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Education

2010 PhD in Mathematics – FCEN, UBA
Thesis: Nichols algebras over non-abelian groups. Advisor: Matías Graña
2004 *Licenciado en Cs. Matemáticas* – FCEN, UBA

Academic positions

- Adjoint Professor, FCEN, UBA, from 5/2014
- Adjoint/Associate professor (Investigador Adjunto), CONICET, from 2012
- Regular Associate of the *Abdus Salam International Centre for Theoretical Physics* (ICTP), Trieste, Italy, from 01/2012 to 01/2018

Teaching

- From 2014, Adjoint Professor: Advanced linear algebra, Calculus 2, Numerical analysis for biology, Differential geometry, Advanced mathematics for physics, Advanced group theory, Non-commutative algebra, Knot theory, Non-commutative ring theory
- From 2002 to 2014, Undergraduate/graduate teaching assistant: Precalculus, Calculus 1 and 2, Basic linear algebra, Advanced linear algebra, Introduction to mathematical analysis, Advanced calculus, Introduction to numerical analysis, Mathematical analysis for biology, Numerical analysis for biology, Advanced mathematics for physics, Algebraic structures (groups, rings, modules).

Publications

- A. Konovalov, A. Smoktunowicz, L. Vendramin. *On skew braces and their ideals.* Accepted for publication in *Exp. Math.*
- V. Lebed, L. Vendramin. *On structure groups of set-theoretic solutions to the Yang-Baxter equation.* Accepted for publication in *Proc. Edinburgh Math. Soc.*
- J. A. Guccione, J. J. Guccione, L. Vendramin. *Set-theoretical solutions of the Yang–Baxter equation in symmetric categories. Comm. Algebra 46 (2018), no. 7, 2811–2845*
- A. Smoktunowicz, L. Vendramin. *On skew braces* (with an appendix by N. Byott). *J. Comb. Algebra 2 (2018), no. 1, 47–86*
- D. Bachiller, F. Cedó, L. Vendramin. *A characterization of multipermutation solutions of the Yang–Baxter equation. Publ. Mat. 62 (2018), no. 2, 641-649*
- A. García Iglesias, L. Vendramin. *An explicit description of the second cohomology group of a quandle. Math. Z. 286 (2017), no. 3-4, 1041–1063*
- L. Guarnieri, L. Vendramin. *Skew braces and the Yang-Baxter equation. Math. Comp. 86 (2017), no. 307, 2519–2534*
- I. Heckenberger, L. Vendramin. *The classification of Nichols algebras with finite root system of rank two. J. Eur. Math. Soc. (JEMS) 19 (2017), no. 7, 1977–2017*

- I. Angiono, C. Galindo, L. Vendramin. *Hopf braces and Yang–Baxter operators. Proc. Amer. Math. Soc. 145 (2017), no. 5, 1981-1995*
- I. Heckenberger, L. Vendramin. *A classification of Nichols algebras of semi-simple Yetter-Drinfeld modules over non-abelian groups. J. Eur. Math. Soc. (JEMS) 19 (2017), no. 2, 299–356*
- V. Lebed, L. Vendramin. *Homology of left non-degenerate set-theoretic solutions to the Yang-Baxter equation. Adv. Math. 304 (2017), 1219–1261*
- V. Lebed, L. Vendramin. *Cohomology and extensions of braces. Pacific J. Math. 284 (2016), no. 1, 191–212*
- E. Clark, M. Saito, L. Vendramin. *Quandle coloring and cocycle invariants of composite knots and abelian extensions. J. Knot Theory Ramifications 25 (2016), no. 5, 1650024, 34 pp.*
- L. Vendramin. *Doubly transitive groups and cyclic quandles. J. Math. Soc. Japan 69 (2017), no. 3, 1051–1057*
- L. Vendramin. *Extensions of set-theoretic solutions of the Yang-Baxter equation and a conjecture of Gateva-Ivanova. J. Pure Appl. Alg. 220 (2016), no. 5, 1681-2076*
- I. Heckenberger, A. Lochmann, L. Vendramin. *Nichols algebras with many cubic relations. Trans. Amer. Math. Soc. 367 (2015), 6315–6356*
- I. Heckenberger, L. Vendramin. *Nichols algebras over groups with finite root system of rank two III. J. Algebra 422 (2015), 223–256*
- *J. Dong, S. Natale*, L. Vendramin. *Frobenius property for fusion categories of small integral dimension. J. Algebra Appl.* 14 (2015), no. 2, 1550011 (17 pages)
- I. Heckenberger, L. Vendramin. *Nichols algebras over groups with finite root system of rank two II. J. Group Theory 17 (2014), no. 6, 1009–1034*
- L. Vendramin. *Nichols algebras associated to the transpositions of the symmetric group are twist-equivalent. Proc. Amer. Math. Soc.* 140 (2012), no. 11, 3715-3723
- L. Vendramin. *On the classification of quandles of low order. J. Knot Theory Ramifications* 21 (2012), no. 9, 1250088
- I. Heckenberger, A. Lochmann, L. Vendramin. *Braided racks, Hurwitz orbits and Nichols algebras with many cubic relations. Transform. Groups* 17 (2012), no. 1, 157-194
- M. Graña, I. Heckenberger, L. Vendramin. *Nichols algebras of group type with many quadratic relations. Adv. Math.* 227 (2011) 1956-1989
- N. Andruskiewitsch, F. Fantino, M. Graña, L. Vendramin. *Pointed Hopf algebras over sporadic simple groups. J. Algebra* 325 (1) (2011) 305-320
- N. Andruskiewitsch, F. Fantino, M. Graña, L. Vendramin. *The logbook of Pointed Hopf algebras over sporadic simple groups. J. Algebra* 325 (1) (2011) 282-304
- N. Andruskiewitsch, F. Fantino, M. Graña, L. Vendramin. *Finite-dimensional pointed Hopf algebras with alternating groups are trivial. Ann. Mat. Pura Appl* (4) 190 (2011), no. 2, 225-245.
- N. Andruskiewitsch, F. Fantino, M. Graña, L. Vendramin. *Pointed Hopf algebras over some sporadic simple groups. C. R. Math. Acad. Sci. Paris* 348 (2010) 605-608
- M. Graña, S. Freyre, L. Vendramin. *On Nichols algebras over* $\mathbf{PSL}(2,q)$ *and* $\mathbf{PGL}(2,q)$. *J. Algebra Appl.*, Vol. 9, No. 2 (2010) 195–208
- M. Graña, S. Freyre, L. Vendramin. *On Nichols algebras over* $\mathbf{SL}(2,\mathbb{F}_q)$ *and* $\mathbf{GL}(2,\mathbb{F}_q)$. *J. Math. Phys.* 48, 123513 (2007) (11 pages)

