

Curriculum Vitae - Francesco Fanelli

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Personal information

Date and place of birth: January 24th, 1984 – Chiaravalle (AN) - ITALY

Current position

Université de Lyon, Université Claude Bernard – Lyon 1
Maître de Conférences From September 2015
Assistant Professor position at *Institut Camille Jordan – UMR CNRS 5208*

Previous positions

Scuola Normale Superiore
Post-doctoral research position October 2014 - August 2015
Junior Visitor at *Centro di Ricerca Matematica “Ennio De Giorgi”*

Institut de Mathématiques de Jussieu-Paris Rive Gauche, Université Paris 7 Diderot
Post-doctoral research position September 2013 - September 2014
 (“Instabilities in Hydrodynamics” project of the *Fondation Sciences Mathématiques de Paris*, head of the project: Christophe Lacave)
Supervisor of the post-doc: ISABELLE GALLAGHER

Basque Center for Applied Mathematics
Post-doctoral research position September 2012 - August 2013
(ERC Advanced Grant FP7-246775 NUMERIWAVES, head of the project: Prof. Enrique Zuazua)
Supervisor of the post-doc: ENRIQUE ZUAZUA

Université Paris-Est Créteil
Attaché Temp. d’Enseignement et de Recherche September 2011 - August 2012
(Exercise lecturer for different Bachelor’s degree courses)

Education

Scuola Internazionale Superiore di Studi Avanzati & Université Paris-Est
Doctor Philosophiæ Degree, cotutorial thesis November 2008 - May 2012
Thesis: *Mathematical analysis of models of non-homogeneous fluids and of hyperbolic equations with low regularity coefficients.*
Supervisors: FERRUCCIO COLOMBINI, RAPHAËL DANCHIN, ANDREI AGRACHEV

Referees: ISABELLE GALLAGHER, NICOLAS LERNER

Other Committee members: STEFANO BIANCHINI, MARCO CANNONE, GIANNI DAL MASO

Università degli Studi di Trieste

Laurea Magistrale in Matematica October 2006 - October 2008

(Master's Degree in Mathematics)

Mark: *110/110 Cum Laude*

Thesis: *Para-differential calculus and its applications to hyperbolic problems*

Advisor: FERRUCCIO COLOMBINI

Università degli Studi di Pisa

Laurea Triennale in Matematica September 2003 - September 2006

(Bachelor's Degree in Mathematics)

Mark: *110/110 Cum Laude*

Thesis: *The Cauchy-Kovalevska Theorem*

Advisor: FERRUCCIO COLOMBINI

Additional diplomas

Ministère de l'Enseignement Supérieur et de la Recherche (FRANCE)

Qualification – Maître de Conférences Campagne 2013

Sections 25 (Mathématiques) and 26 (Mathématiques appliquées et applications des mathématiques)

Scuola Internazionale Superiore di Studi Avanzati

Diploma Percorso Formativo Comune October 2008

(Diploma in Mathematics awarded by SISSA for Master's degree student; on a merit base)

Fellowships and awards

Ministère de l'Enseignement Supérieur et de la Recherche (FRANCE)

Teaching and research excellence fellowship January 2017 - December 2020

“Prime d'encadrement doctorale e de recherche – PEDR”

CNRS – Centre National de la Recherche Scientifique

Délégation CNRS February 2019 - July 2019

50% reduction of teaching duties (for research purposes)

Mathematisches Forschungsinstitut Oberwolfach

Visiting fellowship June 2017

“Oberwolfach Leibniz fellowship”

CRM “De Giorgi”, Scuola Normale Superiore

Post-doctoral fellowship October 2014 - September 2016

“CRM Junior Visiting Program”

IMJ-PRG – UMR 7586, Université Paris-Diderot

Post-doctoral fellowship September 2013 - August 2014

“Instabilities in Hydrodynamics” project of the *Fondation Sciences Mathématiques de Paris*

