

Curriculum Vitae

Name: Ángel del Río Mateos

Date: January 27, 2008

Contents

1	General information	2
2	Participation in research projects	3
3	Publications	5
3.1	Research papers	5
3.2	Books	9
3.3	Software	9
4	Conferences	10
4.1	Invited lectures	10
4.2	Communications	12
4.3	Organization	14
5	Stays in research centers out of the University of Murcia	15
6	Thesis Advising	18

1 General information

Personal information

Last name: del Río Mateos Name: Ángel Sex: male
Passport: 05.149.240-T (Spain)
Date of birth: May 8, 1960
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Academic training

Licenciado en Ciencias (Matemáticas), University of Murcia, 1983.
Doctor en Ciencias (Matemáticas), University of Murcia, 1988.
Ph.D. Thesis. Anillos de endomorfismos de módulos topológicos cuasi-inyectivos.
Thesis advisor: José Luis Gómez Pardo

Present position

- Catedrático de Álgebra (Full profesor). Appointed: April 11, 2006.
Dean of the Faculty of Mathematics. Appointed: February 2007.
Coordinator of the Postgrade Program of the Faculty of Mathematics.
- Department of Mathematics, Faculty of Mathematics, University of Murcia
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Previous positions

- Profesor Encargado de Curso (Lecturer), University of Murcia, October 83/September 87.
- Profesor Ayudante (Assistant), University of Murcia, October 87/September 89.
- Profesor Titular de Escuela Universitaria (Interino) (Associate Professor), University of Murcia, October 89/April 90.
- Profesor Titular de Universidad (Associate Professor, Tenure), University of Murcia, May 90/March 2006.
- Associate Professor, University of Colorado at Colorado Springs, August 96/May 97.

2 Participation in research projects

1. Topologías de Gabriel y anillos de cocientes, *Financing Organization*: Spanish Ministry of Education and Science (PB84-0784), (1985-1988). *Leading researcher*: José Luis Gómez Pardo. *Number of participants*: 7.
2. Localización no conmutativa y anillos de endomorfismos, *Financing Organization*: Spanish Ministry of Education and Science (PB87-0703) (1987-1990). *Leading researcher*: José Luis Gómez Pardo. *Number of participants*: 7.
3. Anillos de endomorfismos y anillos graduados, *Financing Organization*: Spanish Ministry of Education and Science (PB90-0300-C02-02) (1991-1994). *Leading researcher*: José Luis Gómez Pardo. *Number of participants*: 9.
4. Anillos de endomorfismos y anillos graduados: Aplicaciones, *Financing Organization*: Government of the Murcia Region (Spain) (PIB93/59) (1994). *Leading researcher*: José Luis García Hernández. *Number of participants*: 9.
5. Anillos de endomorfismos y anillos graduados, *Financing Organization*: Spanish Ministry of Education and Science (PB93-0515-C02-02) (1995-1997). *Leading researcher*: José Luis Gómez Pardo. *Number of participants*: 11.
6. Envolturas planas de módulos, *Financing Organization*: Government of the Murcia Region (Spain) (PIB 94/25) (1995). *Leading researcher*: José Luis García Hernández. *Number of participants*: 9.
7. Envolturas planas de módulos, *Financing Organization*: Government of the Murcia Region (Spain) (PIB 95/61) (1996). *Leading researcher*: José Luis García Hernández. *Number of participants*: 8.
8. Invariants and Representation of Algebras, *Financing Organization*: European Union (TMR ERBFMMACT 960074) Participants: Universities of Bielefeld, Chemnitz, Essen, Paris VI, Murcia, Santiago de Compostela, Dragvoll, Trondheim, Glasgow-Edimburg, Leeds, Ionina, Torun (Abril 1997-Abril 1999). *Leading researcher*: Claus M. Ringel (Univ. Bielefeld). *Number of participants*: 60 (aprox.).
9. Anillos de endomorfismos y propiedades homológicas de anillos y álgebras, *Financing Organization*: Spanish Ministry of Education and Science (PB96-0961-C02-02) (1998-2000). *Leading researcher*: José Luis Gómez Pardo. *Number of participants*: 12.
10. Propiedades categóricas de anillos y álgebras, *Financing Organization*: Government of the Murcia Region (Spain) (00260/CV/97) (Enero 1998-Diciembre 2000). *Leading researcher*: Manuel Saorín Castaño. *Number of participants*: 9.

