

curriculum vitae

Carlos Pérez

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education

- Ph.D. 1989, Washington University, S. Louis, USA.
- M.A. in Mathematics, Universidad Autónoma de Madrid, 1985
- Licenciado en Ciencias Matemáticas, Universidad Autónoma de Madrid, 1984.

area of research

- Harmonic and Real Analysis. Analysis on metric spaces

positions

- Distinguished Researcher, University of the Basque Country, July-2020.
- Researcher of B.C.A.M. (Basque Center for Applied Mathematics), Bilbao Spain, as leader of the Research Line **Harmonic Analysis**.
- Ikerbasque Research Professor, Department of Mathematics, University of the Basque country and B.C.A.M. Oct. 2014-present
- “Catedrático de Universidad” (Full Professor), Universidad de Sevilla, Spain, 2001-Oct. 2014 (on leave)
- “Profesor Titular de Universidad” (Associate Professor), Univ. Autónoma de Madrid, 1992-2001.

postdoctoral experience

- University of Kentucky, 1991-1992, Visiting Professor.
- New Mexico State University, 1990-1991, Visiting Professor.
- Brock University, Canada, 1989-1990, Postdoctoral Fellow.

research positions

- 1999, Invited Researcher, Centre de Recerca Matemàtica, Bellaterra, Barcelona, 3 months.
- Rutgers University, New Brunswick, Visiting Professor, 1997, 5 months.
- University of Kansas, Lawrence, Visiting Professor, 1997, 1 month.
- Universidad del Litoral and Conicet, Santa Fe, Argentina, 1996, 1 month.
- Universidad Nacional del Sur, Bahía Blanca, Argentina, 2006, 1 month.
- University of Kansas, Lawrence, Kansas, USA, Visiting Professor, 2007, 1 year. month.
- 2009, Invited Researcher, Centre de Recerca Matemàtica, Bellaterra, Barcelona, 4 months.
- 2010, Invited Researcher, Centro di Ricerca Matematica “Ennio De Giorgi”, Pisa, 3 weeks.
- 2011, Invited Researcher, Isaac Newton Institute of Mathematical Sciences, Cambridge, U.K., 2 weeks.
- 2012, Invited Researcher, Australian National University, Canberra, Australia, 1 month.
- 2013, Invited Researcher, Institute for Mathematical Sciences (ICMAT), Madrid, 3 months.
- 2013, Invited Researcher, Centre for Advanced Study at the Norwegian Academy of Science and Letters, Oslo, 2 weeks.
- 2013, Invited Researcher, Mittag-Leffler Institute, Stockholm, 1 month.
- 2014, Invited Researcher, Aalto University, Helsinki, 3 months.
- 2021, Research in pairs (with A. Lerner and S. Ombrosi), Mathematical Research Institute of Oberwolfach, September. ¹
- 2022, Invited Researcher, Hausdorff Research Institute for Mathematics, Workshop on Geometric measure theory and Harmonic analysis, April.
- 2022, Invited Researcher, Aalto University, Helsinki, 3 months. February 1- May 1
- 2022, Visiting Research Fellow, Jyväskylä University, Jyväskylä, 2 months. May 1-July 1
- 2022, Invited Researcher, Mittag-Leffler Institute, Stockholm, program: “Geometric aspects of nonlinear partial differential equations”.

¹postponed due to the pandemic crisis.

grants awarded (last 10 years)

Spanish Government:

- **Análisis Armónico y Espacios de Banach**, 2009-2011, 13 researchers, Project leader: Carlos Pérez.
- **Análisis Armónico y Espacios de Banach**, 2013-2015, 20 researchers, Project leader: Carlos Pérez.
- **Análisis Armónico y Mecánica Cuántica**, 2015-2017, 7 researchers, Project leader: Carlos Pérez.
- **Análisis Armónico, Mecánica Cuántica y Aplicaciones a las EDP**, 2018-2020, 10 researchers, Coordinated Project, Ref: MTM2017-82160-C2, Project leader: Carlos Pérez.
- **Harmonic Analysis and applications to Partial Differential Equations**, 2021-2024, 5 researchers, Ref: PID2020-113156GB-I00 HAPDE, PI1 Luz Roncal, PI2 Carlos Pérez.
- 2014-2018 **Severo Ochoa 2013 Programme** (at BCAM) Ref: SEV-2013-0323, PI: Luis Vega González, Guarantor Researcher: Carlos Pérez Moreno and 9 others P.I. of projects.
- 2018-2022 **Severo Ochoa 2017 Programme** (at BCAM) Ref.: SEV-2017-0718, PI: Luis Vega González, Guarantor Researcher: Carlos Pérez Moreno and 9 others P.I. of projects.

Junta de Andalucía Government: “Excellence Projects”:

- **Análisis Real y Armónico**, Junta de Andalucía, 2006-2009, P.I. 5 researchers.
- **Análisis Real y Armónico** Junta de Andalucía, 2009-2013, P.I., 8 researchers.

European Union: (People Marie Curie Actions):

- **Dimension Phenomena and Curvature Equations in Carnot Groups**, 2010-2013, P.I. Bruno Franchi, 7 researchers.

Basque Government:

- **Fourier Analysis and Partial Differential Equations**, 2019-2021, 19 researchers, PI: Carlos Pérez. Ref.: IT1247-19

PUBLICATIONS

papers

1. C. Pérez, *Two weighted norm inequalities for Riesz potentials and uniform L^p -weighted Sobolev inequalities*, Indiana university mathematical journal **39** (1990), 31–44.
2. B. Jawerth, C. Pérez and G. Welland, *The positive cone in Triebel–Lizorkin spaces and the relation among potential and maximal operators*, Contemporary mathematics (M. Milman editor), American Mathematical Society, Providence (1990).
3. C. Pérez, *Weighted norm inequalities for general maximal operators*, Publ. Mat. **35** (1991), 169–186.
4. J. Alvarez, C. Pérez and J. Hounie, *A pointwise estimate for the kernel of a pseudo-differential operator, with applications*, Revista de la unión matemática argentina **37** (1991), 184–199.
5. C. Pérez, *On a theorem of Muckenhoupt and Wheeden and a weighted inequality related to Schrödinger operators*, Trans. Amer. Math. Soc., **340** (1993), 549–562.
6. C. Pérez, *A remark on weighted inequalities for general maximal operators*, Proc. Amer. Math. Soc., **119** (1993), 1121–1126.
7. J. Alvarez, D. Kurtz, R. Bagby and C. Pérez, *Weighted estimates for commutators of linear operators*, Studia mathematica **104** (1993), 195–209.
8. J. Alvarez and C. Pérez, *Estimates with A_∞ weights for various singular integral operators*, Bollettino della unione matematica italiana **7** 8–A (1994), 123–133.
9. C. Pérez, *Weighted norm inequalities for singular integral operators*, Journal of the London mathematical society **49** (1994), 296–308.

