CURRICULUM VITAE

Guillermo Cortiñas

PERSONAL	Born January 15, 1962 in Buenos Aires, Argentina. Married, 3 children.
EDUCATION	Doctor en Ciencias Matemáticas, Universidad de Buenos Aires, 1989 Licenciado en Ciencias Matemáticas, Universidad de Buenos Aires, 1984
CURRENT POSITIONS	*Profesor Titular Plenario*, Univ. Buenos Aires. *Investigador Superior*, CONICET
AFFILIATION	Departamento de Matemática/IMAS Fac. Cs. Exactas y Naturales, UBA
CURRENT RESEARCH PROJECTS	*K-theory, homology and noncommutative geometry.* PICT-2021-I-A-00710. *Álgebra, geometría y topología no conmutativas.* UBACyT 2023–2026, 256BA. *Álgebra y geometría no conmutativas.* PIP 2021-2023 GI, 11220200100423CO.
AWARDS	Humboldt Research Award, 2016. Distinción a la Excelencia Académica, UBA, 2019 and 2022. Premio Consagración, Academia Nacional de Ciencias Exactas, Físicas y Naturales, 2020. Fellow of the American Mathematical Society, Class of 2025.
SELECTED INVITED ADDRESSES	*Virtual ICM 2022* Invited Speaker, CDC Panel Online cooperation in mathematics: challenges and opportunities for developing countries. *Reunión Anual de la Unión Matemática Argentina*, Rey Pastor Lecture, Universidad de San Luis, 2014. *International Congress of Mathematicians*, Seoul, South Korea, 2014, Invited Speaker, Algebra Session. *Congreso Latinoamericano de Matemáticos*, Córdoba, Argentina, 2012, Plenary Lecture. *Reunión Anual de la Unión Matemática Argentina*, González Domínguez Lecture, Universidad de Mar del Plata, 2009.
EDITORIAL	Annals of K-theory (Managing Editor) Orbita Mathematicae (Editor in Chief) Journal of Homotopy and Related Structures
PROFESSIONAL SERVICE	Chair (October 2023–) (previously Vicechair (2019–2023)) Santaló Mathematical Research Institute (IMAS). President (2017– 2021), Unión Matemática de América Latina y el Caribe (UMALCA). Member of the Program Committee, Mathematical Congress of the Americas 2017. Chair of the Algebra Panel, International Congress of Mathematicians 2018.

PHD THESIS DIRECTED

1. José Luis Castiglioni. *Dold-Kan correspondence for rings.* Universidad de Buenos Aires, 2003.

2. María Luisa de León Mallorquín. *K-theory and cyclic homology of hypersurfaces.* Universidad de La Laguna, Spain, 2008.

3. Rubén Burga. *Homology of complete intersections with isolated singularities.* Universidad Nacional de Ingeniería, Perú, 2009.

4. María Eugenia Ellis Raggio. *Equivariant kk-theory and isomorphism conjectures.* Universidad de Valladolid, España, 2011.

5. Gisela Tartaglia. *Algebraic and topological K-theory of group rings.* Universidad de Buenos Aires, 2015.

6. María Eugenia Rodríguez. *Operator algebras on L^p-spaces associated to oriented graphs.* Universidad de Buenos Aires, 2016.

7. Emanuel Rodríguez Cirone. *Bivariant algebraic K-theory categories and a spectrum for G-equivariant bivariant algebraic K-theory.* Universidad de Buenos Aires, 2017.

8. Diego Montero. *Homotopy classification of purely infinite simple Leavitt path algebras.* Universidad de Buenos Aires, 2019.

9. Santiago Vega. *Bivariant algebraic hermitian K-theory.* Universidad de Buenos Aires, 2021.

10. Guido Arnone. Universidad de Buenos Aires. Current student.

POSTDOCTORAL SUPERVISION

Devarshi Mukherkjee, Feodor Lynden Fellow, Alexander von Humboldt Foundation, 4/2022-3/2024.