11. Propiedades aritméticas, categóricas y homológicas de anillos y álgebras, *Financing Organization*: Spanish Ministry of Education and Science (BFM2000-0346-C02-02) (2001-2003). *Leading researcher*: Manuel Saorín Castaño. *Number of participants*: 11.
12. Propiedades categóricas y aritméticas de anillos y álgebras, *Financing Organization*: Government of the Murcia Region (PI-76/00515/FS/01) (2002-2003). *Leading researcher*: Manuel Saorín Castaño. *Number of participants*: 13.
13. Unidades de anillos de grupo, *Financing Organization*: Government of the Murcia Region (PC-MC/2/00077/FS/02) (2004-2005). *Leading researcher*: Ángel del Río Mateos. *Number of participants*: 7.
14. Unidades y automorfismos de anillos de grupo, *Financing Organization*: Spanish Ministry of Education and Science and Brazilian Ministry of Education (PHB2003-0078-PC) (2004-2005). *Leading researcher*: Ángel del Río Mateos. *Number of participants*: 9.
15. Propiedades aritméticas, categóricas y homológicas de anillos y álgebras, *Financing Organization*: Spanish Ministry of Education and Science (BFM2003-07569-C02-01) (2004-2006). *Leading researcher*: Manuel Saorín Castaño. *Number of participants*: 13.
16. Aspectos aritméticos, categóricos y homológicos de anillos y álgebras, *Financing Organization*: Government of the Murcia Region (Spain) 0482/PI/04 (2005-2007). *Leading researcher*: Manuel Saorín Castaño. *Number of participants*: 10.
17. Unidades y automorfismos de anillos de grupo, *Financing Organization*: Spanish Ministry of Education and Science and Brazilian Ministry of Education (PHB2003-0078-PC), (2006-2007). *Leading researcher*: Ángel del Río Mateos. *Number of participants*: 7.
18. Propiedades aritméticas, categóricas y homológicas de anillos y álgebras, *Financing Organization*: Spanish Ministry of Education MTM2006-06865 (Enero 2007-Diciembre 2009). *Leading researcher*: Manuel Saorín Castaño. *Number of participants*: 10.
19. Anillos y álgebras, sus grupos de unidades, módulos y homología (Grupos y unidades de excelencia científica), *Financing Organization*: Government of the Murcia Region (2008-2012) 04555/GERM/06. *Leading researcher*: Manuel Saorín Castaño. *Second Leading researcher*: Ángel del Río Mateos. *Number of participants*: 11.

3 Publications

3.1 Research papers

1. Á. del Río, *Condiciones de Finitud en Anillos de Endomorfismos de Módulos Quasi-Inyectivos*, Actas XII Jornadas Hispano-Lusas de Matemáticas, Vol. 2, (1987) 147-152.
2. Á. del Río, *Self-Injective Endomorphism Rings of Quasi-Injective Modules*, Communications in Algebra 17, (1989) 2611-2634.
3. Pere Ara, Á. del Río, *A Question of Passman on the Symmetric Ring of Quotients*, Israel Journal of Mathematics 68 (1989) 348-352.
4. Á. del Río, *Bigraded Bimodules*, Proceedings of the Spanish-Belgian Week on Algebra and Geometry, F. Gago and E. Villanueva Editors, (1989) 167-176.
5. Manuel Saorín, Dolors Herbera, Ricardo Colpi. Á. del Río, Fred Van Oystaeyen. A. Giquinto, E. Gregorio, L. Biondi, *Separable Functors Revisited*, Communications in Algebra 18, (1990) 1445-1459.
6. Á. del Río, *Weak Dimension of Group Graded Rings*, Publicacions Matemàtiques 34 (1990) 209-216.
7. Á. del Río, *Graded Rings and Equivalences of Categories*, Communications in Algebra 19, (1991) 997-1012.
8. Claudia Menini, Á. del Río, *Morita Dualities and Graded Rings*, Communications in Algebra 19, (1991) 1765-1794. RP.
9. Á. del Río, Manuel Saorín, *Dualities and Lattice Isomorphisms*, Actas XIII Jornadas Hispano-Lusas de Matemática, Valladolid.
10. Á. del Río, Manuel Saorín, *Dualities and Dimensions of Endomorphism Rings*, Tsukuba Journal of Mathematics 15, (1991) 1-18.
11. Á. del Río, *Categorical Methods in Graded Ring Theory*, Publicacions Matemàtiques 36 (1992) 489-531.
12. Ricardo Alfaro, Pere Ara, Á. del Río, *Regular Skew Group Rings*, Journal of Australian Mathematical Society (Series A), 54 (1995), 167-182.
13. Sorín Dascalescu, Á. del Río, *Graded T-Rings with Finite Support*, Communications in Algebra 21, (1993) 3619-3636.
14. Á. del Río, *On Quasi-Frobenius Pure Semisimple Rings*, Bulletin de la Societe Mathématique de Belgique 45 (1993) 117-121.