BCAM – Basque Center for Applied Mathematics

Post-doctoral fellowship September 2012 - August 2013

ERC Advanced Grant “NUMERIWAVES”, Principal Investigator Prof. Enrique Zuazua

Università Italo Francese/Université Franco Italienne “Vinci 2010” fellowship for cotutorial thesis	November 2010
SISSA - Scuola Internazionale Superiore di Studi Avanzati Ph.D. fellowship	November 2008 - October 2011
SISSA - Scuola Internazionale Superiore di Studi Avanzati “Percorso Formativo Comune” fellowship	October 2006 - September 2008
INdAM – Istituto Nazionale di Alta Matematica Bachelor’s degree fellowship	October 2003 - September 2006

Academic responsibilities

PRESENT ADMINISTRATIVE AND SCIENTIFIC TASKS

- ▷ Member of the evaluation committee for the “Prix de l’Université du Conseil départemental du Val de Marne” – Since February 2019
Annual prize awarded to the best students (Master or Ph.D.) for their research works
- ▷ ICJ personnel delegate – Since March 2016
- ▷ Co-responsible of the web page of the team ÉDP-Analyse at ICJ – Since March 2016
- ▷ “Référant pédagogique” (pedagogical contact person) for Bachelor’s students – Since September 2020

PAST TASKS

- ▷ Evaluator for the *FONDECYT* – July 2018
“Initiation into Research” programme, *CONICYT – Chilean National Science and Technology Commission*
- ▷ Member of the hiring committees for MC (assistant professor) positions
2017 at ICJ, 2020 at ICJ

Projects and grants

ONGOING PROJECTS

Turb1D - “Reduced models of turbulence”

CNRS – Centre National de la Recherche Scientifique

PROJECT COORDINATOR

February 2020 - December 2021

Program “International Emerging Actions 2019”. Co-PI: RAFAEL GRANERO-BELINCHÓN. Budget: 3000 euros (for the first year).

“SingFlows – Singular flows: boundary layers, vortex filaments, wave-structure interaction”

ANR – Agence Nationale de la Recherche

Member of the project

2018 - 2022

Principal investigator: DAVID GÉRARD-VARET.

“BORDS – Boundaries, oscillations, layers in differential systems”

ANR – Agence Nationale de la Recherche

Member of the project

January 2017 - December 2020

Principal investigator: CHRISTOPHE PRANGE.

PAST PROJECTS

ODyNHoF II - "On the dynamics of non-homogeneous fluids: perturbations and asymptotics"

CNRS – Centre National de la Recherche Scientifique

PROJECT COORDINATOR

March 2018 - December 2018

Small one-year project within the program "PEPS jeunes chercheur-e-s 2018". Budget: 2000 euros.

ODyNHoF - "On the dynamics of non-homogeneous fluids: well-posedness and singular limits"

CNRS – Centre National de la Recherche Scientifique

PROJECT COORDINATOR

March 2017 - December 2017

Small one-year project within the program "PEPS jeunes chercheur-e-s 2017". Budget: 2500 euros.

"Quelques problèmes mathématiques issus de la Mécanique des Fluides non-visqueux"

Université Claude Bernard - Lyon 1

PROJECT COORDINATOR

June 2016 - December 2016

Bonus Qualité Recherche – Accueil Enseignants-Chercheurs 2016. Budget: 6700 euros.

DySCoMETAL - "Dynamics of some compressible models: existence theory and asymptotic limits"

Fédération de Recherche en Mathématiques Rhône-Alpes-Auvergne

PROJECT COORDINATOR

February 2016 - December 2016

Small projects to support collaborations between researchers from various Departments in Rhône-Alpes-Auvergne region. Budget: 1000 euros.

"Instabilities in Hydrodynamics"

Fondation Sciences Mathématiques de Paris

Member of the project

September 2013 - September 2014

Principal investigator: CHRISTOPHE LACAVER.

"NUMERIWAVES" – ERC Advanced Grant FP7-246775

European Research Council

Member of the project

September 2012 - August 2013

Principal investigator: ENRIQUE ZUAZUA.

