

Alejandro Claros

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Education

University of the Basque Country UPV/EHU, Spain <i>PhD in Mathematics</i>	Sept 2022 –
◦ Supervisor: Prof. Carlos Pérez	
◦ Expected defense date: between July and October 2026	
Universities of Granada, Málaga, Almería, Cádiz and Jaén, Spain <i>Master's Degree in Mathematics</i>	Sept 2019 – June 2020
University of Málaga, Spain <i>Bachelor's Degree in Mathematics</i>	Sept 2015 – June 2019

Employment

PhD Candidate <i>BCAM – Basque Center for Applied Mathematics</i>	Bilbao, Spain Sept 2022 – Present
◦ Supervisor: Prof. Carlos Pérez	
Research Technician in Harmonic Analysis <i>BCAM – Basque Center for Applied Mathematics</i>	Bilbao, Spain Sept 2021 – Aug 2022
◦ Supervisor: Prof. Carlos Pérez	

Publications

1. **Claros, A.** *Degenerate Poincaré–Sobolev inequalities via fractional integration.*
J. Funct. Anal. **289** (2025), no. 6, Paper No. 111000. doi.org/10.1016/j.jfa.2025.111000 [🔗](#)

Submitted

2. **Chen, You-Wei Benson; Claros, A.** *β -dimensional sharp maximal function and its applications* (2024).
Preprint in *arXiv*: [arXiv:2407.04456](https://arxiv.org/abs/2407.04456) [🔗](#)
3. **Claros, A.** *Quantitative BMO–BLO Estimates for the Hardy–Littlewood Maximal Function* (2025)
Preprint in *arXiv*: [arXiv:2511.18949](https://arxiv.org/abs/2511.18949) [🔗](#)
4. **Chen, You-Wei Benson; Claros, A.** *Commutators of Fractional Integrals with BMO^β Functions* (2026).
Preprint in *arXiv*: [arXiv:2602.09742](https://arxiv.org/abs/2602.09742) [🔗](#)
5. **Claros, A.; Pérez, Carlos.** *Bourgain–Brezis–Mironescu formula for Riesz Potentials* (2026).
Preprint in *arXiv*: [arXiv:2604.06827](https://arxiv.org/abs/2604.06827) [🔗](#)
6. **Claros, A; Rela, Ezequiel.** *Asymptotically sharp embedding of A_∞ into A_p and applications to Poincaré–Sobolev inequalities* (2026).
Preprint in *arXiv*: [arXiv:2604.25873](https://arxiv.org/abs/2604.25873) [🔗](#)

Research Visits

Universidad de Buenos Aires, Buenos Aires, Argentina.	July – Sept 2025
◦ Host: Prof. Ezequiel Rela	(3 months)

Competitive Fellowships Awarded

Predocctoral Position (FPI Severo Ochoa Fellowship) <i>Funded by the Spanish Ministry of Science and Innovation (MCIN)</i> BCAM – Basque Center for Applied Mathematics, Bilbao, Spain.	2022 – Present
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Talks and Presentations

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- **Seminar talk** in *Seminario de Análisis Armónico y Funcional* (Universidad de Buenos Aires, Argentina). Sept 2025
Title: *Desigualdades de Poincaré–Sobolev con pesos* (in Spanish).
 - **Communication** in *XVIII Congreso Dr. Antonio Monteiro* (Universidad Nacional del Sur, Bahía Blanca, Argentina). Aug 2025
Title: *Desigualdades de Poincaré–Sobolev con pesos via integración fraccionaria* (in Spanish).
 - **Contributed talk** in *12th International Conference on Harmonic Analysis and Partial Differential Equations* (El Escorial, Madrid, Spain). June 2025
Title: *Weighted Poincaré–Sobolev inequalities via fractional integration*.
 - **Contributed talk** in *IX Jornadas de Investigación de la Facultad de Ciencia y Tecnología* (Universidad del País Vasco / Euskal Herriko Unibertsitatea, Spain). Apr 2025
Title: *Weighted Poincaré–Sobolev inequalities via fractional integration*.
 - **Contributed talk** in *Recent Advances in Harmonic Analysis (Satellite ECM 2024)* (Spain). July 2024
Title: *Weighted Poincaré–Sobolev inequalities via fractional integration*.
 - **Contributed talk** in *Satellite ECM 2024 Conference: BAC24 (Barcelona Analysis Conference)* (Barcelona, Spain). June 2024
Title: *Weighted Poincaré–Sobolev inequalities via fractional integration*.
 - **Seminar talk** in *SARCTO–UMA* (Universidad de Málaga, Spain). Dec 2023
Title: *Weighted Poincaré–Sobolev inequalities*.
 - **Contributed talk** in *PhD Meeting “Perspectivas de la investigación en Matemáticas”* (Universidad Pública de Navarra, Pamplona, Spain). Nov 2023
Title: *Self-improving of Poincaré type inequalities and applications*.
 - **Contributed talk** in *Spring School on Analysis 2023: Function Spaces and Applications XII* (Paseky nad Jizerou, Czech Republic). May 2023
Title: *Self-improving of Poincaré–Sobolev type inequalities*.
 - **Poster** in *Geometric and Functional Inequalities, Function Spaces and PDEs* (Prague, Czech Republic). Feb 2023
Title: *Self-improving Poincaré-type inequalities in Lorentz spaces and applications*.

Attendance to Events

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- *XVIII Congreso Dr. Antonio Monteiro*, Universidad Nacional del Sur, Bahía Blanca, Argentina. 6–8 Aug 2025
 - *12th International Conference on Harmonic Analysis and Partial Differential Equations*, El Escorial, Madrid, Spain. 9–13 Jun 2025
 - *Recent Advances in Harmonic Analysis (Satellite ECM 2024)*, Casa Diocesana Málaga, Málaga, Spain. 8–12 Jul 2024
 - *Satellite ECM 2024 Conference: BAC24 (Barcelona Analysis Conference)*, Universitat de Barcelona, Barcelona, Spain. 3–7 Jun 2024
 - *Spring School and Workshop: Spectral Theory, Fourier Analysis and PDEs*, Bilbao, Spain. 27–31 May 2024
 - *PhD Meeting “Perspectivas de la investigación en Matemáticas”*, Universidad Pública de Navarra, Pamplona, Spain. 15–17 Nov 2023
 - *5th BCAM–UPV/EHU Summer School on Harmonic Analysis and PDEs: Sphere Packing*, Bilbao, Spain. 19–20 Jun 2023
 - *Harmonic Analysis, PDEs, and GMT*, Bilbao, Spain. 12–16 Jun 2023
 - *Spring School on Analysis 2023: Function Spaces and Applications XII*, Paseky nad Jizerou, Czech Republic. 28 May – 3 Jun 2023
 - *XXI Encuentros de Análisis Real y Complejo*, Jarandilla de la Vera, Spain. 25–27 May 2023
 - *Geometric and Functional Inequalities, Function Spaces and PDEs (Conference dedicated to the 60th birthday of Andrea Cianchi)*, Prague, Czech Republic. 6–8 Feb 2023
 - *Topics in Geometric Measure Theory: Lipschitz Functions and Rectifiable Sets*, Bilbao, Spain. 6–13 Apr 2022

- *BCAM-Severo Ochoa Course: Harmonic Analysis*, Bilbao, Spain.

10 Jan – 23 Feb 2022

Teaching

- **Calculus II**, University of Deusto — *Winter 2026*.