15. Gene Abrams, Claudia Menini, Á del Río, *Realization Theorems for Categories of Graded modules over Semigroup Graded Rings*, Communications in Algebra 22 (1994) 5343-5388.
16. Juan José García, Á. del Río, *Actions of Groups on Fully Bounded Noetherian Rings*, Communications in Algebra 22 (1994) 1495-1505.
17. Juan José García, Á. del Río, *On Flatness and Projectivity of a Rings as a Module over a Fixed Subring*, Mathematica Scandinavica, 76 (1995) 179-193.
18. Sorin Dăscălescu, Constantin Nastăsescu. Á. del Río, Fred Van Oystaeyen, *Gradings of Finite Support. Applications to Injective Objects*, Journal of Pure and Applied Algebra, 107 (1996) 193-206.
19. Michael Clase, Eric Jespers, Á. del Río, *Perfectness of Semigroup Graded Rings*, Glasgow Mathematics Journal, 38 (1996) 11-18.
20. Eric Jespers, Guilherme Leal, Á. del Río, *Products of Free Groups in the Unit Group of Integral Group Rings*, Journal of Algebra 180 (1996) 22-40.
21. Edgar E. Enochs, Juan José García, Á. del Río, *When does R Gorenstein does implies RG Gorenstein?*, Journal of Algebra 182 (1996) 561-576.
22. Á. del Río, *On free groups in the unit group of integral group rings*, Resenhas IME-USP 1996, Vol. 2, No. 3, 309-312.
23. Margaret Beattie, Á. del Río, *The Picard group of a category of graded modules*, Communications in Algebra 24 (1996), 4397-4414.
24. Jeremy Haefner, Á. del Río, Juan Jacobo Simón, *Isomorphisms of row and column finite matrix rings*, Proceeding of the American Math. Soc. 125 (1997), 1651-1658.
25. Guilherme Leal, Á. del Río, *Products of Free Groups in the Unit Group of Integral Group Rings II*, Journal of Algebra 191 (1997), 240-251.
26. Margaret Beattie, Á. del Río, *Graded equivalences and Picard groups*, Journal of Pure and Applied Algebra. 141 (1999), no. 2, 131-152.
27. Gene Abrams, Jeremy Haefner, Á. del Río, *The Isomorphism Problem for Incidence Rings*, Pacific Journal of Mathematics, 187 (1999) 201-214.
28. Jeremy Haefner, Á. del Río, *Actions of Picard groups on graded rings*, Journal of Algebra 218 (1999) 573-607.
29. Gene Abrams, Jeremy Haefner, Á. del Río, *Approximating rings with local units via automorphisms*, Acta Math. Hungar. 82 (1999), no. 3, 229-248.

