

CURRICULUM VITAE – JEZABEL CURBELO

PERSONAL INFORMATION

Jezabel Curbelo
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Departamento de Matemáticas
Universidad Autónoma de Madrid
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STANDARD ACADEMIC RECORD

PhD in Mathematics (Cum Laude with international Mention) *October 2010- April 2014*
Department of Mathematics, Universidad Autónoma de Madrid, Spain
Thesis directed by Ana M. Mancho entitled “Instabilities in geophysical fluid dynamics: the influence of symmetry and the temperature dependent viscosity in convection”

Master’s Degree in Mathematics and its Applications *October 2009-September 2010*
Department of Mathematics, Universidad Autónoma de Madrid, Spain.
Master thesis directed by Ana M. Mancho entitled: “Numerical studies on a convection problem with temperature dependent viscosity”

Certificate of Pedagogical Aptitude (CAP)-Teaching Certificate *January 2009-July 2009*
Universidad Alfonso X el Sabio, Instituto Canario Superior de Estudios, Spain

Mathematics Bachelor’s Degree *September 2005-July 2009*
Universidad de La Laguna (ULL), Canary Islands, Spain

RESEARCH RECORD

Assistant Professor (“Profesor Ayudante Doctor”) *September 2016-Present*
Departamento de Matemáticas, Universidad Autónoma de Madrid, Spain

Visiting Associate Researcher UCLA *February - July 2019*
University of California, Los Angeles
Department of Atmospheric and Oceanic Sciences, California, USA.

Visiting Scholar UCLA *July - August 2018*
University of California, Los Angeles
Department of Atmospheric and Oceanic Sciences, California, USA.

Invited Professor ENS-LYON *September - October 2017*
École normale supérieure de Lyon
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Lyon1)

Visiting Scholar UCLA *June - July 2017*
University of California, Los Angeles
Department of Atmospheric and Oceanic Sciences, California, USA.

Visiting Scholar UCLA *October 2016*
University of California, Los Angeles
Department of Atmospheric and Oceanic Sciences, California, USA.

ICMAT member *September 2016-Present*
Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain

Postdoc Juan de la Cierva Formación. *April 2016 - September 2016*
E.T.S.I.A Escuela Técnica Superior de Ingeniería Aeronáutica y del Espacio,
Universidad Politécnica de Madrid, Madrid, Spain

Postdoc LabEX LIO (Laboratoire d’excellence, Lyon Institut des Origines.) *Dec 2014-March 2016*
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Lyon1)

Teaching assistant (“Profesora Ayudante”) *March 2012-November 2014*
 Department of Mathematics, Universidad Autónoma de Madrid, Spain

ICMAT member *October 2009-November 2014*
 Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain

PhD student in the JAE-Predoc fellowships program. *October 2009-February 2012*
 Instituto de Ciencias Matemáticas ICMAT, Madrid, Spain.

AWARDS

- **2015 Donald L. Turcotte Award**,
 American Geophysical Union (AGU). Nonlinear Geophysics Focus Group
Citation: AGU (2015), Curbelo and Ghanbarian-Alavijeh receive the 2015 Donald L. Turcotte Award, Eos, 96, doi:10.1029/2015EO035601. Published on 21 September 2015.
- **2015 “Vicent Caselles” award** , for mathematical researchers aged under thirty
 BBVA Foundation - RSME Real Sociedad Matemática Española.
- **2014 Editor’s Pick 2014 Physics of Fluids**
 Article: Symmetry and plate-like convection in fluids with temperature-dependent viscosity.
- **2005 High school award from the Government of Spain**

FELLOWSHIPS

SO Visitor program to invite one of my collaborators to spend 15 days in ICMAT *July 2019*
 Awarded by ICMAT, Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain

SO grant to organize seminars for the ICMAT applied mathematics seminar *January 2019*
 Awarded by ICMAT, Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain

SO Visitor program to invite one of my collaborators to spend 15 days in ICMAT *May 2018*
 Awarded by ICMAT, Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain

Travel grant to attend of the conference “2015 AGU Fall Meeting” *December 2015*
 Awarded by American Geophysical Union’s Paleooceanography and Paleoclimatology Focus Group.

