

## CURRICULUM VITAE

**Marcel Guardia**

Departament de Matemàtiques  
Escola Tècnica Superior d'Enginyeria Industrial de Barcelona  
Universitat Politècnica de Catalunya  
Av. Diagonal 647, 08028 Barcelona  
marcel.guardia@upc.edu  
<https://mat-web.upc.edu/people/marcel.guardia/>  
Birthdate: October 2, 1982

## Employment

- ◇ **Ramón y Cajal Postdoctoral Fellowship.** **Universitat Politècnica de Catalunya**, Barcelona, Spain. From December 2016 to present.
- ◇ **Juan de la Cierva Postdoctoral Fellowship.** **Universitat Politècnica de Catalunya**, Barcelona, Spain. From December 2014 to December 2016.
- ◇ **Marie Curie Intraeuropean Fellowship.** **CNRS and Université Paris 7 Denis Diderot**, Paris, France. From June 2013 to December 2014.
- ◇ **Brin Postdoctoral Fellow.** **University of Maryland at College Park**, Maryland, United States. From June 2012 to May 2013.
- ◇ **Member.** **Institute For Advanced Study**, Princeton, New Jersey, United States. Spring 2012.
- ◇ **Brin Postdoctoral Fellow.** **University of Maryland at College Park**, Maryland, United States. Fall 2011.
- ◇ **Postdoctoral Fellow.** **Fields Institute (University of Toronto)**, Toronto, Canada. Spring 2011.
- ◇ **Research Associate.** **Pennsylvania State University**, State College, United States. Fall 2010.
- ◇ **Teaching Assistant (Calculus I).** **Departament de Matemàtica Aplicada I**, **Universitat Politècnica de Catalunya**, Barcelona, Spain. Fall 2005.

## Education

- ◇ **Ph.D. Universitat Politècnica de Catalunya (UPC)**, Spain. Barcelona 2005 – 2010.  
Thesis: “From non-smooth to analytic Dynamical Systems: low codimension bifurcations and exponentially small splitting of separatrices”. Advisor: Teresa Martínez-Seara Alonso.
- ◇ **Universitat Politècnica de Catalunya (UPC)**, Spain. Barcelona 2007. Diploma d’Estudis Avançats (Master of Philosophy in Applied Maths)
- ◇ **Universitat Politècnica de Catalunya (UPC)**, Spain. Barcelona 2000 – 2005. Bachelor in Mathematics (Licenciatura: 5-year degree). Rank: 3rd out of 40.
- ◇ **Universitat Politècnica de Catalunya (UPC)**, Spain. Barcelona 2005. Certificate for Teaching Habilities (Certificat d’Aptitud Pedagògica).

## Scholarships

- ◇ Ramón y Cajal Postdoctoral Fellowship of the Government of Spain (2015 call, ranked 1st in the panel of Mathematics).
- ◇ Juan de la Cierva Postdoctoral Fellowship of the Government of Spain (2012 call, ranked 2nd in the panel of Mathematics).
- ◇ IEF Marie Curie Postdoctoral Fellowship of the European Union (2012 call, ranked 3rd in the panel of Mathematics).
- ◇ Doctorate Fellowship of the Government of Spain (04/2005 to 12/2009).
- ◇ Doctorate Fellowship of the Government of Catalonia (01/2005 to 03/2005).
- ◇ Scholarship awarded by Facultat de Matemàtiques at Universitat Politècnica de Catalunya, Barcelona, Spain. Collaboration in Teaching Activities (09/2001-06/2005).

## Publications

- ◇ M. Guardia, P. Martín, T. M. Seara. “Oscillatory orbits in the restricted elliptic planar three body problem”, *Discrete and Continuous Dynamical Systems A*, 37(1): 229–256 (2017).
- ◇ M. Guardia, V. Kaloshin, J. Zhang. “A second order expansion of the separatrix map for trigonometric perturbations of a priori unstable systems”, *Communications in Mathematical Physics*, 348(1): 321–361 (2016).

