neuron Lab (optional)	18. Networks that Solve Real Problems 1 Joel Glover
11:15-12:05	Neuron Lab (optional)	Neuron Lab (optional)	19. Networks that Solve Real Problems 2 Joel Glover
12:15	Lunch Get together / Pizza		
13:00-13:50	Neuron Lab (optional)	Neuron Lab (optional)	Lunch Get together / Pizza
14:00-14:50	Neuron Lab (optional)	Neuron Lab (optional)	Lunch Get together / Pizza
15:00-15:50	Neuron Lab (optional)	Neuron Lab (optional)	
16:00-16:50	Neuron Lab (optional)	Neuron Lab (optional)	