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Date of birth: 28.09.1992

Research experiences

- From Sept 2024* **Maître de conférences at the Institut de Mathématiques de Toulouse, Université Paul Sabatier**
- Apr 2024-Aug 2024* **Akademischer Rat auf Ziet at Friedrich-Alexander University, Erlangen-Nuremberg,**
Supervised by Enrique Zuazua, in the Chair for Dynamics, Control and Numerics – Alexander von Humboldt Professorship
- Oct 2022-Mar 2024* **Postdoctoral researcher at Friedrich-Alexander University, Erlangen-Nuremberg,**
Supervised by Enrique Zuazua, in the Chair for Dynamics, Control and Numerics – Alexander von Humboldt Professorship
- Jan 2022-Sep 2022* **Postdoctoral researcher at Deusto University, Bilbao**
Supervised by Enrique Zuazua. ERC DyCon
- Sep 2021-Dec 2021* **Research assistant at University Paris-Est Créteil**
Financed by the ANR project INFAMIE (ANR-15-CE40-0011)
- Oct 2017 – Dec 2021* **Ph.D. in Mathematics**
Title : *Partially Dissipative Hyperbolic Systems and application to fluids mechanics.*
Thesis defense : 13 December 2021, University Paris-Est Créteil
Supervisor: Raphaël Danchin
Referees: Karine Beauchard and Jean-François Coulombel
Examiners: Sylvie Benzoni-Gavage, Didier Bresch, Roberto Natalini and Denis Serre.

Teaching experiences

- 2022-2024* **Research and teaching assistant at Friedrich-Alexander University**
- 50 hours of lectures and exercise classes for the master's course: "Ordinary differential equations and transport equations".
 - 12 hours of exercise classes for the master's course "Data-driven methods for dynamical systems". Programming language used: Python.
 - 42 hours of exercises class for the master's course "Probability and stochastic processes" designed for medical engineering students.
- 2018-2021* **Research and teaching assistant at University Paris-est Créteil**
- 320 hours of analysis and algebra instruction for undergraduate students.

Education background

- 2015 - 2017* **Master's Degree in Mathematics of Modelling**
Sorbonne University
- Diploma obtained with honors.
 - Specialized in Numerical Analysis and Partial differential equations:
- 2014 - 2015* **Bachelor's Degree in Mathematics**
Sorbonne University
- Diploma obtained with honors.

Published papers

« *Global existence results in the critical regularity setting for partially dissipative one-dimensional hyperbolic systems, and applications* » with Raphaël Danchin. *Pure and Applied Analysis*, 4(1):85–125, 2022.

« *Partially dissipative hyperbolic systems in the critical regularity setting : the multi-dimensional case* » with Raphaël Danchin. *Journal de Mathématiques Pures et Appliquées* Volume 165, Pages 1-41, 2022.

« *Global existence result for partially dissipative hyperbolic systems in the L^p framework and relaxation limit* » with Raphaël Danchin. *Mathematische Annalen* 386(2), 2159–2206, 2023.

« *Pressure-relaxation limit for a one-velocity Baer–Nunziato model to a Kapila model* » with Cosmin Burtea and Jin Tan. *Mathematical Models and Methods in Applied Sciences* Vol. 33, No. 04, 687-753, 2023

« *Diffusive relaxation limit of the multi-dimensional hyperbolic Jin-Xin system* » with Ling-Yun Shou. *Journal of Differential Equations* Vol. 357, 302-331, 2023.

« *The hyperbolic-parabolic chemotaxis system modelling vasculogenesis: global dynamics and relaxation limit* » with Qingyou He and Ling-Yun Shou. *SIAM Journal on Mathematical Analysis* Vol. 55, Iss.5, 2023.

« *Relaxation approximation and asymptotic stability of stratified solutions to the IPM equation* » with Roberta Bianchini and Marius Paicu, *Arch Rational Mech Anal* 248, 2, 2024.

« *Quantitative derivation of a two-phase porous media system from the one-velocity Baer-Nunziato and Kapila systems* » with Ling-Yun Shou and Jin Tan, accepted in *Nonlinearity*, 2024.

« *Large time asymptotics for partially dissipative hyperbolic systems without Fourier analysis: application to the nonlinearly damped p -system* » with Ling-Yun Shou and Enrique Zuazua, accepted in *Annales de l'Institut Henri Poincaré C*, 2024.