- ◇ E. Haus, M. Guardia and M. Procesi. “Growth of Sobolev norms for the defocusing analytic NLS on  $T^2$ ”, *Advances in Mathematics*, 301(1): 615–692 (2016).
- ◇ J. Féjoz, M. Guardia. “Secular instability in the spatial three-body problem”, *Archive for Rational Mechanics and Analysis*, 221(1): 335–362 (2016).
- ◇ J. Féjoz, M. Guardia, V. Kaloshin, P. Roldán. “Kirkwood gaps and diffusion along mean motion resonances in the restricted planar three-body problem”, *Journal of the European Mathematical Society*, 18(10): 2315–2403 (2016).
- ◇ M. Guardia, P. Martin, T. Seara. “Oscillatory motions for the restricted planar circular three body problem”, *Inventiones Mathematicae*, 203 (2): 417–492 (2016).
- ◇ M. Guardia, V. Kaloshin. “Growth of Sobolev norms in the cubic defocusing nonlinear Schrödinger equation”, *Journal of the European Mathematical Society*, 17 (1): 71–149 (2015).
- ◇ M. Guardia. “Growth of sobolev norms for the cubic defocusing NLS with a convolution potential”, *Communications in Mathematical Physics*, 329 (1): 405–434 (2014).
- ◇ M. Guardia. “Exponentially small splitting for nearly integrable Hamiltonian Systems of one and a half degrees of freedom close to a resonance”, *Discrete and Continuous Dynamical Systems A*, 33(7): 2829–2859 (2013).
- ◇ I. Baldomá, E. Fontich, M. Guardia, T. Seara. “Exponentially small splitting of separatrices beyond Melnikov analysis: rigorous results”, *Journal of Differential Equations*, 253 (12): 3304–3439 (2012).
- ◇ M. Guardia, T. Seara. “Exponentially and non-exponentially small splitting of separatrices for the pendulum with a fast meromorphic perturbation”, *Nonlinearity*, 24 (5): 1367–1412 (2012).
- ◇ M. Guardia, T. Seara, M. A. Teixeira. “Generic bifurcations of low codimension of planar Filippov Systems”, *Journal of Differential Equations*, 250 (4): 1967–2023 (2010).
- ◇ M. Guardia, S.J. Hogan, T. Seara. “An analytical approach to codimension 2 sliding bifurcations in the dry friction oscillator”, *SIAM Journal on Applied Dynamical Systems*, 9: 769–798 (2010).
- ◇ M. Guardia, C. Olivé, T. Seara. “Exponentially small splitting for the pendulum: a classical problem revisited”, *Journal of Nonlinear Science*, 20: 595–685, (2010).

## Publications in Proceedings

- ◇ M. Guardia, P. Martín, T. Seara. “Homoclinic solutions to infinity and oscillatory motions in the Restricted Planar Circular Three Body Problem”, Proceedings of the International Conference Dynamical Systems: 100 years after Poincaré, Springer Proceedings in Mathematical & Statistics, Vol. 54, pg. 265–280, (2013).

## Preprints

- ◇ M. Guardia, V. Kaloshin. “Orbits of nearly integrable systems accumulating to KAM tori”, 115 pages.  
Available at <http://arxiv.org/abs/1412.7088>.

