

X Latin American School on Computational Neuroscience – LASCON'26
São Paulo, SP, Brazil
January 5-30 2026

Program

Date:	Time:	Activity:	Coordinator(s):
Sun Jan 4	14:00 – 22:00	Arrival day	A. Roque
Mon Jan 5	09:00 – 10:00	Lecture 1. The Hodgkin-Huxley model	H. Rotstein
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 2. The cable equation	A. Roth
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 3. Reduced and simplified neuron models and phase plane analysis 1	H. Rotstein
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Tutorial 1. NEURON 1	A. Roth and V. Bragin
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 2. NEURON 2	A. Roth and V. Bragin
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 3. Reduced and simplified neuron models and phase plane analysis tutorial 1	H. Rotstein and M. Girardi-Schappo
	18:00 – 18:10	Interval	
	18:10 – 20:00	Software installation and Python support	M. Girardi-Schappo and tutors
Tue Jan 6	09:00 – 10:00	Lecture 4. Modeling ionic currents and their effects	H. Rotstein
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 5. Matching passive neuron models to data	A. Roth
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 6. Reduced and simplified neuron models and phase plane analysis 2	H. Rotstein
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Tutorial 4. NEURON 3	A. Roth and V. Bragin
	15:30 – 15:40	Coffee break	

	15:40 – 16:40	Tutorial 5. NEURON 4	A. Roth and V. Bragin
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 6. Reduced and simplified neuron models and phase plane analysis tutorial 2	H. Rotstein and M. Girardi-Schappo
	18:00 – 18:10	Interval	
	18:10 – 19:10	Invited lecture 1. Theory of recurrent networks	A. Palmigiano
	19:10 – 20:00	Computer exercises	Tutors
Wed Jan 7	09:00 – 10:00	Lecture 7. Compartmental modeling	H. Rotstein
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 8. Modeling synapses	A. Roth
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 9. Reduced and simplified neuron models and phase plane analysis 3	H. Rotstein
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 10. Synaptic plasticity, learning and memory 1	H. Shouval
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 7. NEURON 5	A. Roth and V. Bragin
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 8. Reduced and simplified neuron models and phase plane analysis tutorial 3	H. Rotstein and M. Girardi-Schappo
	18:00 – 18:10	Interval	
	18:10 – 19:10	Invited lecture 2. Computing with recurrent networks	A. Palmigiano
	19:10 – 20:00	Computer exercises	Tutors
Thu Jan 8	09:00 – 10:00	Lecture 11. Dendritic computation	A. Roth
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 12. Reduced and simplified neuron models and phase plane analysis 4	H. Rotstein
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 13. Synaptic plasticity, learning and memory 2	H. Shouval
	12:30 – 14:30	Lunch	

	14:30 – 15:30	Lecture 14. Model sharing tools in computational neuroscience	A. Roth
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 9. Reduced and simplified neuron models and phase plane analysis tutorial 4	H. Rotstein and M. Girardi-Schappo
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 10. Synaptic plasticity, learning and memory tutorial 1	H. Shouval
	19:00 – 22:00	Get together party 1	A. Roque
Fri Jan 9	09:00 – 10:00	Lecture 15. Networks of biophysical neuron models 1	W. Lytton
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 16. Networks of simplified neuron models 1	H. E. Plesser
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 17. Synaptic plasticity, learning and memory 3	H. Shouval
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Tutorial 11. NetPyNE 1	V. Bragin
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 12. NEST 1	H. E. Plesser
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 13. Synaptic plasticity, learning and memory tutorial 2	H. Shouval
	18:00 – 18:10	Interval	
	18:10 – 20:00	Discussion session: career perspectives in computational neuroscience	A. Roque, lecturers and tutors
Sat Jan 10	09:00 – 10:00	Lecture 18. Networks of biophysical neuron models 2	W. Lytton
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 19. Networks of simplified neuron models 2	H. E. Plesser
	11:20 – 11:30	Interval	
	11:30 – 12:30	Tutorial 14. NetPyNE 2	V. Bragin
		Free afternoon	
Sun Jan 11		Day off	