CONFERENCES ORGANIZED

1. CIMPA School 2025: K-theory and operator algebras, July 28-August 1, La Plata, and August 4-8, Buenos Aires. Organizer together with Gisela Tartaglia and Enrique Pardo.

2. Combinatorial $*$-algebras, Mathematisches Forschungsnstitut Oberwolfach, March 10-15, 2024. Organizer together with Søren Eilers, Elizabeth Gillaspy and Roozbeh Hazrat.

3. Mathematical Congress of the Americas, Universidad de Buenos Aires, July 9-23, 2021. General organizer, together with A. Solotar (President of the local committee).

4. ICM 2018 Satellite: K-theory conference, Universidad Nacional de La Plata (July 16-20, 2018) and Universidad de Buenos Aires, (July 23-27, 2018) (with G. Tartaglia).

5. Research Trimester on K-theory, Hausdorff Institut für Mathematik, Bonn, May-August, 2017 (with Hélène Esnault, Christian Haesemeyer, Holger Reich and Jonathan Rosenberg).

6. XXI Coloquio Latinoamericano de Álgebra, July 25-29, 2016 (with T. Krick and A. Solotar).

7. K-theory, cyclic homology and motives, Rutgers University, August 17-21, 2016 (with A. Buch, E. Friedlander, C. Haesemeyer, A. Merkurjev and C. Mazza).

8. Topics in Noncommutative Geometry: 3era Escuela de Invierno Luis Santaló-CIMPA Research School, July 26, August 6, 2010.

9. Swisk, Sedano Winter School on K-theory, Sedano, Spain, January 21-27, 2007.

10. ICM 2006 Satellite:International Conference on K-theory and Noncommutative Geometry, Valladolid, Spain, August 31, September 6, 2006.

11. BASCOLA: Buenos Aires Satellite, Coloquio Latinoamericano de Álgebra, Buenos Aires, August 10–12, 2005 (with A. Dickenstein and M. Farinati).

PUBLICATION LIST

Published articles and books

1. G. Cortiñas, O.E. Villamayor. Cyclic homology of k[Z/2Z]. Rev. Un. Mat. Argentina 33 (1987) 55–61.

2. G. Cortiñas, J.A. Guccione, O.E. Villamayor. Cyclic homology of k[Z/pZ]. K-theory 2 (1989) 603–616.

3. Noaï Fitchas (L. Caniglia, G. Cortiñas, S. Danón, J. Heintz, T. Krick, P. Solernó), A. Galligo. Nullstellensatz effectif et conjecture de Serre (thèoreme de Quillen-Suslin) pour le calcul formel. Math. Nachr. 149 (1990) 231–253.

4. L. Caniglia, G. Cortiñas, S. Danón, J. Heintz, T. Krick, P. Solernó. Algorithmic aspects in Suslin's proof of Serre's conjecture. Comput. Complexity 3, (1993) 31–55.

5. G. Cortiñas, J.A. Guccione, J.J. Guccione. Decomposition of Hochschild and cyclic homology of commutative differential graded algebras. J. Pure Appl. Algebra 83 (1992) 219–235.

6. G. Cortiñas. L-theory and dihedral homology. Math. Scand. 73 (1993) 53–69.

7. G. Cortiñas. L-theory and dihedral homology II. Topology Appl. 51 (1993), 53–69.

8. G. Cortiñas. Stiefel-Whitney Classes for quadratic modules. Comm. Algebra 21 (1993) 163–178.

9. G.Cortiñas, C. Weibel. Homology of Azumaya algebras. Proc. Amer. Math. Soc. 121, (1994). 53–55.

9. G. Cortiñas, S. Geller, C. Weibel. The artinian Berger conjecture. Math. Z. 228 (1998) 569–588.

10. G. Cortiñas. Cyclic homology of commutative algebras over arbitrary ground rings. Comm. Algebra 27, (1999) 1403–1412.