10. C. Pérez, *Two weighted inequalities for Potential and Fractional Type Maximal Operators*, Indiana university mathematical journal **43** (1994), 1–28.
11. C. Pérez, *Banach function spaces and the two weight problem for maximal functions*, Mathematical Institute, Czech academy of sciences, function spaces, differential operators and nonlinear analysis, proceedings, Paseky (1995), 141–158.
12. C. Pérez, *On sufficient conditions for the boundedness of the Hardy–Littlewood maximal operator between weighted L^p -spaces with different weights*, Proceedings of the london mathematical society (3) **71** (1995), 135–157.
13. C. Pérez, *Endpoint estimates for commutators of singular integral operators*, Journal of functional analysis (1) **128** (1995), 163–185.
14. C. Pérez, *Sharp L^p -weighted Sobolev inequalities*, Annales de l’Institut de Fourier (3) **45** (1995), 1–16.
15. C. Pérez, *Sharp estimates for commutators of singular integrals via iterations of the Hardy–Littlewood maximal function*, Journal of Fourier analysis and applications (6) **3** (1997), 108–146.
16. B. Franchi, C. Pérez and R. L. Wheeden, *Self-improving properties of John–Nirenberg and Poincaré inequalities on Spaces of Homogeneous Type*, Journal of functional analysis (1) **153** (1998), 108–146.
17. P. MacManus and C. Pérez, *Generalized Poincaré inequalities: Sharp self-improving properties*, Int. Math. Res. Not., **2** 1998, 101–116.
18. D. Cruz-Uribe and C. Pérez, *Two-weight, weak-type norm inequalities for singular integral operators*, Mathematical Research Letters, **6** 1999, 1-11.
19. C. Pérez, *Some topics from Calderón–Zygmund theory related to Poincaré–Sobolev inequalities, fractional integrals and singular integral operators*, Function Spaces Lectures, Spring School on Analysis, Paseky 1999, Editors: Jaroslav Lukes and Lubos Pick, Charles University and Academy of Sciences, (1999), 31-94, ISBN: 80–85863-39-1.
20. B. Franchi, C. Pérez and R. L. Wheeden, *Sharp geometric Poincaré inequalities for vector fields and non-doubling measures*, Proceedings of the London mathematical society (3) **80** (2000), 665–689.
21. D. Cruz-Uribe and C. Pérez, *Two weight extrapolation via the maximal operator*, Journal of functional analysis (1) **174** (2000), 1–17.
22. C. Pérez, *Sharp weighted inequalities for the vector-valued maximal function*, Trans. Amer. Math. Soc. **352** (2000), 3265–3288.
23. D. Cruz-Uribe and C. Pérez, *Two-weight, weak-type norm inequalities for fractional integrals, Calderón–Zygmund operators and commutators*, Indiana university mathematical journal **49** (2000) 697-721.
24. C. Pérez and R. L. Wheeden, *Uncertainty principle estimates for vector fields*, Journal of functional analysis **181** (2001), 146–188.
25. C. Pérez and G. Pradolini, *Sharp weighted endpoint estimates for commutators of singular integral operators*, Michigan mathematical journal **49** (2001), 23-37.
26. C. Pérez and R. Trujillo-Gonzalez, *El principio de Calderón–Zygmund*, Libro en homenaje a José Javier (Chicho) Guadalupe Hernández editado por la Univ. de La Rioja, editores: L. Español and J. L. Varona (2001).
27. P. MacManus and C. Pérez, *Trudinger’s inequality without derivatives*, Trans. Amer. Math. Soc., **354** (2002), 1997-2012.
28. J. Orobitg and C. Pérez, *A_p weights for nondoubling measures in R^n and applications*, Trans. Amer. Math. Soc., **354** (2002), 2013-2033.

29. G. Lu and C. Pérez, $L^1 \rightarrow L^q$ Poincaré inequalities for $q < 1$ implies representation formulas, Acta mathematica sinica, English Series, Series 18 (2002) 1, 1-20.
30. C. Pérez and R. Trujillo-Gonzalez, Sharp weighted estimates for multilinear commutators, Journal of the London mathematical society **65** (2002), 672–692.
31. D. Cruz-Uribe and C. Pérez, On the two-weight problem for singular integral operators, Annali della Scuola Normale di Pisa- Classe di Scienze, (5) Vol. I (2002), 821-849.
32. C. Pérez and R. Trujillo-Gonzalez, Sharp weighted estimates for vector-valued singular integral operators and commutators, Tohoku mathematics journal, 55 (2003), 109-129.
33. C. Pérez and R. Torres, Sharp maximal function estimates for multilinear singular integrals, Contemporary Mathematics (W. Beckner, A. Nagel, A. Seeger, H. F. Smith, editors), A.M.S. Proceedings to the A.M.S. Mount Holyoke Summer Research School in Harmonic Analysis, **320** (2003), 323-333.
34. C. Pérez and R. L. Wheeden, Potential operators, maximal functions, and generalizations of A_∞ , Potential analysis, **19** (2003), 1-33.
35. B. Franchi, C. Pérez and R. L. Wheeden, A sum operator with applications to self-improving properties of Poincaré inequalities for non- A_∞ weights, Journal of fourier analysis and applications (5) **9** (2003), 511–540.
36. D. Cruz-Uribe, J.M. Martell and C. Pérez, Extrapolation results for A_∞ weights and applications, Journal of functional analysis, 2, **213** (2004) 412–439.
37. J.M. Martell, C. Pérez and R. Trujillo-Gonzalez, Lack of natural weighted estimates for some singular integral operators, Trans. Amer. Math. Soc., **357** (2005), 385-396.
38. D. Cruz-Uribe, J.M. Martell and C. Pérez, Weighted weak-type inequalities and a conjecture of Sawyer, International Mathematics Research Notices, **30** 2005, 1849-1871.
39. M. J. Carro, C. Pérez, F. Soria and J. Soria, Examples and counterexamples for fractional operators, Indiana University Mathematics Journal, **54** (2005), 627–644.
40. G.P. Curbera, J. García-Cuerva, J.M. Martell and C. Pérez, Extrapolation with weights, Rearrangement Invariant Function Spaces, modular inequalities and applications to Singular Integrals, Advances in Mathematics, **203** (2006) 256-318.
41. A. Lerner and C. Pérez, Self-improving properties of generalized Poincaré type inequalities through rearrangements, Mathematica Scandinavica, **97**, (2006) 217-234.
42. D. Cruz-Uribe, A. Fiorenza, J.M. Martell and C. Pérez, The boundedness of classical operators on variable L^p spaces, Annales academiae Scientiarum Fennicae Mathematica, **31**,(2006) 239-264.
43. D. Cruz-Uribe, J.M. Martell and C. Pérez, Extensions of Rubio de Francia’s extrapolation theorem, Collectanea Mathematica **57** (2006) 195-231.
44. A. Lerner and C. Pérez, A new characterization of the Muckenhoupt A_p weights through an extension of the Lorentz-Shimogaki theorem, Indiana university mathematics journal, **56**, 6, (2007), 2697–2722.
45. D. Cruz-Uribe, J.M. Martell and C. Pérez, Sharp two-weight inequalities for singular integrals, with applications to the Hilbert transform and the Sarason conjecture, Advances in Mathematics, **216** (2007) 647-676
46. A. Lerner, C. Pérez and S. Ombrosi, Sharp A_1 bounds for Calderón-Zygmund operators and the relationship with a problem of Muckenhoupt and Wheeden, International Mathematics Research Notices, 2008, **6**, Art. ID rnm161, 11 pp. 42B20.
47. A. Lerner, S. Ombrosi, C. Pérez, R. Torres and R. Trujillo-Gonzalez, New maximal functions and multiple weights for the multilinear Calderón-Zygmund theory, Advances in mathematics, **220** (2009) 1222-1264.