Proceedings

- L. Vendramin. *Fomin-Kirillov algebras.* Nichols algebras and Weyl groupoids, *Oberwolfach Rep. 9* (2013), no. 4, 2889–2891
- F. Fantino, L. Vendramin. *On twisted conjugacy classes of type D in sporadic simple groups. Hopf Algebras and Tensor Categories, Contemp. Math. 585* (2013) 247-259
- N. Andruskiewitsch, F. Fantino, G. García, L. Vendramin. *On Nichols algebras associated to simple racks. Algebras and Applications, Contemp. Math* 537 (2011) 31-56
- N. Andruskiewitsch, F. Fantino, G. García, L. Vendramin. *On twisted homogeneous racks of type D. The Humboldt Kolleg Colloquium on Hopf Algebras, Quantum Groups and Tensor Categories, Rev. Un. Mat. Argentina*, 51 2(2010) 1-16

Preprints

- F. Cedó, A. Smoktunowicz, L. Vendramin. Skew left braces of nilpotent type
- I. Heckenbeger, L. Vendramin. PBW deformations of a Fomin-Kirillov algebra and other examples

Software

- **YangBaxter**. GAP package for computations related to the Yang–Baxter equation `http://gap-packages.github.io/YangBaxter/`
- **Rig**, GAP package for computations related to racks and their cohomologies `http://github.com/vendramin/rig`
- **Sarna**, *Arithmetic Root Systems and Nichols algebras*
  With M. Graña, I. Heckenberger. Software written in Python for the computation of the Weyl groupoid of a diagonal braiding. `http://github.com/vendramin/sarna`

Selected talks

- *Radical rings, braces and the Yang-Baxter equation*
  Algebra seminar, Exeter, UK, 1/2/2018
- *Nichols algebras*
  Seminario de álgebra, Universidad autónoma de Barcelona, Spain, 19/12/2017
- *Skew braces*
  Groups, rings and the Yang–Baxter equation. Spa, Belgium, 18/6/2017–24/6/2017
- *Set-theoretical solutions of the Yang–Baxter equation*
  MIT, Massachusetts, USA, 19/4/2017
- *The combinatorics of the Yang–Baxter equation*
  MAXIMALS Seminar, University of Edinburgh, Edinburgh, Scotland, 28/3/2017
- *Nichols algebras*
  Algebra Seminar, Warsaw University, Poland, 4/4/2017
- *Set-theoretical solutions of the Yang–Baxter equation*
  Algebra Seminar, Warsaw University, Poland, 6/4/2017
- *Nichols algebras and applications*
  Dublin Mathematics Colloquium, Geometry Seminar, Trinity College, Dublin, Ireland, 15/03/2017
- *Set-theoretical solutions of the Yang–Baxter equation*
  Séminaire Quantique, Strasbourg, France, 6/2/2017
- *Set-theoretical solutions of the Yang–Baxter equation*
  Seminario de álgebra, Universidad autónoma de Barcelona, Spain, 23/1/2017

- *The combinatorics of the Yang–Baxter equation*
  Oberseminare am IAZ, Stuttgart, Germany, 18/1/2017