## Contributions to National and International Meetings

- ◇ **Congreso Bienal de la Real Sociedad Matemática Española.** January 30 - February 3, 2017, Zaragoza. Invited Talk: *Growth of Sobolev norms for the NLS.*
- ◇ **IV Escola Brasileira de Sistemas Dinâmicos.** October 3-7, 2016, Campinas, Brasil. Invited Talk: *Growth of Sobolev norms for the NLS.*
- ◇ **Hamiltonian Dynamics, PDEs and Waves on the Amalfi coast.** September 1-5, 2016, Maiori, Italy. Invited Talk: *Growth of Sobolev norms for the analytic non-linear Schrödinger equation.*
- ◇ **XV Jornadas de Trabajo en Mecánica Celeste.** June 29 - July 1, 2016, Manresa, Spain. Invited Talk: *Secular instability in the three-body problem.*
- ◇ **1st Workshop on Dynamical Systems in the Real Life.** July 7-8, 2016, Castelló, Spain. Invited Talk: *Instability phenomena in the restricted three body problem.*
- ◇ **3r Congreso de Jóvenes Investigadores de la RSME.** September 7-11, 2015, Murcia, Spain. Invited Talk: *Oscillatory motions for the restricted three body problem*, joint work with Profs. P. Martín and T. M. Seara.
- ◇ **Workshop in Dynamical Systems.** July 20-24, 2015, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany. Invited Talk: *Oscillatory motions for the restricted planar three body problem*, joint work with Profs. P. Martín T. M. Seara.

- ◇ **Hamiltonian systems and their applications.** June 3-8, 2015, Euler International Mathematical Institute, Saint Petersburg, Russia. Invited Talk: *Growth of Sobolev norms for the defocusing analytic NLS*, joint work with Prof. M. Procesi and Dr. E. Haus.
- ◇ **VI Workshop on Dynamical Systems - MAT 70.** May 26-29, 2014, Unicamp, Campinas, Brasil. Invited Talk: *Nearly integrable systems with orbits accumulating to KAM tori*, joint work with Prof. V. Kaloshin.
- ◇ **Hamiltonian Perturbation Theory: Separatrix Splitting, Theory and Applications.** May 5-9, 2014, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy. Invited Talk: *Exponentially small splitting of separatrices for meromorphic Hamiltonian systems*, joint work with Prof. T. Seara.
- ◇ **CEDYA 2013.** September 9-13, 2013, Universitat Jaume I, Castelló, Spain. Invited Talk: *Growth of Sobolev norms for the cubic defocusing NLS with a convolution potential*.
- ◇ **Workshop in Dynamical Systems.** July 7-13, 2013, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany. Invited Talk: *Growth of Sobolev norms for the cubic nonlinear Schrödinger equation*, joint work with Prof. V. Kaloshin.
- ◇ **New Perspectives on the  $N$ -body Problem.** January 13-18, 2013, Banff International Research Station for Mathematical Innovation and Discovery, Banff, Canada. Plenary Talk: *Oscillatory motion for the restricted planar circular three body problem*, joint work with Prof. P. Martin and T. Seara.
- ◇ **Dynamique et EDP.** November 12-16, 2012, Centre International de Rencontres Mathématiques (Université de Marseille), Marseille, France. Contributed Talk: *Growth of Sobolev norms for the cubic defocusing NLS with and without a convolution potential*, joint work with Prof. V. Kaloshin.
- ◇ **Nonlinear Hamiltonian PDEs.** July 1-6, 2012, Centro Stefano Franscini (Swiss federal institute Zurich), Ascona, Switzerland. Contributed Talk: *Growth of Sobolev norms for the cubic defocusing nonlinear Schrodinger equation*, joint work with Prof. V. Kaloshin.
- ◇ **Workshop on Symplectic Dynamics II.** March 12-16, 2012, Institute for Advanced Study, Princeton, New Jersey. Plenary Talk: *Growth of Sobolev norms for the cubic defocusing nonlinear Schrödinger equation in polynomial time*, joint work with Prof. V. Kaloshin.