30. Á. del Río, Juan Jacobo Simón, *Intermediate rings between matrix rings and Ornstein dual pairs*, Archiv der Mathematiche, 75 (2000) 256-263.
31. Eric Jespers, Á. del Río, *A structure theorem for the unit group of the integral group ring of some finite groups*, Journal für die Reine und Angewandte Mathematik 521 (2000) 99-117.
32. Ernst Kleinert, Á. del Río, *On the indecomposibility of units groups*, Abhandlungen Math. Sem. Hamburger 71 (2001) 291-295.
33. Á. del Río, Manuel Ruiz, *Computing large direct products of free groups in integral group rings*, Communications in Algebra 30(4) (2002) 1751-1767.
34. Eli Aljadeff, Yuval Ginosar, Á. del Río, *Semisimple Strongly Graded Rings*, J. Algebra 256 (2002) 111-125.
35. Eric Jespers. Á. del Río, Manuel Ruiz, *Groups generated by two bicyclic units in integral group rings*, J. Group Theory 5(4) (2002) 493-511.
36. G. Abrams, Jeremy Haefner, Á. del Río, *Corrections and addenda to "The Isomorphism Problem for Incidence Rings"*, Pacific Journal of Mathematics, 207(2) (2002) 497-506.
37. Aurora Olivieri, Á. del Río, *Bicyclic units of ZS_n* , Proceedings of the American Math. Soc. 131, (2003) 1649-1653.
38. A. Olivieri. Á. del Río, Juan Jacobo Simón, *On monomial characters and central idempotents of rational group algebras*, Communications in Algebra 32 (2004), no. 4, 1531-1550.
39. A. Olivieri, Á. del Río, *An algorithm to compute the primitive central idempotents and the Wedderburn decomposition of a rational group algebra*, Journal of Symbolic Computations, 35 (2003) 673-687.
40. C. Corrales, Eric Jespers, G. Leal, Á. del Río, *Presentation of the unit group of an order in a non-split quaternion algebra*, Advances in Mathematics 186 n2 (2004) 498-524.
41. A. Pita. Á. del Río, Manuel Ruiz, *Groups of units of integral group rings of Kleinian type*, Transactions of the American Mathematical Society 357 (2004), 3215-3237.
42. Jeremy Haefner, Á. del Río, *The Globalization Problem for inner automorphisms and Skolem-Noether Theorems*, Algebras, rings and their representations, 37–51, World Sci. Publ., Hackensack, NJ, 2006 Proceedings of "International Conference on Algebras, Modules and Rings", Lisbon 2003. Ed. A. Facchini, K. Fuller, C.M. Ringel and C. Santa-Clara.
43. Antonio Pita, Á. del Río, *Presentation of the group of units of ZD_{16}^-* , Lect. Notes Pure Appl. Math., 248, Chapman & Hall/CRC, Boca Raton, FL, 2006. Proceedings of "Groups, Rings and Group Rings", Ubatuba, Brazil, 2004. Ed. A. Giambruno, C. Polcino Milies and S.K. Sehgal, Taylor and Francis Group, 2006.

44. Á. del Río, Sudarshan K. Sehgal, *Zassenhaus Conjecture (ZC1) on torsion units of integral group rings for some metabelian groups*, Archiv der Mathematiche 86 (2006) 392-397.
45. Á. del Río, Juan Jacobo Simón, *Finiteness conditions and infinite matrix rings*, Proc. Amer. Math. Soc. 134 (2006) 1257-1263.
46. Aurora Olivieri. Á. del Río, Juan Jacobo Simón, *The group of automorphisms of the rational group algebra of a finite metacyclic group*, Communications in Álgebra 34 (2006) 3543-3567.
47. Osnel Broche Cristo, Á. del Río, *Wedderburn decomposition of finite group algebras*, Finite Fields and Their Applications 13 (2007) 71-79.
48. Michael Dokuchaev. Á. del Río, Juan Jacobo Simón, *Globalizations of partial actions on non unital rings*, Proc. Amer. Math. Soc. 135 (2007) 343-352.
49. Eric Jespers. Antonio Pita, Á. del Río, Manuel Ruiz, Pavel Zalesski, *Groups of units of integral group rings commensurable with direct products of free-by-free groups*, Advances in Mathematics 212 n 2 (2007) 692-722.
50. Eli Aljadeff, Á. del Río, *Every projective Schur algebra is Brauer equivalent to a radical abelian algebra*, Bulletin of the London Mathematical Society 39 n 5 (2007) 731-740.
51. Gabriela Olteanu, Á. del Río, *Group algebras of Kleinian type and groups of units*, Journal of Algebra 318 n 2 (2007) 856-870.
52. Jairo Z. Gonçalves, Á. del Río, *Bicyclic units, Bass cyclic units and free groups*, Journal of Group Theory 11 (2008) 247-265.
53. José Joaquín Bernal, Juan Jacobo Simón, Á. del Río, *How to know if a linear code is a group code?*, In "Coding Theory and Applications", Second Castle Meeting, ICMCTA 2008. Lecture Notes and Applications, 33-36.
54. Gabriela Olteanu, Á. del Río, *An algorithm to compute the Wedderburn decomposition of semisimple group algebras implemented in the GAP package wedderga*, Journal of Symbolic Computation. (Accepted: June 2007).
55. Allen Herman, Gabriela Olteanu, Á. del Río, *Ring isomorphism of cyclic cyclotomic algebras*, Algebras and Representation Theory. (Accepted: March 2008).
56. Allen Herman, Gabriela Olteanu, Á. del Río, *The Schur group of an abelian number field*, Journal of Pure and Applied Algebra. (Accepted: April 2008).
57. Allen Herman, Gabriela Olteanu, Á. del Río *The gap between the Schur group and the subgroup generated by cyclic cyclotomic algebras*, Israel J. Math. (Accepted: September 2008).

