

ABOUT ME

I am a math researcher working on Partial Differential Equations (PDEs) and their applications. My areas of interest cover linear and non-linear parabolic and elliptic equations of many natures, presenting different local and non-local operators. Recently I have also broadened my line of work by studying PDE models applied to biology.

FIELDS OF RESEARCH

- Large-time behaviour in Linear Diffusion.
- Non-linear Diffusion.
- Coupling Models.
- Travelling Waves in Non-linear Diffusion.
- PDEs applied to biology.

GRANTS & SCHOLARSHIPS

Marie Curie Scholarship - Project GHAIA (Oct 2018).

SKILLS

- Spanish - Native
- English - C1
- French - C1
- Software development
- Python
- Teaching (university level)

ALEJANDRO GÁRRIZ MOLINA

MATHEMATICIAN - RESEARCHER

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EDUCATION

- **Doctor Cum Laude in Mathematics** by the Universidad Autónoma de Madrid under the supervision of Professor Fernando Quirós.
- **Masters Degree in Mathematics and Applications** by the Universidad Autónoma de Madrid.
- **Degree in Mathematics** by the Universidad Autónoma de Madrid.
- **Degree in Computer Sciences** by the Universidad Autónoma de Madrid.

WORK EXPERIENCE & RESEARCH STAYS

- Post-Doctoral Researcher at the **CNRS** hired by the ANR-DEEV project under the direction of Professor Sepideh Mirrahimi (2021 - 2023).
- Research stay at the **Institute of Mathematics of Granada**, with Professor Jose A. Cañizo (2021).
- Doctoral researcher at the **ICMAT** (2020 - 2021).
- Research stay at the **University of Bucharest**, Romania, with Professor Liviu Ignat. (Nov 2019).
- Research stay at the **Universidad de Buenos Aires**, Argentina, with Professor Julio D. Rossi. (Sep 2018 - Oct 2018).

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HIGHLIGHTED CONFERENCES AND TALKS

- **RIMS Symposium** - Mathematical Analysis on pattern formation, propagation and interfacial phenomena - November 2022, Kioto University, Japan.
- **Workshop of the ANR-DEEv project** - Mathematical models from evolutionary biology - October 2022, IMAG Université de Montpellier, France.
- **V Congress of Young Researchers (Real Sociedad Matemática Española)** - January 2020, Universitat Jaume I, Spain.
- **VII days of Mathematical Analysis** - January 2020, Universidad de Alicante, Spain.
- **Annual Congress of the Union Matemática Argentina (UMA)** - September 2018, Universidad de La Plata, Argentina.

PUBLISHED WORKS

- Garriz, A.; Ignat, L. **A non-local coupling model involving three fractional laplacians** *Bulletin of Mathematical Sciences*. Vol. 11, No. 02, 2150007 (2021).
- Garriz, A. **Propagation of solutions of the Porous Medium Equation with reaction and their travelling wave behaviour**. *Nonlinear Analysis*, Volume 195, June 2020, 111736.
- Garriz, A.; Rossi, J. D.; Quirós, F. **Coupling local and nonlocal evolution equations**. *Calc. Var. Partial Differential Equations*, 59 (4), 24pp, 2020.
- Garriz, A. **Singular integral equations with applications to travelling waves for doubly nonlinear diffusion**. Sent to journal. Available at arXiv:2001.11109.
- Du, Y.; Garriz, A.; Quirós, F. **Travelling-wave behaviour in doubly nonlinear reaction-diffusion equations**. Sent to journal. Available at arXiv:2009.12959.
- Audrito, A.; Garriz, A.; Quirós, F. **Convergence in relative error for the Porous Medium equation in a tube**. Sent to journal. Available at arXiv:2204.08224.