Rodrigo G. Schaefer

Ph.D in Applied Mathematics

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Research interests

Arnold Diffusion

CURRENT RESEARCH

- Arnold diffusion in an *a priori unstable* Hamiltonian system.

Celestial Mechanics

- N-body problem on surfaces

Education

Ph.D in Applied Mathematics
Barcelona, Spain

UNIVERSITAT POLITÈCNICA DE CATALUNYA
Sep. 2014 - Jul. 2018

- Title: Global Instability in Hamiltonian Systems
- Advisor: Amadeu Delshams
- Qualification: Excellent *cum laude* (The highest qualification possible in Spain)
- Got a CNPq Scholarship (Brazil).

M.S. in Mathematics
Rio de Janeiro, Brazil

UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
Mar. 2012 - May 2014

- Master's thesis: A dinâmica de N corpos sobre superfícies : um exemplo para 2 corpos
- Advisor: Stefanella Boatto
- Got a FAPERJ - Scholarship which is given to the two best students in Master program - Dept. of Math

B.S. in Mathematics
Rio de Janeiro, Brazil

UFRJ (UNIVERSIDADE FEDERAL DO RIO DE JANEIRO)
Mar. 2008 - Jan 2012

Publications

Arnold diffusion for a complete family of perturbations with two independent harmonics
2018

DELSHAMS, A. AND SCHAEFER, R.G.

- Discrete and Continuous Dynamical Systems - A

Arnold diffusion for a complete family of perturbations
2017

DELSHAMS, A. AND SCHAEFER, R.G.

- Regular and Chaotic Dynamics

N-body dynamics on closed surfaces: the axioms of mechanics
2016

BOATTO, S., DRITSCHEL, D.G. AND SCHAEFER, R.G.

- Proceedings of the Royal Society of London A: Mathematical, Physical and Engineering Science

Work experience

Temporary lecturer
Rio de Janeiro, Brazil

UNIVERSIDADE FEDERAL DO RIO DE JANEIRO
Mar. 2014 - Aug. 2014

- Differential and Integral Calculus
- Linear Algebra

Teaching assistant *Rio de Janeiro, Brazil*
Universidade Federal do Rio de Janeiro *2009 - 2011*
- Linear Algebra

Presentation

Invited talks

Congeso Bienal de la Real Sociedad Matemática Española *Santander, Spain*
Arnold diffusion for a Hamiltonian with $3 + 1/2$ degrees of freedom *2019*

Geometry, Dynamics, Integrable Systems *Moscow, Russia*
Scattering maps and Global Instability in Hamiltonian Systems *2018*

IV Congreso de Jóvenes Investigadores-Real Sociedad Matemática Española *Valencia, Spain*
Global Instability in Hamiltonian Systems *2017*

JuniorGesta *Barcelona, Spain*
Global instability in Hamiltonian Systems *2016*

Other presentations

DDAYS 2018 *Murcia, Spain*
Global instability in Hamiltonian Systems *2018*

Hamsys2018 *Bellaterra, Spain*
Global instability for 'complete' families of perturbations with two or three independent harmonics *2018*

Satellite Dynamics and Space Missions: Theory and Applications of Celestial Mechanics *San Martino al Cimino, Italy*
Arnold Diffusion for several examples using Scattering maps (poster) *2017*

Llavefest: A Broad Pperpective on Finite and Infinite Dimensional Dynamicsl Systems *Barcelona, Spain*
Arnold Diffusion for several examples using Scattering maps (poster) *2017*

14th Winter School of the Spanish Dance Network *Vigo, Spain*
Arnold Diffusion for several examples using Scattering map (poster) *2017*

Barcelona UB-UPC DSG Seminar *Barcelona, Spain*
Global instability in Hamiltonian Systems and several Scattering maps *2016*

13th Winter School of the Spanish Dance Network *Seville, Spain*
Arnold dffusion using several combinations of Scattering maps (poster) *2016*

14th Workshop on interactions between Dynamical Systems and PDE's. *Barcelona, Spain*
ARNOLD DIFFUSION USING SEVERAL COMBINATIONS OF SCATTERING MAPS (POSTER) *2016*

II BGSMath Junior Meeting *Barcelona, Spain*
GLOBAL INSTABILITY IN HAMILTONIAN SYSTEMS *2016*

CNMAC - Congresso Nacional de Matemática Aplicada e Computacional *Águas de Lindóia, Brazil*
PROPAGAÇÃO DE UM IMPULSO ELÉTRICO EM UM AXÔNIO NERVOSO (POSTER) *2012*

Research Group and Networks

Laboratory of Geometry and Dynamical Systems *Barcelona*
MEMBER *2017 - Present*
- Group of researchers in Dynamical Systems and Symplectic geometry of Universitat Politècnica de Catalunya

UPC Dynamical System Group *Barcelona*
MEMBER *2014 - Present*
- Group of researchers in Dynamical Systems of Universitat Politècnica de Catalunya

DANCE *Spain*
MEMBER *2016-Present*
- Network of spanish reseachers in Dynamical Systems

Participation in funded projects

Sistemes dinàmics de la UPC - 2017SGR1049 *Barcelona*
MEMBER *2017 - Present*
- Funded by Catalan Science Department / Leading researcher: Tere Martinez-Seara