- ◇ **Nanjing Conference on Hamiltonian Dynamics 2011.** August 21-28, 2011, Nanjing, China. Plenary Talk: *An instability mechanism along the mean motion resonances in the restricted three body problem*, joint work with Prof. J. Féjóz, V. Kaloshin and P. Roldán.
- ◇ **Equadiff 11.** August 1-5, 2011, Loughborough, United Kingdom. Invited Talk: *Exponentially small splitting of separatrices for the pendulum with fast periodic or quasiperiodic meromorphic perturbation*, joint work with Prof. Tere M. Seara.
- ◇ **Workshop on Instabilities in Hamiltonian Systems.** June 13-17, 2011, Toronto, Canada. Plenary Talk: *Diffusion along mean motion resonances in the restricted three body problem*, joint work with Prof. J. Féjóz, V. Kaloshin and P. Roldán.
- ◇ **Workshop in Dynamical Systems and Related Topics.** October 21-24, 2010, State College, Pennsylvania, United States. Oral Communication: *An asymptotic formula for the splitting of separatrices of nearly integrable Hamiltonian Systems of one and a half degrees of freedom close to a resonance*.
- ◇ **Emerging Topics in Dynamical Systems and Partial Differential Equations DSPDEs'10.** May 31- June 4, 2010, Barcelona, Spain. Invited Talk: *Exponentially small splitting of separatrices for a one degree hamiltonian with a non-autonomous fast and periodic perturbation*, joint work with Profs. I. Baldomá, Er. Fontich and T. M. Seara.
- ◇ **8th AIMS Conference on Dynamical Systems, Differential Equations and Applications.** May 25-28, 2010, Dresden, Germany. Oral Communication: *Exponentially small splitting of separatrices for the pendulum with a fast periodic meromorphic perturbation*, joint work with Prof. T. M. Seara.
- ◇ **Conference on Celestial Mechanics at the University of Maryland.** April 15-18, 2010, College Park, Maryland, United States. Oral Communication: *Exponentially small splitting of separatrices for one and a half degrees of freedom Hamiltonian Systems close to a resonance*.
- ◇ **International Workshop on Resonance Oscillations and Stability of Nonsmooth Systems.** June 16-25, 2009, London, United Kingdom. Oral Communication: *Codimension-2 singularities with infinitely many codimension-1 bifurcation branches*, joint work with Profs. T M.. Seara and M. A. Teixeira.

- ◇ **SIAM Conference on Applications of Dynamical Systems.** May 17-21, 2009, Snowbird (Utah), United States. Invited Talk: *Global Phenomena in a Neighborhood of Codimension-2 Local Singularities of Planar Filippov System*, joint work with Profs. T. M. Seara and M. A. Teixeira.
- ◇ **Problems in nonsmooth Dynamical Systems.** June 28-29, 2008, Bristol, United Kingdom. Invited Talk: *Topological equivalences for planar Filippov Systems*, joint work with Profs. T. M. Seara and M. A. Teixeira.
- ◇ **Nolineal08.** June 16-19, 2008, Barcelona, Spain. Oral Communication: *Discontinuity induced bifurcations of periodic orbits in Filippov Systems*, joint work with Profs. John Hogan and Tere M. Seara.
- ◇ **50th British Applied Mathematics Colloquium.** March 31 - April 03, 2008, Manchester, United Kingdom. Invited Talk: *Generic bifurcations of planar Filippov vector fields by topological equivalence*, joint work with Profs. Marco Antonio Teixeira and Tere M. Seara. Invited talk to the minisymposium “Non Smooth Dynamical Systems”.
- ◇ **International Conference on Dynamical Methods and Mathematical Modeling.** September 18-22, 2007, Valladolid, Spain. Oral Communication: *Bifurcation of sliding periodic orbits for a discontinuous model of the dry friction oscillator*, joint work with Profs. John Hogan and Tere M. Seara.
- ◇ **Equadiff 07.** August 5-10, 2007, Vienna, Austria. Invited Talk: *Exponentially small splitting of the rapidly forced pendulum via Hamilton-Jacobi equation and Resurgence: a proof of the singular case*, joint work with Profs. Carme Olivé and Tere M. Seara.
- ◇ **Chaos, Complexity and Transport: Theory and Applications.** June 4-8, 2007, Marseille, France. Poster: *Splitting of separatrices for the periodically rapidly forced pendulum*, joint work with Profs. Carme Olivé and Tere M. Seara.