48. A. Lerner, C. Pérez and S. Ombrosi, A_1 bounds for Calderón-Zygmund operators related to a problem of Muckenhoupt and Wheeden, *Math. Res. Lett.* 16 (2009), **16**, 149-156.
49. A. Lerner, C. Pérez and S. Ombrosi, *Weak type estimates for Singular Integrals related to a dual problem of Muckenhoupt-Wheeden*, *Journal of Fourier analysis and applications*, **15** (2009), 394-403 DOI 10.1007/s00041-008-9032-2.
50. M. Lorente, J. M. Martell, C. Pérez and S. Riveros, *Generalized Hörmander's conditions and weighted endpoint estimates*, *Studia Math.* 195 (2009), 157-192.
51. C. Pérez *The growth of the A_p constant on classical estimates*, (expository paper). *Revista de la Unión Matemática Argentina*, **50**, 2, 2009, 119-135.
52. J. Mateu, J. Orobitg, C. Pérez, and J. Verdera, *New estimates for the maximal singular integral operator*, *International Mathematics Research Notices*, 2010; **19**, 3658-3722.
53. M. Lacey, K. Moen, C. Pérez and R. Torres, *Sharp weighted bounds for fractional operators on weighted L^p spaces and related Sobolev inequalities*, *Journal of Functional Analysis*, **259**, (2010), 1073-1097.
54. D. Cruz-Uribe, J.M. Martell and C. Pérez, *Sharp weighted estimates for approximating dyadic operators*, *Electronic Research Announcements in the Mathematical Sciences*, **17** (2010),12-19. (currently as Electronic Research Archive, <http://www.aimspress.com/journal/era>)
55. L. Grafakos, Liguang Liu, C. Pérez and R. Torres, *The multilinear strong maximal function*, *J. of Geometric Anal.* **21**, (2011), 118-149, DOI 10.1007/s12220-010-9174-8.
56. D. Chung, M.C. Pereyra and C. Pérez, *Sharp bounds for general commutators on weighted Lebesgue spaces*, *Trans. Amer. Math. Soc.* **364** (2012), 1163-1177.
57. D. Cruz-Uribe, J.M. Martell and C. Pérez, *Sharp weighted estimates for classical operators*, *Advances in Mathematics*, **229**, (2012), 408-441.
58. T. Hytönen, C. Pérez and E. Rela, *Sharp Reverse Hölder property for A_∞ weights on spaces of homogeneous type*, *Journal of Functional Analysis* **263**, (2012) 3883-3899.
59. M. Mastylo and C. Pérez, *The Hardy-Littlewood maximal type operators between Banach function spaces*, *Indiana Univ. Math. J.* **61** (2012), 883-900.
60. C. Ortiz-Caraballo, C. Pérez and Ezequiel Rela, *Improving bounds for singular operators via Sharp Reverse Hölder Inequality for A_∞* , "Operator Theory: Advances and Applications", *Advances in Harmonic Analysis and Operator Theory*, A. Almeida, L. Castro, F. Speck, editores. **229**, (2013), 303-321. Springer Basel.
61. T. Hytönen, M. Lacey and C. Pérez, *Sharp weighted bounds for the q -variation of singular integrals*, *Bulletin London Math. Soc.* V. 45 (2013) 529-540.
62. T. Hytönen and C. Pérez, *Sharp weighted bounds involving A_∞* , *Analysis & PDE* **6** (2013), 777-818. DOI 10.2140/apde.2013.6.777.
63. C. Ortiz-Caraballo, C. Pérez and Ezequiel Rela, *Exponential decay estimates for Singular Integral operators*, *Math. Annalen*, **357** (2013), pp 1217-1243.
64. C. Pérez, *Singular Integrals and weights: a modern introduction*, *Function Spaces and Inequalities*, Spring School on Analysis, Paseky 2013, Editor: Lubos Pick, Charles University and Academy of Sciences. ISBN 978-80-7378-233-7.
65. C. Pérez, S. Treil, T. Hytönen and A. Volberg, *Sharp weighted estimates for dyadic shifts and the A_2 conjecture*, *J. Reine Angew. Math. (Crelle's Journal)* **687**, (2014), 43-86..
66. C. Pérez, G. Pradolini, R. Torres and R. Trujillo-González, *End-point estimates for iterated commutators of multilinear singular integrals*, *Bull. London Math. Soc.* (2014) 46 (1): 26-42. doi:10.1112/blms/bdt065

67. C. Pérez and R. Torres, *Minimal regularity conditions for the end-point estimate of bilinear Calderón-Zygmund operators*, Proc. Amer. Math. Soc., series B, **1**, (2014), 1-13.
68. C. Pérez and Ezequiel Rela, *A new quantitative two weight theorem for the Hardy-Littlewood maximal operator*, Proc. Amer. Math. Soc., **143**, February (2015), 641-655. Article electronically published on October 22, 2014
69. T. Luque, C. Pérez and Ezequiel Rela, *Optimal exponents in weighted estimates without examples*, Math. Res. Lett. **22**, (2015), 183-201.
70. W. Damián, A. Lerner and C. Pérez, *Sharp weighted bounds for multilinear maximal functions and Calderón-Zygmund operators*, J. Fourier Anal. Appl. 21 (2015), no. 1, 161–181.
71. T. Hytönen and C. Pérez, *The $L(\log L)^\epsilon$ endpoint estimate for maximal singular integral operators*, J. Math. Anal. Appl. 428 (2015), no. 1, 605–626.
(This paper obtained the **2016 Ames Award**.)
72. C. Pérez *A_1 theory of weights for singular integral operators* School on Nonlinear Analysis, Function Spaces and Applications, to appear as part of the Lecture notes of the School on Nonlinear Analysis, Function Spaces and Applications 10, Třešt (Czech Republic), June 9 - June 15, 2014.
73. S. Ombrosi, C. Pérez and J. Recchi, *Quantitative weighted mixed weak-type inequalities for classical operators*, Indiana Univ. Math. J. **65** (2016), 615–640.
74. S. Ombrosi and C. Pérez, *Mixed weak type estimates: Examples and counterexamples related to a problem of E. Sawyer*, Colloquium Mathematicum, **145** (2016), 259-272.
75. D. Cruz-Uribe, J.M. Martell and C. Pérez, *A note on the off-diagonal Muckenhoupt-Wheeden conjecture*, Advanced Courses in Mathematical Analysis V, 244-252, World Sci. Publ., Hackensack, NJ, 2016. ISBN: 978-981-4699-68-6
76. T. Luque, C. Pérez and Ezequiel Rela, *Reverse Hölder property for strong weights and general measures*, J. Geom. Anal. 27 (2017), no. 1, 162–182.
77. C. Pérez and Israel P. Rivera-Ríos, *Three observations on commutators of Singular Integral operators with BMO functions*, Harmonic analysis, partial differential equations, Banach spaces, and operator theory. Vol. 2, 287-304, Assoc. Women Math. Ser., 5, Springer, Cham, 2017.
78. C. Pérez and Israel P. Rivera-Ríos, *Borderline weighted estimates for commutators of singular integrals*, Israel J. of Math., (2017), **217**, 435–475.
79. C. Pérez, and I. P. Rivera-Ríos, *A lower bound for A_p exponents for some weighted weak-type inequalities*, J. Anal. 26 (2018), no. 2, 191–209. <https://doi.org/10.1007/s41478-018-0137-y>.
80. C. Pérez, T. Picon, O. Saari and M. Sousa, *Regularity of maximal functions on Hardy-Sobolev spaces*, Bull. London Math. Soc. (2018), V. 50, pp. 1007–1015.
81. K. Li, C. Pérez, I. P. Rivera-Ríos and L. Roncal, *Weighted norm inequalities for rough singular integral operators*, J. Geom. Anal. 29 (2019), no. 3, 2526–2564.
82. C. Pérez, I. P. Rivera-Ríos and L. Roncal, *A_1 theory of weights for rough homogeneous singular integrals and commutators*, Annali della Scuola Normale Superiore di Pisa-Classe di Scienze, Vol. XIX, **1** (2019) 169–190.
83. K. Li, S. Ombrosi and C. Pérez, *Proof of an extension of E. Sawyer’s conjecture about weighted mixed weak-type estimates*, Math. Ann. 374 (2019), no. 1-2, 907–929.
84. C. Pérez and E. Rela *Degenerate Poincaré-Sobolev inequalities*, Trans. Amer. Math. Soc. **372** (2019), no. 9, 6087–6133.
85. E. Cejas, K. Li, C. Pérez and I. Rivera-Ríos, *Vector-valued operators, optimal weighted estimates and the C_p condition*, Sci. China Math. (2020) **63** No. 7: 1339–1368.

86. A. Criado, C. Pérez, and I. Rivera-Ríos, *Sharp quantitative weighted BMO estimates and a new proof of the Harboure-Macías-Segovia's extrapolation theorem*, New trends in Applied Harmonic Analysis, V. 2, Birkhäuser. conference proceedings, CIMPA 2017, Research School in Harmonic Analysis, Geometric Measure Theory and Applications, July 2017 in Buenos Aires, Argentina. Editors: A. Aldroubi, C. Cabrelli, S. Jaffard, U. Molter. 10.1007/978-3-030-32353-0
87. S. Ombrosi, C. Pérez, E. Rela and I. Rivera-Ríos, *A note on generalized Fujii-Wilson conditions and BMO spaces*, Israel J. Math. 238 (2020), no. 2, 571–591.
88. J. Canto and C. Pérez, *Extensions of the John–Nirenberg theorem and applications*, Proc. Amer. Math. Soc. 149, 4, (2021), 1507-1525.
89. E. Roure and C. Pérez, *Sawyer-type inequalities for Lorentz spaces*, to appear Math. Annalen, doi 10.1007/s00208-021-02240-4
90. J. Canto, C. Pérez, and E. Rela, *Minimal conditions for BMO*, J. Funct. Anal. 282 (2022), no. 2, Paper No. 109296. arXiv: <https://arxiv.org/abs/2007.10104>,
91. E. Cejas, C. Mosquera, C. Pérez and E. Rela, *Some non-standard biparametric Poincaré type inequalities through harmonic analysis*, Journal of Fourier analysis and applications, 2022, DOI: 10.1007/s00041-022-09921-x.
92. E. Cejas, C. Mosquera, C. Pérez and E. Rela, *Self-improving Poincaré-Sobolev type functionals in product spaces*, to appear Journal d'Analyse, [arXiv:2104.08901](https://arxiv.org/abs/2104.08901)