Grants for invitations

2020 UCBL Visiting Professor position

Invitation of E. FEIREISL (Academy of Sciences of the Czech Republic) – one month

2019 MILyon grant (2800 €)

Invitation of R. GRANERO BELINCHÓN (Universidad de Cantabria, Spain) – one month

Organization of scientific events

2020 *Turb1d 2020*

Web conference, co-organiser – 23-27 November

Co-organiser of the *Journée "Jeunes Lyonnais en Analyse et Modélisation"*

A one-day workshop, twice per year – 01 December, Lyon (France)

2016 - present Co-organiser of the *"Séminaire EDP-Analyse"*

Seminar of the team ÉDP-Analyse at Institut Camille Jordan

2017 *From students to mathematicians: an excellence master program in Trieste*

Conference, organising and scientific committees member – 14-16 June, Trieste (Italy)

Supervision activity

ONGOING

- 2019 - present** *Dimitri Cobb* – Université Claude Bernard Lyon 1 (France)
Ph.D. thesis
“Mathematical analysis of models of fluids in interaction with a magnetic field”
- 2018 - present** *Gabriele Sbaiz* – Università degli Studi di Trieste (Italy) & Université Claude Bernard Lyon 1 (France)
Cotutorial Ph.D. thesis – co-advised with D. DEL SANTO
“Some stability and instability issues in the dynamics of highly rotating fluids”
Supported by **Università Italo Francese/Université Franco Italienne** via the “Vinci 2020” fellowship

PAST

- 2019** *Dimitri Cobb* – École Normale Supérieure de Lyon (France)
Second year Master thesis
“On the fast rotation asymptotics of a non-homogeneous magnetohydrodynamic system”
- 2018** *Florent Novembre* – École Normale Supérieure de Lyon (France)
First year Master thesis
“Autour d’un couplage hyperbolique-elliptique décrivant la dynamique des bulles”
- 2017-2018** *Jan Bartsch* – Universität Würzburg (Germany)
Second year Master thesis – co-advised with A. BORZÌ and S. ROY
“Optimal control problems governed by Liouville models - Theoretical analysis and implementation”

Publications

1. “Anisotropy and stratification effects in the dynamics of fast rotating compressible fluids”
(with Edoardo Bocchi, Christophe Prange)
Submitted (2020)
2. “Elsässer formulation of the ideal MHD and improved lifespan in two space dimensions”
(with Dimitri Cobb)
Submitted (2020)
3. “Rigorous derivation and well-posedness of a quasi-homogeneous ideal MHD system”
(with Dimitri Cobb)
Submitted (2020)
4. “Ergodic theory for energetically open compressible fluid flows”
(with Eduard Feireisl, Martina Hofmanová)
Submitted (2020)
5. “A multi-scale problem for viscous heat-conducting fluids in fast rotation”
(with Daniele Del Santo, Gabriele Sbaiz, Aneta Wróblewska-Kamińska)
Submitted (2020)
6. “A numerical investigation of Brockett’s ensemble optimal control problems”
(with Jan Bartsch, Alfio Borzì, Souvik Roy)
Submitted (2020)
7. “On the fast rotation asymptotics of a non-homogeneous incompressible MHD system”
(with Dimitri Cobb)
Nonlinearity, accepted for publication (2020)