## Invited courses

- ◇ *Oscillatory motions in the restricted three body problem* given by M. Guardia (5 hours course). Course given in the *Winter School in Conservative Dynamics*, Engelberg (Switzerland), February 2017.
- ◇ *Instabilities in the three body problem through geometric methods* given by M. Guardia and T. M. Seara (8 hours course).

Course given in the *CIMPA Research School – Hamiltonian and Lagrangian Dynamics*, Salto, Uruguay, March 2015

- ◇ *Arnol'd diffusion and the quasi-ergodic hypothesis* (7.5 hours course). Course given in the Instituto de Matemática Pura e Aplicada (IMPA) during the special semester *Dynamics Beyond Uniform Hyperbolicity*. Rio de Janeiro, Brasil, September, 2013.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS* (3 hours course). Course given in the Winter school *Dynamics and PDE's*, Saint-Etienne de Tinée, February, 2013.

## Conference organization

- ◇ Coorganizer of the UB–UPC dynamical systems seminar (since September 2014).
- ◇ Coorganizer of the FME-UPC Mathematics Colloquium (since June 2016).
- ◇ Coorganizer of the summer school “From Symplectic geometry to chaos”, to be held in MSRI, Berkeley, July 2018.
- ◇ Coorganizer of the conference “Hamiltonian systems”, to be held in Ascona, Switzerland, November 2017.
- ◇ Coorganizer of the conference *15th Workshop on interactions between dynamical systems and PDEs (JISD2017)*, to be held Barcelona, Spain, July 2017.
- ◇ Coorganizer of the *Winter School in Conservative Dynamics*, Engelberg, Switzerland, February 2017.
- ◇ Coorganizer of the conference *14th Workshop on interactions between dynamical systems and PDEs (JISD2016)*, Barcelona, Spain, July 2016.
- ◇ Coorganizer of the conference *Spring 2013 Meeting of the Workshop on Dynamical Systems and Related Topics*, College Park, Maryland, April 2013.
- ◇ Coorganizer of the Minisymposium in Celestial Mechanics in the conference *Equadiff*, Lyon, France, July 2015.

## Invited talks at Seminars

- ◇ *Oscillatory motions for the restricted planar three body problem*, ETH Zurich, November 29, 2016.



- ◇ *Growth of Sobolev norms for the defocusing NLS*. Université de Nice, France February 25, 2015.
- ◇ *Growth of Sobolev norms for the defocusing NLS*. Universitat de Barcelona, Barcelona, Spain. April 6, 2015.
- ◇ *Secular instability in the three-body problem*. Universitat de Barcelona, Barcelona, Spain. April 26, 2015.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. École Normal Supérieure , Lyon, France. February 25, 2015.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. Universitat de Barcelona, Barcelona, Spain. January 21, 2015.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. University of Maryland, College Park, Maryland, United States. October 23, 2014.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. Courant Institute – New York University, New York, United States. October 9, 2014.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. GeorgiaTech, Atlanta, United States September 29, 2014.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. Collège de France, Paris, France. June 6, 2014.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS*. University of Paris XI – Orsay, Paris, France. May 15, 2014.
- ◇ *Exponentially small splitting of separatrices for  $1\frac{1}{2}$  degrees of freedom Hamiltonian Systems*. Hasselt University, Hasselt, Belgium. April 23, 2014.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS*. ICMAT, Madrid, Spain. March 26, 2014.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. University of Tel Aviv, Tel Aviv, Israel. March 5, 2014.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS*. Weizmann Institute, Rehoboth, Israel. March 4, 2014.
- ◇ *Nearly integrable systems with orbits accumulating to KAM tori*. Université de Rome, Rome, Italy. February 27, 2014.
- ◇ *Growth of Sobolev norms in the cubic defocusing nonlinear Schrödinger equation*. Institute Henri Poincaré, Paris, France. January 21, 2014.