Travel grant to attend of “International Congress of Mathematicians SEOUL 2014” *August 2015*
 Awarded by ICMAT, Instituto de Ciencias Matemáticas (ICMAT), Madrid, Spain

Mobility grant for a stay in USA *March 2013 - May 2013*
 Awarded by Universidad Autónoma de Madrid, Spain.

Mobility grant for a stay in USA *March 2011 - May 2011*
 Awarded by CSIC (“Spanish National Research Council”), Spain.

JAE-Predoc fellowships *October 2009-February 2012*
 Awarded by CSIC (“Spanish National Research Council”), Spain.

Excellence Grant (Given to the top 10 students in Sciences) *September 2008- June 2009*
 Awarded by Government of the Canary Islands, Spain.

Collaboration Grant in the Dept. of Mathematical Analysis *September 2008-June 2009*
 Universidad de la Laguna.
 Awarded by the Government of Spain, Universidad de la Laguna, Spain.

Introduction to Research Scholarship JAE-INTRO *July 2008-September 2008*
 Awarded by CSIC, Spain.

TEACHING
 ACTIVITIES

Teaching Experience (Facultad de Ciencias, Universidad Autónoma de Madrid, Spain):

- Numerical methods in partial differential equations, Math(UG). Fourth year of Mathematics (UG) (60 hours) *Fall 2019*
- Mathematics I (UG) First year of environmental Sciences (60 hours) *Fall 2019*

- Numerical methods in partial differential equations, Math(UG). Fourth year of Mathematics (UG) (60 hours) *Fall 2018*
- Mathematical analysis, Math(UG). Second year of Mathematics (60 hours) *Fall 2018*
- Calculus, Computer Science (UG). First year of Computer Science (60 hours) *Spring 2018*
- Calculus, Math(UG), First year of Mathematics (60 hours) *Spring 2018*
- Calculus, Computer Science (UG). First year of Computer Science (60 hours) *Spring 2017*
- Calculus, Math(UG), First year of Mathematics (60 hours) *Spring 2017*
- Numerical analysis I, Math(UG) First year of Mathematics (60 hours) *Spring 2014*
- Mathematical analysis, Math(UG) Second year of Mathematics (60 hours) *Fall 2012*
- Numerical analysis II, Math-Computer Science (UG). Fourth year of Mathematics (UG) and Fifth year of Mathematics-Computer science (UG) (60 hours) *Spring 2012*
- Mathematics I Biology (UG). First year of Biology (60 hours) *Fall 2010*

Teacher training and teaching resources courses: more than 15 courses, for instance: Digital online resources for teaching, Problem-based learning, Study of cases, Competency evaluation, Cooperative learning, Moodle 2.0, etc. *2009-Present*

STUDENTS

Final degree project (Departamento de Matemáticas, Universidad Autónoma de Madrid, Spain):

- Jose Antonio Akieme (Math) *Academic year 2017 - 2018*
- Susana López Arias (Math) *Academic year 2017 - 2018*
- Almudena Cano Soriano (Math) *Academic year 2018 - 2019*
co-advised with Florentino Borondo (Department of Chemistry)
- Guzman Gemenio (Math) *Academic year 2018 - 2019*
co-advised with Julia Novo
- Oscar Gómez (Math - Computer Science) *Academic year 2019 - 2020*
co-advised with Florentino Borondo (Department of Chemistry)
- Edith García (Math) *Academic year 2019 - 2020*
co-advised with Florentino Borondo (Department of Chemistry)
- Arturo Turmo (Math) *Academic year 2019 - 2020*
co-advised with Florentino Borondo (Department of Chemistry)

ICMAT: Introduction to Research 2018 (Instituto de Ciencias Matemáticas, Spain):

- José Manuel de Frutos Porras (Math - Computer Science, G) *June - September 2018*
- Víctor Navarro Fernández (Math - Physics, UG) *June - October 2018*
- Sara Abentín de Gregorio (Math - Physics, UG) *June - September 2019*

