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ADRIANA SÁNCHEZ CHAVARRÍA

EDUCACIÓN

INSTITUTO DE MATEMÁTICA PURA E APLICADA

2014-2018

PhD. Mathematics

Field: Dynamical Systems

Advisor: Marcelo Viana

Thesis: Contributions to the continuity problem for Lyapunov exponents.

INSTITUTO DE MATEMÁTICA PURA E APLICADA

2012-2014

MSc. Mathematics

Advisor: Robert Morris

UNIVERSIDAD DE COSTA RICA

2004-2011

BSc. Ciencias Actuariales

UNIVERSIDAD DE COSTA RICA

2004-2008

BSc. Matemáticas

WORK EXPERIENCE

UNIVERSIDAD DE COSTA RICA PRESENTE

2020-

Escuela de Matemática

Assistant professor

UNIVERSIDADE DE SAÕ PAULO

2018-2020

Instituto de Ciências Matemáticas e de Computação

Postdoctoral fellow

UNIVERSIDAD DE COSTA RICA

2009-2012

Escuela de Matemática

Adjunct Professor

RESEARCH

ASSOCIATE RESEARCHER

2022-2025: Study of production systems in the context of industry 4.0 with a focus on the study of work supported by deep learning tools.

PRINCIPAL RESEARCHER

2023-2025: Use of machine learning models for forecasting extreme flows (minimum and maximum).

2023-2023: Ergodic study using analytical tools.

2020-2022: Study of equilibrium states through analytical tools.

RESEARCH PAPERS

Bezerra, J.; Sanchez, A. y Tall, E.H.Y. "Analyticity of the Lyapunov exponents of random products of quasi-periodic cocycles". Preprint, 2021. arXiv:2111.00683

Álvarez, C.; Sanchez, A. y Varão, R. "Equilibrium states for maps isotopic to Anosov". Nonlinearity. Vol 34. N°6. Pages 4264. 2021.

Backes, L.; Poletti, M. y Sanchez, A. "The set of fiber-bunched cocycles with nonvanishing Lyapunov exponents over a partially hyperbolic map is open". Mathematical Research Letters. Vol 25. N° 6. Pages 1719 - 1740. 2018.

Sanchez, A y Viana, M. "Lyapunov exponents of probability distributions with non-compact support." Preprint, 2018. arXiv:1810.03061.

Sanchez, A. "Contributions to the continuity problem for Lyapunov exponents". PhD. Thesis, IMPA 2018

INVITED ADDRESSES

13th Americas Conference on Differential Equations and Nonlinear Analysis (Americas XIII). Instituto de Ciências Matemáticas e de Computação. Lecture: Equilibrium states for maps isotopic to Anosov diffeomorphism. February 2023. In person.

2º Encontro Mulheres Matemáticas do IMPA. Instituto de matemática pura e aplicada (IMPA). Lecture: Analyticity of Lyapunov exponents. May 2022. Rio de Janeiro, Brazil. Virtual.

Celebrating women in Mathematics. Universidad Federal do Rio de Janeiro. Lecture: Equilibrium states for maps isotopic to Anosov diffeomorphism. May 2022. Rio de Janeiro, Brazil. In person.

Matemáticas en la sociedad. Universidad Nacional Autónoma de México. Lecture: Feminine numbers: a gender view of mathematics. March 2022. Morelos, México. Virtual.

Young meeting on Geometry and Dynamics. Instituto de Matemática Universidad Nacional Autónoma de México. Lecture: Equilibrium states for maps isotopic to Anosov diffeomorphism. December 2021. Cuernavaca, México. Virtual.

Workshop topology and dynamics. Universidad Federal Fluminense. Lecture: The continuity problem of Lyapunov exponents. February 2020. Rio de Janeiro, Brazil. Virtual.

Meeting: "A sombra dos expoentes de Lyapunov". Pontifícia Universidade Católica do Rio de Janeiro. Lecture: Lyapunov exponents of probability distributions with non-compact support. February 2020. Rio de Janeiro, Brazil. In person.

Dias dinâmicos Paulistas. Universidade Estadual de Campinas. Lecture: The continuity problem of Lyapunov exponents. January 2020. São Paulo, Brazil. In person.

Smooth and Homogeneous Dynamics Program. International Centre for Theoretical Sciences ICTS. Short lecture: Lyapunov exponents of probability distributions with non-compact support. September 2019. Bengaluru, India. In person.

Beyond Uniform Hyperbolicity Conference. Centre International de Rencontres Mathématiques. Youth seminar: Continuity problem for Lyapunov exponents of probability distributions with non-compact support. Poster session: Energy argument for partially hyperbolic diffeomorphisms. Mayo 2019. Marseille, France. In person.

Smooth ergodic theory and partially hyperbolic systems. Universidad de Loughborough. Poster session: Energy argument for partially hyperbolic diffeomorphisms. Abril 2019. Loughborough, Inglaterra. In person.

Dinâmicas. Universidad Federal de Minas Gerais. Lecture: Lyapunov exponents of probability distributions with non-compact support. November 2018. Minas Gerais, Brazil. In person.

São Paulo Dynamical Systems Days. Instituto de Ciências Matemáticas e de Computação. Lecture: Contributions to the continuity problem for Lyapunov exponents. October 2018. São Paulo, Brazil. In person.

Summer School in Dynamics (Introductory and Advance). Abdus Salam International Centre for Theoretical Physics (ICTP). Poster session: Lyapunov Exponents with partially hyperbolic base. July 2018. Trieste, Italia. In person.

II Encuentro de Mujeres Matemáticas de América Latina. Poster session: The set of fiber-bunched cocycles with nonvanishing Lyapunov exponents over a partially hyperbolic map is open. January 2018. Valdivia, Chile. In person.