- ◇ *Nearly integrable systems with orbits accumulating to KAM tori.* Université de Nice, Nice, France. December 10, 2013.
- ◇ *Exponentially small splitting of separatrices for  $1\frac{1}{2}$  degrees of freedom Hamiltonian Systems.* Université Pierre et Marie Curie – Paris VI, Paris, France. November 29, 2013.
- ◇ *Growth of Sobolev norms in the cubic defocusing nonlinear Schrödinger equation.* Université de Nantes, Nantes, France. November 8, 2013.
- ◇ *An instability mechanism along the mean motion resonances in the restricted three body problem.* University of Maryland at Baltimore County, Maryland, United States. April 22, 2013.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS.* University of California Los Angeles, California, United States. January 11, 2013.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS.* Universitat de Girona, Spain. December 18, 2012.
- ◇ *Growth of Sobolev norms for the cubic defocusing NLS.* Université Paris Dauphine, Fr. November 22, 2012.
- ◇ *Oscillatory motions for the restricted planar circular three body problem.* Université de Paris Pierre et Marie Curie, Paris, France. November 21, 2012.
- ◇ *Oscillatory motions for the restricted planar circular three body problem.* University of Maryland at College Park, College Park, Maryland, United States. November 19, 2012.
- ◇ *An instability mechanism along the mean motion resonances in the restricted three body problem.* Cornell University Dynamical Systems seminar, Ithaca, New York, United States. October 19, 2012.
- ◇ *Growth of Sobolev norms for the cubic defocusing nonlinear Schrodinger equation in polynomial time.* Universitat de Barcelona – Universitat Politècnica de Catalunya Dynamical Systems Seminar, Barcelona, Spain. June 27, 2012.
- ◇ *Growth of Sobolev norms for the cubic defocusing nonlinear Schrodinger equation in polynomial time.* New York University Analysis Seminar, New York, United States. April 19, 2012.
- ◇ *Growth of Sobolev norms for the cubic defocusing nonlinear Schrodinger equation in polynomial time.* Princeton University Analysis Seminar, Princeton, New Jersey, United States. April 9, 2012.

- ◇ *An instability mechanism along the mean motion resonances in the restricted three body problem.* Institute for Advanced Study Working Group on Symplectic Dynamics, Princeton, New Jersey, United States. March 21, 2012.
- ◇ *Growth of Sobolev norms for the cubic defocusing nonlinear Schrödinger equation in polynomial time.* University of Maryland PDE/Applied Math Seminar, College Park, Maryland, United States. March 8, 2012.
- ◇ *An instability mechanism along the mean motion resonances in the restricted three body problem.* GeorgiaTech CDSNS Colloquium, Atlanta, Georgia, United States. January 9, 2012.
- ◇ *Exponentially small splitting of separatrices for one and a half degrees of freedom Hamiltonian Systems close to a resonance.* McMaster University PDE/Analysis Systems Seminar, Hamilton, Ontario, Canada. April 15, 2011.
- ◇ *Exponentially small splitting of separatrices for  $1\frac{1}{2}$  degrees of freedom Hamiltonian Systems close to a resonance.* University of Toronto Dynamical Systems Seminar, Toronto, Ontario, Canada. March 7, 2011.
- ◇ *Analytic properties of one and a half degrees of freedom Hamiltonian Systems and exponentially small splitting of separatrices.* University of Maryland Dynamical Systems Seminar, College Park, Maryland, United States. November 18, 2010.
- ◇ *On dependence on the order of the perturbation of the exponentially small splitting of separatrices.* Penn State University, Center for Dynamics and Geometry Seminar, State College, Pennsylvania, United States. November 8, 2010.
- ◇ *Exponentially small splitting of separatrices of the pendulum: two different examples.* Universitat de Barcelona and Universitat Politècnica de Catalunya Dynamical Systems Seminar, Barcelona, Spain. July 8, 2009.
- ◇ *Exponentially small splitting of separatrices for several rapid periodic perturbations of the pendulum.* Center for Dynamics and Geometry Seminar at Pennsylvania State University, State College (Pennsylvania), United States. March 2, 2009.
- ◇ *Exponentially small splitting of separatrices for the rapidly forced pendulum .* Student Dynamics Seminar at University of Maryland, College Park (Maryland). October 7, 2008
- ◇ *Splitting of separatrices for Hamiltonian Systems with a fast perturbation.* Working Dynamical Systems Seminar at Pontifícia Universidade Católica do Rio de Janeiro, Rio do Janeiro. December 7, 2007.

