

EDUCATION	Ph. D. student, Mathematics Currently - Advisor: Prof. Óscar Ciaurri. <i>University of La Rioja, Logroño</i> Master of Science, Research in Mathematics 2014 - Master in “Research and Modelling in Mathematics, Statistics and Computer Science” by the University of La Laguna, University of La Rioja, University of Oviedo, University of Zaragoza, University of Basque Country and Public University of Navarra. - Master thesis: Series de Fourier-Jacobi en espacios de Morrey. - Advisor: Prof. Óscar Ciaurri. <i>University of La Rioja, Logroño</i> Bachelor of Science, Mathematics 2013 - Bachelor thesis: Estudio de regiones de seguridad en trayectorias de proyectiles. - Advisor: Prof. Óscar Ciaurri.
GRANTS AND PROJECTS	Pre-doctoral grant for Ph. D. studies 2016-Present - FPI grant supported by the Government of Comunidad Autónoma de La Rioja.
RESEARCH EXPERIENCE	Research publications (papers in journals) 1. A. Arenas and Ó. Ciaurri, Fourier-Jacobi expansions in Morrey spaces, <i>J. Math. Anal. Appl.</i> 415 (2014), 302–313. 2. A. Arenas, Ó. Ciaurri, and E. Labarga, Weighted inequalities for the Riesz potential on the sphere, <i>Integral Transforms Spec. Funct.</i> 27 (2016), 511–522. 3. A. Arenas and Ó. Ciaurri, Safe domain for projectile trajectories in a medium with quadratic drag force, <i>Math. Mech. Solids</i> 21 (2016), 1061–1067. 4. A. Arenas, Ó. Ciaurri, and E. Labarga, A Hardy inequality for ultraspherical expansions with an application to the sphere, <i>J. Fourier Anal. Appl.</i> 24 (2018), 416–430. 5. A. Arenas, E. Labarga, and A. Nowak, Exotic multiplicity functions and heat maximal operators in certain Dunkl settings, <i>Integral Transforms Spec. Funct.</i> 29 (2018), 771–793. <i>In review</i> - A. Arenas, Ó. Ciaurri, and E. Labarga, Discrete harmonic analysis associated with Jacobi expansions I: the heat semigroup, <i>submitted</i>. <i>Preprints</i> - A. Arenas, Ó. Ciaurri, and E. Labarga, A weighted transplantation theorem for Jacobi coefficients, <i>in preparation</i>. - A. Arenas, Ó. Ciaurri, and E. Labarga, Discrete harmonic analysis associated with Jacobi expansions II: the Riesz transform, <i>in preparation</i>. Survey articles 1. A. Arenas, Ó. Ciaurri, E. Labarga, L. Roncal, and J. L. Varona, Series de Fourier no trigonométricas: una perspectiva familiar, <i>Zubía Monográfico</i> 26 (2014), 39–54.

Communications in conferences

1. *La región de seguridad para trayectorias de proyectiles sujetos a una fuerza de rozamiento cuadrática*, contributed talk at "VIII Jornadas de trabajo sobre Análisis Numérico y Aplicaciones - VIII JANA", November 2013, Logroño, Spain.
2. *Fourier-Jacobi expansions in Morrey spaces*, poster at "IX Encuentro de Investigación en Teoría de la Aproximación - EITA 2014. En el centenario del nacimiento de D. Luis Vigil y Vázquez (1914-2003)", October 2014, Alquézar, Spain.
3. *Boundedness of operators in Morrey spaces*, poster at "Congreso bienal de la Real Sociedad Matemática Española", February 2015, Granada, Spain.
4. *Weighted inequalities for the intertwining operator for radial functions on the sphere*, contributed talk at "Física y Matemáticas: dos caras de una misma moneda - FISMAT", July 2015, Sevilla, Spain.
5. *Weighted inequalities for the intertwining operator on the sphere*, contributed talk at "III Congreso de Jóvenes Investigadores RSME", September 2015, Murcia, Spain.
6. *Weighted inequalities for the intertwining operator on the sphere*, poster at "X Encuentro de Investigación en Teoría de la Aproximación - X EITA 2015", October 2015, Daroca, Spain.
7. *Safe domain for projectile trajectories in a medium with quadratic drag force*, poster at "Tercer Encuentro de la Red de Polinomios Ortogonales y Teoría de la Aproximación - Orthonet 2016", May 2016, Albarracín, Spain.
8. *Weighted inequalities for the Riesz potential on the sphere*, contributed talk at "Second Joint Conference of the Belgian, Royal Spanish and Luxembourg Mathematical Societies", June 2016, Logroño, Spain.
9. *Hardy inequalities related to orthogonal polynomials and special functions*, contributed talk at "Congreso Bienal de la Real Sociedad Matemática Española", January and February 2017, Zaragoza, Spain.
10. *Classical inequalities for potential operators on the sphere*, contributed talk at "XVII Encuentros de Análisis Real y Complejo - XVII EARCO", May 2017, Santa Cruz de Tenerife, Spain.
11. *Fourier-Jacobi expansions in Morrey spaces*, poster at "IV encuentro de la Red de Polinomios Ortogonales y Teoría de la Aproximación - Orthonet 2017", November 2017, El Escorial, Spain.
12. *The Hardy inequality on the sphere*, contributed talk at "Reunión conjunta de la Real Sociedad Matemática Española y la Unión Matemática Argentina", December 2017, Buenos Aires, Argentina.

