

Gabriel Andrés LAROTONDA

Nationality: Argentinian.

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Titles

1. PhD in Mathematics, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (2005). Thesis: “Geodesic convexity, symmetric spaces and Hilbert-Schmidt operators”. Advisor: Esteban Andruchow.
2. Graduated in Mathematical Sciences (Licenciado), Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires (1999). Thesis: “Some metric aspects of noncommutative geometry”.

Positions (ongoing)

1. Adjoint Professor, full-time, Instituto de Ciencias/Universidad Nacional de General Sarmiento. Since December 2007.
2. Adjoint Professor, part-time, Departamento de Matemática/Facultad de Ciencias Exactas y Naturales/Universidad de Buenos Aires. Since March 2008.
3. Consejo Nacional de Investigaciones Científicas y Técnicas Researcher (CONICET), since March 2007, in Instituto Argentino de Matemática “Alberto P. Calderón”. Independent Researcher since 2015.

Research and Teaching (previous)

1. Assistant Professor, full-time, ICI/UNGS. 2003-2007.
2. Assistant Professor, part-time, FCEyN/UBA. 2000-2002.
3. Teaching Assistant, part-time, ICI/UNGS. 1998-2003.
4. Teaching Assistant, part-time, FCEyN/UBA. 1997-2000.
5. Teaching Assistant, part-time, Ciclo Básico Común/UBA. 1995-1997.

Other Academic records

1. Member of Comision Asesora de Matemática, CONICET, 2015-2016.

2. Member of Comision de Becas (scholarships), CONICET, 2013-2014.
3. PhD Thesis Jury, Universidad de Buenos Aires, 2012, 2013, 2016 (Thesists: Daniel Galicer, Ariel Molinuevo, Román Villafañe. Advisors: Daniel Carando, Fernando Cukierman, Verónica Dimant), and in Universidad Nacional de La Plata, 2009 (Thesist: María Laura Arias, Advisor: Gustavo Corach).
4. Assesor (Par Evaluador) for Comisión Asesorade Matemática/CONICET, since 2009.
5. Assesor for PICT projects in Differential Geometry, for ANPCyT, since 2010.
6. Coordination of the Geometry Session in the annual Meeting/Unión Matemática Argentina, Tucumán, September 2011.
7. Invited Professor, Departamento de Matemática y Computación, Universidad de Santiago de Chile, January 2012.
8. Lic. Thesis Jury, Math. Departament FCEyN/UBA a number of them, since 2009.

University management

1. Coordination of the Mathematics Area (Head of Department), Instituto de Ciencias, Universidad Nacional de General Sarmiento, 2007-2008 and 2015-2016.
2. Representation of Instituto de Ciencias/UNGS in the Consejo Universitario de Ciencias Exactas y Naturales (CUCEN), 2010-2015.
3. Counsellor for Instituto de Ciencias/UNGS, 2010-2014.
4. Alternate/substitute of the Director of Instituto de Ciencias/UNGS in Consejo Superior de la Universidad Nacional Sarmiento, 2010-2014.

Participation in Research Projects (ongoing)

1. Researcher of the project PIP 2016 112201, CONICET. Title: Operator theory and Differential Geometry, Instituto Argentino de Matemática. Head of project: E. Andruchow.
2. Researcher of the project in ANPCyT, PICT 2010-2478. Title: Metric Spaces of Operators, Universidad Nacional de General Sarmiento. Head of project: E. Andruchow.

Thesis and scholarship direction

1. PhD Thesis directed in Universidad de Buenos Aires: Manuel López Galván “Riemannian geometry of groups of operators and their homogeneous spaces”, March 2016. Martin Miglioli “Infinite dimensional homogeneous spaces”, June 2015.
2. Director de la Tesis de Licenciatura en Ciencias Matemáticas de Pablo Herrera, José Luna, Franco Arrejería, e Iván Rey, (desde 2016, en curso). Facultad de Ciencias Exactas y Naturales de la Universidad de Buenos Aires.

3. Direction of sholarships: René Elencwajg, Martín Miglioli, Manuel Lopez Galvan, Yaneth Hernández (ANPCyT and CONICET/Latinoamericana respectively), 2010, 2011, 2012, 2013 respectively.
4. Direction of graduate Thesis on Math Sciences, FCEyN-UBA: R. Elencwajg (April 2010 *Inequalities on operator spaces*), M. Lopez Galván (September 2011 *Integrability of Lie-Banach algebras*), M. Cossarini (March de 2012 *Equations of Classical Mechanics*).
5. Co-Direction of Scholarship program “Formación en Docencia de la Universidad Nacional de General Sarmiento”: Abel Klobouk (2008-2009); Virginia Carnelli (2008-2009); Cristina Herrera (2007-2008); Ana María Maffei (2007-2008); Emanuel Lastra (2005-2006); Lucas Catalano (2004-2005).

