Essentials of Neurophysiology: from neurons to circuits to behaviors – 2020 Course Program

	Monday, April 20	Tuesday, April 21	Wednesday, April 22	Thursday, April 23	Friday, April 24
09:00-10:00		Morning Discussion **Joel Glover**	Morning Discussion **Joel Glover**	Morning Discussion **Joel Glover**	Morning Discussion **Torkel Hafting, 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. Synaptic Plasticity 1 **Torkel Hafting**	15. CPG diversity **Joel Glover**
11:15-12:05		6. The Action Potential **Joel Glover**	10. Synaptic Integration **Joel Glover**	13. Synaptic Plasticity 2 **Torkel Hafting**	16. Neural Circuits that Solve Real Problems 1 **Joel Glover**
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 and Bursting **Joel Glover**	14. Neural Network Building Blocks and Basics of Central Pattern Generators (CPGs) **Joel Glover**	17. Neural Circuits that Solve Real Problems 2 **Joel Glover**
14:00-14:50	3. Resting Membrane Potential **Joel Glover**	8. Neurotransmitters and Release **Joel Glover**	Neurons in Action **Joel Glover**	Neurons in Action Neuronify **Joel Glover**	Neurons in Action Neuronify **Joel Glover**
15:00-15:50	4. Passive Electrical Properties of Neurons **Joel Glover**	Neurons in Action **Joel Glover**	Demo patch clamping, extracellular nerve recording **Elena Kondratskaya, Oleksander Ievglevskyi**	Demo voltage sensitive dye imaging, calcium imaging **Elena Kondratskaya, Oleksander Ievglevskyi**	Neurons in Action Neuronify **Joel Glover**
16:00-19:00	Demo Neurons in Action **Joel Glover**	Neurons in Action **Joel Glover**	Demo patch clamping, extracellular nerve recording	Demo voltage sensitive dye imaging, calcium imaging	Neurons in Action Neuronify **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) Neuronify	Neuron Lab (optional) Neuronify	18. Locomotion and Locomotor CPGs **Keith Sillar, St. Andrews University**
11:15-12:05	Neuron Lab (optional) Neuronify	Neuron Lab (optional) Neuronify	19. Circuit Interactions between Locomotion and Eye Movement Control **John Simmers, CNRS Bordeuax**
12:15			**Lunch** **Get together / Pizza**
13:00-13:50	Neuron Lab (optional) Neuronify	Neuron Lab (optional) Neuronify	Afternoon Discussion **Keith Sillar, John Simmers, Joel Glover**
14:00-14:50	Neuron Lab (optional) Neuronify	Neuron Lab (optional) Neuronify	Afternoon Discussion **Keith Sillar, John Simmers, Joel Glover**
15:00-15:50	Neuron Lab (optional) Neuronify	Neuron Lab (optional) Neuronify	
16:00-16:50	Neuron Lab (optional)	Neuron Lab (optional)	