work sent for publication

93. N. Accomazzo, J. Duoandikoetxea, Z. Nieraeth, S. Ombrosi and C. Pérez *Weighted Lorentz spaces: sharp mixed $A_p - A_\infty$ estimate for maximal functions*, [arXiv:2111.12692](https://arxiv.org/abs/2111.12692). Submitted
94. R. Hurri-Syrjänen, J. Martínez, C. Pérez and A. Vähäkangas. *On the BBM-phenomenon in fractional Poincaré-Sobolev inequalities with weights*, [http://arxiv.org/abs/2201.11712](https://arxiv.org/abs/2201.11712)

books

95. D. Cruz-Uribe, J.M. Martell and C. Pérez, *Weights, Extrapolation and the Theory of Rubio de Francia*, Series: Operator Theory: Advances and Applications, Vol. 215, Birkhäuser, Basel (2011). ([http://www.springer.com/mathematics/analysis/book/ISBN 978-3-0348-0071-6](http://www.springer.com/mathematics/analysis/book/ISBN%20978-3-0348-0071-6).)
96. G. Citti, L. Grafakos, C. Pérez, A. Sarti and X. C. Zhong, *Harmonic and Geometric Analysis*, “Advanced courses in Mathematics C.R.M. Barcelona”, Birkhäuser, Basel (2015). ISBN: 978-3-0348-0407-3; 978-3-0348-0408-0
97. Sagun Chanillo, Bruno Franchi, Guozhen Lu, Carlos Pérez, Eric T. Sawyer (editors), *Harmonic Analysis, Partial Differential Equations and Applications. In Honor of Richard L. Wheeden Applied and Numerical Harmonic Analysis*. Birkhäuser/Springer, Cham, 2017. xxiv+301 pp. 42-06 (35-06)

INVITED COLLOQUIA AND SEMINARS IN UNIVERSITIES

Coloquia:

- New Mexico State University, 1991
- DePaul University, 1991
- Wright State University, 1992, 1997, 1999
- University of Kansas, Lawrence, 1997, 2008
- Syracuse University, Syracuse, New York, 1998
- University of Pittsburgh, Pennsylvania, 1998
- Temple University, Pennsylvania, 1998
- Trinity College, 2000

- Universidad Complutense de Madrid, 2000, 2014
- Université de Paris-Sud, Orsay, 2001
- Beijing Normal University, 2004
- Peking University, 2004
- University of Missouri, Columbia, 2007
- University of Poznan, December 2010
- University of Lund, September 2012
- Universidad de Buenos Aires, May 2014
- Aalto University , Finland, May 2015
- Institute of Mathematics of the Romanian Academy, November 2015 (Monthly lecture)
- Universidad del Litoral, Santa Fé, December 2016 (Special Colloquium lecture in honor of Prof. R. Macias)
- Universidad Carlos III, Madrid, January, 2018.
- Universidad de Córdoba, Argentina, Abril, 2019.
- Universidad Autónoma de Madrid and ICMAT, November, 2020. (Memorial Jose Luis Rubio de Francia)
- Univ. of Jyväskylä, Finland, 14-june-2022.

Seminars:

- McMaster University, 1990
- Universidad Autonoma de Madrid, 1990–1991
- Universitat de Barcelona, 1991, 2005, 2016
- Universidad de Zaragoza, 1991, 2017
- University of Kentucky, 1992
- Washington University, 1992
- University of Pittsburgh, 1992
- University of Michigan, Ann Arbor, 1993
- Rutgers University, New Brunswick, 1993,1997,1998,2000, 2008
- Universidad del Pais Vasco, 1994, 1997, 2000
- Universitat Autonoma de Barcelona, 1995,1999, 2009
- U. del Litoral & IMAL, Santa Fé, 1996, 2013, 2020(special webseminar dedicated to Prof. Muckenhoupt & Wheeden)
- University of Kansas, Lawrence, 1997, 2001, 2007, 2009
- Universidad Carlos III, Madrid, 1997, 2002
- Universita di Bologna, 1997,1998
- Universidad de La Laguna, 1999
- Universidad de Málaga, 1999, 2003, 2019
- Universitat de Valencia, 1999, 2017
- University of Winsconsin, Madison, 2001
- Universidad de Buenos Aires, 2003, 2016, 2018
- Universidad del Litoral e IMAL, Santa Fé, 2003
- Universidad de Córdoba, 2003
- Wroclaw University, Polonia, 2004
- Universidad Nacional del Sur, Bahia Blanca, 2004, 2013, 2016
- Univ. of Oulu, Finland, 2007
- Univ. of Jyväskylä, Finland, 2007, 2015.
- Kansas State University, Manhattan, 2007
- Georgia Institute of Technology, Atlanta, 2007
- University of California, Los Angeles, 2008
- Brown University, 2008
- University of Chicago, 2008, 2014 (Calderón-Zygmund seminar)
- De Paul University, 2008
- McGill University, Montreal, 2008, 2016 (Montreal Analysis seminar)
- University of Urbana-Champaigne, 2009
- Michigan State University, 2010
- Univ. of Helsinki, Finland, 2011, 2015
- National University of Singapore, Singapore, July, 2012
- Australian National University, Canberra, Australia, August, 2012

- Univ. of Copenhagen, Denmark, September, 2012
- Norwegian University of Science and Technology, Trondheim, Norway, November, 2013
- Universidad de Granada, June, 2014
- Aalto university, Finland, April 2015
- Universidad de la Rioja, Enero 2016
- University of Alabama, Tuscaloosa, November 2016
- Karlstad University, February 2017
- Indian Institute of Science, Bangalore, March 2017
- Tianjin University, Tianjin, June 2017
- Università degli Studi di Milano-Bicocca, September 2017
- Università degli Studi di Firenze, September 2017
- Hausdorff Center for Mathematics, University of Bonn, April 2018
- Sun Yat-sen University, Guangzhou, June 2018.
- Delft University, Delft, October 2018.
- Instituto Argentino de Matemática “Alberto Calderón”, December 2018.
- Institute of Mathematics, University of Munich, December 2019.
- Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, webseminar, Julio 2020
- International Prague seminar on function spaces, Charles University, webseminar, 2-Feb-2021
- International Corona seminars on function spaces, webseminar, 4-March-2021, Prof. M. Milman org.
- Aalto University , Finland, February 23 2022

INVITED LECTURES IN CONFERENCES

1. American Mathematical Society meeting, University of Alabama, Tuscaloosa, 1992.
2. American Mathematical Society meeting, University of Texas, College Station, 1993.
3. Primera Reunión de Variable Real y Compleja, Ezcaray, Spain 1994.
4. Function spaces, Differential Operators and Nonlinear Analysis, Paseky, R. Checa, 1995.
5. Instituto Nazionale di Alta Matematica: Workshop on Integral Inequalities and Applications, Cortona, junio 1999.
6. American Mathematical Society meeting, University of Kansas, Lawrence, marzo, 2001.
7. American Mathematical Society, Summer Research School, Mount Holyoke College, Massachusetts, junio, 2001.
8. Satellite conference in Harmonic Analysis and Applications (Hangzhou) to the I.C.M. 2002 Pekin, Hangzhou, Rep. China, agosto 2002.
9. 7th International Conference on Harmonic Analysis and Partial Differential Equations, El Escorial (Madrid), Junio 21-25, 2004.
10. Analysis on Metric Measure Spaces, European Mathematical Society, Banach Center, Bedlewo, Polonia, julio 2004.
11. Congreso en homenaje al Profesor Carlos Segovia, Instituto Argentino de Matemáticas, Buenos Aires, Argentina, diciembre 2005.
12. American Mathematical Society, Special Session on Interpolation Theory and Applications, Florida International University, Miami, April, 2006.
13. American Mathematical Society, Special Session on Structure of Function Spaces and Applications, Florida International University, Miami, April, 2006.
14. Universidad Autónoma de Madrid and Centre de Recerca Matemática, Barcelona, april and july 2006. Coordinated by X. Tolsa, J. Mateu, A. Ruiz and A. Vargas.

