

116º EDAÍ

05 de dezembro de 2025



www.mat.puc-rio.br/edai

Bloco C, sala C116
Avenida Athos da Silveira Ramos, 274
Ilha do Fundão, UFRJ



Matinê: 13h30 – 14h30

Algebraic correspondences: Where rational dynamics meets Kleinian groups Luna Lomonaco (IMPA)

The analogies between the iteration of holomorphic maps and the action of Kleinian groups were first systematically explored by Dennis Sullivan in the mid-1980s. In the landmark paper, where he famously proved Fatou's conjecture—that rational maps on the Riemann sphere have no wandering domains—Sullivan introduced what is now known as Sullivan's Dictionary. This conceptual framework draws deep parallels between the definitions, theorems, and conjectures of holomorphic dynamics and those of Kleinian group theory. Sullivan emphasized striking similarities between the Fatou set F_f and Julia set J_f of a holomorphic map f on the Riemann sphere $\widehat{\mathbb{C}}$, and the ordinary set $\Omega(G)$ and limit set $\Lambda(G)$ of a finitely generated Kleinian group G acting on $\widehat{\mathbb{C}}$. His proof of the no wandering domains theorem was directly inspired by methods used to establish Ahlfors' Finiteness Theorem in the setting of Kleinian groups, highlighting the profound conceptual bridges between the two fields. Both rational maps and finitely generated Kleinian groups can be regarded as special cases of holomorphic correspondences. An n -to- m holomorphic correspondence on $\widehat{\mathbb{C}}$ is a multivalued map $\mathcal{F} : z \mapsto w$ defined implicitly by a polynomial relation $P(z, w) = 0$. In 1994, Shaun Bullett and Christopher Penrose introduced the first family of correspondences that contains matings between quadratic rational maps and the modular group, and proved that, for a particular parameter, the correspondence is a mating: it behaves as the modular group on an open subset Ω , and as a polynomial (and its inverse) in the complement. Since then, the field of correspondences which are matings between rational maps and Kleinian groups grew considerably. In this talk I will give an overview of the subject.

Palestra 1: 14h40 – 15h40

Spontaneous stochasticity and dynamics on a fractal lattice Artem Raibekas (UFF)

Recently a discrete time model on a multi-scale (fractal) lattice was introduced to explain the phenomenon of spontaneous stochasticity observed numerically in fluids. In this talk I will explain how this is related to dynamics of certain skew-products and their invariant measures. Joint work with Alexei Mailybaev and Xuan Zhang.

Coffee-break: 15h40 – 16h10

Palestra 2: 16h10 – 17h10

Floer homology for dynamical systems, connecting it with Conley theory. Jürgen Jost (Max Planck Institute)

Floer theory is a refinement of Morse theory that constructs a boundary operator by counting gradient flow lines between critical points of index difference 1 of a Morse function. This strategy can be extended to dynamical systems with periodic or homoclinic orbits, providing a link to Conley theory.

Confraternização: Local a determinar 19h00 – ∞



Para informações sobre eventos de Sistemas Dinâmicos na região fluminense, ver <http://dinamicarioca.wikidot.com/start>