MathIsShe program (RSME - EJE&CON)

- Ángela Rey Cabezas (Math, UG) *Spring 2018*

ORGANIZATION OF SCIENTIFIC MEETINGS AND SEMINARS

Applied Mathematics Seminars (ICMAT - UAM) *2018 - Present*

Coordinator
Instituto de Ciencias Matemáticas, Madrid, Spain

3rd International Workshop on Nonlinear Processes in Oceanic and Atmospheric Flows

(International Workshop) *06/07/2016 - 08/07/2016*
Organizing committee and local committee
Instituto de Ciencias Matemáticas, Madrid, Spain

III Congress of young researchers. Spanish Royal Mathematical Society (RSME)

(National Conference) *07/09/2015 - 11/09/2015*
Organizer of the Special Session: Numerical Analysis and computation
Murcia, Spain

The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications

(International Conference) *07/07/2014 - 11/07/2014*
Organizer of the Special Session: Instabilities and bifurcations in geophysical fluid dynamics
Instituto de Ciencias Matemáticas, Madrid, Spain

6th JAE School of Mathematics (National School)

July 2013

School for undergraduate and graduate students who are interested in Mathematics research
Secretary. Instituto de Ciencias Matemáticas, Madrid, Spain

2nd International Workshop on Nonlinear Processes in Oceanic and Atmospheric Flows

(International Workshop)

06/07/2016 - 08/07/2016

Organizing local committee

Instituto de Ciencias Matemáticas, Madrid, Spain

Organizer of I Multidisciplinary Week (SM) (National Workshop)

2/07/2010 - 22/07/2010

Research Workshop for undergraduate and Master students.

Organizer

Universidad Autónoma de Madrid, UAM, Spain

PUBLICATIONS

1. N. Coumba, A. M. Mancho, V. J. Garcia-Garrido, B. Rodriguez-Fonseca, E. Mohino, J. Curbelo. New transport pathways across the West African Monsoon as revealed by Lagrangian Coherent Structures. Preprint 2019.
2. J. Curbelo, L. Duarte, T. Alboussiere, S. Labrosse, F. Dubuffet, Y. Ricard. Numerical solutions of compressible convection with an infinite Prandtl number: comparison of the anelastic and anelastic liquid models with the exact equations, *Journal of Fluid Mechanics*, 873, 646-687 (2019)
3. A.M. Mancho, V.J. García- Garrido, J. Curbelo, S. Wiggins. Paths in a turbulent ocean. *Intelligencer Valencia* (2019) ICIAM.
4. J. Curbelo, C. R. Mechoso, A. M. Mancho, Stephen Wiggins. Lagrangian study of the final warming in the southern stratosphere during 2002: Part I. the vortex splitting at upper levels, *Clim Dyn* (2019) 53: 2779.
5. J. Curbelo, C. R. Mechoso, A. M. Mancho, Stephen Wiggins. Lagrangian study of the final warming in the southern stratosphere during 2002: Part II. 3D structure. *Clim Dyn* (2019) 53: 1277.
6. S. Madruga, J. Curbelo. Dynamic of plumes and scaling during the melting of a Phase Change Material heated from below. *International Journal of Heat and Mass Transfer*, 126 Part B, 206-220 (2018).
7. V. J. Garcia-Garrido, J. Curbelo, C. R. Mechoso, A. M. Mancho; S. Wiggins. The Application of Lagrangian Descriptors to 3D Vector Fields, *Regular and Chaotic Dynamics*, 23(5), 547-564 (2018)
8. J. Curbelo, V. J. Garcia-Garrido, C. R. Mechoso, A. M. Mancho; S. Wiggins, C. Niang. Insights on the three-dimensional Lagrangian geometry of the Antarctic Polar Vortex. *Nonlinear Processes in Geophysics*, 24, 379-392 (2017).
9. V. J. Garcia-Garrido, J. Curbelo, C. R. Mechoso, A. M. Mancho and S. Wiggins. A Simple Kinematic Model for the Lagrangian Description of Relevant Nonlinear Processes in the Stratospheric Polar Vortex, *Nonlinear Processes in Geophysics*, 24, 265-278 (2017).
10. A. M. Mancho; J. Curbelo, S. Wiggins; V. J. Garcia-Garrido; C. Mendoza. Beautiful geometries underlying Ocean nonlinear processes. *A VOYAGE THROUGH SCALES The Earth System in Space and Time*. pp. 86 - 91. European Geosciences Union, (2015).
11. J. Curbelo, A. M. Mancho. Spectral numerical schemes for time-dependent convection with viscosity dependent on temperature. *Communications in Nonlinear Science and Numerical Simulation*, 19 (2014), 3, 538-553.
12. J. Curbelo, A. M. Mancho. Symmetry and plate-like convection in fluids with temperature-dependent viscosity. *Physics of Fluids* 26, 016602 (2014) (Editor's Pick)
13. J. Curbelo, J. M. Lopez, A.M. Mancho, F. Marques. Confined rotating convection with large Prandtl number: Centrifugal effects on wall modes. *Phys. Rev. E* 89, 013019 (2014)
14. J. Curbelo, A. M. Mancho. Bifurcations and dynamics of a convection problem with temperature-dependent viscosity under the presence of the $O(2)$ symmetry. *Phys. Rev. E* 88, 043005(2013)