8. “Incompressible and fast rotation limit for barotropic Navier-Stokes equations at large Mach numbers”
Submitted (2019)
9. “Statistical solutions to the barotropic Navier-Stokes system”
(with Eduard Feireisl)
Journal of Statistical Physics, 181(1) (2020), p. 212-245.
10. “On the Cauchy problem for microlocally symmetrizable hyperbolic systems with log-Lipschitz coefficients”
(with Ferruccio Colombini, Daniele Del Santo, Guy Métivier)
Indiana University Mathematics Journal, 69(3) (2020), p. 785-836
11. “A well-posedness result for viscous compressible fluids with only bounded density”
(with Raphaël Danchin, Marius Paicu)
Analysis & PDE, 13(1) (2020), p. 275-316
12. “Asymptotics of fast rotating density-dependent incompressible fluids in two space dimensions”
(with Isabelle Gallagher)
Revista Matemática Iberoamericana, 35(6) (2019), p. 1763-1807
13. “A theoretical investigation of Brockett’s ensemble optimal control problems”
(with Jan Bartsch, Alfio Borzi, Souvik Roy)
Calculus of Variations and Partial Differential Equations, 58(5) (2019), Paper no. 162
14. “Corrigendum to “Highly rotating viscous compressible fluids in presence of capillarity effects” ”
Mathematische Annalen, 370(3-4) (2018), p. 1789-1797
15. “Global well-posedness and long-time dynamics for a higher order Quasi-Geostrophic type equation”
(with Francesco De Anna)
Journal of Functional Analysis, 274(8) (2018), p. 2291-2355
16. “Some local questions for hyperbolic systems with non-regular time dependent coefficients”
Journal of Hyperbolic Differential Equations, 14(2) (2017), p. 301-322
17. “A singular limit problem for rotating capillary fluids with variable rotation axis”
Journal of Mathematical Fluid Mechanics, 18(4) (2016), p. 625-658
18. “Highly rotating viscous compressible fluids in presence of capillarity effects”
Mathematische Annalen, 366(3-4) (2016), p. 981-1033
19. “The well-posedness issue in Sobolev spaces for hyperbolic systems with Zygmund-type coefficients”
(with Ferruccio Colombini, Daniele Del Santo, Guy Métivier)
Communications in Partial Differential Equations, 40(11) (2015), p. 2082-2121
20. “Analysis of an inviscid zero-Mach number system in endpoint Besov spaces for finite-energy initial data”
(with Xian Liao)
Journal of Differential Equations, 259(10) (2015), p. 5074-5114
21. “The well-posedness issue for an inviscid zero-Mach number system in general Besov spaces”
(with Xian Liao)
Asymptotic Analysis, 93(1-2) (2015), p. 115-140
22. “Weak observability estimates for 1-D wave equations with rough coefficients”
(with Enrique Zuazua)
Annales de l’Institut Henri Poincaré (C) Analyse Non Linéaire, 32(2) (2015), p. 245-277
23. “A well-posedness result for hyperbolic operators with Zygmund coefficients”
(with Ferruccio Colombini, Daniele Del Santo, Guy Métivier)
Journal de Mathématiques Pures et Appliquées (9), 100(4) (2013), p. 455-475
24. “Time dependent loss of derivatives for hyperbolic operators with non-regular coefficients”
(with Ferruccio Colombini, Daniele Del Santo, Guy Métivier)
Communications in Partial Differential Equations, 38(10) (2013), p. 1791-1817

25. “Conservation of geometric structures for non-homogeneous inviscid incompressible fluids”
Communications in Partial Differential Equations, 37(9) (2012), p. 1553-1595
26. “The well-posedness issue for the density-dependent Euler equations in endpoint Besov spaces”
(with Raphaël Danchin)
Journal de Mathématiques Pures et Appliquées (9), 96(3) (2011), p. 253-278
27. “A note on non-homogeneous hyperbolic operators with low regularity coefficients”
(with Ferruccio Colombini)
Rendiconti dell’Istituto di Matematica dell’Università di Trieste, vol. 42 suppl. (2010), p. 1-25

Proceedings of conferences and seminars

1. “No loss of derivatives for hyperbolic operators with Zygmund-continuous coefficients in time”
(with Ferruccio Colombini, Daniele Del Santo)
submitted (2020)
2. “Geophysical flows and the effects of a strong surface tension”
submitted (2016)
3. “A few remarks on hyperbolic systems with Zygmund in time coefficients”
“Shocks, singularities and oscillations in Nonlinear Optics and Fluid Mechanics”, Springer-INdAM series,
Springer (2017), p. 75-102
4. “A note on viscous capillary fluids in fast rotation”
Bruno Pini Mathematical Analysis Seminar, Univ. Bologna (2015), p. 86-102
5. “A note on complete hyperbolic operators with log-Zygmund coefficients”
(with Ferruccio Colombini, Daniele Del Santo, Guy Métivier)
“Fourier Analysis”, Trends Math., Birkhäuser/Springer (2014), p. 47-72