Mon Jan 12	09:00 – 10:00	Lecture 20. Networks of biophysical neuron models 3	W. Lytton
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 21. Networks of simplified neuron models 3	H. E. Plesser
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 22. Modeling neuron-glia interactions 1	M-L. Linne
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Tutorial 15. NetPyNE 3	V. Bragin
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 16. NEST 2	H. E. Plesser
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 17. NEST 3	H. E. Plesser
	18:00 – 20:00	Computer exercises	Tutors
Tue Jan 13	09:00 – 10:00	Lecture 23. Networks of biophysical neuron models 4	W. Lytton
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 24. Networks of simplified neuron models 4	H. E. Plesser
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 25. Modeling neuron-glia interactions 2	M-L. Linne
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 26. Stochastic neuronal models 1	P. Reynaud-Bouret
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 18. NetPyNE 4	V. Bragin
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 19. NEST 4	H. E. Plesser
	18:00 – 20:00	Computer exercises	Tutors
Wed Jan 14	09:00 – 10:00	Lecture 27. Stochastic neuronal models 2	P. Reynaud-Bouret
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 28. Spike-train analysis 1	S. Grün
	11:20 – 11:30	Interval	
	11:30 – 12:30	Tutorial 20. Spike-train analysis tutorial 1	J. Ito
	12:30 – 14:30	Lunch	

	14:30 – 15:30	Interviews with students for projects definitions	A. Roque, lecturers and tutors
	15:30 – 15:40	Interval	
	15:40 – 16:40	Interviews with students for projects definitions	A. Roque, lecturers and tutors
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Interviews with students for projects definitions	A. Roque, lecturers and tutors
	18:00 – 18:10	Interval	
	18:10 – 18:30	Interviews with students for projects definitions	A. Roque, lecturers and tutors
	18:30 – 20:00	Exercises and project work	Tutors
Thu Jan 15	09:00 – 10:00	Lecture 29. Stochastic neuronal models 3	P. Reynaud-Bouret
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 30. Modeling neuron-glia interactions 3	M-L. Linne
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 31. Spike-train analysis 2	S. Grün
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Tutorial 21. Stochastic neuronal models tutorial	P. Reynaud-Bouret
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 22. Spike-train analysis tutorial 2	J. Ito
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Invited lecture 3. Extracting regularities embedded within stochastic sequences of sensorimotor events	C. Vargas
	19:00 – 22:00	Get together party 2	A. Roque
Fri Jan 16	09:00 – 10:00	Lecture 32. Spike train analysis 3	S. Grün
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 33. Modeling of electric brain signals and stimulation 1	G. Einevoll
	11:20 – 11:30	Interval	
	11:30 – 12:30	Invited lecture 4. Transcranial magnetic stimulation as a window into brain function	O. Baffa

	12:30 – 14:30	Lunch	
	14:30 – 15:30	Tutorial 23. Spike train analysis tutorial 3	J. Ito
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 24. Modeling neuron-glia interactions tutorial	M-L. Linne
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Invited lecture 5. Towards digital twins of the brain: linking simulation, data, and theory	M. Diesmann
	18:00 - 20:00	Exercises and project work	Tutors
Sat Jan 17	09:00 – 10:00	Lecture 34. Spike train analysis 4	S. Grün
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 35. Modeling of electric brain signals and stimulation 2	G. Einevoll
	11:20 – 11:30	Interval	
	11:30 – 12:30	Tutorial 25. Spike train analysis tutorial 4	J. Ito
		Free afternoon	
Sun Jan 18		Day off	
Mon Jan 19	09:00 – 10:00	Lecture 36. Modeling of electric brain signals and stimulation 3	G. Einevoll
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 37. Firing-rate models 1	M. Girardi-Schappo
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 38. Modeling sensory processing 1	F. Iacaruso
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 39. Modeling frequency-dependent neuronal interactions 1	R. Pena
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 26. Modeling of electric brain signals and stimulation tutorial 1	G. Einevoll
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Invited lecture 6. TBA	A. Duarte
	18:00 – 20:00	Exercises and project work	
Tue Jan 20	09:00 – 10:00	Lecture 40. Firing-rate models 2	M. Girardi-Schappo
	10:00 – 10:20	Coffee break	

	10:20 – 11:20	Lecture 41. Modeling sensory processing 2	F. Iacaruso
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 42. Modeling neural circuits and behavior 1	N. Cohen
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 43. Modeling frequency-dependent neuronal interactions 2	R. Pena
	15:30 – 15:40	Interval	
	15:40 – 16:40	Tutorial 27. Modeling of electric brain signals and stimulation tutorial 2	G. Einevoll
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 28. Firing-rate models tutorial	M. Girardi-Schappo
	18:00 – 18:10	Interval	
	18:10 – 19:10	Invited lecture 7. The role of diversity in sensory systems: from temporal responses to circuit motifs	L. Ramirez
	19:10 – 20:00	Exercises and project work	
Wed Jan 21	09:00 – 10:00	Lecture 44. Modeling sensory processing 3	F. Iacaruso
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 45. Firing-rate models 3	M. Girardi-Schappo
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 46. Modeling neural circuits and behavior 2	N. Cohen
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 47. Neuroscience and artificial intelligence 1	D. Durstewitz
	15:30 – 15:40	Interval	
	15:40 – 16:40	Lecture 48. Dynamics of functional connectivity 1	D. Battaglia
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Lecture 49. Modeling vocal communication 1	D. Takahashi
	18:00 – 18:10	Interval	
	18:10 – 19:10	Invited lecture 8. Phase relation diversity in neuronal populations	F. Matias
	19:10 – 20:00	Exercises and project work	
Thu Jan 22	09:00 – 10:00	Lecture 50. Modeling neural circuits and behavior 3	N. Cohen
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 51. Dynamics of functional connectivity 2	D. Battaglia