Submitted papers

« *Strong relaxation limit and uniform time asymptotics of the Jin-Xin model in the L^p framework* » with Ling-Yun Shou and Jianzhong Zhang, arXiv:2311.04105, 2023.

« *The Cattaneo-Christov approximation of Fourier heat-conductive compressible fluids* » with Shuichi Kawashima, Jiang Xu, arXiv:2404.07809, 2024

« *A new characterization of the dissipation structure and the relaxation limit for the compressible Euler-Maxwell system* » with Yue-Jun Peng, Ling-Yun Shou and Jiang Xu, arXiv:2407.00277, 2024.

« *Asymptotic-preserving finite difference method for partially dissipative hyperbolic systems* » with Dragos Manea, arXiv:2404.06380, 2024.

« *Relative energy method for weak-strong uniqueness of the inhomogeneous Navier-Stokes equations* » with Alessandro Violini and Stefan Škondrić, arXiv:2404.12858, 2024.

Talks at international conferences

- October 2024, Modeling, theory and numerics for PDEs (kinetic and hyperbolic systems), Aussois.
- June 2024 Equadiff-conference, Karlstad, Sweden.
- April 2024 Conference "Perspectives on Multiphase Fluid Dynamics, Continuum mechanics and Hyperbolic Balance laws", Trento, Italy.
- 20/11/23 & 23/11/23 3-hour Lecture, NUAU University, Nanjing, China.
- 08/11/23 "Critical phenomena in Nonlinear Partial Differential Equations, Harmonic analysis, and Functional inequalities" - in honor on Professor Takayoshi Ogawa's 60th birthday -, Sendai International Center, Japan.
- 22/03/23 Journées Jeunes EDPistes, Tours.
- 05/12/22 Mathflows - CIRM, Marseille .
- 26/08/22 and 01/09/22 IX Partial differential equations, optimal designs and numerics, Benasque.
- 05/04/22 CIRM - Jean-Morlet Chair 2022 - Research School: Mathematical Advances in Geophysical Flows.
- 16/06/21 *International Workshop on Recent Advances in Nonlinear PDE* - Nanjing University.

Talks at research seminars

- 19/11/24 Seminar MAC, University of Toulouse.
- 28/05/24, Seminar of Analysis, University of Münster
- 26/03/24 Seminar MAC, University of Toulouse.
- 12/03/24 Seminar of Applied Analysis, University of Lyon.
- 23/02/24 PDE seminar, Lorraine University, Metz
- 13/02/24 Seminar of nonlinear analysis, KIT Karlsruhe.
- 25/01/24 Numerical Analysis seminar, TU Darmstadt.
- 24/11/23 Séminaire d'Analyse, Tongji University, Shanghai, China.
- 21/09/23 Séminaire Analyse numérique, IRMAR
- 07/07/23 Reading group ergo-hf (led by Vincent Duchêne).
- 27/03/23 Seminar of Applied Analysis, University of Amiens
- 07/02/23 Seminar of Analysis, Institut Mathématique de Bordeaux
- 02/02/23 Seminar of Analysis, IMJ-PRG, University of Paris
- 11/11/22 Seminar of Analysis, FAU Erlangen-Nuremberg.
- 20/06/22 Workshop "Recent Advances in Analysis and Control". FAU
- 06/04/22 Tongji University Seminar. Shanghai, China.
- 19/01/22 CCM Seminar - Deusto University.
- 2018-2020 Three talks at the PhD seminar of University Paris-Est Creteil.

Scientific visits

- 30 January - 3 February 2023, University of Paris, IMJ-PRG Institute. Research discussions with Cosmin Burtea.
- 6-8 February 2023, Institut Mathématiques de Bordeaux. Research discussions with Marius Paicu.
- 18-22 September 2023, IRMAR, Rennes. Research discussions with Karine Beauchard and Vincent Duchêne.
- 16-23 November 2023, NUAU University, Nanjing, China, Research discussions with Ling-Yun Shou and Jiang Xu.
- 23-24 November 2023, Tongji University, Shanghai, China. Research discussions with Xin Zhang.
- 24-26 January 2024, TU Darmstadt. Research discussions with Jan Giesselmann and Tabea Tscherpel
- 12-14 February 2024, KIT, Karlsruhe. Research discussions with Xian Liao.

Administrative responsibilities

- Co-responsible of the recruitment of master interns at FAU. Interview of Master, PhD and Postdoc applicants.
- Co-organizer of the PhD seminar at Université Paris-Est-Créteil (2018-2021)
- Co-organizer of the DcN-AvH Seminars (2023-2024)