Journal Papers

1. G. Larotonda, *Young’s (in)equality for compact operators*. Studia Math. 233 (2016) 169–181.
2. T. Bottazzi, R. Elencwaj, G. Larotonda, A. Varela, *Inequalities related to Bourin and Heinz means with a complex parameter*. J. Math. Anal. Appl. 426 (2015), no. 2, 65–773.
3. E. Andruchow, G. Larotonda, L. Recht, A. Varela, *The left invariant metric on the general linear group*, J. Geom. Phys. 86 (2014), 241–257.
4. J. Antezana, G. Larotonda, A. Varela, *Optimal paths for symmetric actions in the unitary group*, Comm. Math. Phys. 328 (2014), no. 2, 481–497.
5. E. Andruchow, E. Chiumiento, G. Larotonda, *The group of L^2 isometries of H_0^1* , Studia Math. 217 (2013), 193–217.
6. J. Antezana, G. Larotonda, A. Varela, *Thompson type formulae*, J. Funct. Anal. 262 (2012) no. 4, 1515–1528.
7. E. Andruchow, G. Larotonda, L. Recht, A. Varela, *A characterization of minimal Hermitian matrices*, Linear Algebra Appl. 436 (2012) no. 7, 2366–2374.
8. E. Andruchow, G. Larotonda, *Smooth paths of conditional expectations*. Int. J. Math. 22 (2011) no. 7, 1031-1050.
9. C. Conde, G. Larotonda, *Manifolds of semi-negative curvature*. Proc. London Math. Soc. (3) 100 (2010), 670-704.
10. C. Conde, G. Larotonda, *Spaces of nonpositive curvature arising from a finite algebra*. J. Math. Anal. Appl. 368, (2010), no. 2, 636-649.
11. E. Andruchow, E. Chiumiento, G. Larotonda, *Homogeneous manifolds from non-commutative measure spaces*. J. Math. Anal. Appl. 365, (2010), no. 2, 541-558.
12. E. Andruchow, G. Larotonda, *The rectifiable distance in the unitary Fredholm group*. Studia Math. 196 (2010), 151-178.

13. E. Andruchow, G. Larotonda, L. Recht, *Finsler geometry and actions of the p -Schatten unitary groups*. Trans. Amer. Math. Soc. 362 (2010), 319-344.
14. E. Andruchow, G. Larotonda, *Lagrangian Grassmanian in infinite dimension*. J. Geom. Phys. 59 (2009), no. 3, 306-320.
15. G. Larotonda, *Norm Inequalities in Operator Ideals*. J. Funct. Anal. 255 (2008), no. 11, 3208-3228.
16. E. Andruchow, G. Larotonda, *Hopf-Rinow Theorem in the Sato Grassmanian*. J. Funct. Anal. 255 (2008), no. 7, 1692-1712.
17. E. Andruchow, G. Larotonda, *Weak Riemannian Manifolds from Finite Index Subfactors*. Ann. Global Anal. Geom. 34 (2008), no. 3, 213-232.
18. G. Larotonda, *Nonpositive Curvature: A Geometric Approach to Hilbert-Schmidt Operators*. Differential Geom. Appl. 25 (2007), no. 6, 679-700.
19. E. Andruchow, G. Larotonda, *Nonpositively Curved Metric in the Positive Cone of a Finite von Neumann Algebra*. J. London Math. Soc. (2) 74 (2006), no. 1, 205-218.
20. G. Larotonda, *Unitary Orbits in a Full Matrix Algebra*. Integral Equations Operator Theory 54 (2006), no. 4, 511-523.
21. E. Andruchow, G. Larotonda, *Connes' Metric for States in Group Algebras*. Revista de la UMA, vol 44 (2003), no. 2, 49-56.

Preprints

1. G. Larotonda *The case of equality in Hölder's inequality for operators and matrices*. (2016) Preprint.
2. G. Larotonda *Young (in)equality for the s -numbers in semi-finite von Neumann algebras*. (2016) Preprint.

Reviewer and referee

1. Reviewer for: Mathematical Reviews (American Mathematical Society), Zentralblatt für Mathematik (European Mathematical Society).
2. Referee for: *Bulletin of the London Mathematical Society*, *Crelle's Journal*, *Journal of Operator Theory*, *Integral Equations and Operator Theory*, *International Mathematics Research Notices*, *Journal of Functional Analysis*, *Journal of Geometric Mechanics*, *Journal of Mathematical Analysis and Applications*, *Linear Algebra and its Applications*, *Mathematicae Notae*, *Mathematica Scandinavica*, *Mathematische Annalen*, *Mathematische Nachrichten*, *Revista de la Real Academia de Cs. Serie A Matemáticas*, *Revista de la Unión Matemática Argentina*, *Rocky Mountain Journal of Mathematics*, *Studia Mathematica*, *St. Petersburg Mathematical Journal*.