- *Nichols algebras*
  XXI Coloquio Latinoamericano de Álgebra, Buenos Aires, Argentina, 25/7/2016–29/7/2016

- *The combinatorics of the Yang–Baxter equation*
  Mathematische Gesellschaft in Göttingen, Göttingen, Germany, 23/12/2016

- *The classification of Nichols alegbras*
  Humboldt Kolleg. Colloquium on Algebras and Representations – Quantum 2016, Córdoba, Argentina, 29/2/2016–4/3/2016

- *Nichols algebras over non-abelian groups*
  Nichols Algebras and Their Interactions with Lie Theory, Hopf Algebras and Tensor Categories, Banff, Canada, 6/9/2015-11/9/2015

- *Nichols algebras over non-abelian groups*
  Coloquio Latinoamericano de Álgebra, Lima, Perú, 8/12/2014-12/12/2014

- *Introducción al álgebra con GAP (mini-course, 8 hours)*
  Minicurso (8 horas), Universidad de Chile, Santiago de Chile, 25/11/2014-29/11/2014

- *The classification of Nichols algebras (mini-course, 6 hours)*
  Summer school on Conformal Field Theories and Nichols algebras, Rauischholzhausen, Germany, 25/08/2014-29/08/2014

- *Introducción a la teoría combinatoria de nudos (mini-course, 3 hours)*
  ElENA VII, Córdoba, Argentina, 4/08/2014-8/08/2014

- Nichols algebras
  Seminario departamental, Universidad de Talca, Talca, Chile, 09/10/2014 (invited by M. Ronco)

- *Nichols algebras and Weyl groupoids of rank two*
  Colóquio de Álgebra e Representações - Quantum 2014, Santa Maria, Brazil, 22/3/2014

- *Doubly transitive groups and cyclic quandles*
  Università di Ferrara, Ferrara, Italy, 26/02/2014 (Invited by C. Menini)

- *Nichols algebras and a combinatorial model for Schubert calculus*
  ICTP, Trieste, Italy, 11/02/2014

- *Fomin-Kirillov algebras*
  Nichols algebras and Weyl groupoids, Oberwolfach, Alemania, 2/10/2012

- *Nichols algebras*
  Séminaire Lotharingien de Combinatoire 69, Strobl, Austria, 10/09/2012

- *About the classification of finite-dimensional pointed Hopf algebras*
  Groups, Rings, Lie and Hopf Algebras. III, Deer Lake, Canada, 13/08/2012

- *Nichols algebras and Weyl groupoids of rank two*
  Oberseminar Kombinatorik und Algebra, Philipps Universität, Marburg, Germany, 31/01/2012

- *Introduction to cluster algebras*
  Forschungsseminar Mathematische Physik, Philipps Universität, Marburg, Germany, 27/11/2012

- *Nichols algebras and quadratic relations*
  Seminario de álgebra, Universidad de Almería, Almería, Spain, 21/09/2012 (invited by J. Cuadra)

- *Nichols algebras and quadratic relations*
  Atlantic Algebra Center, Memorial University, St. John's, Canada, 1/08/2012

- *Nichols algebras and quadratic relations*
  Hamburg Universität, Hamburg, Germany, 3/07/2012 (invited by C. Schweigert)

- *An introduction to Nichols algebras*
  Hamburg Universität, Hamburg, Germany, 2/07/2012 (invited by C. Schweigert)
- *Nichols algebras and Schubert Calculus*
  Forschungsseminar Mathematische Physik, Philipps Universität, Marburg, Germany, 8/05/2012
- *Pointed Hopf algebras over non-abelian groups*
  RWTH Aachen University, Aachen, Germany, 25/01/2010 (invited by G. Hiss)
- *Quandles and knot invariants*
  Forschungsseminar Mathematische Physik, Philipps Universität, Marburg, Germany, 19/01/2010
- *Nichols algebras over non-abelian groups*
  XVIII Congreso Latinoamericano de Álgebra. Sao Pedro, Brazil, 08/2009
- *A* GAP *package for racks and Nichols algebras*
  Advanced School and Conference on Knot Theory. ICTP, Trieste, Italy, 05/2009
- *Pointed Hopf algebras over the sporadic simple groups*
  First Debrún Workshop on computational algebra. National University of Ireland, Galway, Ireland, 07/2008

Prizes and fellowships

- Premio Estímulo ANCEFN 2016
- ERC Advanced Grant 320974 Fellowship, 2017 (with A. Smoktunowicz)
- Alexander von Humboldt Fellowship, 2012–2013 (with I. Heckenberger)
- DAAD Short-term Postdoctoral Fellowship, 2011
- CONICET Postdoctoral Fellowship, 2010–2012
- DAAD Short-term Fellowship, 2009
- CONICET PhD Fellowship, 2005–2010

PhD Students

- Emiliano Acri (with Conicet fellowship)
- Juan Orza (with Conicet fellowship)
- Santiago Ramírez