



CIMPA School Recife - Jan. 19-30, 2026

PARALLEL RESEARCH TALKS

WEEK 1 - Friday - Jan. 23

Algebra

S.D. - Room 314

Organizers: Bárbara Costa (UFRPE) & Rodrigo Gondim (UFRPE)

9am

Gorenstein ideals, Newton duality and Macaulay inverse systems

Dayane Santos de Lira (UFERSA/Brazil)

9:45am

Lefschetz properties and Stanley Reiner algebras

João Paulo Costalonga (UFES/Brazil)

10:45am

An invitation to study Lefschetz properties

Rodrigo Gondim (UFRPE/Brazil)

Combinatorics, graph theory
and network sciences

P.D. - Room A

Organizers: Gabriel Coutinho (UFMG) & Luiz Paulo Freire Moreira (UFPE)

9am

Computational social science and social networks

Peter Törnberg (UVA/Netherlands)

10:45am

Combinatorics of laplacian matrix and its application

Gabriel Coutinho (UFMG/Brazil)

Mathematical analysis

S.D. - Auditorium

Organizers: Eudes Mendes (UFRPE), Felipe W. Cruz (UFPE) & João Marcos Bezerra do Ó (UFPB)

9am

On the well-posedness of a generalized doubly parabolic Keller-Segel system with fractional diffusion

Anne Caroline Bronzi (UNICAMP/Brazil)

9:45am

Theoretical insights into second-grade fluids

Marko Antonio Rojas Medar (UTA/Chile)

10:45am

Quasilinear elliptic problems with exponential growth via the Nehari manifold method: existence of nonnegative and nodal solutions

Sandra Imaculada Moreira Neto (UEMA/Brazil)

11:30am

Existence and multiplicity of solutions for a class of Dirac equations

Alânnio Barbosa Nobrega (UFCG/Brazil)

2:15pm

Global multiplicity of positive solutions for a sublinear elliptic equation in \mathbb{R}^n

Jefferson Abrantes dos Santos (UFCG/Brazil)

3pm

Singular solutions to k-Hessian equations with fast-growing nonlinearities

Evelina Shamarova (UFPB/Brazil)

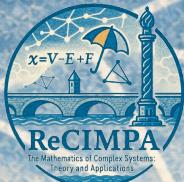
4pm

Positive ground state for integrodifferential Schrödinger-Poisson systems

Diego Ferraz (UFRN/Brazil)

P. D.: Physics department 1st floor

S. D.: Statistics department 2nd floor



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P.D. - Auditorium

Organizers: Viviane Oliveira (UFRPE) & Paulo Duarte Neto (UFRPE)

9am

Mathematical and computational foundations: topological data analysis: a computer scientific POV
Wilson de Oliveira (UFRPE/Brazil)

9:30am

Mathematical and computational foundations: weighed permutation entropy
Borko Stosic (UFRPE/Brazil)

10am

Mathematical and computational foundations: generalized solving differential equations via neural networks
Tiago A. E. Ferreira (UFRPE/Brazil)

10:45am

Modeling and pattern recognition in natural systems: from structure to pattern: modeling and quantifying complexity in sargassum morphology and distribution
Paulo Duarte Neto (UFRPE / Brazil)

11:15am

Modeling and pattern recognition in natural systems: Use of statistical tools for developing and exploiting ocean color satellite data for marine environmental purposes
Vincent Vantrepotte (CNRS, IRD – LOG, Univ. Littoral Côte d'Opale, Univ. Lille / France)

11:45am

Modelling and pattern recognition in natural systems: stochastic dynamics in complex systems: from quantum chaos to optical turbulence
Iván R. R. Gonzalez (U.Mayor/Chile)

2:15pm

Collective behavior, pattern emergence and complex interactions: complexity of climate dynamics
Tatijana Stosic (UFRPE/Brazil)

2:45pm

Collective behavior, pattern emergence and complex interactions: an introductory toolkit for analyzing animal groups
Francisco C. B. Leal (UFRPE/Brazil)

3:15pm

Collective behavior, pattern emergence and complex interactions: mixed-phase space of an active particle in experimental lemon billiards
Tiago Araújo Lima (UFRPE/Brazil)

4pm

Population and collective dynamics in natural systems: movement bias in asymmetric landscapes and its impact on population distribution and critical habitat size
Pablo de Castro (UNESP/Brazil)

4:30pm

Population and collective dynamics in natural systems: persistence of small populations facing seasonal resource variability
Viviane Moraes de Oliveira (UFRPE/Brazil)

5pm

Population and collective dynamics in natural systems: evolutionary rescue
Paulo Roberto de Araújo Campos (UFPE/Brazil)

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