

Pedro Caro

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Born: 14th September 1982 –Utrera, Spain

Nationality: Spanish

Current position

Ikerbasque Research Fellow, BCAM - Basque Center for Applied Mathematics

Areas of specialization

Mathematics: mathematical analysis; partial differential equations; inverse problems

Appointments held

- 2010-2011 Universidad del País Vasco / Euskal Herriko Unibertsitatea, Leioa (Spain)
- 2011-2014 University of Helsinki, Helsinki (Finland)
- 2014-2015 CSIC - Consejo Superior de Investigaciones Científicas; ICMAT - Instituto de Ciencias Matemáticas, Madrid (Spain)

Education

- 2000-2005 BSc in Mathematics Universidad de Sevilla, Seville (Spain)
- 2005-2006 MSc in Mathematics and applications, Université Pierre et Marie Curie (Paris VI), Paris (France)
- 2006-2010 PhD in Mathematics, Universidad Autónoma de Madrid, Madrid (Spain)

Visiting positions

- 2005-2006 Université de Versailles Saint Quentin, France (12 months)
- 2007 University of Washington, USA (2 months)
- 2008 University of Helsinki, Finland (4 months)
- 2010 Universidad de Sevilla, Spain (2 months)
- 2013 Institut Mittag-Leffler, Sweden (2 months)

Publications & talks

JOURNAL ARTICLES

- 2009 P. Caro, P. Ola, and M. Salo, “Inverse boundary value problem for Maxwell equations with local data”, *Communications in Partial Differential Equations* **34** (2009), 1425–1464
- 2010 P. Caro, “Stable determination of the electromagnetic coefficients by boundary measurements”, *Inverse Problems* **26** (2010) 105014
- 2010 P. Caro, “On an inverse problem in electromagnetism with local data: stability and uniqueness”, *Inverse Problems and Imaging* **5** (2011), 297–322
- 2012 P. Caro, A. García and J. M. Reyes “Stability of the Calderón problem for less regular conductivities”, *Journal of Differential Equations* **254** (2013), 469–492
- 2012 P. Caro and T. Zhou, “On global uniqueness for an IBVP for the time-harmonic Maxwell equations”, *Analysis & PDE* **7** (2014), 375–405
- 2012 P. Caro, D. Dos Santos Ferreira and A. Ruiz, “Stability estimates for the Radon transform with restricted data and applications”, *Advances in Mathematics* **267** (2014), 523–564
- 2013 P. Caro and V. Pohjola, “Stability estimates for an inverse problem for the magnetic Schrödinger operator”, *International Mathematics Research Notices* **2015** (2015) 11083–11116
- 2014 P. Caro, and M. Salo, “Stability of the Calderón problem in admissible geometries”, *Inverse Problems and Imaging* **8** (2014), 939–957
- 2014 P. Caro, D. Dos Santos Ferreira and A. Ruiz, “Stability estimates for the Calderón problem with partial data”, *Journal of Differential Equations* **260** (2016), 2457–2489
- 2014 P. Caro and K. Marinov, “Stability of inverse problems in an infinite slab with partial data” to appear in *Communications in Partial Differential Equations*
- 2014 P. Caro and K. Rogers, “Global uniqueness for the Calderón problem with Lipschitz conductivities”, *Forum of Mathematics, Pi* / Volume 4 / 2016, e2 (28 pages)

SUBMITTED ARTICLES

- 2016 P. Caro, T. Helin and M. Lassas, “Inverse scattering for a random potential”, [arXiv:1605.08710](https://arxiv.org/abs/1605.08710)

TALKS IN CONFERENCES

- 2008 “Inverse Days”, Nilsjö (Finland)
- 2009 “Summer School on Inverse Problems”, Castro Urdiales (Spain)
- 2010 “MSRI Inverse Problems Workshop: Theory and Applications”, Berkeley (USA)
- 2011 “Special Trimester on Inverse Problems - Theoretical and Numerical Aspects of Inverse Problems and Scattering Theory: Workshop on Inverse Problems”, Madrid (Spain)
- 2013 “Applied Inverse Problems Conference 2013: Geometric Methods in Inverse Problems”, Deajeon (South Korea)
- 2013 “26th IFIP TC7 Conference 2013 on System Modelling and Optimization: Harmonic Analysis with Applications to uniqueness and inverse estimates for PDE’s”, Klagenfurt (Austria)
- 2013 “Segundo Congreso de Jóvenes Investigadores: Análisis de EDPs”, Seville (Spain)
- 2014 “Seventh International Conference Inverse Problems, Modeling and Simulation: Inverse Problems in Partial Differential Equations and Variational Inequalities”, Fethiye (Turkey)
- 2014 “Harmonic Analysis and Partial Differential Equations: Harmonic Analysis Methods in

- Dispersive PDEs”, Bonn (Germany)
- 2014 “First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI: PDE methods and challenges in control and inverse problems”, Bilbao (Spain)
- 2014 “The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications: Inverse problems in PDE and geometry”, Madrid (Spain)
- 2014 “The 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications: Microlocal analysis and the inverse conductivity problem”, Madrid (Spain)
- 2015 “Numerical Resolution for Inverse Problems”, Bilbao (Spain)
- 2015 “Applied Inverse Problems Conference 2015: Stability estimates for inverse problems”, Helsinki (Finland)
- 2015 “Applied Inverse Problems Conference 2015: Inverse Boundary Value Problems for Elliptic Systems”, Helsinki (Finland)
- 2015 “Workshop on Harmonic Analysis and PDEs”, Bilbao (Spain)
- 2016 “7th Itinerant workshop on PDEs”, Nice (France)
- 2016 “Dirichlet-to-Neumann Maps: Spectral Theory, Inverse Problems and Applications”, Oaxaca (Mexico)
- 2016 “Computational and Analytic Problems in Spectral Theory”, Cardiff (UK)

COURSES

- 2016 “Second Summer School on Harmonic Analysis and Partial Differential Equations”, Bilbao (Spain)

Teaching

- 2009-2010 Undergraduate course in Universidad Autónoma de Madrid, Spain (10 ECTS)
- 2012 Graduate course in University of Helsinki, Finland (10 ECTS)
- 2013 Graduate course in University of Helsinki, Finland (5 ECTS)

Service to the profession

- 2011 Organizer of the “Special Trimester on Inverse Problems: Theoretical and Numerical Aspects of Inverse Problems and Scattering Theory”, Madrid (Spain)
- 2014 Organizer of the meeting “Three days on Analysis & PDEs”, Madrid (Spain)
- 2015 Scientific committee of the “Summer school on inverse problems”, Helsinki (Finland)
- 2015 Organizer of the session “Ecuaciones en derivadas parciales” in “Congreso de jóvenes investigadores”, Murcia (Spain)
- 2016 Organizer of the meeting “Numerical Resolution of Inverse Problems - II”, Bilbao (Spain)
- 2016 Organizer of the “Bilbao Meeting on Analysis and PDEs”, Bilbao (Spain)

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