58. Ferran Cedó, Eric Jespers, Á. del Río, *Involutive Yang-Baxter groups*, Trans. of the Amer. Math. Soc. (Accepted: October 2008).
59. José Joaquín Bernal, Juan Jacobo Simón, Á. del Río, *An intrinsic description of group codes*, Des. Codes Cryptogr. (Accepted: November 2008).

3.2 Books

1. Á. del Río, Juan Jacobo Simón, Alberto del Valle, *Álgebra Básica*, Diego Marín Librero, DM, Colección Texto-Guía, ICE - Univ. Murcia.
2. Á. del Río, *El Reto de Fermat*, Ed. Nivola, 2005.

3.3 Software

Osnel Broche Cristo, Alexander Konovalov, Aurora Olivieri, Gabriela Olteanu, Á. del Río, *wedderga*, *Wedderburn decomposition of group algebras*. Official accepted package of GAP - Groups, Algorithms, Programming - a System for Computational Discrete Algebra. Accepted in 2008.

4 Conferences

4.1 Invited lectures

Year	Conference Lecture	Location
1995	Anéis de grupo e tópicos relacionados On free groups in the unit group of integral group rings	Sao Paulo Brazil
1997	Hopf Algebras and Group Rings The isomorphism problem for incidence rings	St. Johns Canada
1997	Symposium on Modules over Nonunital Associative Rings Graded equivalences and Picard groups	Colorado Springs USA
1998	XV Escola de Álgebra The virtual structure of the group of units of an integral group ring	Canela Brazil
1999	Orders in Arithmetic and Geometry The Structure of the Group of Units of Integral Group Rings	Oberwolfach Germany
1999	International Conference on Algebra and Algebraic Geometry The Structure of the Group of Units of Integral Group Rings	León Spain
2000	Concrete Ring Theory Groups of units with concrete structure in concrete rings	Varsaw Poland
2002	VI Jornadas Españolas de Teoría de Anillos Grupos de unidades de órdenes clásicos	Coruña Spain
2003	Finitely presented algebras, groups and monoids Methods on Kleinian groups applied to units Lecture presented by Manuel Ruiz (co-author)	Alden Biesen Belgium

Year	Conference Lecture	Location
2004	XVIII Escola de Álgebra The group of automorphisms of a rational group algebra of a finite metacyclic group	Campinas Brazil
2004	Groups, rings and group rings Groups of units of integral group rings of groups of Kleinian type	Ubatuba Brazil
2004	Representation Theory Days Groups of units of integral group rings of Kleinian type	Stuttgard Germany
2005	Groups and group rings XI Groups of units of integral group rings and free products	Bedlewo Poland
2005	Algebra meeting On the first Zassenhaus Conjecture for some metabelian groups	Ubatuba Brazil
2007	Second Barcelona Weekend in Group Theory Group Algebras of Kleinian type, groups of units and free-by-free groups	Barcelona Spain
2007	Algebraic and combinatorial methods in concrete classes of algebras and groups The subgroup of the Schur group generated by cyclic cyclotomic algebras	Alden-Biesen Belgium
2007	Internacional conference on noncommutative rings and geometry. Projective representations of finite groups and the Brauer group of a field	Almería Spain
2007	Arithmetik von Gruppenringen Group of units of integral group rings with good structure	Oberwolfach Germany