Books

1. *Estructuras Geométricas para las Variedades de Banach*, by G. Larotonda (2012). UNGS, collection “Ciencia, Innovación y Tecnología”.
2. *Cálculo y Análisis*, by G. Larotonda. Edited by Departamento de Matemática de la FCEyN, UBA, Collection “Cursos de Grado”, Fasc. 3, 2010.

Monographs and notes

1. *Espacios Vectoriales Topológicos*, A. Braunstein and G. Larotonda (1998).
2. *Notas de Análisis Funcional*, A. Braunstein, A. Bompadre, S. Heineken, G. Larotonda, and A. Waissbein (1997).
3. *C^* -algebras de grupo*, A. Braunstein and G. Larotonda (1997).
4. *Una introducción al complejo de de Rham*, G. Larotonda (1996).

Talks, conferences and short courses

1. Invited conference “Hölder’s inequality for matrices and operators”. XIII National Encounter of Analysts, Villa General Belgrano (Córdoba), Argentina. April 15, 2016.
2. “Variations on Grassmann manifolds”. Differential Geometry Seminar, Facultad de Ciencias Exactas, Universidad de Buenos Aires. October 8, 2015.
3. Invited conference “Young’s inequality for matrices and operators”, Functional Analysis Session, annual meeting of the Union Matemática Argentina. Universidad Nacional del Litoral. September 14, 2015.
4. “The restricted Grassmannian in Hardy’s space”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. August 14, 2015.
5. Invited Conference “Convex bodies and optimizers in matrix geometry”, Matrix Geometries Symposium, International Linear Algebra Society Meeting (ILAS2014). In absentia, communication sent. Seoul, South Korea, August 2014.
6. “Cauchy, Hölder, Schwarz, Young”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. December 5, 2014.
7. Invited conference “Matrix norm inequalities and their applications in geometry”, Advanced School and Workshop on Matrix Geometries, ICTP, Trieste. July 11, 2013.
8. Invited conference “The group of L^2 isometries of H_0^1 ”, Functional Analysis Session, IV Latinoamerican Congress of Mathematics, Córdoba, August 7, 2012.
9. Invited conference “Left invariant metric on the general linear group”, Mathematical Physics Session, IV Latinoamerican Congress of Mathematics, Córdoba, August 6, 2012.
10. Invited conference “Riemannian geometry techniques applied to non-Riemannian contexts”, Facultad de Matemática y Computación, Universidad de Santiago de Chile. January 20, 2012.

11. “Models of nonpositively curved geometry”, Seminario de Sistemas Dinámicos de la Facultad de Matemática y Computación, Universidad de Santiago de Chile. January 16, 2012.
12. Conference “Cartan, Hadamard, and the role of operator inequalities”. Primera Escuela sobre Análisis Funcional y Geometría (en honor al Profesor Gustavo Corach), Instituto Argentino de Matemática, CONICET, Buenos Aires. November 24, 2011.
13. “Left invariant metrics on Lie groups”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. April 29, 2011.
14. Invited conference, annual meeting of the Union Matemática Argentina. Universidad Nacional de Tandil. Title: “Manifolds of semi-negative curvature”. September 30, 2010.
15. Course “Geometrical Structures for differentiable manifolds”, annual meeting of the Union Matemática Argentina. Universidad Nacional de Tandil. September 2010.
16. “Convexity properties of the unitary Fredholm group”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. September 3, 2010.
17. Invited conference, annual meeting of the Union Matemática Argentina. Universidad Nacional de Mar del Plata. September 25, 2009. Title: “Convexity of the geodesic distance on unitary groups”.
18. Conference: “The rectifiable distance in the unitary group”. IV Encuentro de Geometría Diferencial (EGEO-2009). Universidad Nacional de Córdoba, La Falda (Córdoba). 27 de Agosto de 2009.
19. “Short curves for unitarily invariant norms on unitary groups”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. August 7, 2009.
20. Conference: “Inequalities and dissipative operators”. Primera Jornada de Análisis Funcional y Armónico, Academia Nacional de Ciencias Exactas, Buenos Aires. December 17, 2008.
21. “Norm inequalities in operator ideals”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. October 3, 2008.
22. “Dissipative Operators and the Weierstrass factorization theorem”. Seminario de teoría de Operadores de la Universidad Nacional de General Sarmiento, Los Polvorines. September 11, 2008.
23. “Homogeneous spaces from classical Banach-Lie groups”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. May 2, 2008.
24. “Geometry of positive operators”. Functional Analysis Seminar “Mischa Cotlar”, Instituto Argentino de Matemática, CONICET, Buenos Aires. November 12, 2004.