Presentations at conferences and workshops

- 2021** • *Mécanique des fluides: étude qualitative et comportement asymptotique des solutions*
Peyresq (France)
TBA
- *13th AIMS conference on Dynamical Systems, Differential Equations and Applications*
Special Session “Recent trends in mathematical fluid dynamics”
Conference – Atlanta (Georgia, USA)
“Multi-scale analysis of viscous fast rotating fluids”
 - *SIAM Conference on Mathematical Aspects of Materials Science*, Minisymposium “Recent analytical and numerical developments on Fluid and Solid Mechanics: inhomogeneous fluids, geophysical phenomena, complex fluids and materials”
Conference – Bilbao (Spain)
“Well-posedness for viscous compressible fluids with only bounded density”
- 2020** • *Analyse harmonique et ÉDP*
Workshop – Évry (France)
“On some non-homogeneous perturbations of the incompressible Euler equations”
- *Vorticity, rotation and symmetry (V): global results and nonlocal phenomena*
CIRM Conference – Marseille (France)
“On some non-homogeneous perturbations of the incompressible Euler equations”

- *MathFlows 2020*
Conference – Będlewo (Poland)
“Well-posedness for viscous compressible fluids with only bounded density”
- 2019** • *New trends in propagation of linear and nonlinear wave phenomena*
Conference – Erice (Italy)
“Multiscale analysis of viscous fast rotating fluids”
- 2018** • *12th AIMS conference on Dynamical Systems, Differential Equations and Applications, Special Sessions*
“Recent trends and progress in mathematical fluid dynamics” & “Nonlinear and nonlocal evolution PDEs”
Conference – Taipei (Taiwan)
“Density-dependent incompressible fluids in fast rotation”
“Well-posedness for viscous compressible fluids with only bounded density”
- *Asymptotic analysis of dispersive partial differential equations*
Conference – Firenze (Italy)
“Well-posedness for viscous compressible fluids with only bounded density”
 - *Ninth itinerant meeting in PDEs*
Workshop – Bordeaux (France)
“Asymptotic dynamics of non-homogenous fluids in fast rotation”
- 2017** • *Simposio di Analisi Matematica*
Workshop (in honour of Ferruccio Colombini) – Pisa (Italy)
“Asymptotic behaviour of non-homogenous fluids in fast rotation”
- *MathFlows 2017*
Conference – Będlewo (Poland)
“Fast rotating capillary fluids: dispersion, symmetrization and perturbation”
- 2016** • *XIII Colloque Franco-Roumain de Mathématiques appliquées*
Conference – Iași (Romania)
“On some models of non-homogeneous inviscid fluids”
- 2015** • *Journées ÉDP Rhône-Alpes-Auvergne 2015*
Conference – Clermont-Ferrand (France)
“Perte de régularité dans des problèmes hyperboliques”
- *Shocks, singularities and oscillations in Nonlinear Optics and Fluid Mechanics*
Conference (in honour of Guy Métivier) – Roma (Italy)
“Loss of regularity in hyperbolic Cauchy problems”
 - *AMS-EMS-SPM 2015 International Meeting, Special Session “PDEs: ambitious mathematics for real-life applications”*
Conference – Porto (Portugal)
“A singular limit problem for viscous compressible fluids in presence of capillarity”
- 2014** • *Colloque international 2014 du GDRI LEM2I*
CIRM Conference – Marseille (France)
“On the Cauchy problem for hyperbolic operators with non-Lipschitz coefficients”
- *Asymptotic analysis of dispersive PDEs*
Conference – Pienza (Italy)
“A singular limit problem for viscous compressible fluids in presence of capillarity”
 - *PDEs: Analysis, Control, Numerics and Applications*
Workshop – Bilbao (Spain)
“A singular limit problem for viscous compressible fluids in presence of capillarity”