15. *J.J. Betancor, A.J. Castro, J. Curbelo, J.C. Fariña, L. Rodríguez-Mesa. Square functions in the Hermite setting for functions with values in UMD spaces. *Annali di Matematica Pura ed Applicata*, 2014
16. A. M. Mancho, S. Wiggins, J. Curbelo, C. Mendoza. Lagrangian descriptors: A method for revealing phase space structures of general time dependent dynamical systems with *A Communications in Nonlinear Science and Numerical Simulation*, 18(2013) 12, 3530-3557
17. *J.J. Betancor, A.J. Castro, J. Curbelo, L. Rodríguez-Mesa. Characterization of UMD Banach spaces by imaginary powers of Hermite and Laguerre operators, *Complex Anal. Oper. Theory* 7 (2013) 4, 1019–1048
18. *J.J. Betancor, A. J. Castro, J. Curbelo. Harmonic analysis operators associated with multidimensional Bessel operators, *Proc. Roy. Soc. Edinburgh Sect. A* 142 (2012), 5, 945–974
19. *J.J. Betancor, A.J. Castro, J. Curbelo, J.C. Fariña, L. Rodríguez-Mesa. γ -radonifying operators and UMD-valued Littlewood-Paley-Stein functions in the Hermite setting on BMO and Hardy spaces, *J. Funct. Anal.* 263 (2012) 12, 3804-3856
20. *J.J. Betancor, A.J. Castro, J. Curbelo. Spectral multipliers for multidimensional Bessel operators, *J. Fourier Anal. Appl.* 17 (2011), 5, 932–975

* Alphabetical order

STAYS AT
RESEARCH
CENTERS

UCLA, University of California, Los Angeles (5 months) *February - July 2019*
Visiting Associate Researcher funded by a US NSF award (1832842), PI: Gang Chen
Research group: “Quantifying Transport and Mixing in the Stratosphere and Upper Troposphere.”
Department of Atmospheric and Oceanic Sciences, California, USA.

UCLA, University of California, Los Angeles (7 weeks) *July - August 2018*
Visiting Scholar funded by GHAIA Project - RISE 2017-2021
Department of Atmospheric and Oceanic Sciences, California, USA.

LGLTPE, Laboratoire de Géologie de Lyon (7 weeks) *November - December 2017*
Visiting Scholar invited by Prof. Thierry Alboussière,
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Université Lyon1),
Lyon, France

ENS LYON, École normale supérieure de Lyon (1 month) *September - October 2017*
Invited Professor
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Université Lyon1),
Lyon, France

UCLA, University of California, Los Angeles (7 weeks) *June - July 2017*
Visiting Scholar invited by Prof. Carlos R. Mechoso,
Department of Atmospheric and Oceanic Sciences, California, USA.

