

# Álvaro Carballeira Mora

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## EDUCATION

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### Brown University.

Providence, RI, USA.

*PhD in Mathematics.*

*Sep 2024 – Present*

- **Advisor:** [Javier Gómez-Serrano](#).
- **Research interests:** Partial Differential Equations, Computer-assisted Proofs, Fluid Mechanics, Analysis.

### Instituto de Ciencias Matemáticas (ICMAT)

Madrid, Spain

*Severo Ochoa Contract for Students of a Master Degree*

*Sep 2023 – Aug 2024*

- The program consists on the collaboration of students with ICMAT researchers. I worked with [María del Mar González](#) (professor at UAM) and [Marco Antonio Fontelos](#) (researcher at ICMAT) in the field of free boundary problems. More specifically, we targeted problems such as the mean curvature flow of a moving boundary, the Stefan problem or the flow of a binary fluid using phase field methods.

### Universidad Autónoma de Madrid.

Madrid, Spain

*Masters Degree in Mathematics and Applications.*

*Sep 2023 – Jun 2024*

- **Relevant coursework:** Advanced Analysis Courses, Advanced PDEs Courses, Stochastic Processes, Fluid Mechanics.
- **Master thesis:** The Cahn-Hilliard Equation. Phase Field Methods for Moving Boundary Problems.
- **Average grade:** 9.95/10.00

### Universidad Autónoma de Madrid.

Madrid, Spain

*B.Sc. in Mathematics.*

*Sep 2019 – Jun 2023*

- **Relevant coursework:** Measure Theory, Topology, Complex Analysis I-II, Real Analysis, Partial Differential Equations, Functional Analysis, Probability I-II, Analytic Number Theory, Numerical Analysis, Statistics I-II.
- **Bachelor thesis:** Neural Networks. Applications to numerical approximation of PDEs.
- **Average grade:** 9.02/10.00

## AWARDS AND ACHIVEMENTS.

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### Department of Mathematics, Universidad Autonoma de Madrid

Madrid, Spain

*Scholarship for the Master's Degree in Mathematics and Applications.*

*Jun 2023*

- I was awarded one of the three scholarships offered by the Department of Mathematics to cover the tuition fees for the Master's Degree in Mathematics and Applications.

## ATTENDED WORKSHOPS AND CONFERENCES.

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- *Computer-assisted proof in nonlinear analysis.* CRM (Montreal, Canada). September 2024.
- *European Congress of Mathematics.* Universidad de Sevilla (Sevilla, Spain). July 2024.
- *JAE School of Mathematics.* ICMAT (Madrid, Spain). June-July 2024.
- *2023 Thematic Period on PDEs.* ICMAT-UAM (Madrid, Spain) September-December 2023.
- *JAE School of Mathematics.* ICMAT (Madrid, Spain). June-July 2023.

## CERTIFICATES

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### Cambridge Assesment English: Certificate in Advanced English

*Sep 2021*

*Overall score: 203. Common European Framework level: C2.*

### IELTS Academmic Text

*Dec 2023*

*Overall band score: 8.5.*

## SKILLS

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**Technologies:** Python, LaTeX, MATLAB, R, C/C++

**Languages:** Spanish (native) and English (fluent)