- *Journée Jeunes Contrôleurs 2014*
Workshop – Paris (France)
“Wave operators with non-Lipschitz coefficients: energy and observability estimates”
- 2013** • *Linear and Nonlinear Hyperbolic Equations*
CRM De Giorgi conference – Pisa (Italy)
“Observability estimates for 1-D wave equations with non-Lipschitz coefficients”
- *TAMTAM XIII* (PLENARY SPEAKER)
Conference – Algiers (Algeria)
“Wave operators with non-Lipschitz coefficients: energy and observability estimates”
- *Journées DYNAMO 2013*
Conference – Orléans (France)
“Some models of non-homogeneous inviscid fluids”
- *Proprietà geometriche microlocali delle equazioni differenziali alle derivate parziali*
Workshop – Cesena (Italy)
“Some models of non-homogeneous inviscid fluids”
- 2012** • *Instabilities in Hydrodynamics*
IHP Conference – Paris (France)
“Persistence of geometric structures for inviscid incompressible fluids”
- *Fourier Analysis and Pseudo-Differential Operators*
Conference – Helsinki (Finland)
“On the well-posedness for hyperbolic operators with Zygmund coefficients”
- *Modern Aspects of Phase Space Analysis*
Conference – Freiberg (Germany)
“Persistence of geometric structures for the incompressible Euler system”
- 2009** • *Geometric Flows and Geometric Operators*
CRM De Giorgi trimester – Pisa (Italy)
“Paradifferential calculus and its applications to hyperbolic problems”

Delivered seminars

- 2021** • *Universität Würzburg*
Würzburg (Germany)
TBA
- 2020** • *CEREMADE, Université Paris-Dauphine*
Paris (France)
“Dynamique asymptotique de fluides inhomogènes en rotation rapide”
- 2019** • *ICJ, Université Claude Bernard - Lyon 1*
Lyon (France)
“Caractère bien posé pour des fluides compressibles avec une densité bornée”
- *Center for Mathematical Modeling, Universidad de Chile*
Santiago (Chile)
“Well-posedness for viscous compressible fluids with only bounded density”
- 2018** • *Cardiff University*
Cardiff (United Kingdom)
“Asymptotic dynamics of non-homogenous fluids in fast rotation”

- *Département de Mathématiques d'Orsay, Université Paris Sud*
Orsay (France)
"Dynamique asymptotique de fluides inhomogènes en rotation rapide"
 - *LAGA, Université Paris 13*
Villetaneuse (France)
"Fluides capillaires en rotation rapide: dispersion, symétrisation et perturbation"
 - *Università di Pisa*
Pisa (Italy)
"Loss of regularity in hyperbolic Cauchy problems"
- 2017**
- *Institut Fourier, Université Grenoble Alpes*
Grenoble (France)
"Limites singulières de fluides inhomogènes en rotation rapide"
 - *IRMAR, Université Rennes 1*
Rennes (France)
"Limites singulières de fluides inhomogènes en rotation rapide"
 - *Universität Würzburg*
Würzburg (Germany)
"Loss of regularity in hyperbolic Cauchy problems"
 - *Karlsruhe Institute of Technology*
Karlsruhe (Germany)
"Loss of regularity in hyperbolic Cauchy problems"
 - *Mathematical Institute, Universität Bonn*
Bonn (Germany)
"Asymptotic behaviour of non-homogenous fluids in fast rotation"
 - *Laboratoire de Mathématiques AGM, Université de Cergy-Pontoise*
Cergy-Pontoise (France)
"Des questions de régularité dans les problèmes hyperboliques"
- 2016**
- *Séminaire franco-tunisien d'équations aux dérivées partielles*
Tunis (Tunisia)
"Des questions de régularité dans les problèmes hyperboliques"
 - *LaMME, Université d'Évry-Val-d'Essonne*
Évry (France)
"Perte de regularité dans des problèmes hyperboliques"
- 2015**
- *ICJ, Université Claude Bernard - Lyon 1*
Lyon (France)
"Fluides visqueux capillaires en rotation rapide"
 - *Università di Bologna – "Bruno Pini" Mathematical Analysis Seminar*
Bologna (Italy)
"Viscous capillary fluids in fast rotation"
 - *Basque Center for Applied Mathematics*
Bilbao (Spain)
"Viscous capillary fluids in fast rotation"
 - *IMB, Université de Bordeaux*
Bordeaux (France)
"Viscous capillary fluids in fast rotation"