SEMINARS

Thematic Week of Dynamic Systems. Lecture: The continuity problem of Lyapunov exponents. Universidade Federal de Bahía (UFBA). January 2023. Brazil. Virtual.

Coloquio Internacional de Matemática (CIM). Lecture: The continuity problem of Lyapunov exponents. Universidad Nacional (UNA) de Costa Rica y Fundación Universitaria Konrad Lorenz de Colombia. October 2022. Virtual.

Zoominar in Dynamical Systems. Lecture: Analyticity of the Lyapunov exponents of random products of quasi-periodic cocycles. Centro de Matemática da Universidade do Porto. June 2022. Porto, Portugal. Virtual.

Seminario Dinámica Porteña. Lecture: Lyapunov exponents of probability distributions with non-compact support. Pontificia Universidad Católica de Valparaíso. October 2021. Chile. Virtual.

Coloquio de matemática. Lecture: Fractals in nature. Escuela de Matemática, UCR. September 2021. Costa Rica. Virtual.

Encuentro virtual con matemáticos sobresalientes. Lecture: Fractals in nature. Fundapromat. July 2021. Panamá. Virtual.

Seminario Las Palmeras. Lecture: Equilibrium states for maps isotopic to Anosov. Universidad de Chile. May 2021. Chile. Virtual.

Charla Mujeres y + en matemática. Lecture: Lyapunov exponents: ¿how do you eat this? Asociación mujeres y + en matemática. April 2021. Costa Rica. Virtual.

Mathematical colloquium. Lecture: From the collision of particles to the ergodic theory. Universidad Nacional de Costa Rica. January 2021. Costa Rica. Virtual.

Math competitions Seminar. Lecture: From the collision of particles to the ergodic theory. UCR. October 2020. Costa Rica. Virtual.

Seminar ICMC-IMPA-IPM. Lecture: An introduction to Lyapunov exponents. ICMC-USP. August 2020. São Paulo, Brazil. Virtual.

Stochastic and dynamic systems Seminar. Lecture: The continuity problem of Lyapunov exponents. IMECC-UNICAMP. November 2019. São Paulo, Brazil. Virtual.

Dynamical Systems Seminar. Lecture: Lyapunov exponents over partially hyperbolic maps. IME-USP. September 2019. São Paulo, Brazil. In person.

EDAI. Lecture: Lyapunov exponents over partially hyperbolic maps. Pontificia Universidad Católica de Rio de Janeiro. August 2019. Rio de Janeiro, Brazil. In person.

Dynamical Systems Seminar.. Lecture: Energy argument for measures with non-compact. ICMC-USP. April 2019. São Paulo, Brazil. In person.

Research seminar. Lecture: The continuity problem for Lyapunov exponents of partially hyperbolic diffeomorphisms. UCR. December 2018. San José, Costa Rica. In person.

Dynamical Systems Seminar. Lecture: Contributions to the continuity problem of Lyapunov exponents. IMPA. Augusto 2018. Rio de Janeiro, Brazil. In person.

EVENTS

- VI Brazilian school of Dynamical Systems. Brazil. October 2021.
 - First iterations. Brazil. October 2021.
 - Hyperbolic Interwaving. Polonia. September 2021.
 - First iterations. Brazil. June 2021.
 - Uniformly and non-uniformly hyperbolic dynamics. France. June 2021.
 - Spring School on Transfer Operators. Lausanne, Suiza. March 2021.
 - Three days in dynamical systems at UFRJ. Rio de Janeiro, Brazil. February 2020.
 - 71° Annual SBPC meeting. Expositor. Mato Grosso do Sul, Brazil. July 2019.
 - International Congress of Mathematicians. Rio de Janeiro, Brazil. August 2018.
 - Semana Nacional de Ciência e Tecnologia. Expositor. Brasília, Brazil. October 2017.
 - 31° Brazilian Colloquium. Rio de Janeiro, Brazil. July 2017.
 - Beyond Uniform Hyperbolicity conference. Utah, USA. June 2017.
 - International Conference on Dynamical Systems. Rio de Janeiro, Brazil. Jul 2016.
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TEACHING EXPERIENCE

I-2023

MA1005 Differential equations

SP1312 Differential equations II

II-2022

CA0202 Computer tools for Actuary Science

I-2022

MA0505 Analysis I

III-2021

MA0455 Ordinary Differential equations

II-2021

MA0700 Introduction to Dynamical Systems

MA0455 Ordinary Differential equations

I-2021

MA0455 Ordinary Differential equations

III-2020

MA0455 Ordinary Differential equations

II-2020

MA2210 Applied Differential equations

ACADEMIC MANAGEMENT

2022-PRESENT

Organizing committee XXIV International Symposium on Mathematical Methods Applied to the Sciences

2021-PRESENT

Women in mathematics commission

2021 - PRESENT

Editorial Board of the Revista de Matemática: teoría y aplicaciones

2021 - PRESENT

Math School Health commission

2021 - PRESENT

Member Asociación Mujeres y + en Matemática

2021 - PRESENT

Member Asociación Mujeres Dinámicas

2021 - 2022

Organizing committee XXIII International Symposium on Mathematical Methods Applied to the Sciences

**SCHOLARSHIPS
AND AWARDS****POSDOCTORATE SCHOLARSHIP 2018-2020**

Fundação de Amparo à Pesquisa do Estado de São Paulo (FAPESP)

GRADUATE STUDIES SCHOLARSHIP (MASTER AND PHD.) 2012-2018

Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)

COMPLEMENTARY SCHOLARSHIP 2012-2018

Universidad de Costa Rica

HABILITIES**LANGUAGES**

Spanish (native), English (advance), Portuguese (advance), French (beginner).

PROGRAMMING

Python, R, Excel, Power BI.

