

	All lectures held in Loeb G70 North.			SPINES		
Cycle 1			Leech	WED NIGHT SEMINAR	PROFESSIONAL DEVELOPMENT	
	Date	Time	Speaker	School	Lecture	Title
Sun	2-Jun	04:00 PM	Course Introductions			Followed by pizza & beer in breakroom
Mon	3-Jun	09:00 AM		Speck Auditorium	MBL Orientation for Courses	
		10:00 AM	Jim Angstadt	Siena College	Leech: overview	Membrane Potential and Passive Properties of Neurons
		11:00 AM	Jim Angstadt	Siena College	Leech: overview	Membrane Potential and Passive Properties of Neurons
Tues	4-Jun	09:00 AM	Jim Angstadt	Siena College	Leech: principles 1	Voltage-Gated Ionic Currents Underlying Neuronal Electrical Activity
		10:00 AM	Jim Angstadt	Siena College	Leech: principles 2	Voltage-Gated Ionic Currents Underlying Neuronal Electrical Activity
Wed	5-Jun	09:00 AM	Krista Todd	Westminster College	Journal Club Discussion	
		10:00 AM	Krista Todd	Westminster College	Journal Club Discussion	
		12:00 PM			Student lunch with Speaker	Swope private dining room
		08:00 PM	Wed night: Suresh Jesuthasan	Nanyang Technological University Singapore		Schreckstoff: the biology of an alarm pheromone
Thurs	6-Jun	09:00 AM	Brian Norris	Cal St San Marcos	Leech: principles 3	Synaptic Transmission
		10:00 AM	Brian Norris	Cal St San Marcos	Leech: principles 4	Synaptic Transmission
Fri	7-Jun	09:00 AM	David Weisblat	UC Berkeley	Leech: principles 5	Development of the leech nervous system & Cellular and molecular approaches to understanding the embryo of the leech <i>Helobdella</i> , a tractable spiralian.
		10:00 AM	Ulises Ricoy	Northern NM College	Computational 1	Introduction to computational neuroscience
Sat	8-Jun	09:00 AM	All Students		"What I do at home"	
Sun	9-Jun		Day off			
Mon	10-Jun	09:00 AM	Krista Todd	Westminster College	Broad Topic Lecture	Systems Neurophysiology vs. Neuroethology: Two approaches
		10:30 AM	Vijay Iyer		MATLAB Data Analysis Workshop	Student box lunches in classroom
Tues	11-Jun	09:00 AM	Michael Wright	CSU Sacramento	Broad Topic Lecture	History of CPGs: new insights and approaches
		10:00 AM	Michael Wright	CSU Sacramento	Computational 2	Dynamic clamp
		08:00 PM	Ulises Ricoy	Northern NM College	Professional Development 1	Low-cost approaches to neuroscience
Wed	12-Jun	09:00 AM	MRC/Library Tours			
		10:30 AM	Special Projects			
		12:00 PM			Student lunch with Speaker	Swope private dining room
		08:00 PM	Wed night: Melissa Coleman	Claremont McKenna College		Behavioral and Neural Mechanisms of Duet Singing in Neotropical Wren
Thurs	13-Jun	09:00 AM	Krista Todd	Westminster College	Leech: Research	Leech reproduction: A tale of two circuits?
		10:00 AM	Lidia Szczupak	Universidad de Buenos Aires	Leech: Research	Motoneurons have a say in motor patterns; lessons from the leech
Fri	14-Jun	09:00 AM	Special Projects			
Sat	15-Jun	09:00 AM	Student Presentations			
		07:00 PM	End of cycle party			MBL Club
Sun	16-Jun	05:00 PM	Dinner w/ SPINES			

			Electric Fish	SPINES		<i>All lectures held in Loeb G70 North.</i>
Cycle 2			STG - physiology	WED NIGHT SEMINAR	PROFESSIONAL DEVELOPMENT	
	Date	Time	Speaker	School	Lecture	Title
Mon	17-Jun	9:00 AM	Eric Fortune	NJIT / Rutgers U	Electric Fish: overview	Introduction to the electrosensory system
		10:00 AM	Farzan Nadim	NJIT	STG: overview	Introduction to the stomatogastric nervous system
		08:00 PM	Neurobiology seminar: Henry Colecraft	Columbia University Medical School	Optional	Voltage-gated calcium channels
Tues	18-Jun	9:00 AM	Mark Beenhakker	University of Virginia School of Med	STG: principles 1	Principles of rhythmic circuits
		10:00 AM	Michael Markham	University of Oklahoma	Electric Fish: principles 1	Electrogeneration
		3:00 PM	SPINES tours NSB lab			
Wed	19-Jun	9:00 AM	Alexander Mathis	Harvard University		DeepLabCut Introduction
		10:00 AM	Data Blitz with SPINES	104/105 Candle House		20 NSB, 20 SPINES students, 3 min each
		12:30 PM			Student box lunch with Speaker in quad	