15. Conference on Harmonic Analysis and its Applications at Sapporo 2007' on September 2–4, 2007, at Hokkaido University, Sapporo, Japan. A. Miyachi, T. Yabuta, H. Tachizawa, main organizers.
16. American Mathematical Society, Special Session on Singular Integrals and related Problems, De Paul University, Chicago, October 2007, L. di Capri and A. Stokolos organizers.
17. American Mathematical Society, Special Session on Harmonic Analysis and Operator Theory, University of New Mexico, Albuquerque, C. Pereyra and W. Urbina, organizers, October 2007.
18. Workshop on Harmonic Analysis, The Fields Institute, Toronto, Canada, February 2008.
19. Recent Developments in Elliptic and Degenerate Elliptic Partial Differential Equations, Systems and Geometric Measure Theory, Banff International Research Station for Mathematical Innovation and Discovery, Alberta, Canada, April, 2008. Organizers: D. Cruz-Urbe, S. Hofmann, M. Mitrea, C. Rios and E. Sawyer.
20. American Mathematical Society, Special Session on Harmonic Analysis and Related Topics, Indiana University, Bloomington, Indiana, April 2008, N. Katz and C. Demeter, organizers.
21. workshop “Real Analysis, Harmonic Analysis and Applications”, Oberwolfach, Germany; organized by Detlef Müller (Kiel) and Elias M. Stein (Princeton), July 2008.
22. “Eight Prairie Analysis Seminar 2008”, University of Kansas; main organizer: R. Torres; November 7-8 2008.
23. Conference on Harmonic Analysis in honor of Professor S. Lu, Beijing Normal University, Rep. China, June 2009.
24. Joint meeting between the Royal Spanish Society of Mathematics and the Mexican Society of Mathematics, Oaxaca, Mexico, July, 2009.
25. “Conference in honor of J. García-Cuerva”, organized by the Department of Mathematics of the Universidad Autónoma de Madrid, El Escorial, November, 2009.
26. “International conference on Harmonic Analysis in honor of Professor S. Lu”, Beijing Normal University, Pekin, Junio 2009.
27. First Joint meeting Spanish and Mexican Math Soceties, Oaxaca, Mexico, July 2009.
28. “Euclidean Harmonic Analysis, Nilpotent Lie groups and PDEs”, Centro di Ricerca Matematica “Ennio De Giorgi”, Abril 2010, Pisa, Italy.
29. “International conference in Functional Analysis in honor of Professor M. Valdivia”, Valencia, June, 2010.
30. “19th Summer St. Petersburg Meeting in Mathematical Analysis», Euler International Mathematical Institute, (St. Petersburg, Russia), June, 2010.
31. “Meeting of Argentinian Analysts Alberto P. Calderón, Cordoba, Argentina, agosto, 2010.
32. A.M.S., Special Session on Harmonic Analysis, University of California, Los Angeles, organized by I. Tuero, A. Volberg and y C. Thiele , October 2010. ²
33. “Calculus of variations , Singular Integrals and Incompressible flows”, ICMAT, Instituto de Ciencias Matemáticas, Madrid, December 2010.
34. “New Function Spaces in PDEs and Harmonic Analysis”, University Federico II di Napoli, May 2011
35. “Integral and Differential Operators and Their Applications”, International conference in honor of Professor Stefan Samko, University of Aveiro and CIDMA - Center for Research and Development in Mathematics and Applications, June 30, July 2, Aveiro, Portugal.

²it was cancelled the trip due to very serious family health problem.

36. “Complex and Harmonic Analysis 2011”, organized by Daniel Girela, Universidad de Málaga, Spain 10-14 July, 2011.
37. “Harmonic Analysis, Inequalities and Homogenization Theory and Application” as part of the “22nd International Workshop on Operator Theory and its Applications (IWOTA 2011)”, organized by Lars-Erik Persson and Dr Natasha Samko, Universidad de Sevilla, 4-8 Julio 2011.
38. Special Invited lecture, “International conference in Functional Analysis in honor of Professor Eric Sawyer”, the Fields Institute, Toronto, July, 2011.
39. “International Conference on Function Spaces and Variable Exponent Analysis”, Centre de Recerca Matematica, Barcelona, Spain September, 2011
40. “Weighted singular integral operators and non-homogenous harmonic analysis” American Institute of Mathematics, Palo Alto, California, organized by S. Mayboroda, M. C. Reguera y A. Volberg, October 2011
41. “A.M.S., Special Session on Harmonic Analysis”, University of Kansas, Lawrence, organized by R. Torres, D. Cruz-Uribe, A. Beny, April 2012.
42. “International Conference in harmonic analysis and applications to PDEs” organized by the Beijing Normal University and Nanjing University, Nanjing University, Nanjing, China, May 21 to 25, 2012.
43. “Probabilistic Aspect of Harmonic Analysis”, Banach Center, Bedlewo, Polonia, June 2012.
44. Plenary speaker I.W.O.T.A. (International Workshop on Operator Theory and Applications), University of New South Wales, Sydney, Australia, July 2012.
45. Workshop on “Singular integrals, randomness and weights”, University of Helsinki, 29-31 August, 2012. Organizer T. Hytönen (U. of Helsinki).
46. “Harmonic Analysis and Its Applications”, Jinhua, China, Oct. 12-Oct.16, 2012, Organizers: Shanzhen LU (Beijing Normal University, Beijing) and Jiecheng CHEN (Zhejiang Normal University).
47. “Rubio de Francia’s extrapolation meets Yano’s extrapolation: sharp exponents without examples in weighted estimates. ”, Joint A.M.S.-Romanian Mathematical Society meeting, special session on Harmonic Analysis (organized por C. Muscalu-Cornell University and C. Demeter-Indiana University), June 27 - 30, 2013, in Alba Iulia, Romania.
48. “Workshop on Stochastic, Harmonic Analysys and PDE’s“ (organized by S. Geiss, T. Hytönen, M. Parviainen and A. Toivola LUGAR: University of Jyväskylä Dec. 19- 20- 2013, in Jyväskylä, Finland.
49. 13th New Mexico Analysis Seminar, University of New Mexico, Albuquerque, April 3-4 2014.
50. “Topics in PDEs and Applications”, as part of the PhD program ”F’syMat”, University of Granada, Granada, June 2014.
51. “Three days on analysis and PDEs”, (I.C.M.A.T., Institute of Mathematical Sciences), Madrid, June 3-5, 2014.
52. “Harmonic Analysis”, First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI, Bilbao, June 30 to July 4, 2014.
53. Plenary speaker, Workshop in Harmonic Analysis and its Applications, the Australian Mathematical Society, Macquarie University, Sidney 21 – 25 July 2014.
54. “Satellite conference in Harmonic Analysis to the I.C.M. 2014, Seoul, Corea del Sur. Chosun University, Gwanglu, Corea del Sur, August 2014.
55. American Mathematical Society, Special Session on “Advances in Harmonic Analysis and Partial Differential Equations”, University, Halifax, Nova Scotia, Canada, October 18-19 2014.

