

Table of Contents and Schedule of Presentations

NTC	Ted Carnevale
MLH	Michael Hines
WWL	Bill Lytton
AM	Amit Majumdar
RMcD	Robert McDougal

Hands-on exercises are indicated by an asterisk * in the Page column.
Times shown are approximate, except for lunch.

Monday, 6/20 Morning session

Time	Speaker	Title	Page
9:00 AM	NTC	Welcome to the NEURON summer course	5
		Installing and configuring NEURON	
	NTC	Introduction to modeling	7
		GUI: building and using a simple model	9 *
		Neurites, cables, and sections	11
10:30	Coffee Break		
10:45	NTC	Interactive modeling: Hodgkin-Huxley axon	13 *
11:45	NTC	Range, range variables, nodes, and nseg	15
12:00	NTC	Constructing branched model cells with the CellBuilder	19 *
12:30	Lunch		

Afternoon session

1:30	NTC	Constructing branched model cells with the CellBuilder <i>continued</i>	19 *
2:00	NTC	Working with morphometric data	21 *
3:00	Free time		
4:30	Daily wrapup		
5:00	End of afternoon session		

Tuesday, 6/21 Morning session

Time	Speaker	Title	Page
9:00 AM	Q & A		
9:15	WWL or NTC	The hoc programming language	27
10:30	Coffee Break		
10:45	RMcD	ModelDB and Model View	43 *
11:30	MLH	Channel Builder	57
12:30			

Afternoon session

1:30	MLH	Numerical methods: accuracy, stability, speed	49
2:30	MLH	NMODL: the NEURON Model Description Language	67 *
3:30	Free time		
4:30	Daily wrapup		
5:00	End of afternoon session		

Wednesday, 6/22 Morning session

Time	Speaker	Title	Page
9:00 AM	Q & A		
9:15	NTC	Inhomogeneous channel distributions	25 *
10:30	Coffee Break		
10:45	WWL or RMcD	Python + NEURON	75 *
11:15	RMcD	Reactive diffusion	91 *
12:30	Lunch		

Afternoon session

1:30	NTC	Networks: synapses, events, and artificial spiking cells	107 *
3:00	Free time		
4:30	Daily wrapup		
5:00	End of afternoon session		

Thursday, 6/23 Morning session

Time	Speaker	Title	Page
9:00 AM	Q & A		
9:15	MLH	Variable time steps and parameter discontinuities	119 *
10:30	Coffee Break		
10:45	MLH	Threads	143 *
12:30	Lunch		

Afternoon session

1:30	WWL	Inhibitory synchronizing networks	163 *
3:00	Free time		
4:30	Daily wrapup		
5:00	End of afternoon session		

Friday, 6/24 Morning session

Time	Speaker	Title	Page
9:00 AM	Q & A		
9:15	NTC	Initialization	155 *
10:30	Coffee Break		
10:45	MLH	Parallel computation: distributed network models	187 *
12:30	Lunch		

Afternoon session

1:30	AM	High performance computing via the Neuroscience Gateway Portal	205 *
3:00	Free time		
4:30	Wrapup, review, and evaluation (see last page in this booklet)		
5:00	End of afternoon session		

Evening sessions and other material

	NTC	Overview of creating and using NEURON models	217
	MLH	Ion accumulation mechanisms: a calcium pump	223 *
	MLH	Families of simulations in parallel	227 *
	NTC	The Impedance Tools	233 *
	NTC	Linear Circuit Builder	241 *
	WWL	NetPyNE ??	
Appendix	Translating network models to parallel hardware in NEURON (Hines & Carnevale 2008). NEURON and Python (Hines et al. 2009).		before survey

Receipt**penultimate page****Survey****last page**