	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 52. Neuroscience and artificial intelligence 2	D. Durstewitz
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 53. Hippocampal function 1	A. Treves
	15:30 – 15:40	Interval	
	15:40 – 16:40	Lecture 54. Modeling vocal communication 2	D. Takahashi
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Lecture 55. Traveling waves in neural systems 1	L. Muller
	18:00 – 18:10	Interval	
	18:10 – 19:10	Invited lecture 9. Optimization principles in neural coding and computation	W. Bialek
	20:00 – 23:00	Get together party 3	
Fri Jan 23	09:00 – 10:00	Lecture 56. Dynamics of functional connectivity 3	D. Battaglia
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 57. Hippocampal function 2	A. Treves
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 58. Neuroscience and artificial intelligence 3	D. Durstewitz
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 59. Modeling vocal communication 3	D. Takahashi
	15:30 – 15:40	Interval	
	15:40 – 16:40	Lecture 60. Traveling waves in neural systems 2	L. Muller
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Tutorial 29. Dynamics of functional connectivity tutorial	D. Battaglia
	18:00 – 18:10	Interval	
	18:10 – 19:10	Invited lecture 10. A symbolic information approach to characterizing entropy and complexity in brain signals	F. Matias
	19:10 – 20:00	Exercises and project work	Tutors
Sat Jan 24		Day off	
Sun Jan 25		Day off	
Mon Jan 26	09:00 – 10:00	Lecture 61. Hippocampal function 3	A. Treves
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 62. Traveling waves in neural systems 3	L. Muller

	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 63. Brain criticality 1	M. Copelli
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Invited lecture 11. Neural and computational principles of sound source localization	R. Pavão
	15:30 – 15:40	Interval	
	15:40 – 16:40	Student projects progress report session	A. Roque
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Student projects progress report session	A. Roque
	18:00 – 18:10	Interval	
	18:10 – 19:10	Student projects progress report session	A. Roque
	19:10 – 20:00	Exercises and project work	
Tue Jan 27	09:00 – 10:00	Lecture 64. Brain criticality 2	M. Copelli
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 65. Modeling brain states 1	A. Destexhe
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 66. Modeling neurological disorders 1	V. Jirsa
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 67. Human movement control 1	L. Elias
	15:30 – 15:40	Interval	
	15:40 – 16:40	Lecture 68. Investigating states of consciousness with computational models of large-scale brain activity 1	E. Tagliazucchi
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Invited lecture 12. Neural predictions in action: anticipating events across eye movements	G. Rohenkohl
	18:00 – 20:00	Exercises and project work	Tutors
Wed Jan 28	09:00 – 10:00	Lecture 69. Modeling brain states 2	A. Destexhe
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 70. Modeling neurological disorders 2	V. Jirsa
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 71. Human movement control 2	L. Elias
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 72. Brain criticality 3	M. Copelli
	15:30 – 15:40	Interval	