56. "Geometric analysis and related topics" session of the congress "Barcelona Mathematical Days 2014", organized by the Societat Catalana de Matemàtiques, Barcelona, Novembre 2014.
57. Plenary speaker, "The Ohio River Analysis Meeting" organized by the University of Cincinnati and the University of Kentucky in Lexington, February 28 - March 1, 2015.
58. "Workshop on Function spaces, Harmonic Analysis and Related Topics-on the occasion of the 67th birthday of Viktor Kolyada", Karlstad, Sweden, April 26-30, 2015.
59. International workshop "Frontiers of Singular Integrals", June 2-5, 2015, University of Helsinki.
60. "Meeting of Argentinian Analysts Alberto P. Calderón", Cordoba, Argentina, 14-18 April, 2016.
61. "Probabilistic Aspect of Harmonic Analysis", Banach Center, Bedlewo, Poland, May 14-21, 2016.
62. International Conference on Complex Analysis and Related Topics, the 14th Romanian-Finnish Seminar, June 20-24, 2016, Bucharest, Romania
63. 26th International Conference on Operator Theory, organized jointly by the Institute of Mathematics of the Romanian Academy and the West University of Timisoara, June 27-July 2, 2016, Timisoara (Romania).
64. Conference, Harmonic Analysis, Complex Analysis, Spectral Theory and all that 1.08.2016 - 5.08.2016, Bedlewo in Honor of Prof. A. Volberg. Organizers, Krzysztof Barański (University of Warsaw) Tadeusz Iwaniec (Syracuse University) Stefanie Petermichl (Université Paul Sabatier, Toulouse) Feliks Przytycki (Institute of Mathematics of the Polish Academy of Sciences) Mikhail Sodin (Tel Aviv University) Sergei Treil (Brown University, Providence).
65. Symposium in Functional and Harmonic Analysis, University of Karlstad, February 9, 2017.
66. XIII Encuentro de la Red de Análisis Funcional:
 - 1) Profesor de la escuela-taller: Análisis de las desigualdades de Poincaré-Sobolev"
 - 2) talk about open problems in the area of "Singular Integral and weights", 6-11 de marzo de 2017. Cáceres.
67. London Mathematical Society Harmonic Analysis and PDE meeting, University of Birmingham, March 14-15 2017.
68. International Conference on Fourier Analysis and Wavelets, 20th Ramanujan Symposium, Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai. March 22-25, 2017 (organized by Prof. G. P. Youvaraj).
69. International Workshop on Computational Harmonic Analysis, Chern Institute of Mathematics, Nankai University, Tianjin, China, June-15-18, 2017.
70. Conference "Complex and Harmonic Analysis III" devoted to the memory of Prof. Uri Srebro. June 4-8, 2017 (two locations: Holon Institute of Technology and the Technion).
71. International Conference "Banach Spaces and Operator Theory with applications", 3-7 July 2017, in honor of Mieczysław Mastyło, Adam Mickiewicz University in Poznan and the Polish Mathematical Society.
72. Conference in Honor of Prof Xuan Duong, 17 July 2017 to 21 July 2017, Macquarie University. (organized by Ji Li, Lesley Ward, and Zihua Guo)
73. Workshop "Real Analysis, Harmonic Analysis and Applications", Mathematical Research Institute of Oberwolfach, organized by Detlef Müller (Kiel), M. Christ (Berkeley) and C. Thiele (Bonn), 23 July - 29 July 2017.
74. Invited speaker, International Conference, special session on "Harmonic Analysis and Application", Brazilian Mathematical Colloquium, IMPA - Rio de Janeiro, July 30th-2017 to August 5th.

75. CIMPA2017 Research School Harmonic Analysis, Geometric Measure Theory and Applications held from July 31 to August 11, 2017 in Buenos Aires, Argentina.
76. 1st Summer School on Harmonic Analysis, Spectral Theory and PDE's, University of Rome-SAPIENZA, 12-15 September 2017.
77. Workshop "Sparse domination of singular integral operators", American Institute of Mathematics, Palo Alto, California, organized by Amalia Culiuc, Francesco Di Plinio, and Yumeng Ou, October 2017.
78. XII EITA Research Meeting In Approximation Theory 2017, Panticosa 27-29 October 2017.
79. Atelier d'Analyse Harmonique 2018, CNRS - Paul Langevin center. F. Bernicot organizer.
80. Research Term on "Real Harmonic Analysis and its Applications to Partial Differential Equations and Geometric Measure Theory" ICMAT, Madrid, May 2018. Organizers: Simon Bortz, Svitlana Mayboroda, José Mar'a Martell.
81. Conference "Harmonic analysis of elliptic and parabolic PDE" at the CIRM (Marseille, France) from 23 April 2018 to 27 April 2018. Organizers: Sylvie Monniaux and Pierre Portal.
82. "Probabilistic Aspects of Harmonic Analysis 2018 in honor of Professor Ewa Damek, Banach Center, Bedlewo, May 7-11, 2018.
83. 2018 EWM-EMS Summer School "Nonlocal Interactions in Partial Differential Equations and Geometry" that will be held during 21-25 May, 2018, at Mittag-Leffler Institute in Stockholm, Sweden.
84. Special Session on Harmonic Analysis and P.D.E. at the Joint International Meeting of the American and Chinese Mathematical Societies, June 11 - 14, 2018, Fudan University, Shanghai, China.
85. "International Conference on Harmonic Analysis and Its Applications", in honor of Professor Shanzhen Lu. Chinese Academy of Sciences in Beijing of China, June 15-June 19 (2018). Main organizer, Dachun Yang.
86. "Harmonic Analysis Day", Institute for advanced Study in Mathematics of HIT, Harbin, China. June 21-2018. Organizer, Quanhua Xu.
87. "XIV Encuentro Nacional de Analistas A. P. Calderón", Villa General Belgrano, Córdoba, Argentina, 21-24 November-2018.
88. International Workshop on Singular Integral Operators, Chern Institute of Mathematics, Nankai University, Tianjin, China, during 3-6 July, 2018.
89. Plenary speaker, Probability and Analysis 2019, Banach Center, Bedlewo, May, 2019.
90. Plenary speaker, Harmonic Analysis and PDEs, University of Helsinki, 3-7 June 2019.
91. Invited speaker, "Harmonic Analysis in non-homogeneous settings and applications", University of Birmingham, June 10 to June 13, 2019.
92. Plenary speaker, Barcelona Analysis Conference 2019, Barcelona, June 25-28 2019.
93. Invited speaker, International Conference, special session on "Harmonic Analysis and Application", Brazilian Mathematical Colloquium, IMPA - Rio de Janeiro, July 31th to August 4th (2019).
94. Invited speaker, 16th Discussion Meeting in Harmonic Analysis Dec 16-19, 2019 at the Indian Institute of Science Education and Research Bhopal, India.
95. Invited speaker, Conference **Harmonic analysis workshop in Seoul**, Seoul, organized by Sanghyuk Lee, February 2020.

96. Invited speaker, "Probabilistic Aspects of Harmonic Analysis 2020", Banach Center, Bedlewo, May 10-16, 2020. ³
97. Invited speaker, "Complex and Harmonic Analysis IV", May 24-28, 2020, Holon, Israel.
98. Invited speaker, Special Session on **Harmonic Analysis and Geometric Measure Theory** of the Congreso Latinoamericano de Matemáticos (UMALCA-CLAM) conference, Montevideo, (Uruguay), 20-24 July 2020.
99. Invited speaker, Special Session on **Harmonic Analysis and Related Topics** of the ICMC Summer Meeting on Differential Equations, Sao Carlos, Brasil, 1-3 February of 2021. Organized by Lucas Oliveira and Tiago Picón
100. Invited speaker, Minisymposium in **Harmonic Analysis and PDE**, 8th European Congress of Mathematics (ECM), Slovenia between 5-11 July of 2020, main organizer Oliver Dragicevic. Venue: University of Primorska, Slovenia. Postponed to June 2021.
101. Invited speaker, **Minisymposium in Geometric-functional inequalities and related topics**, 8th European Congress of Mathematics (ECM), Slovenia between 5-11 July of 2020, main organizer Lubos Pick. Venue: University of Primorska, Slovenia. Postponed to June 2021.
102. Invited speaker, International Conference in honor of Lubos Pick, Charles University, September 2021
103. Invited speaker, Special Session "Operator Theory and Harmonic Analysis" the 13th International ISAAC congress August 2?August 6, 2021 Ghent, Belgium.
104. Invited speaker, Interactions between Geometric measure theory, Singular integrals, and PDE; Hausdorff Research Institute for Mathematics, April 4 - April 7.
105. Plenary speaker, Problems and Applications of Operator Theory and Harmonic Analysis, Rostov-on-Don, 24 - 29 April, 2022. Satellite conference to the International Congress of Mathematicians 2022
106. Invited speaker, Conference "Real Analysis and Geometry?? at the CIRM (Marseille, France) from 12 to 16 June 2023. Organizers: Pascal Auscher, Gilles Carron, Sylvie Monniaux, El Maati Ouhabaz and Emmanuel Russ.

INVITED COURSES

1. 5 hours course, Semester in Real Analysis and Partial Differential Equations, Napoli, July 1997.
2. 5 hours course, Spring School in Mathematics, Paseky, Check Rep., june, 1999.
3. 5 hours course, Universidad de La Laguna, Tenerife, april, 2000.
4. 3 hours course, Beijing Normal University, Rep. China, septiembre 2004.
5. 5 hours course, Reunión Anual de la Unión Matemática Argentina, Universidad del Comahue, Neuquén, Argentina, october 2004.
6. 5 hours course, Posdoctoral course, Universidad Nacional del Sur, Bahía Blanca, Argentina, september/october 2006.
7. 5 hours course, Posdoctoral course, University of New Mexico, Albuquerque, June 2008.
8. 5 hours course, International Workshop "Analysis, Operator Theory and Applications", Cancun, Mexico, April, 2008. Y. Karlovich organizer.
9. 5 hours course, School on Real Analysis and its Applications, CIMPA-UNESCO, Cordoba, Argentina, May, 2008. Main organizers: E. Harboure and R. Macias.