- ◇ *Un ejemplo de no validez de la teoría de Melnikov para la escisión de separatrices exponencialmente pequeña: el péndulo forzado periódica y rápidamente.* Working Dynamical Systems Seminar at Universidade Estadual Paulista, São José do Rio Preto, São Paulo, Brasil. November 29, 2007.

## Invited talks at Online Seminars

- ◇ *Oscillatory motions for the restricted planar circular three body problem.* Working Dynamical Systems Seminar at Pontifícia Universidade Católica do Rio de Janeiro, Rio do Janeiro. December 7, 2007.

## Research Visits

- ◇ Institute for Mathematical Research, ETH Zurich (5/11/2016 - 8/12/2016). Related topic: Stochastic Arnold diffusion
- ◇ Institute for Mathematical Research, ETH Zurich (26/09/2016 - 30/09/2016). Related topic: Stochastic Arnold diffusion
- ◇ Department of Mathematics at University of Rome III (19/06/2016 - 23/06/2016). Related topic: transfer of energy in Hamiltonian PDEs
- ◇ Mathematical Sciences Research Institute, Berkeley, United States (13/11/2015 - 18/11/2015). Related topic transfer of energy in Hamiltonian PDEs
- ◇ Department of Mathematics at University of Maryland, College Park, Maryland, United States (27/4/2015 - 22/5/2015). Related topic: Stochastic Arnold Diffusion.
- ◇ Department of Mathematics at University of Rome I – La Sapienza (17/11/2014 - 21/11/2014). Related topic: Growth of Sobolev norms in the cubic NLS.
- ◇ Department of Mathematics at University of Maryland, College Park, Maryland, United States (20/10/2014 - 31/10/2014). Related topic: Arnold Diffusion.
- ◇ Courant Institute, New York University, New York, United States (7/10/2014 - 16/10/2014). Related topic: Normally Hyperbolic Invariant Manifolds.
- ◇ Department of Mathematics at GeorgiaTech, Atlanta, United States (24/9/2014 - 7/10/2014). Related topic: Normally Hyperbolic Invariant Manifolds.

- ◇ Department of Mathematics at University of Tel Aviv, Tel Aviv, Israel (29/2/2014 - 12/3/2014). Related topic: Normally Hyperbolic Invariant Manifolds.
- ◇ Department of Mathematics at University of Rome I – La Sapienza (24/2/2014 - 28/2/2014). Related topic: Growth of Sobolev norms in the cubic NLS.
- ◇ Department of Mathematics at Université de Nantes, Nantes, France (11/4/2013 - 11/8/2013). Related topic: Growth of Sobolev norms in the cubic NLS.
- ◇ Department of Mathematics at Cornell University, Ithaca (New York), United States (10/15/2012 - 10/19/2012). Related topic: Spatial instabilities in elliptic PDEs.
- ◇ Department of Mathematics at GeorgiaTech, Atlanta (Georgia), United States (1/7/2012 - 1/18/2012). Related topic: Spatial instabilities in elliptic PDEs.
- ◇ Department of Mathematics at University of Maryland, College Park (Maryland), United States (2/3/2010 - 05/11/2010). Related topic: Arnol'd Diffusion in the Restricted Planar Elliptic Three Body Problem.
- ◇ Department of Mathematics at Pennsylvania State University, State College (Pennsylvania), United States (2/16/2009 - 2/6/2009). Related topic: Exponentially small splitting of separatrices in the Restricted Elliptic Planar and Spatial Circular Three Body Problems.
- ◇ Department of Mathematics at University of Maryland, College Park (Maryland), United States (8/8/2008 - 11/25/2008). Related topic: Exponentially small splitting of separatrices in the Restricted Planar Three Body Problem.
- ◇ Departamento de Matematica at Universidade Estadual de Campinas (Unicamp), Campinas, Brasil (10/13/2007 - 12/13/2007). Related topic: Local bifurcations in non-smooth Dynamical Systems.
- ◇ Department of Engineering Mathematics at University of Bristol, Bristol, UK (09/20/2006 - 12/20/2006). Related topic: Non-smooth Dynamical Systems.