- 2014** • *LAMA, Université de Savoie*
Chambéry (France)
“A singular limit problem for viscous compressible fluids in presence of capillarity”
- *Institute of Mathematics of the Polish Academy of Sciences*
Warsaw (Poland)
“A singular limit problem for viscous compressible fluids in presence of capillarity”
 - *IRMAR, Université de Rennes 1*
Rennes (France)
“Propagation des ondes dans des milieux fortement non-homogènes: caractère bien posé et contrôle”
 - *Conservatoire National des Arts et Métiers*
Paris (France)
“Opérateurs des ondes à coefficients non-Lipschitz: estimations d’énergie et d’observabilité”
- 2013** • *Università degli Studi di Trieste*
Trieste (Italy)
“Wave operators with non-Lipschitz coefficients: energy and observability estimates”
- *Mathematical Institute of the Academy of Sciences of the Czech Republic*
Prague (Czech Republic)
“Some models of non-homogeneous inviscid fluids”
 - *LAGA, Université Paris 13*
Paris (France)
“Wave operators with non-Lipschitz coefficients: energy and observability estimates”
 - *Université Paris 6, Université Paris 7, École Normale Supérieure*
Paris (France)
“Wave operators with non-Lipschitz coefficients: energy and observability estimates”
- 2012** • *Instituto de Ciencias Matemáticas*
Madrid (Spain)
“Persistence of geometric structures for inviscid incompressible fluids”
- *Technische Universität Bergakademie Freiberg*
Freiberg (Germany)
“On the well-posedness for hyperbolic operators with Zygmund coefficients”
 - *Basque Center for Applied Mathematics*
Bilbao (Spain)
“Analysis of models of non-homogeneous fluids and hyperbolic equations”
 - *Karlsruhe Institute of Technology*
Karlsruhe (Germany)
“Second order strictly hyperbolic operators with low regularity coefficients”
- 2011** • *IMB, Université de Bordeaux 1*
Bordeaux (France)
“On the density-dependent incompressible Euler system in Besov spaces”

Research visits

- 2019** *DMA, École Normale Supérieure* (France) – Invited by I. Gallagher
Center for Mathematical Modeling, Universidad de Chile (Chile) – Invited by C. Muñoz

- 2018** *Cardiff University* (United Kingdom) – Invited by J. Ben-Artzi and B. Morisse
Laboratoire de Mathématiques AGM, Université de Cergy-Pontoise (France) – Invited by C. Prange
DMA, École Normale Supérieure (France) – Invited by I. Gallagher
Università di Pisa (Italy) – Invited by F. Colombini
- 2017** *I2M, Aix-Marseille Université* (France) – Invited by C. Perrin
LAMA, Université Paris-Est Créteil (France) – Invited by R. Danchin
Imperial College London (United Kingdom) – Invited by A. Wróblewska-Kamińska
Universität Würzburg (Germany) – Invited by A. Borzi
Karlsruhe Institute of Technology (Germany) – Invited by R. Mandel
Mathematical Institute, Universität Bonn (Germany) – Invited by X. Liao and H. Koch
IMJ-PRG, Université Paris Diderot (France) – Invited by I. Gallagher
Basque Center for Applied Mathematics (Spain) – Guest of L. Vega
- 2016** *IMB, Université e Bordeaux* (France) – Guest of M. Paicu and G. Métivier
LAMA, Université Savoie Mont Blanc (France) – Guest of D. Bresch and M. Gisclon
IMJ-PRG, Université Paris Diderot (France) – Invited by I. Gallagher
- 2015** *IM, Polish Academy of Sciences* (Poland) – Invited by A. Wróblewska-Kamińska
ICJ, Université Claude Bernard Lyon 1 (France) – Invited by D. Iftimie and S. Benzoni-Gavage
IMB, Université de Bordeaux (France) – Invited by D. Lannes and G. Métivier
- 2014** *LAMA, Université de Savoie* (France) – Invited by D. Bresch
IM, Polish Academy of Sciences (Poland) – Invited by A. Wróblewska-Kamińska
IMB, Université de Bordeaux 1 (France) – Guest of G. Métivier and M. Paicu
- 2013** *Università degli Studi di Trieste* (Italy) – Invited by D. Del Santo
Math. Inst., Academy of Sciences of the Czech Republic (Czech Republic) – Invited by E. Feireisl
IMJ, Université Paris Diderot & Fondation des Sciences Mathématiques de Paris (France)
 Invitation for the project “Instabilities in Hydrodynamics”
- 2012** *ICMAT - Instituto de Ciencias Matemáticas* (Spain) – Invited by A. Castro and D. Córdoba
Technische Universität Bergakademie Freiberg (Germany) – Invited by C. Jäh and M. Reissig
Basque Center for Applied Mathematics (Spain) – Invited by E. Zuazua
- 2011** *IMB, Université de Bordeaux 1* (France) – Invited by M. Paicu