³canceled due to the COVID-18 pandemic crisis as well as the following conference

10. 5 hours course, Centre de Recerca Matemàtica, Semester in Harmonic and Geometric Analysis, April 2009, Bellaterra, Barcelona.
11. 20 hours course, “A modern introduction to the theory of Singular Integrals and weights”, Beijing Normal University, Rep. China, February 2012.
12. 2 hours course (with T. Hytönen and A. Volberg), workshop “FRAMES and Bases of analytic functions: Toulouse 2012” University Paul Sabatier in Toulouse, May 2012. Organized by S. Petermichl and P. J. Thomas.
13. 10 hours course, “A modern introduction to the Ap theory of weights and its connection with Singular Integral Operators” University of Wrocław, Poland, October 2012.
14. 5 hours course, “A short introduction to the theory of Singular Integrals”, Doc-Course “Complex Analysis and Related Areas”, organized by Prof. Luis Rodríguez-Piazza, Daniel Girela, Manuel Contreras, IMUS, Seville, Spain February, 2013.
15. 6 hours course, “A modern introduction to the theory of Singular Integrals and weights”, I.C.M.A.T. (C.S.I.C.), Madrid, March, 2013.
16. 5 hours course, “Singular integrals and weights: a modern introduction”, Spring School in Mathematics, Paseky, Czech Rep., June, 2013.
17. 3 hours course, “ A_1 theory of weights for Singular Integral Operators”, Nonlinear Analysis, Function Spaces and Applications (NAFSA 10), Castle Trest (Czech Republic), June 9 - 15, 2014.
18. 10 hours course, Mini postdoctoral course, Department of Mathematics, University of Cincinnati, February 2015.
19. 3 months Harmonic Analysis Graduate Course (in total 30 hours approximately), Aalto University, Helsinki, Spring 2015.
20. 10 hours course, “A modern introduction to the theory of weights”, BCAM (Basque Center for Applied Mathematics), July 2015.
21. 15 hours course, “An introduction to the Ap theory of weights and its connection with Singular Integral Operators and commutators”, Charles University, Prague September, 2016.
22. instructor VII Escuela network of Análisis Funcional (6-11 march 2017), Cáceres, Spain.
23. 10 hour lectures, BCAM-UPV/EHU Graduate School: Introduction To Geometric Analysis: The Atiyah-Singer Index Theorem. June 2017.
24. Summer School “Dyadic Harmonic Analysis, Martingales, and Paraproducts.” Bazaleti, Georgia, from September 2 to 6, 2019.

RESEARCH SUPERVISIONS

postdoctoral:

- Dr. **Gladis Pradolini**, (Universidad Nacional del Litoral, Santa Fe) 1999-2000. Fellowship from CONICET, research institution, Argentina.
- Dr. **R. Trujillo-González**, (University of la Laguna). 2000-2002.
- Dr. **Jose M. Martell**, (University Autónoma of Madrid) (Ramon y Cajal contract, ranked number 1 year 2005).
- Dr. **Andrei Lerner**, 2004-2005 (University of Bari-Illan). Fellowship from the European Harmonic Analysis research grant.
- Dr. **Andrei Lerner**, 2005- 2006. Fellowship from Ministerio de Educación y Ciencia (Spain) for young researchers. (Ramon y Cajal contract, ranked number 2 year 2006)

- Dr. **Sheldy J. Ombrosi**, (Universidad Nacional del Sur, Bahía Blanca) 2005-2006. Fellowship from Junta de Andalucía (regional Andalusian government) and the Universidad Nacional del Sur, Argentina.
- Dr. **Sheldy J. Ombrosi**, 2006-2008. Fellowship from Ministerio de Educación y Ciencia (Spain) for young researchers.
- Dr. **Wei Chen**, (YangZhou University), China. Fellowship from YangZhou University Overseas Study Program. September-15th, 2012 (6 months)
- Dr. **Antti Vahakangas**, (U. of Helsinki) May-July 2012. Fellowship from the Finish academy.
- Dr. **Marcin Preisner**, (Wroclaw University) May-June-July 2013, 4 months.
- Dr. **Ezequiel Rela**, (Universidad de Buenos Aires) 2 years from Febr. 2011. Fellowship from the Junta de Andalucía, regional Andalusian government (Spain).
- Dr. **Alberto Criado**, (Universidad Autónoma de Madrid) 1 year and half from June 2015 at UPV/EHU. Fellowship from the Basque government (Spain)
- Dr. **Kangwei Li**, postdoctoral Juan de La Cierva 2016, 3 years position at BCAM, starting November 2016.
- Dr. **Eugenia Cejas** (PhD Universidad de la Plata, Argentina), Postdoctoral Fellowship, CONICET, Argentina, starting January 2017 (codirected with Prof. Sheldy Ombrosi).
- Dr. **Jose Conde Alonso**, postdoctoral Juan de La Cierva 2017 at BCAM, (ranked number 1).⁴
- Dr. **Luz Roncal** (PhD Universidad de la Rioja), Postdoctoral Research Position at BCAM. September 2016. currently She is Ikerbasque fellow and Ramon y Cajal fellowship.
- Dr. **Tomasz Szarek**, Postdoctoral Research at BCAM, starting July 1, 2020.
- **Zoe Nieraeth**, Junior Postdoctoral Research at BCAM, starting October 1, 2020.
- Dr. **Mateus Sousa**, postdoctoral Juan de La Cierva 2020. (ranked number 2).

senior researchers

- Prof. Michael Wilson (U. Of Vermont) 2004-2005. Sabbatical Research Stay with fellowship from the Ministerio de Educación y Ciencia (Spain) for senior researchers.
- Prof. Oscar Salinas, (Universidad Nacional del Litoral, Santa Fe) fall 2009. Universidad Nacional del Litoral, Santa Fe and CONICET, Argentina. Sabbatical Research Stay.
- Prof. Alexander Volberg, (University de Michigan), spring 2010, supported by the Spanish Ministry of Research and Education.

Supervision of Ph. D. Students

1. **Kabe Moen**, (codirection with Prof. R. Torres), April 2009 at the University de Kansas, Lawrence. Currently is Associate Professor of the University of Alabama, Tuscaloosa. (he enjoyed a posdoctoral position in Washington University, San Louis).
2. **Carmen Ortiz Caraballo**, October, 2011 at the University of Seville. Currently is “Profesora Colaboradora de la Universidad de Extremadura”.
3. **Teresa Luque Martinez**, April 30th, 2014 at the University of Seville. (codirected with Prof. I. Parissis). Currently she is at the Universidad Complutense de Madrid, Spain at the Department of Mathematical Analysis, as junior permanent faculty.
4. **Jorgelina Recchi**, May 12th at Universidad Nacional del Sur, Bahía Blanca, Argentina. (codirected with Prof. S. Ombrosi). “Asistente de docencia”, Department of Mathematics, Universidad Nacional del Sur.

⁴He declined the offer and went to Brown University.