		8:00 PM	Wed night: Gul Dolen	Johns Hopkins		Developmental and evolutionary mechanisms underlying social behaviors
Thurs	20-Jun	9:00 AM	Dawn Blitz	Miami University	STG: principles 2	Neuromodulation: Cellular
		10:00 AM	Vielka Salazar	Cape Breton University	Electric Fish: principles 2	Neuroendocrine regulation of electromotor pathways
Fri	21-Jun	9:00 AM	Eric Fortune	McGill University	Electric Fish: principles 3	Electrolocation: Neural coding
		10:00 AM	Dawn Blitz	Miami University	STG: principles 3	Neuromodulation: Circuits
Sat	22-Jun	9:00 AM	Nelly Daur	NJIT / Rutgers U	STG Research	The role of axons in neural coding
		10:00 AM	Stephanie White	UCLA	Broad Topic Lecture	
		11:00 AM	All TAs		"What I do at home"	
		11:30 AM	Emma Coddington	Willamette University	Professional Development 2	Diversity & Inclusion in Science lunch and workshop with SPINES
Sun	23-Jun		<i>Day off</i>			
Mon	24-Jun	9:00 AM	Dawn Blitz	Miami University	STG Research	Feedback in Rhythmic Motor Systems
		10:00 AM	Michael Metzen	McGill University	Electric Fish: principles 4	Adaptive coding in the electrosensory system
		08:00 PM	Neurobiology seminar: Beth Stevens	Harvard Medical School	Optional	Synapse elimination during development & disease and glia
Tues	25-Jun	9:00 AM	Michael Markham	University of Oklahoma	Electric Fish: principles 5	Modulation and evolution of electric signals
		10:00 AM	Mark Beenhakker	University of Virginia School of Med	STG Research	Circuit mechanisms of sleep and epilepsy
Wed	26-Jun	9:00 AM	Tour of SPINES lab			
		10:00 AM	Special Projects			
		12:00 PM			Student box lunch with Speaker in quad	
		8:00 PM	Wed night: Nicholas Bellono	Harvard University		Molecular and cellular mechanisms of sensory adaptation
Thurs	27-Jun	9:00 AM	David Anderson	Caltech	Broad Topic Lecture	104/105 Candle House (joint lecture with neuro)
		10:00 AM	Eric Fortune	NJIT / Rutgers U	Electric Fish: research	Active sensing
		07:00 PM	Elba Serrano	New Mexico State University	Martinez/Townsel Lecture	Building inclusive STEM communities for the 21st century
Fri	28-Jun	9:00 AM	Special Projects			
Sat	29-Jun	9:00 AM	Student Presentations			
		07:00 PM	End of cycle joint party with Neurobiology			MBL Club
Sun	30-Jun		<i>Day off</i>			

			Hydra		<i>All lectures held in Loeb G70 North.</i>	
			Striatum - physiology	SPINES		
Cycle 3			Fly	WED NIGHT SEMINAR	PROFESSIONAL DEVELOPMENT	
	Date	Time	Speaker	School	Lecture	Title
Mon	1-Jul	9:00 AM	Rafael Yuste	Columbia	Hydra: overview	The Brain Activity Map and introduction to Hydra
		10:00 AM	Gaby Maimon/ John Tuthill	Rockefeller/U Washington	Fly: overview	Historical and modern approaches for studying neural systems and behavior in <i>Drosophila</i>
		11:00 AM				Laser safety training
		8:00 PM	Neurobiology seminar: Rosalind Segal		Optional	Growth factors in CNS development & oncogenesis
Tue	2-Jul	9:00 AM	Matt van der Meer	Dartmouth College	Mouse: overview	Multiple parallel systems for learning, memory, and behavioral control
		10:00 AM	Yvette Fisher	Harvard	Fly : principles 1	Principles of Drosophila vision
Wed	3-Jul	9:00 AM	no lectures			
		12:00 PM	Student box lunch with Speaker in quad			
		8:00 PM	Wed night: Nilay Yapici	Cornell University		State dependent activity of neural circuits regulating foraging and food intake
Thurs	4-Jul	9:00 AM	Parade Prep			
		12:00 PM	Independence Day Parade			
		02:00 PM	Rafael Yuste & Rob Steele			Cemetery tour
		06:00 PM	BBQ dinner with SPINES in quad			
Fri	5-Jul	9:00 AM	Rob Steele	UC Irvine	Hydra: principles 1	Hydra history, development and molecular methods
		10:00 AM	Nic Tritsch	NYU	Mouse: principles 1	Mouse: striatum circuitry and function
		8:00 PM	Nipam Patel	MBL	Optional	Insights from Emerging Model Organisms: From the Physics of Beauty to the Secret Lives of Lobsters
Sat	6-Jul	9:00 AM	Gwyneth Card	Janelia Research Campus	Fly : principles 2	Principles of Drosophila descending control
		10:00 AM	All TAs		"What I do at home"	