Invited seminars

1. *Fourier-Jacobi expansions in Morrey spaces*, at "Harmonic analysis and orthogonal expansions seminar", Institute of Mathematics and Computer Sciences of University of Technology, March 2017, Wrocław, Poland.
2. *Con diez cañones por banda*, at "Seminario Permanente de Actualización en Matemáticas", Departamento de Matemáticas y Computación de la Universidad de La Rioja, May 2018, Logroño, Spain.

Attendance to courses

- Luis Vega, *An Introduction to Dispersive Equations*, March 2015 (14 hours), BCAM - Basque Center for Applied Mathematics, Bilbao, Spain.

- Renato Álvarez-Nodarse and Jorge Galán Vioque (coord.), *Física y Matemáticas: dos caras de una misma moneda*, June and July 2015 (32 hours), IMUS - Instituto de Matemáticas de la Universidad de Sevilla Antonio de Castro Brzezicki, Sevilla, Spain.
- Walter Van Assche, Arieh Iserles, Luis Velázquez and Robert Milson, *School on Orthogonal Polynomials in approximation theory and mathematical physics*, October 2017 (22,5 hours), ICMAT - Instituto de Ciencias Matemáticas, Madrid, Spain.

Research stays

- Institute of Mathematics of the Polish Academy of Sciences, Wrocław, Poland. January-April 2017 (three months).
- Instituto de Ciencias Matemáticas - ICMAT, Madrid, Spain. October 2017 (two weeks).
- Departamento de Análisis Matemático de la Universidad de Sevilla, February-March 2018 (one month).

Attendance to conferences

- "VIII Jornadas de trabajo sobre Análisis Numérico y Aplicaciones - VIII JANA", November 2013, Logroño, Spain.
- "XV Encuentros de Análisis Real y Complejo - XV EARCO", May 2014, Girona, Spain.
- "First Joint International Meeting RSME-SCM-SEMA-SIMAI-UMI", June and July 2014, Leioa, Spain.
- "IX Encuentros de Investigación en Teoría de la Aproximación - EITA 2014. En el centenario del nacimiento de D. Luis Vigil y Vázquez (1914-2003)", October 2014, Alquézar, Spain.
- "Congreso bienal de la Real Sociedad Matemática Española", February 2015, Granada, Spain.
- "XVI Encuentros de Análisis Real y Complejo - XVI EARCO", May 2015, Carmona, Spain.
- "Workshop Física y Matemáticas: dos caras de una misma moneda", July 2015, Sevilla, Spain.
- "III Congreso de Jóvenes Investigadores RSME", September 2015, Murcia, Spain.
- "X Encuentro de Investigación en Teoría de la Aproximación - EITA 2015", October 2015, Daroca, Spain.
- "Tercer Encuentro de la Red de Polinomios Ortogonales y Teoría de Aproximación - Orthonet 2016", May 2016, Albarracín, Spain.
- "Second Joint Conference of the Belgian, Royal Spanish and Luxembourg Mathematical Societies", June 2016, Logroño, Spain.
- "Dunkl operators, special functions and harmonic analysis. On the occasion of Charles Dunkl's 75th birthday", August 2016, Paderborn, Germany.
- "Congreso bienal de la Real Sociedad Matemática Española", January and February 2017, Zaragoza, Spain.
- "XVII Encuentros de Análisis Real y Complejo - XVII EARCO", May 2017, Santa Cruz de Tenerife, Spain.
- "Analysis and Applications. A conference in honor of Elias M. Stein", September 2017, Wrocław, Poland.

- “IV Encuentro de la Red de Polinomios Ortogonales y Teoría de Aproximación - Orthonet 2017”, November 2017, El Escorial, Spain.
- “Reunión conjunta de la Real Sociedad Matemática Española y la Unión Matemática Argentina”, December 2017, Buenos Aires, Argentina.

OTHER INFORMATION

Other publications and communications

- A. Arenas and M. Bataille, Solution to problem 3406, *Crux Mathematicorum* **35** (2010), 54–55.
- *Estudio de regiones de seguridad asociadas a trayectorias de proyectiles*, poster at “XI Semana de la Ciencia de la Facultad de Ciencias, Estudios Agroalimentarios e Informática de la Universidad de La Rioja”, November 2015, Logroño.
- *What’s in a billion*, contributed talk at “Actos de Conmemoración del 10º Aniversario de la Escuela Oficial de Idiomas en Haro”, February 2016, Haro.

Other scientific and organizing activities

- Team member of the organization of the *Second Joint Conference of the Belgian, Royal Spanish and Luxembourg Mathematical Societies*, June 2016, Logroño, Spain.
- Team member in the Mathematics Olympiad sessions for local High School students, since 2016.
- Member of the Proyecto de Innovación Docente (Teaching Innovation Project) “Curso Online de Olimpiadas Matemáticas (MOOC-COOM)”, since 2017.

Awards

- Winner of “First contest of Mathematics Bachelor Theses at University of La Rioja”.

Memberships

- Mathematical Association of America (MAA).
- Royal Spanish Mathematical Society (RSME).

Languages

- English: Certificate of Intermediate Level (B1) by Official School of Languages, Spanish Ministry of Education.
- Spanish: Mother tongue.

Last update: October 2018.