11. G. Cortiñas, J. Shapiro. Central extensions of quadratic Lie algebras and its relation to dihedral homology. J. Algebra 150 (1996) 725–756.

14. G. Cortiñas. On the derived functor analogy in the Cuntz-Quillen framework for cyclic homology. Algebra Colloq. 5 (1998) 305–328.

15. G. Cortiñas. Infinitesimal K-theory. J. reine angew. Math. 503 (1998) 305–328.

16. G. Cortiñas, F. Krongold. Artinian algebras and differential forms. Comm. Algebra 27 (1999) 1711–1716.

17. G. Cortiñas. Periodic cyclic homology as sheaf cohomology. K-theory 20, (2000), 175–200.

18. G. Cortiñas. Interchanging holims and coholims in CAT. Bol. Acad. Nac. Cienc. (Córdoba) 65 (2000), 95–102.

19. G. Cortiñas. An explicit formula for PBW quantization. Comm. Algebra, 30 (2002) 1705–1713.

20. G. Cortiñas. De Rham and infinitesimal cohomology in Kapranov's model for noncommutative algebraic geometry. Compositio Math. 136 (2003) 171–203.

21. G. Cortiñas, C. Valqui. Excision in bivariant periodic cyclic cohomology: a categorical approach. K-theory 30, 2003, 167–201.

22. J. L. Castiglioni, G. Cortiñas. Cosimplicial versus DG-rings: a version of the Dold-Kan Correspondence. J. Pure Appl. Algebra 191 (2004) 119–142.

23. G. Cortiñas. The structure of smooth algebras in Kapranov's framework for noncommutative geometry. J. Algebra 281 (2004) 679–694.

24. G. Cortiñas. The obstruction to excision in K-theory and in cyclic homology. Invent. Math. 454 (2006) 143–173.

25. G. Cortiñas, C. Haesemeyer, C. Weibel. K-regularity, cdh-fibrant Hochschild homology, and a conjecture of Vorst. J. Amer. Math. Soc., 21 (2008), 547–561.

26. G. Cortiñas, C. Haesemeyer, M. Schlichting, C. Weibel. Cyclic homology, cdh-cohomology and negative K-theory. Ann. of Math., 167, (2008). 549–573.

27. G. Cortiñas, A. Thom. Bivariant algebraic K-theory. J. reine angew. Math., 610, 71–124.

28. G. Cortiñas, A. Thom. Comparison between algebraic and topological K-theory of locally convex algebras. Adv. Math., 218 (2008), 266–307.

29. G. Cortiñas, J. Cuntz, M. Karoubi, R. Nest, Eds. K-Theory and Noncommutative Geometry: Connections and Applications to Other Areas of Mathematics. European Mathematical Society Publishing House, 2008.

30. G. Cortiñas, C. Haesemeyer, M.E. Walker, C. Weibel. The K-theory of toric varieties. Trans. Amer. Math. Soc. 361 (2009), 3325–3341.

31. G. Cortiñas, C. Haesemeyer, C. Weibel. Infinitesimal cohomology and the Chern character to negative cyclic homology. Math. Ann. 344 (2009) 891–922.

32. G. Cortiñas, C. Weibel. Relative Chern characters for nilpotent ideals. Algebraic Topology. The Abel Symposium 2007. Baas, N.; Friedlander, E.M.; Jahren, B.; Østvær, P.A. (Eds.). Springer, 2009; pp 61–82.

33. P. Ara, M. Brustenga, G. Cortiñas. K-theory of Leavitt path algebras. Münster J. Math., 2 (2009), 5–34.

34. G. Cortiñas, C. Haesemeyer, M. E. Walker, C. Weibel. Bass' NK groups and *cdh*-fibrant Hochschild homology. Invent. Math. 181 (2), pp. 421–448.