Year	Conference Lecture	Location
2007	Arithmetik von Gruppenringen Subgroups of the Brauer group of a field and their cohomological description Lecture presented together with Eli Aljadeff (co-author)	Oberwolfach Germany
2008	International Congress on Modules and Representation Theory A class of finite groups associated to the Yang-Baxter equation	Cluj-Napoca Romania

4.2 Communications

Year	Conference Lecture	Location
1987	XII Jornadas Luso-Espanholas de Matemática Condiciones de finitud en anillos de endomorfismos de módulos quasi-inyectivos	Braga Portugal
1988	First Belgian-Spanish Meeting on Algebra and Geometry Endomorphism rings of quasi-injective modules	Antwerp Belgium
1988	XIII Jornadas Luso-Espanholas de Matemática Dualidad e isomorfismos de retículos Lecture presented by Manuel Saorín (co-author)	Valladolid Spain
1989	II Spanish Belgian Week on Algebra and Geometry Bigraded Bimodules	Santiago de Compostela Spain
1990	Modules and Commutative Rings Regular skew group rings	Bressanone Italy
1991	Workshop on Local Cohomology, Geometric Applications and Related Topics Graded T-rings	Granada Spain

Year	Conference Lecture	Location
1992	III Week on Algebra and Algebraic Geometry T-rings, T-modules, graded rings and group actions	Puerto de la Cruz Spain
1993	Commutative Algebra: Commutative rings and their modules Semigroup graded rings and modules	Almería Spain
1994	Abelian groups and modules On the Picard groups of a category of graded modules	Padua Italy
1996	I Jornadas Españolas de Teoría de Anillos Productos directos de grupos libres en grupos de unidades de anillos de grupo	Murcia Spain
1996	Ring Theory Conference Approximating rings with local units	Miskolc Hungary
1996	Noncommutative rings Actions of Picard groups on graded rings Lecture presented by Jeremy Haefner (co-author)	Pasadena California, USA
1998	III Jornadas Españolas de Teoría de Anillos La estructura virtual del grupo de unidades de un anillo de grupo	Granada Spain
1999	IV Jornadas Españolas de Teoría de Anillos Anillos intermedios entre anillos de matrices	Málaga Spain
1999	Rings, Modules and Abelian Groups Intermediate rings between matrix rings	Brixen Italy
2001	VI Jornadas Españolas de Teoría de Anillos El Problema del Isomorfismo para anillos de incidencia	Almería Spain
2001	All Ireland Algebra Days Semisimple strongly graded rings	Belfast North Ireland

Year	Conference Lecture	Location
2001	The Ninth International Conference on Groups and Group Rings Semisimple strongly graded rings	Bialystok Poland
2003	International Conference on Algebras, Modules and Rings Group of units of integral group rings of Kleinian type	Lisbon Portugal
2005	Kananaskis Algebra Conference The group of automorphisms of a rational group algebra of a finite metacyclic group	Kananaskis Canada
2006	Seminari de Teoría de Nombres Groups of units of classical orders	Barcelona Spain
2006	Encuentros de Álgebra Computacional y Aplicaciones wedderga: Wedderburn decomposition of group algebras	Seville Spain
2006	Rings and Categories of Modules Projective Schur algebras and radical algebras	Bressanone Italy
2007	Seminari de Teoría de Nombres Álgebras de Schur proyectivas y álgebras radicales	Barcelona Spain
2008	Coding Theory and Applications, Second Castle Meeting, ICMCTA How to know if a linear code is a group code?	Medina del Campo Spain

4.3 Organization

Year	Conference	Location
1996	I Jornadas Españolas de Teoría de Anillos	Murcia, Spain
1998	Interactions between Ring Theory and Representations of Algebras	Murcia, Spain
2006	Noncommutative Algebra - A Satellite Conference of ICM2006	Granada, Spain.