		Dinner				
Sun	7-Jul		<i>Day off</i>			
Mon	8-Jul	9:00 AM	John Tuthill	U Washington	Fly: principles 3	Neural mechanisms of leg proprioception and motor control in Drosophila
		10:00 AM	Adrienne Fairhall	U Washington	Hydra: principles 2	Hydra computation
		8:00 PM	Clay Reid	The Allen Institute	Optional	Neural networks in the visual system
Tue	9-Jul	9:00 AM	Ros Langston	University of Dundee	Mouse: principles 2	Mouse: behavioral testing and animal models
		10:00 AM	Gaby Maimon	Rockefeller	Fly: principles 4	Studying higher brain function in Drosophila
		8:00 PM			Professional Development 3	Growing up in science breakout sessions
Wed	10-Jul	9:00 AM	Special Projects			
		12:00 PM	Student box lunch with Speaker in quad			
		8:00 PM	Wed night: Jessica Cardin	Yale School of Medicine		Functional flexibility: development and dynamics in state-dependent cortical circuits
Thurs	11-Jul	9:00 AM	Daniel Martinez	Pomona College	Hydra research	The Immortal Hydra
		10:00 AM	Matt van der Meer	Dartmouth College	Mouse: principles 3	Mouse: neural coding and dynamics
Fri	12-Jul	9:00 AM	Special Projects			
Sat	13-Jul	9:00 AM	Student Presentations			
		07:00 PM	End of cycle party			MBL Club
Sun	14-Jul		<i>Day off</i>			

Cycle 4			C. elegans	First week lectures held in Loeb G70 North.		
			Somatosensory	Second week lectures held in Speck Auditorium.		
	Date	Time	Speaker	School	Lecture	Title
Mon	15-Jul	9:00 AM	Michael Brecht	Humbolt U	Somatosensory: overview	Introduction to somatosensation
		10:00 AM	Mark Alkema	U. Mass	C. elegans: overview	Introduction to C. elegans and behavioral genetics
Tues	16-Jul	9:00 AM	Chris Deister	Brown U	Somatosensory: principles 1	Roles of Inhibition in Cortical Somatosensory Processing
		10:00 AM	Mei Zhen	U of Toronto	C. elegans: principles 1	Structural and plasticity of a growing brain: insights and limitations from a connectome study
Wed	17-Jul	9:00 AM	no lectures			
		12:00 PM			Student box lunch with Speaker in quad	
		8:00 PM	Wed night: Peyman Golshani	UCLA School of Medicine		New tools to image network dynamics in freely behaving animals
Thurs	18-Jul	9:00 AM	Mei Zhen	U of Toronto	C. elegans: principles 2	Analogy, Compression and Complexity: what a worm locomotory circuit tries to tell us
		10:00 AM	Michael Brecht	Humbolt U	Somatosensory: principles 2	Social Touch
Fri	19-Jul	9:00 AM	Ben Mulchany	U of Toronto	C. elegans: principles 3	C. elegans electrophysiology and volatge imaging
		10:00 AM	Dominique Pritchett	Howard University	Somatosensory research	The contributions of the cerebellum to associative learning
		8:00 PM	Forbes Lecture: Gilles Laurent	Max Planck		Cephalopods, Visual Perception, Motor Control and Brain Evolution
Sat	20-Jul	9:00 AM	Rob Froemke	NYU	Broad Topic Lecture	
		10:00 AM	All TAs		"What I do at home"	
		11:30 PM			Professional Development 4	Mock Grant Review of Wednesday Seminars
Sun	21-Jul		Day off			
Mon	22-Jul	9:00 AM	no lectures			
		8:00 PM	Gilles Laurent	Max Planck	Forbes Lecture	Sharp-wave ripples, sleep evolution, synfires: explorations of neural dynamics in the reptilian pallium
Tues	23-Jul	9:00 AM	Chris Deister	Brown U	Somatosensory research	Potential cortical dynamics underlying sensory hypersensitivity in the autistic brain
		10:00 AM	Arantza Barrios	UC London	C. elegans: principles 4	Learning and memory in invertebrates
Wed	24-Jul	9:00 AM	Josh Hawk	Yale	C. elegans: principles 5	Optical reporters as tools to link genes to behavior
		10:00 AM	Ann Clemens	Humbolt U	Somatosensory research	Estrus-cycle regulation of cortical inhibition/Neural Mechanisms of Kinship Behavior
		12:00 PM			Student box lunch with Forbes Lecturer in quad	
		10:00 PM				Bioluminescence excursion at Stoney Beach
Thurs	25-Jul	9:00 AM	Special Projects			
Fri	26-Jul	9:00 AM	Special Projects			
Sat	27-Jul	9:00 AM	Student Presentations			
		04:30 PM	End of course party			Fay Beach then MBL Club
Sun	28-Jul	10:00 AM	Depart			