35. P. F. Baum, G. Cortiñas, R. Meyer, R. Sánchez García, M. Schlichting, B. Toën. Topics in algebraic and topological K-theory. G. Cortiñas (Ed.). Springer Lecture Notes in Mathematics vol 2008. Springer, 2011.

36. G. Cortiñas, C. Haesemeyer, M. E. Walker, C. Weibel. A negative answer to a question of Bass. Proc. Amer. Math. Soc. 139(4):1187–1200, (2011).

37. G. Cortiñas, Ed. Topics in Noncommutative Geometry. Clay Mathematics Institute Proceedings, Vol 16. American Mathematical Society, Rhode Island, 2012.

38. G. Cortiñas, A. Thom. Algebraic geometry of topological spaces I. Acta Math. 209 (2012) 83–131.

39. G. Cortiñas, C. Haesemeyer, M. E. Walker, C. Weibel. K-theory of cones of smooth varieties. J. Algebraic Geom. 22 (2013) 13–34.

40. P. Ara, G. Cortiñas. Tensor products of Leavitt path algebras. Proc. Amer. Math. Soc., 141(8) 2629–2639.

41. G. Cortiñas, G. Tartaglia. Operator ideals and assembly maps in K-theory. Proc. Amer. Math. Soc., 142 (2014), 1089–1099.

42. G. Cortiñas, C. Haesemeyer, M.E. Walker, C. Weibel. The K-theory of toric varieties in positive characteristic. J. Topol., (2014) 7 (1):247–286.

43. G. Cortiñas, G. Tartaglia. Trace class operators, regulators, and assembly maps in K-theory. Doc. Math., 19 (2014) 439–455.

44. G. Cortiñas, E. Ellis. Isomorphism conjectures with proper coefficients. J. Pure Appl. Algebra 218 (2014),no. 7, 1224–1263.

45. G. Cortiñas, C. Haesemeyer, M.E. Walker, C. Weibel. Toric varieties, monoid schemes and *cdh* descent. J. Reine Angew. Math., 698, 1-54 (2015). doi:10.1515/crelle-2012-0123.

46. B. Abadie, G. Cortiñas. Homotopy invariance through small stabilizations. J. Homotopy Relat. Struct. (2015) 10:459-493, doi:10.1007/s40062-013-0069-9.

47. G. Cortiñas. Cyclic homology, tight crossed products, and small stablizations. J. Noncommut. Geom., 8(4) 1191–1223 (2014).

48. G. Cortiñas. Excision, descent, and singularity in algebraic K-theory. Proceedings ICM Seoul 2014, 143–162.

49. G. Cortiñas, G. Tartaglia. Compact operators and algebraic K-theory for groups which act properly and isometrically on Hilbert space. J. reine angew. Math. Ahead of Print, DOI 10.1515/ crelle-2014-0154.

50. G. Cortiñas, E. Rodríguez Cirone. Singular coefficients in the K-theoretic Farrell-Jones conjecture. Algebraic & Geometric Topology 16, (2016), 129–147.

51. G. Cortiñas, J. Cuntz, R. Meyer, G. Tamme. Weak completions, bornologies and rigid cohomology. Journal of Geometry and Physics 129 (2018) 192–199.

52. G. Cortiñas, M. E. Rodríguez. L^p-operator algebras associated with oriented graphs. Journal of Operator Theory, 81 (2019), 225-254.

53. G. Cortiñas, C. Haesemeyer, M.E. Walker, C. Weibel. The K-theory of toric schemes over regular rings of mixed characteristic. To appear in Singularities, Algebraic Geometry, Commutative Algebra, and Related Topics. Festschrift for Antonio Campillo on the Occasion of his 65th Birthday. Gert-Martin Greuel, Luis Narváez and Sebastià Xambó-Descamps, Eds. Springer, 2018, 455–479.

54. G. Cortiñas, J. Cuntz, R. Meyer, G. Tamme. Nonarchimedean bornologies, cyclic homology and rigid cohomology. Documenta Mathematica, 23 (2018) 997–1045.