## Teaching experience

- ◇ Course Calculus II for first year students in Industrial Engineering, Spring 2017. Universitat Politècnica de Catalunya, Barcelona,

- ◇ Hamiltonian Systems, Master in Advanced Mathematics and Mathematical Engineering (MAMME), Spring 2017, Universitat Politècnica de Catalunya, Barcelona.
- ◇ Hamiltonian Systems, Master in Advanced Mathematics and Mathematical Engineering (MAMME), Spring 2016, Universitat Politècnica de Catalunya, Barcelona.
- ◇ Applications of Linear Algebra, Spring 2013. Department of Mathematics, University of Maryland, College Park, Maryland, United States.
- ◇ Calculus, Fall 2010. Department of Mathematics, Penn State University, State College, Pennsylvania, United States.
- ◇ Course Calculus II for first year students in Chemistry and Industrial Engineering, 02/2009 - 6/2009. Departament de Matemàtica Aplicada I, Universitat Politècnica de Catalunya, Barcelona, Spain.
- ◇ Course Calculus II for first year students in Industrial Engineering, 02/2008 - 6/2008. Departament de Matemàtica Aplicada I, Universitat Politècnica de Catalunya, Barcelona, Spain.
- ◇ Course Calculus I for first year students in Industrial Engineering, 09/2005 - 12/2005. Departament de Matemàtica Aplicada I, Universitat Politècnica de Catalunya, Barcelona, Spain.

## Participation in funded research projects

- *Dinámica Asociada a Conexiones entre Objetos Invariantes con Aplicaciones a Neurociencia y Astrodinámica.* Research project funded by Spanish Science Department from 2016 to 2019. Leading researcher: Tere Martínez-Seara.
- *SGR 2014 sd-UPC.* Research project funded by Catalan Science Department from 2015 to 2020. Leading researcher: Tere Martínez-Seara.
- *Dinámica asociada a Conexiones entre Objetos Invariantes, Astrodinámica, Neurociencia y otros campos.* Research project funded by Spanish Science Department from 2013 to 2016. Leading researcher: Amadeu Delshams.
- *Dinámica asociada a Conexiones entre Objetos Invariantes, Astrodinámica, Neurociencia y otras aplicaciones.* Research project funded by Spanish Science Department from 2010 to 2012. Leading researcher: Amadeu Delshams.

- *Dinámica asociada a Conexiones Invariantes, Astrodinámica y otras aplicaciones*. Research project funded by Spanish Science Department from 2007 to 2009. Leading researcher: Amadeu Delshams.
- *Dinámica asociada a Conexiones Invariantes, Astrodinámica, Neurociencia y otras aplicaciones*. Research project funded by Spanish Science Department from 2010 to 2012. Leading researcher: Amadeu Delshams.
- *SGR 2010 sd-UPC*. Research project funded by Catalan Science Department from 2010 to 2014. Leading researcher: Amadeu Delshams.

## Language Skills

- ◇ **English:** Fluently spoken/written. Cambridge Certificate in Advanced English passed in 2001.
- ◇ **German:** Zertifikat Deutsch als Fremdsprache passed in 2005
- ◇ **French:** Conversation level.
- ◇ **Spanish and Catalan:** Native language fluency.