LGLTPE, Laboratoire de Géologie de Lyon (1 month) *November - December 2016*
Visiting Scholar invited by Prof. Thierry Alboussière,
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Université Lyon1),
Lyon, France

UCLA, University of California, Los Angeles (1 month) *October 2016*
Visiting Scholar invited by Prof. Carlos R. Mechoso,
Department of Atmospheric and Oceanic Sciences, California, USA.

ASU, Arizona State University (6 months) *March– May, 2011 and March – May, 2013*
Two short predoctoral stays. Under the supervision of Juan Lopez
School of Mathematical and Statistical Sciences, Arizona, USA

- Geolunch** (10/11/2017)
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Université Lyon1)
Seminar talk: Lagrangian descriptors: construction, performance and applications.
- NASA, JPL. 2016 Earth Science Seminar** (27/10/2016)
NASA - Jet Propulsion Laboratory JPL, California Institute of Technology, California, USA
JPL Contact: Kyo Lee
Seminar talk: "Lagrangian Descriptors: Construction and Application in the Antarctic Polar Vortex "
- Geolunch** (18/03/2016)
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Université Lyon1)
Seminar talk: "Compressible convection in geophysical fluids".
- Geolunch** (20/02/2015)
Laboratoire de Géologie de Lyon : Terre, Planète, Environnement (CNRS, ENS, Université Lyon1)
Seminar talk: The influence of symmetry and temperature dependent viscosity in convection.
- Applied mathematics seminar ICMAT-UAM 2014** (02/04/2014)
Madrid, Spain.
Seminar talk: "Instabilities in geophysical fluid dynamics: the influence of symmetry and temperature dependent viscosity in convection"
- Junior Seminar ICMAT-UAM 2012** (21/11/2012)
Madrid, Spain.
Seminar talk: "How to solve numerically a convection problem?"

Plenary talk

- IV Congress of young researchers. Royal Spanish Mathematical Society RSME 2017**
September 2017
Valencia, Spain
Plenary talk: "Numerical studies of geophysical flows"

Conference talk

- Dynamics Days Europe 2019** *September 2nd – 6th, 2019*
Rostock, Germany
Conference talk: "Lagrangian study of phase space geometrical structures in 3D vector fields".
- SIAM Conference on Applications of Dynamical Systems** *May 19th – 23rd, 2019*
Snowbird Ski and Summer Resort, Snowbird, Utah USA
Conference talk: "Phase Space Structures in Time-Dependent Three-Dimensional Vector Fields".
- Biennial Congress of the Royal Spanish Mathematical Society RSME 2019** *February 4th-8th, 2019*
Santander, Spain
Conference talk: "Two-dimensional compressible convection at infinite Prandtl number ".
- ICOSAHOM 2018 The International Conference On Spectral and High Order Methods** *July 9th-13rd, 2018*
London, United Kingdom
Conference talk: Spectral numerical schemes for time-dependent convection with viscosity dependent on temperature.
- CCC 2017 Compressible Convection Conference** *September 18th-21st, 2017*
Lyon, France
Conference talk: Numerical solutions of compressible convection with different levels of approximation for infinite Prandtl numbers.

2015 AGU Fall Meeting

December 2015

San Francisco, USA.

Conference talk: Plate-like convection in fluids with temperature-dependent viscosity

III Congress of young researchers. Royal Spanish Mathematical Society 3CJI R.S.M.E 2015

September 2015

Murcia, Spain

Conference talk: Numerical models of compressible convection in geophysical and astrophysical flows

The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications

Instituto de Ciencias Matemáticas, Madrid, Spain

July 2014

Conference talk: Plate-like convection induced by symmetries in fluids with temperature-dependent viscosity

CONTRIBUTIONS
TO CONFERENCES

Conference talk

Seventh Meeting of Young Researchers in Mathematics VII PEJIM 2017

December

21st-22th, 2017

Universidad de La Laguna, Canary Island, Spain.