5. **Wendolín Damián González**, December 2014, U. of Seville. Postdoctoral position at the University of Helsinki.
6. **Israel Rivera Rios**, FPI fellowship, UPV/EHU, University of the Basque Country, February 2018, postdoct CONICET, Bahia Blanca (Argentina)
7. **Eduard Roure**, FPU fellowship, codirected with Prof. María Jesús Carro (University of Barcelona), December 2019. Postdoctoral position at Nazarbayev University, Kazakhstan.
8. **Natalia Accomazzo**, FPI fellowship, UPV/EHU, Defended March 2020, codirected with prof. Ioannis Parissis (University of the Basque Country). Postdoctoral position at University of the British Columbia
9. **Javier Martínez Perales**, La Caixa fellowship, Defended December 2020, codirected with prof. Luz Roncal (BCAM).
10. **Javier Canto Llorente**, Basque government fellowship, Defended 17 December 2021, codirected with prof. Kangwei Li, (Tianjin University)

Current PhD students

- **Iker Gardeazabal Gutiérrez**, S.O. BCAM fellowship. Starting August 2021.
- **Alejandro Claros Pérez**, BCAM Technician, October 2021.
- PhD's thesis reports: Maribel Aguilar, Maria Lorente (U. of Malaga), Adr'an Infante, José M. Martell (Universidad Autonoma de Madrid), Javier Pérez (U. of La Rioja), Marcin Preisner (U. of Wroclaw), Toni Heikkinen (U. of Jyvaskyla), Niko Marola (U. of Aalto), Jean Moraes, Daewon Chung (U. of New Mexico), Osane Oruetxebarria Fernandez de la Peña (U. of Vasque Coutry), Laura Prat (U. Autonomia of Barcelona), Adrian Infante (Universidad Autonoma de Madrid), George Tephnadze (Lulea University of Technology), Timo Hänninen (University of Helsinki), Carlos Domingo (University of Barcelona), Lenka-Slavikova (Charles University, Prague) Eugenia Cejas (Universidad de La Plata, Argentina), Martin Krepela (Karlstad University, Sweden), Cruz Prisuelos (ICMAT, Madrid), Andrei Stoica (Lund, University), María Amelia Vignati, Universidad Nacional del Litoral, Santa Fe, Argentina.

ORGANIZATIONS OF MEETINGS

- Organizer, together with Prof. R. Trujillo-González, of the **minisymposia: “Análisis armónico no homogéneo”, R.S.M.E.2000, Madrid y “Análisis armónico y aplicaciones R.S.M.E.2002, Tenerife.**
- Organizer, together with Prof. Nets Katz and Ana Vargas, of the **special session “Classical and Harmonic Analysis”** corresponding to the first joint meeting between the Societies R.S.M.E. and the A. M. S. Sevilla, June-2003.
- Main Organizer of the **Satellite Conference** to the ICM-2006 Madrid **Harmonic and Geometric Analysis with Applications to Partial Differential Equations** Benacazón, Sevilla, August 2006.
- Organizer of the minicourse **“Harmonic Analysis with Applications”** as part of the **“Mathematics in action'06”** at the Universidad de Sevilla (coordinator Prof. Justo Puerto as parte of the promotion of the I.M.U.S. (Instituto de Matemáticas de la Universidad de Sevilla).
- Member of the Scientific Committee of the courses: **“Análisis Matemático en Andalucía”** that take place every two years, 2003, 2005, 2007, 2009, 2011.
- Member of the de Scientific Committee for the Semester in **“Harmonic and Geometric Analysis”**, Centre de Recerca Matematica, Barcelona, together with J. Mateu, J. Verdera, and Perti Mattila, Spring 2009.
- Organizer of the Conference **Harmonic Analysis and related topics**, at I.M.U.S., Instituto de Investigación de Matemáticas de la Universidad de Sevilla, together with R. Espínola, December, 2008.
- Organizer with Prof. esor X. Tolsa of the special session: **“Análisis Matemático”** as part of the the congress I Reunión Conjunta Sociedad Mejicana de Matemáticas y la R.S.M.E. Oaxaca, Julio 2009.
- Organizer with Prof. Rafael Espínola del congreso **Harmonic Analysis and applications-a conference in honor of the 70th birthday of R. Wheeden** ,supported by the I.M.U.S. June 2010.
- Organizer of I ENJIM, Encuentro Nacional de Jóvenes Investigadores en Matemáticas / I Spanish Young Researchers Meeting in Mathematics, Sevilla, Septiembre, 2010.
- Organizer with Prof. J.M. Martell the special session: **“Harmonic Analysis”** como parte del congreso conmemorativo del centenario de la R.S.M.E., Avila, February 2010.

- Organizer with Prof. Rafael Espínola del Doc Course IMUS-2011 “**Harmonic And Geometric Analysis with Applications To Partial Differential Equations**” supported by the IMUS and Consolider I-emath project (40.000 \hat{U}), University of Seville (Two months).
- Organizer the special session: “**Harmonic Analysis**” as part of the bianual R.S.M.E. conference in Santiago de Compostela, January 2013.
- Organizer with Professors Pascal Auscher and J.M. Martell, “**Trimester in Real Harmonic Analysis and applications to Partial Differential Equations**”, ICMAT, Spring, 2013, Madrid.
- Organizer with Prof. Francisco Gancedo of the conference “**Fluid Mechanics and Singular Integrals,**” supported by the IMUS, University of Seville.
- Organizer of “**Santaló’s summer school 2014**”, supported mainly by the Spanish Mathematical Society R.S.M.E. and the Universidad Menéndez y Pelayo, Santander, but also by the European Math. Society.
- Organizer together with R. Torres of the special session: “**Harmonic Analysis**” as part of the bianual R.S.M.E. conference in Granada, February, 2015.
- **Workshop “I Harmonic Analysis and PDE”** BCAM, 2016.
- **Workshop “II Harmonic Analysis and PDE”** BCAM, 2017.
- “**I Summer school on “Harmonic analysis and partial differential equations” at BCAM**”, (together with I. Parissis and Alberto Criado), July 2015.
- “**II Summer school “Harmonic analysis and partial differential equations” at BCAM**”, , (together with I. Parissis and Alberto Criado), July 2016.
- “**III Summer school “Harmonic analysis and partial differential equations” at BCAM**”, , (together with I. Parissis and Luz Roncal), July 2017.
- Organizer together with L. Roncal of the special session: “**Harmonic Analysis**” as part of the bianual R.S.M.E. conference in Zaragoza, February, 2017.
- Organizer of de “Escuela-taller” de la red de Análisis Funcional, BCAM (Bilbao) (2018) together with professors Manuel Maestre and Domingo García (U. of Valencia).
- Organizer of de “Escuela-taller” de la red de Análisis Funcional, BCAM (Bilbao) (2019) together with professors Manuel Maestre and Domingo García (U. of Valencia).
- Organizer together with J. Conde and T. Luque of the special session: “**Harmonic Analysis**” as part of the bianual R.S.M.E. conference in Santander, February, 2019.

OTHER MERITS

- Fellowship from Ministerio de Educación y Ciencia (Spain) (sabbatical program in a foreign university): University of Kansas, Lawrence (2007-2008).
- Special fellowship from Junta de Andalucía (Regional Government of Andalucía), University of Kansas, Lawrence (2007-2008).
- Member of the Scientific Committee of the “Satellite conference in Harmonic Analysis to the I.C.M. 2018-Rio de Janeiro”.
- Recipient of the **2016 Ames Award** for the outstanding J.M.A.A. paper: ”The $L \log L^\epsilon$ endpoint estimate for maximal singular integral operators”, Journal of Mathematical Analysis and Applications joint with Thomas Hytönen: <https://www.journals.elsevier.com/journal-of-mathematical-analysis-and-applications/news/winner-of-2016-jmaa-ames-award-announced>).
- Member of the Defoe chair committee, University of Missouri.

- **“Guarantor”** of the **Severo Ochoa grant** Call 2013 since 2015 at the BCAM: Basque Center for Applied Math., Bilbao.
PI: Luis Vega González
- **“Guarantor”** of the **Severo Ochoa grant** Call 2017 at the BCAM: Basque Center for Applied Math., Bilbao.
PI: Luis Vega González
- Special sabbatical year contract, awarded by the **“highly talented leading foreign researcher”** program at BNU, Beijing Normal University, Department of Mathematics. Course 2021-2022.
- Citations after MathSciNet (Jan-1-2022): 89 papers, cited 3719 times by 1040 authors, index $H=33$;
 $\frac{\text{citations}}{\text{papers}} \approx 41,8$
- Among the 2% of most influential scientists in the world according to Stanford University ranking, in the 10% of the area of General Mathematics with the most merits and in the #6 position of Spanish mathematicians according to the same ranking.

Service (scientific) to the community

- Three times member of the Commission of Experts in Mathematics, Spanish Government.
- Expert collaborator in the area of Mathematical Analysis of the Research Council during the 3 years period 2012-2013-2014, Spanish Government.
- Referee, Agència de Gestió d'Ajuts Universitaris i de Recerca (Generalitat de Catalunya).
- Referee, CONICET, Agencia Nacional de Investigacion de Argentina.
- Referee, National Science Foundation, (U.S.)
- Panelist, academy of Finland
- Selection Committee, U. of Jyväskylä
- President of the Mathematical Research Council of the Junta de Andalucía (Andalusian Regional Government), appointed September 2020 (three years.)