5 Stays in research centers out of the University of Murcia

Long:

- Centre de Recerca Matemàtica. Bellaterra (Barcelona), Spain. Algebra Semester and research in Ring Theory in collaboration with members of the algebra group of the Department of Mathematics of the Universitat Autònoma de Barcelona. Supported by a postdoctoral grant from the Institut de Estudis Catalans. 1989. 9 months.
- University of Colorado. Colorado Springs, USA. Research graded rings and incidence rings in collaboration with G. Abrams and Jeremy Haefner. Supported by a grant from the Spanish Ministry of Educación and Science. 1996-97. 9 months.

Medium

- Universiteit Instelling Antwerpen. Antwerp, Belgium. Predoctoral training in representation of algebras with Fred Van Oystaeyen. 1986. 1 month.
- Università degli Studi di Padova. Padua, Italy. Predoctoral training in dualities between categories of topological modules with Adalberto Orsatti. Supported by a grant from “Fundación Esteban Romero” of the University of Murcia. 1987. 1 month.
- Università degli Studi di L’Aquila. L’Aquila, Italy. Research in graded rings with Claudia Menini. Support: Università di Ferrara. 1988. 1 month.
- Universidade Federal do Rio de Janeiro. Rio de Janeiro, Brazil. Research in units of group rings with Guilherme Leal. Supported by a grant of CAPES (Government of Brazil). 1995. 3 months.
- Universidade de Sao Paulo. Sao Paulo, Brazil. Research in group rings with Osnel Broche Cristo. Supported by the Spanish Ministry of Education and Science and the Brazilian Ministry of Education. 2004. 1 month.
- University of Alberta. Edmonton, Canada. Research in group rings in collaboration with Sudarshan. K. Sehgal. Support: University of Alberta. 2005. 1 month.
- Universidade de Sao Paulo. Sao Paulo, Brazil. Research in group rings in collaboration with Jairo Gonçalves, Raul Ferraz and César Polcino Milies. Supported by the Spanish Ministry of Education and Science and the Brazilian Ministry of Education. 2005. 1 month.
- Universidade de Sao Paulo. Sao Paulo, Brazil. Research in group rings in collaboration with Osnel Broche, Ann Dooms, Jairo Gonçalves, César Polcino Milies and Manuel Ruiz Marín. Supported by the Spanish Ministry of Education and Science and the Brazilian Ministry of Education. 2006. 1 month.

Short

- Università di Ferrara. Ferrara, Italy. Research in graded rings in collaboration with Claudia Menini. Support: Università di Ferrara. 1991. 2 weeks.
- University of Bucarest. Bucarest, Romania. Research in graded rings in collaboration with Constantin Nastasescu and Sorin Dascalu. Support: Algebra group of the University of Murcia. 1992. 1 week.
- Memorial University of Newfoundland. St. John's, Canada. Research in graded rings in collaboration with Eric Jespers. Support: Memorial University of Newfoundland. 1993. 2 weeks.
- Mount Allison University. Sackville, Canada. Research in graded rings in collaboration with Margaret Beattie. Support: Mount Allison University. 1993. 2 weeks.
- Università di Ferrara. Ferrara, Italy. Research in graded rings in collaboration with Claudia Menini. Support: Università di Ferrara. 1994. 1 week.
- University of Colorado. Colorado Springs, USA. Research in non-unital rings in collaboration with G. Abrams and Jeremy Haefner. Support: University of Colorado. 1995. 2 weeks.
- Vrije Universiteit Brussels. Bruselas, Belgium. Research in group rings in collaboration with Eric Jespers. Support: Vrije Universiteit Brussels. 1998. 2 weeks.
- Vrije Universiteit Brussels. Bruselas, Belgium. Research in group rings in collaboration with Eric Jespers. Support: Vrije Universiteit Brussels. 1999. 1 week.
- Universidad Complutense de Madrid. Madrid, Spain. Research in units of orders in division rings in collaboration with Capi Corrales. Support: Universidad Complutense de Madrid. 1999. 1 week.
- University of Colorado. Colorado Springs, USA. Research in incidence rings in collaboration with G. Abrams and Jeremy Haefner. Support: University of Colorado. 2001. 2 weeks.
- Vrije Universiteit Brussels. Bruselas, Belgium. Research in units of orders in division rings in collaboration with Eric Jespers and Capi Corrales. Support: Vrije Universiteit Brussels. 2002. 2 weeks.
- Universidad Complutense de Madrid. Madrid, Spain. Research in units of orders in division rings in collaboration with Capi Corrales. Support: Universidad Complutense de Madrid. 2002. 1 week.

