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

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 dffusion 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 Python *Barcelona*
Centre de Recerca Matemàtica *2015*

R Programming *Coursera*
Johns Hopkins University *2016*

Getting and Cleaning Data *Coursera*
Johns Hopkins University *2016*

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, Russia*

Moscow Institute of Physics and Technology   *2018*

15th Winter School : Recents Trends in Nonlinear Sciences   *Logroño, Spain*

Dance-net   *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
Dance-net

Seville, Spain
2016

Global Dynamics in Hamiltonian Systems
Universitat Politècnica de Catalunya

Vall de Núria, Spain
2015

13th Workshop on interactions between Dynamical Systems and PDE's
Universitat Politècnica de Catalunya

Barcelona, Spain
2015

12th Winter School : Recents Trends in Nonlinear Sciences
Universidad de Valladolid and Dance-net

Valladolid, Spain
2015

Shilnikov Workshop.
Lobachevsky State University of Nizhni Novgorod

Nizhny Novgorod, Russia
2014

Hamiltonian Dynamics, Non-Autonomous System and Patterns in PDE's.
Lobachevsky State University of Nizhni Novgorod

Nizhny Novgorod, Russia
2014

7th DDAYS
Dance-net

Badajoz, Spain
2014

Barcelona Mathematical Days
Societat Catalana de Matemàtiques

Barcelona, Spain
2014

CNMAC- Congresso Nacional de Matemática Aplicada e Computacional
SBMAC

Águas de Lindóia, Brasil
2012