Ricardo Grande
Curriculum Vitae

Dépt. de mathématiques et applications, Bureau C16
École Normale Supérieure, Paris 75005
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Research Interests

Nonlinear PDEs, Kinetic theory, Harmonic Analysis
Probability, Stochastic Processes

Academic Appointments

2021 - Currently **Postdoctoral Researcher**, *École Normale Supérieure, Paris*
- *Mentors:* Isabelle Gallagher (ENS) and Laure Saint-Raymond (IHES)
- Postdoctoral associate of the Simons Collaboration in Wave Turbulence

2020 - 2021 **Postdoctoral Assistant Professor**, *University of Michigan, Ann Arbor*
- *Mentor:* Zaher Hani
- Postdoctoral associate of the Simons Collaboration in Wave Turbulence

Education

2015 - 2020 **PhD in Mathematics**, *Massachusetts Institute of Technology.*
- *Advisor:* Gigliola Staffilani
- *Thesis title:* The role of smoothing effect in some dispersive equations

2014 - 2015 **Master of Advanced Study in Mathematics**, *University of Cambridge*
- *Essay:* Averaging Lemmas and the X-ray transform
- *Directed by:* Clément Mouhot

2010-2014 **Licenciatura en Matemáticas**, *Universidad del País Vasco (UPV-EHU)*
- Valedictorian Award

Teaching Experience

Summer 2021 **REU co-mentor** (with Z. Hani), University of Michigan
- *Students:* Yubing Cui and Joshua Messing
- *Project:* Wave Kinetic Equation and Kolmogorov-Zakharov Cascade Spectra

Winter 2021 **Math 316 - Differential Equations**, University of Michigan

Fall 2020 **Math 116 - Calculus II**, University of Michigan

Spring 2020 **Grader** for 18.615 - Introduction to Stochastic Processes, MIT

Fall 2019 **Grader** for 18.085 - Computational Science and Engineering I, MIT

Spring 2019 **Grader** for 18.615 - Introduction to Stochastic Processes, MIT

Summer 2018 **UROP+ Research Supervisor**, MIT
- *Student:* Zixuan Xu
- *Project:* Almost Conservation Laws for KdV and Cubic NLS

Spring 2018 **Recitation Instructor** for 18.03 - Differential Equations, MIT

Fall 2017 **Recitation Instructor** for 18.02 - Multivariable Calculus, MIT

Fall 2016 **Grader** for 18.085 - Computational Science and Engineering I, MIT

Summer 2016 **UROP+ Research Supervisor**, MIT
- *Student:* Eli Sadovnik
- *Project:* A Central Limit Theorem for Fluctuations of Internal Diffusion-Limited Aggregation with Multiple Sources

Publications

1. R. Grande, Z. Hani, *Derivation of the Wave Kinetic Equation for the Stochastic NLS Equation*, in preparation (2022)

2. M. A. Garrido, R. Grande, K. M. Kurianski, G. Staffilani, *Large deviations principle for the cubic NLS equation*, to appear on Comm. on Pure and Applied Mathematics (2022), preprint available at `https://arxiv.org/abs/2110.15748`

3. R. Grande, K. M. Kurianski, G. Staffilani, *On the nonlinear Dysthe equation*, Nonlinear Analysis 207, 112292 (2021)

4. R. Grande, *Continuum limit for discrete NLS with memory effect*, submitted, preprint available at `arxiv.org/abs/1910.05681`

5. R. Grande, *Space-time fractional Nonlinear Schrödinger equation*, SIAM J. Math. Anal (2019), 51(5), 4172-4212

6. R. Grande, I. Kovács, K. Kutnar, A. Malnič, L. Martínez, D. Marušič, *Equisizable partial sum families*, Journal of Algebraic Combinatorics 51, 273-296 (2020)

7. M. Conder, R. Grande, *On embeddings of circulant graphs*, Electronic Journal of Combinatorics 22 (2015), # P2.28

Conferences and Workshops

Invited speaker

Sept 2022	**Trials in wave turbulence: from random waves to kinetic equations**, GSSI
June 2022	**Mini-course about Large Deviations et PDEs (4h)**, SISSA Trieste
May 2022	**Ghent Methusalem Junior Seminar**, Ghent University
May 2022	**Oberwolfach Workshop**, Deterministic Dynamics and Randomness in PDE, Junior talk
March 2022	**Analysis and PDE seminar**, BCAM
March 2022	**SIAM PD22**, Decay, Stability and Growth in Fluids and Wave Systems minisymposium
Dec 2021	**Simons Collaboration in Wave Turbulence Annual Meeting**, Courant Institute
Nov 2020	**Differential Equations Seminar**, University of Michigan
May 2020	**Mathematics of Planet Earth: Analysis and Modelling**, Webinar
Jan 2020	**Winter School: Turbulence in fluids and PDEs**, Lausanne
Jan 2020	**Seminar**, GSSI L'Aquila
Jan 2020	**BCAM Scientific Seminar**, BCAM
Nov 2019	**Brown-BU-UMass Amherst seminar in PDE and Dynamics**, Brown University

Participant

July 2022	**Wave Turbulence and Beyond**, Università degli Studi di Torino
June 2022	**Normal forms and splitting methods**, Centre Henri Lebesgue
Fall 2021	**ICERM**, Hamiltonian Methods in Dispersive and Wave Evolution Equations
May 2020	**Mathematical Questions in Wave Turbulence**, Banff International Research Station
Dec 2019	**Simons Collaboration in Wave Turbulence Meeting**, Courant Institute
Nov 2018	**From Many Particle Systems to Quantum Fluids**, GSSI L'Aquila
Oct 2018	**Long-Term Dynamics of Nonlinear Dispersive and Hyperbolic Equations**, U. of Chicago
May 2018	**Conference on Nonlinear Waves**, Brown University
May 2018	**School and Conference on Nonlinear Waves: Stability vs Turbulence**, Georgia Tech
Sept 2016	**FRG Conference in Dispersive and Wave equations**, MIT
July 2015	**BCAM Workshop on Harmonic Analysis and PDEs**, BCAM
July 2014	**10th AIMS Conference on Dynamical Systems, Differential Equations and Applications**, ICMAT
March 2014	**IV School of Functional Analysis and Applications**, Brownian Motion and Ito's formula, Universidad de Sevilla

Languages

Basque, Mother tongue   *Euskararen Gaitasun Agiria [C1], 2009*
Spanish, Mother tongue
French, Intermediate   *French IV at MIT, 2020*
English, Fluent   *Certificate of Proficiency in English [C2], 2013*
Italian, Fluent
Portuguese, Good working knowledge   *Portuguese I-IV at MIT, 2017-18*