



CIMPA School Recife - Jan. 19-30, 2026

PARALLEL RESEARCH TALKS

WEEK 2 - Friday - Jan. 30

Neurosciences

P.D. - Room A

Organizers: Fernanda Selingardi (UFAL)

9am

Competitive interactions between external input and recurrent inhibition shape V1 responses to visual flow perturbations
Claudio Mirasso (IFISC, UIB-CSIC/Spain)

9:45am

Collective neuronal phenomena and the critical brain hypothesis
Mauro Copelli (UFPE/Brazil)

10:45am

Assessing criticality in neuronal populations with maximum entropy models
Pedro Carelli (UFPE/Brazil)

11:15am

Deviation of parabolic avalanches dynamics in mouse frontal cortex during anhedonia
Thais Feliciano (NIH/USA)

11:45am

Open discussion

2:15pm

The end of uniformity: heterogeneity, criticality, and the brain's hierarchy of timescales
Leonardo Gollo (Universitat de les Illes Balears Palma de Mallorca/Spain)

2:45pm

Insight into human photoreceptor function: modeling optoretinographic responses to diverse stimuli
Denise Valente (UPE/Brazil)

3:15pm

How humans restructure predictive models: context-tree dynamics in sequential learning
Ítalo Pinto (Neuromat USP/Brazil)

4pm

Cocaine and the brain's reward system: a decoding approach
Leandro Aguiar (UFPE/Brazil)

4:30pm

Exploring a symbolic methodology to characterize brain signals
Fernanda S. Matias (UFAL/Brazil)

5pm

Open discussion

Stochastic modelling

S.D. - Room 314

Organizer: Pablo Rodriguez (UFPE)

3pm

Models of colonization, collapse, and dispersal
Valdivino Vargas Júnior (UFG/Brazil)

4pm

Constrained-degree percolation on the hypercubic lattice: uniqueness and some of its consequences
Diogo Carlos dos Santos (UFAL/Brazil)

4:45pm

Modelo biológico com operadores de substituição
Ludmila de Pinho Cavalcanti (UFPE/Brazil)

5:05pm

Stochastic models for information diffusion in random networks
Jhon Franklin Puerres Tipas (UFPE/Brazil)

P. D.: Physics department 1st floor
S. D.: Statistics department 2nd floor



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WEEK 2 - Friday - Jan. 30

Dynamical systems

S.D. - Auditorium

Organizers: Eduardo Leandro (UFPE), Marcelo Pedro (UFRPE), Thiago Dias (UFRPE) & Anete Soares (UFRPE)

9am

Dissipative forces and their roles in celestial mechanics

Clodoaldo Ragazzo (USP/Brazil)

9:45am

Stacked central configurations

Antonio Carlos Fernandes (UNIFEI/Brazil)

11am

Deformations of hamiltonians and limit cycles

Ronaldo Garcia (UFG/Brazil)

2:15pm

Moments, equilibrium equations and geometric constraints

Eduardo Leandro (UFPE/Brazil)

3pm

Billiards and celestial mechanics

Lei Zhao (Dalian University of Technology/China)

Differential geometry

S.D. - Room 315

Organizers: Fábio Reis (UFPE), Jorge Hinojosa (UFRPE) & Jogli Gidel (UFRPE)

9:05am

Uniqueness of tangent planes at infinite and applications

Eddygledson Souza Gama (UFPE/Brazil)

9:45am

Spectral rigidity of manifolds with Ricci bounded below and maximal bottom spectrum

Elaine Sampaio (UVA/Brazil)

10:45am

On rigidity of sub-static systems

Allan George (UFPB/Brazil)

11:25am

Simons-Calabi type equation for Riemannian hypersurfaces in a semi-Riemannian product spaces

Joicy Priscila de Araújo Cruz (UFPE/Brazil)

2:20pm

On some applications of a Simons type formula for spacelike submanifolds in Robertson-Walker spacetime

Maria Rosilene B. dos Santos (UFAM/Brazil)

3pm

Area-change inequalities and rigidity of time-symmetric initial data sets

Tiarlos Cruz (UFAL/Brazil)

P. D.: Physics department 1st floor

S. D.: Statistics department 2nd floor