- Università degli Studi di Palermo. Palermo, Italy. Research in polynomial identities in collaboration with Antonio Giambruno. Support: Università degli Studi di Palermo. 2003. 1 week.
- Universidad Complutense de Madrid. Madrid, Spain. Research in units of orders in division rings in collaboration with Capi Corrales. Support: Universidad Complutense de Madrid. 2003. 1 week.
- Vrije Universiteit Brussels. Bruselas, Belgium. Research in group rings in collaboration with Eric Jespers. Support: Vrije Universiteit Brussels. 2003. 1 week.
- University Aristóteles of Tesalónica. Tesalónica, Grecia. Research in symmetric rings in collaboration with Teodora Theohari-Apostolidi. Support: University Aristóteles de Tesalónica. 2004. 1 week.
- Centre de Recerca Matemática. Barcelona, Spain. Research in Involutive Yang-Baxter group in collaboration with Ferran Cedó and Eric Jespers. Support: Centre de Recerca Matemática and Universitat Autònoma de Barcelona. 2006. 2 weeks.
- Centre de Recerca Matemática. Barcelona, Spain. Research in Involutive Yang-Baxter group in collaboration with Ferran Cedó and Eric Jespers. Support: Centre de Recerca Matemática and Universitat Autònoma de Barcelona. 2007. 1 week.
- Vrije Universiteit Brussels. Bruselas, Belgium. Research in Involutive Yang-Baxter group in collaboration with Ferran Cedó and Eric Jespers. Support: Vrije Universiteit Brussels. 2007. 1 week.
- Israel Technion University. Haifa. Israel. Research in Involutive Yang-Baxter group in collaboration with Eli Aljadeff, Eric Jespers, Yuval Ginosar and Nir Ben David. Support: Israel Technion University. 2008. 2 weeks.

6 Thesis Advising

Ph.D. Thesis

1. Juan José García Martínez, *Acciones de Grupos sobre Anillos*, Faculty of Mathematics, University of Murcia, 1994. Calificación: Apto “cum laude”.
2. Manuel Ruiz Marín, *Buscando estructura en el grupo de unidades de un anillo de grupo con coeficientes enteros*, Faculty of Mathematics, University of Murcia, 2002 Calificación: Apto “cum laude”.
3. Aurora Alejandra Olivieri Palmás, *Unidades bicíclicas y descomposición de Wedderburn de anillos de grupo*, Faculty of Mathematics, University of Murcia 2003 Calificación: Apto “cum laude”.
4. Gabriela Eugenia Olteanu, *Wedderburn decomposition of group algebras. A computational approach with applications to Schur groups and units*, Faculty of Mathematics, University of Murcia, 2007. Calificación: Sobresaliente “cum laude”. Extraordinary Doctorate Award of the Faculty of Mathematics 2007-8.

Present Ph.D. students

- José Joaquín Bernal Buitrago.
- Mauricio José Caicedo Borrero.

Master Thesis

1. Rosella Veronese. *Codici correttori di errori*. Università degli studi di Ferrara. Facoltà de Scienze Matematiche, Fisiche Naturali. 1999.
2. Manuel Ruiz Marín. *La estructura del grupo de unidades de un anillo de grupo*. University of Murcia. Faculty of Mathematics. 2000.
Publications of the Department of Mathematics of the University of Murcia. 2000.
3. Antonio Pita Lozano. *Grupos kleinianos con aplicaciones al estudio de grupos de unidades*. University of Murcia. Faculty of Mathematics. 2003.
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4. Gabriela Eugenia Olteanu. *El Teorema de Brauer-Witt*. University of Murcia. Faculty of Mathematics. 2005.
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