Workshop on High-Performance Computing, Stochastic Modeling and Databases in Neuroscience
NeuroMat, São Paulo, SP, Brazil
April 24-29 2016

Program

Date:	Time:	Activity:	Speaker(s):
Sun Apr 24	07:00 – 19:00	Arrival	
	19:00 – 21:00	Reception and welcome cocktail	
Mon Apr 25	10:45 – 11:00	Welcome address	A. Galves
	11:00 – 11:30	Coffee break	
	11:30 – 12:30	The scientific project of NeuroMat's HPC	A. Roque
	12:30 – 15:00	Lunch	
	15:00 – 16:00	Invited talk 1. Analysis of external world by stochastic synapses and neurons	T. Fukai
	16:00 – 16:30	Coffee-Break	
	16:30 – 18:30	Round table 1. "Big science": the case for neuroscience. What are the goals? What are the research questions? What can neuroscience benefit from the big science approach?	M. Diesmann S. Hill S. Mihalas A. Roque (mediator)
Tue Apr 26	10:00 – 11:00	Invited talk 2. Necessity and feasibility of brain-scale simulations at cellular and synaptic resolution	M. Diesmann
	11:00 – 11:30	Coffee break	
	11:30 – 12:30	Invited talk 3. Multiscale modeling for clinical translation: emergent complications of the brain	W. Lytton
	12:30 – 15:00	Lunch	
	15:00 – 16:00	NeuroMat talk 1. Phase transitions in a network of stochastic spiking neurons	M. Abadi & L. Brochini
	16:00 – 16:30	Coffee-Break	
	16:30 – 18:30	Round table 2. HPC in neuroscience. What to expect from large-scale brain computer simulations? What are the computational and neurobiological challenges and bottlenecks?	T. Fukai W. Lytton A. Roque J. Stolfi (mediator)
Wed Apr 27	10:00 – 11:00	Invited talk 4. What computations do local cortical circuits implement?	S. Mihalas
	11:00 – 11:30	Coffee break	
	11:30 – 12:30	Invited talk 5. FAPESP and Big Data - Some Research Opportunities	C. Bauzer Medeiros
	12:30 –	Free afternoon	
Thu Apr 28	10:00 – 11:00	NeuroMat's open database project	C. Vargas & K. Braghetto
	11:00 – 11:30	Coffee break	
	11:30 – 12:30	NeuroMat talk 2. Retrieving a context tree from EEG data	A. Galves
	12:30 – 15:00	Lunch	
	15:00 – 17:00	Round table 3. Open databases and open source in neuroscience. Why open? What are the challenges and bottlenecks?	P. Gleeson V. Jirsa C. Vargas F. Kon (mediator)
	17:00 – 17:30	Coffee-Break	
	17:30 – 18:30	Invited talk 6. Open Source Brain: enabling	P. Gleeson

		sharing & collaborative development of models in computational neuroscience	
Fri Apr 29	10:00 – 11:00	Invited talk 7. Toward a virtual brain observatory: from big data to knowledge	S. Hill
	11:00 – 11:30	Coffee break	
	11:30 – 12:30	Invited talk 8. Translational neuroscience: from bifurcations to epilepsy surgery	V. Jirsa
	12:30 – 12:45	Final remarks	A. Roque

Scientific Committee

Antonio Galves, University of São Paulo, São Paulo, Brazil
Antonio Roque, University of São Paulo, Ribeirão Preto, Brazil
Claudia Vargas, Federal University of Rio de Janeiro, Brazil
Wojciech Szpankowski, Purdue University, USA

Organizing Committee

João Peschanski, University of São Paulo, São Paulo, Brazil
Lourdes Netto, University of São Paulo, São Paulo, Brazil
Magda Chang, University of São Paulo, São Paulo, Brazil
Marilucia Otama, University of São Paulo, São Paulo, Brazil

Speakers

Antonio Galves, University of São Paulo, São Paulo, Brazil
Antonio Roque, University of São Paulo, Ribeirão Preto, Brazil
Claudia Bauzer Medeiros, FAPESP and State University of Campinas, Brazil
Claudia Vargas, Federal University of Rio de Janeiro, Brazil
Fabio Kon, University of São Paulo, São Paulo, Brazil
Jorge Stolfi, State University of Campinas, Brazil
Kelly Braghetto, University of São Paulo, São Paulo, Brazil
Ludmila Brochini, University of São Paulo, São Paulo, Brazil
Markus Diesmann, Research Centre Jüllich, Germany
Miguel Abadi, University of São Paulo, São Paulo, Brazil
Padraig Gleeson, University College London, UK
Sean Hill, EPFL, Lausanne, Switzerland
Stefan Mihalas, Allen Institute, USA
Tomoki Fukai, RIKEN Brain Science Institute, Japan
Viktor Jirsa, INSERM, Marseille, France
William Lytton, State University of New York, USA