Dinámica Asociada a Conexiones entre Objetos Invariantes con Aplicaciones a Neurociencia y Astrodinámica *Barcelona*
MEMBER *2016 - 2018*
- Funded by Ministerio de Economía y Competitividad (Spain) / Leading researcher: Tere Martinez-Seara

Sistemes dinàmics de la UPC - 2014SGR504 *Barcelona*
MEMBER *2015-2016*
- Funded by Catalan Science Department / Leading researcher: Tere Martinez-Seara

Dinámica Asociada a Conexiones entre Objetos Invariantes, Aplicaciones a Astrodinámica, Neurociencia y Otros Campos *Barcelona*
MEMBER *2014 - 2015*
- Funded by Ministerio de Economía y Competitividad (Spain) / Leading researcher: Amadeu Delshams

Other Courses

Introduction to Data Science in Python *Coursera*
UNIVERSITY OF MICHIGAN *2019*

R Programming *Coursera*
JOHNS HOPKINS UNIVERSITY *2016*

Getting and Cleaning Data

Coursera

Johns Hopkins University

2016

Introduction to Python

Barcelona

Centre de Recerca Matemàtica

2015

Languages

Portuguese	Native Fluent
English	Intermediate
Spanish	Advanced
Catalan	Intermediate

Programming Languages

Python	Intermediate
LaTeX	Intermediate
R	Basic

References

Amadeu Delshams

Universitat Politècnica de Catalunya

amadeu.delshams@upc.edu

Stefanella Boatto

Universidade Federal do Rio de Janeiro

boattostefanella@gmail.com

Marcel Guardia

Universitat Politècnica de Catalunya

marcel.guardia@upc.edu

Eva Miranda

Universitat Politècnica de Catalunya

eva.miranda@upc.edu

Congresses and conferences attended

3a Jornada Sistemes Dinàmics a Catalunya

Barcelona, Spain

Societat Catalana de Matemàtiques

2018

DDays 2018

Murcia, Spain

Universidad de Murcia

2018

Hamsys2018

Bellaterra, Spain

Centre de Recerca Matemàtica

2018

16th Workshop on interactions between Dynamical Systems and PDE's

Bellaterra, Spain

Centre de Recerca Matemàtica

2018

Perspectives in Hamiltonian Systems

Venice, Italy

Università degli Studi di Padova

2018

Geometry, Dynamics, Integrable systems
MOSCOW INSTITUTE OF PHYSICS AND TECHNOLOGY

Moscow, Russia

2018

15th Winter School : Recents Trends in Nonlinear Sciences
DANCE-NET

Logroño, Spain

2018

CSF Hamiltonian Systems
ETH INSTITUTE FOR THEORETICAL STUDIES

Ascona, Switzerland

2017

IV Congreso de Jóvenes Investigadores-Real Sociedad Matemática Española
REAL SOCIEDAD MATEMÁTICA ESPAÑOLA

Valencia, Spain

2017

Satellite Dynamics and Space Missions: Theory and Applications of Celestial Mechanics
SOCIETÀ ITALIANA DI MECANICA CELESTE E ASTRODINAMICA

San Martin al Cimino, Italy

2017

Finite Dimensional Integrable Systems in Geometry and Mathematical Physics
CENTRE DE RECERCA MATEMÀTICA

Bellaterra, Spain

2017

15th Workshop on interactions between Dynamical Systems and PDE's
CENTRE DE RECERCA MATEMÀTICA

Bellaterra, Spain

2017

Llavefest: A Broad Perspective on Finite and Infinite Dimensional DynamicalSystems
CENTRE DE RECERCA MATEMÀTICA

Barcelona, Spain

2017

Winter School in Conservative Dynamics
ETH INSTITUTE FOR THEORETICAL STUDIES

Engelberg, Switzerland

2017

13th Winter School : Recents Trends in Nonlinear Sciences
DANCE-NET

Vigo, Spain

2017

DDays
DANCE-NET

Salou, Spain

2016

14th Workshop on interactions between Dynamical Systems and PDE's
UNIVERSITAT POLITÈCNICA DE CATALUNYA

Barcelona, Spain

2016

II BGSMAth Junior Meeting
BGSMATH

Barcelona, Spain

2016

GestaJunior
UNIVERSITAT POLITÈCNICA DE CATALUNYA

Barcelona, Spain

2016

13th Winter School : Recents Trends in Nonlinear Sciences

Seville, Spain

Dance-net

2016

Global Dynamics in Hamiltonian Systems

Vall de Núria, Spain

Universitat Politècnica de Catalunya

2015

13th Workshop on interactions between Dynamical Systems and PDE's

Barcelona, Spain

Universitat Politècnica de Catalunya

2015

12th Winter School : Recents Trends in Nonlinear Sciences

Valladolid, Spain

Universidad de Valladolid and Dance-net

2015

Shilnikov Workshop.

Nizhny Novgorod, Russia

Lobachevsky State University of Nizhni Novgorod

2014

Hamiltonian Dynamics, Non-Autonomous System and Patterns in PDE's.

Nizhny Novgorod, Russia

Lobachevsky State University of Nizhni Novgorod

2014

7th DDAYS

Badajoz, Spain

Dance-net

2014

Barcelona Mathematical Days

Barcelona, Spain

Societat Catalana de Matemàtiques

2014

CNMAC- Congresso Nacional de Matemática Aplicada e Computacional

Águas de Lindóia, Brasil

SBMAC

2012