Conference talk: "Following the Gulf Stream"

21st Conference on Atmospheric and Oceanic Fluid Dynamics

19th Conference on Middle Atmosphere

June 26th-30th, 2017

Portland, Oregon USA

Conference talk: "The Final Warming of the Southern Stratosphere from a Lagrangian Perspective"

21st Conference on Atmospheric and Oceanic Fluid Dynamics

19th Conference on Middle Atmosphere

June 26th-30th, 2017

Portland, Oregon USA

Conference talk: "Filamentation and Breakdown of the Southern Polar Vortex"

Sixth Meeting of Young Researchers in Mathematics VI PEJIM 2016 *December 21st-22th, 2016*

Universidad de La Laguna, Canary Island, Spain.

Conference talk: "Lagrangian descriptors in the Antarctic polar vortex"

Fifth Meeting of Young Researchers in Mathematics V PEJIM 2015 *December 21st-22th, 2015*

Universidad de La Laguna, Canary Island, Spain.

Conference talk: "Compressible Convection"

The 68th Annual Meeting of the American Physical Society's Division of Fluid Dynamics

(DFC)

November 22th-24th, 2015

Boston, Massachusetts, USA.

Conference talk "Compressible convection in geophysical fluids: comparison of anelastic, anelastic liquid and full numerical simulations"

Third Meeting of Young Researchers in Mathematics III PEJIM 2013 *October 17th – 18th, 2013*

Universidad de La Laguna, Canary Island.

Seminar talk: Numerical studies in aqueous mixtures of glycerin.

SIAM Conference on Applications of Dynamical Systems

May 19th – 23rd, 2013

Snowbird Ski and Summer Resort, Snowbird, Utah USA

Conference talk: "Numerical Integration of a convection problems with temperature dependent viscosity: Simulations and Result".

Second Meeting of Young Researchers in Mathematics II PEJIM 2012

September 2012

Universidad de La Laguna, Canary Island, Spain.

Seminar talk: "Numerical Integration of convection problem with temperature dependent viscosity: simulations and results"

First Meeting of Young Researchers in Mathematics I PEJIM 2011 *September 28th – 30th, 2011*

Universidad de La Laguna, Canary Island, Spain.

Seminar talk: "Numerical study of geophysical flows: effects of temperature dependent viscosity, rotation and symmetry"

- I Congress of young researchers.** *September 5th – 9th, 2011*
 Spanish Royal Mathematical Society R.S.M.E, Soria, Spain
 Conference talk: “Large Prandtl number confined rotating convection: centrifugal and temperature-dependent viscosity effects”
- Workshop of young researchers 2010** *September 22nd – 24th, 2010*
 Universidad Complutense de Madrid, Madrid, Spain.
 Conference talk: “A convection problem with temperature dependent viscosity and $SO(2)$ symmetry”.
- I Spanish Young Researchers Meeting in Mathematics I ENJIM 2010** *September 1st–3rd, 2010*
 Sevilla, Spain
 Conference talk: “Numerical studies on a convection problem with temperature dependent viscosity”.
- Poster
- DynVarMIP/CMIP6 and SPARC DynVar & SNAP Workshop** *October 22nd-25th, 2019*
 Universidad Complutense de Madrid, Spain
 Poster: “Spatial Distribution of Eddy Mixing in the Northern Winter Stratosphere/Upper Troposphere”
- ICIAM 2019. International Congress of Industrial and Applied Mathematics** *July 15th-19th, 2019*
 Valencia, Spain
 Poster: “A dynamical study of the melting and transition to turbulence in a Phase Change Material heated from below”
- 2015 AGU Fall Meeting** *December 14th-18th, 2015*
 San Francisco, California, USA
 Poster: “Compressible convection with different levels of approximation”
- ICMAT-China Exploratory Workshop** *November 17th – 21st, 2014*
 ICMAT, Madrid, Spain.
 Poster presentation: Lagrangian descriptors: construction, performance and applications.
 Poster presentation: The influence of symmetry and temperature dependent viscosity in the instabilities developed in fluid convection.
- International Congress of Mathematicians SEOUL ICM 2014** *August 13rd - 21st, 2014*
 Coex, Seoul, Korea
 Poster presentation: “The influence of symmetry and temperature dependent viscosity in the instabilities developed in fluid convection”
- Mathematics and Geosciences: Global and Local Perspectives**
 GEOMATH *November 4th – 8th, 2013*
 Instituto de Ciencias Matemáticas, Madrid, Spain
 Poster presentation: “Lagrangian descriptors: construction, performance and applications”
- Fourth International Symposium. Bifurcations and instabilities in fluid Dynamics**
 BIFD *July 18th – 21st, 2011*
 Barcelona, Spain.
 Poster presentation: “Time-dependent solutions of a fluid which viscosity depends on temperature”
- SIAM Conference on Applications of Dynamical Systems SIAM DS11** *May 22nd – 26th, 2011*
 Snowbird Ski and Summer Resort, Snowbird, Utah USA
 Poster presentation: “Time-dependent Solutions of a Convection Problem with Temperature Dependent Viscosity”.
- XII Encuentros de Análisis Real y Complejo. EARCO 2010** *April 22nd – 24th, 2010*
 Universidad de La Rioja, Haro, Spain
 Poster presentation: “Harmonic Analysis Operators Associated with Multidimensional Bessel Operators”.