Other stayings

- Mathematisches Forschungsinstitut Oberwolfach* (Germany)
 Oberwolfach Leibniz fellowship (one-month staying) June 2017
- Université Paris-Est Créteil* (France)
 Cotutorial Ph.D. thesis From October 2010 to August 2012
- Università di Pisa* (Italy)
 Invited by F. Colombini (several visits) October 2008 – April 2014

Referee for international journals

Calc. Var. Partial Differential Equations (1)	
ZAMP (1)	ZAMM (1)
Annali di Matematica Pura e Applicata (1)	Acta Mathematica Scientia (1)
J. Math. Anal. Appl. (2)	Ann. Inst. H. Poincaré Anal. Non Linéaire (1)
Boletim da SPM (1)	Nonlinear Analysis (1)
Journal of Functional Analysis (1)	Revista Matemática Iberoamericana (1)
Discrete Contin. Dyn. Syst. – A (2)	Annales Polonici Mathematici (1)
Comm. Partial Differential Equations (1)	Journal of the Institute of Mathematics of Jussieu (1)
Nonlinearity (5)	Journal of Dynamics and Differential Equations (1)
Letters in Mathematical Physics (1)	SIAM Journal on Mathematical Analysis (4)
Advances in Pure and Applied Mathematics (1)	Automatica (1)
Monatshefte für Mathematik (2)	Mathematische Annalen (1)
Acta Applicandae Mathematicae (5)	Journal of Differential Equations (7)
Bulletin of the London Mathematical Society (1)	Journal of Mathematical Physics (1)

Other scientific activities

ONGOING

- ▷ Reviewer for *Mathematical Reviews* - AMS – From May 2012

PAST

- ▷ President of Baccalaureate Committee – July 2016
Professional baccalaureate at Lycée “Jean Lurcat” - 69008 Lyon
- ▷ ICJ webpage – December 2015 - March 2016
Participation in a working group for the realization of the new webpage of the laboratory
- ▷ Member of GNAMPA group of *INDAM* – January 2010 - December 2015

Other dissemination activities

- “Euler, Navier et Stokes aux prises avec les variations de densité”
Théminaire de l’UMPA, ÉNS Lyon – Lyon (France), February 2020
- “Petite histoire d’un mathématicien après la thèse”
Journée d’accueil des nouveaux doctorants de l’ÉD InfoMaths – Villeurbanne (France), November 2019
- “La Matematica: un nuovo punto di vista”
Popularization speech at the high school I.I.S. “Savoia Benincasa” – Ancona (Italy), February 2018
- Participation in *Math α Lyon*, January 2016
(vulgarization activity addressed to students from middle and high schools in Lyon area)

- “Euler aux prises avec les variations de densité” (vulgarization article) – with Raphaël Danchin
MPT 2013 (french blog of the international <http://www.mpe2013.org>), September 2013
(<http://images.math.cnrs.fr/Euler-aux-prises-avec-les>)
- “On the density-dependent incompressible Euler system in Besov spaces” (poster)
Mathflows 2012, Porquerolles (France), October 2012
- “On the density-dependent incompressible Euler system in Besov spaces” (poster)
EVEQ 2012, Prague (Czech Republic), July 2012

Languages

Italian (native speaker)

English (fluent)

French (fluent)

Spanish (fluent)

Basque (beginner)