	15:40 – 16:40	Lecture 73. Investigating states of consciousness with computational models of large-scale brain activity 2	E. Tagliazucchi
	16:40 – 17:00	Coffee break	
	17:00 – 18:00	Invited lecture 13. Large scale models from EEG data to understand brain function in different scenarios	G. Castellano
	18:00 – 20:00	Exercises and project work	Tutors
Thu Jan 29	09:00 – 10:00	Lecture 74. Modeling brain states 3	A. Destexhe
	10:00 – 10:20	Coffee break	
	10:20 – 11:20	Lecture 75. Modeling neurological disorders 3	V. Jirsa
	11:20 – 11:30	Interval	
	11:30 – 12:30	Lecture 76. Human movement control 3	L. Elias
	12:30 – 14:30	Lunch	
	14:30 – 15:30	Lecture 77. Investigating states of consciousness with computational models of large-scale brain activity 3	E. Tagliazucchi
	15:30 – 15:40	Interval	
	15:40 – 16:40	Exercises and project work	Tutors
	16:40 – 17:00	Coffee break	
	17:00 – 20:00	Exercises and project work	Tutors
Fri Jan 30	09:00 – 09:20	Project presentation 1.	
	09:20 – 09:40	Project presentation 2.	
	09:40 – 10:00	Project presentation 3.	
	10:00 – 10:20	Coffee break	
	10:20 – 10:40	Project presentation 4.	
	10:40– 11:00	Project presentation 5.	
	11:00 – 11:20	Project presentation 6.	
	11:20 – 11:30	Interval.	
	11:30 – 11:50	Project presentation 7.	
	11:50 – 12:10	Project presentation 8.	
	12:10 – 12:30	Project presentation 9.	
	12:30 – 14:30	Lunch	
	14:30 – 14:50	Project presentation 10.	
	14:50 – 15:10	Project presentation 11.	
	15:10 – 15:30	Project presentation 12.	

	15:30 – 15:40	Interval	
	15:40 – 16:00	Project presentation 13.	
	16:00 – 16:20	Project presentation 14.	
	16:20 – 16:40	Project presentation 15.	
	16:40 – 17:00	Coffee break	
	17:00 – 17:20	Project presentation 16.	
	17:20 – 17:40	Project presentation 17.	
	17:40 – 18:00	Project presentation 18.	
	18:00 – 18:10	Interval	
	18:10 – 18:30	Project presentation 19.	
	18:30 – 18:50	Project presentation 20.	
	18:50 – 19:00	Interval	
	19:00 – 20:00	Closing remarks	A. Roque
	21:00 –	Final party	A. Roque
Sat Jan 31	09:00 –	Return home	

Lecturers and tutors

Agostina Palmigiano, Gatsby Computational Neuroscience Unit, London, UK

Alain Destexhe, Paris-Saclay Institute of Neuroscience, Saclay, France

Alessandro Treves, International School for Advanced Studies-SISSA, Trieste, Italy

Aline Duarte, University of São Paulo, São Paulo, SP, Brazil

Arnd Roth, University College, London, UK

Cláudia Vargas, Federal University of Rio de Janeiro, Rio de Janeiro, RJ, Brazil

Daniel Durstewitz, Central Institute of Mental Health, Mannheim and Heidelberg University, Heidelberg, Germany

Daniel Takahashi, Federal University of Rio Grande do Norte, Natal, RN, Brazil

Demian Battaglia, University of Strasbourg, Strasbourg, France

Enzo Tagliazucchi, University of Buenos Aires, Buenos Aires, Argentina

Fernanda Matias, Federal University of Alagoas, Maceió, AL, Brazil

Florencia Iacaruso, The Francis Crick Institute, London, UK

Gabriela Castellano, State University of Campinas, Campinas, SP, Brazil

Gaute Einevoll, Norwegian University of Life Sciences, Ås, Norway

Gustavo Rohenkohl, University of São Paulo, São Paulo, SP, Brazil

Hans Ekkehard Plesser, Norwegian University of Life Sciences, Ås, Norway

Harel Shouval, University of Texas Medical School at Houston, Houston, TX, USA

Horacio Rotstein, New Jersey Institute of Technology and Rutgers University, Newark, NJ, USA

Junji Ito, Jülich Research Center, Jülich, Germany

Leonardo Elias, State University of Campinas, Campinas, SP, Brazil

Luisa Ramirez, Johannes Gutenberg University, Mainz, Germany

Lyle Muller, Western University, London, ON, Canada

Marja-Leena Linne, Tampere University, Tampere, Finland

Markus Diesmann, Jülich Research Center, Jülich, Germany
Maurício Girardi-Schappo, Federal University of Santa Catarina, Florianópolis, SC, Brazil
Mauro Copelli, Federal University of Pernambuco, Recife, PE, Brazil
Netta Cohen, University of Leeds, Leeds, UK
Oswaldo Baffa, University of São Paulo, Ribeirão Preto, SP, Brazil
Patricia Reynaud-Bouret, Côte d'Azur University, Nice, France
Rodrigo Pavão, Federal University of ABC, São Bernardo do Campo, SP, Brazil
Rodrigo Pena, Florida Atlantic University, Jupiter, FL, USA
Sonja Grün, Jülich Research Center, Jülich, Germany
Viktor Jirsa, Aix-Marseille University, Marseille, France
Valeriy Bragin, State University of New York, New York, NY, USA
William Bialek, Princeton University, Princeton, NJ, USA
William Lytton, State University of New York, New York, NY, USA