55. G. Cortiñas, D. Montero. Algebraic bivariant K-theory and Leavitt path algebras. Journal of Noncommutative Geometry, 25:1, 113–146. DOI:https://doi.org/10.4171/jncg/397

56. G. Cortiñas, D. Montero. Homotopy classification of Leavitt path algebras. Advances in Mathematics 362 (2020) 106961. https://doi.org/10.1016/j.aim.2019.106961

57. G. Cortiñas, C. Weibel, Eds. K-theory in algebra, analysis and topology. Contemporary Mathematics 749, American Mathematical Society, 2020. ISBNs: 978-1-4704-5026-7 (print); 978-1-4704-5594-1 (online) DOI: https://doi.org/10.1090/conm/749

58. G. Cortiñas, R. Meyer, D. Mukherjee. Non-Archimedean analytic cyclic homology. Documenta Mathematica 25, 1353–1419. DOI: https://www.elibm.org/article/10012061

59. G. Arnone, G. Cortiñas. Nonexistence of graded unital homomorphisms between Leavitt algebras and their Cuntz splices. J. of Algebra and its Applications, 22(4), 230084 (2023).

https://doi.org/10.1142/S0219498823500846.

60. G. Cortiñas, S. Vega. Bivariant Hermitian K-theory and Karoubi's fundamental theorem. Journal of Pure and Applied Algebra, 226:12, 107124. doi:https://doi.org/10.1016/j.jpaa.2022.107124

61. G. Cortiñas. Classifying Leavitt path algebras up to involution preserving homotopy. Mathematische Annalen, 2022. doi:https://doi.org/10.1007/s00208-022-02436-2

62. G Cortiñas. Lifting graph C^*-algebra maps to Leavitt path algebra maps. Bulletin of the London Mathematical Society, 2022. doi:http://doi.org/10.1112/blms.12686

63. G. Cortiñas, Guido Arnone. Graded K-theory and Leavitt path algebras. Journal of Algebraic Combinatorics. https://doi.org/10.1007/s10801-022-01184-5

64. G. Cortiñas, Devarshi Mukherjee. A Quillen model structure of local homotopy equivalences. Theory and Applications of Categories 41 (2024) 268-287. http://www.tac.mta.ca/tac/volumes/41/9/41-09.pdf

65. G. Cortiñas. Exel-Pardo algebras with a twist. Journal of Noncommutative Geometry, 2024. https://ems.press/journals/jncg/articles/14298047

66. G. Cortiñas, R. Hazrat. Classification Conjectures for Leavitt path algebras. Bulletin of the London Mathematical Society, 2024, 56:10, 3011-3267. https://doi.org/10.1112/blms.13139

Accepted articles

67. G Cortiñas, M.E. Rodríguez. Simplicity of L^p-graph algebras. Aceptado en Journal of Operator Theory. arXiv:2307.05555

Preprints

68. G. Cortiñas, N.C. Phillips. Algebraic K-theory and properly infinite C*-algebras. arXiv:1402.3197. Cited in 62, 65 and 66.

69. G. Cortiñas. Cyclic homology of H-unital (pro-) algebras, Lie algebra homology of matrices, and a paper of Hanlon's. arXiv:math/0504148. Cited in 24.

Course notes

70. G. Cortiñas. Notas de Álgebra II. Cursos de grado, Fascículo 11, Departamento de Matemática, FCEyN, UBA, 2020. http://cms.dm.uba.ar/depto/public/grado/fascgrado11.pdf

71. G. Cortiñas. Álgebra II+I/2: Notas de Teoría de Álgebras. Cursos y Seminarios de Matemtica, Serie B, Fascículo 13, Departamento de Matemática, FCEyN, UBA, 2020.

http://cms.dm.uba.ar/depto/public/serie%20B/serieB13.pdf