PARTICIPATION IN RESEARCH PROJECTS FUNDED IN COMPETITIVE CALLS	SEV-2015-0087 MINECO: ICMAT Severo Ochoa project	
	MTM2014-56392-R Dinamica de fluidos geofisicos: una perspectiva Computacional y aplicada.	
	ANR-10-LABX-0066 LABEX Lyon Institute of Origins	
	MTM2011-26696. Analysis in Fluid Mechanics, ICMAT, 2011-2014	
MEMBERSHIPS OF SCIENTIFIC SOCIETIES	2019 Member of RSME	
	2018 Member of Math-in	
	2015 Member of Joint Programmes de EERA	
	2015 Member of the AGU (American Geophysical Union)	
	2015 Member of the APS (American Physical Society)	
	2014 Member of the AMS (American Mathematical Society)	
SYNERGISTIC ACTIVITIES AND PUBLIC ENGAGEMENT	11deFebrero. Día Internacional de la Mujer y la Niña en la Ciencia	2019
	Charla en instituto: "No quiero ser princesa, quiero ser... ¡científica!" Referencia: 20.11.21.58.23	
	Semana de la Ciencia (UAM)	2018
	Organizer of a session "Matemátic@s"	
	MatEsElla-MathIsShe (RSME - EJE&CON)	2018
	Mentor	
	Matemática contemporánea por matemáticas contemporáneas	2018
	Participation	
	Las matemáticas invitan a pensar en los enigmas del interior de la Tierra	(30/10/2015)
	Interview SINC	
	El boom de las Matemáticas (Collaboration in national newspaper ABC)	(15/11/2015)
	ABC	
	Mathematics for animation in films and the fight against crime. (Author)	(2014)
Profile of Standley Osher, Gauss 2014 Prize winner.		
ICMAT Newsletter - Seventh Number (English version).		
BBVA OPEN MIND (Spanish version)		
Mujeres Matemáticas en primera línea. (Author)	(15/08/2014)	
Press release on the national newspaper " El Mundo " about the International Congress of Mathematicians, ICM 2014 Seoul.		
Volunteer: The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications	July, 2014	
Organizers: The American Institute of Mathematical Sciences, Instituto de Ciencias Matemáticas, Universidad Autónoma de Madrid and University of North Carolina at Wilmington		
Meeting with Young Mathematicians (Participation in the activity)	AULA 2013	
21st edition Exhibition of International Student and Educational offer		
Madrid, Spain.		
Graffiti and math 2013: Fluid Mathematics (Participation as collaborator)	2013	
Madrid, Spain.		
SKILLS	Operating systems: Windows and Linux.	
	Programming languages: Fortran, Python, Scratch, OpenMP, MPI, Pascal.	
	Office softwares: LaTeX, Open Office, Microsoft Office.	
	Scientific softwares Matlab, OpenFoam, Dedalus, Maple, Mathematica, R.	
	Languages: Spanish (mother tongue), English and French.	