
CURRICULUM VITÆ

PERSONAL DATA

NAME Pablo Mauricio Zadunaisky Bustillos.
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LANGUAGES

SPANISH Native speaker.
ENGLISH Fluent conversation, reading and writing.
FRENCH Fluent conversation and reading, intermediate writing.
GERMAN Beginner level in conversation and reading.

EDUCATION

PHD Universidad de Buenos Aires and Université Paris 13.
Homological regularity properties of quantum flag varieties and related algebras.
Advisors: Andrea Solotar (UBA) and Laurent Rigal (Paris 13).
MsC. Universidad de Buenos Aires (equivalent to an MsC)
Hochschild cohomology of hyperplane arrangements.
Advisors: Andrea Solotar, Mariano Suárez-Álvarez (co-advisor).

SCHOLARSHIPS

2019 Two weeks as a guest in the “Research in pairs” program at the Centro Internazionale per la Ricerca Matematica. Trento, Italy.
2019 Invited guest at the Max Planck Institute (Bonn).
2018 CONICET Posdoctoral Scholarship.
2017 FAPESP Posdoctoral Scholarship under the direction of Vyacheslav Futorny at the University of São Paulo, from May to December.
2017 CONICET Posdoctoral Scholarship. Turned down for incompatibility with FAPESP Scholarship.
2009-14 CONICET (Argentina) PhD Scholarship, type I (3 years), renewed to type II (2 years).

RESEARCH VISITS

APRIL 2019 Six months as postdoc at Bremen University.
JAN. 2019 Three month research visit at Max Planck Institute, Bonn.
OCT. 2018 Three month research visit at Köln University.
SEP. 2018 Two weeks as visiting researcher at the University of Paris 13.

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- MAR. 2018 One week as visiting researcher at the University of São Paulo.
AUG. 2016 Two weeks as visiting researcher at the University of Paris 13.
MAR. 2016 One week as visiting researcher at the University of São Paulo.
2009-14 Yearly three month visit to the University of Paris 13, as part of my joint PhD.

PUBLICATIONS

PUBLISHED AND ACCEPTED

- 2019 Futorny, V.; Grantcharov, D.; Ramírez, L.E.; Zadunaisky P. *Gelfand-Tsetlin theory for rational Galois algebras*. Accepted for publication at the Israel Journal of Mathematics. Preprint available at <https://arxiv.org/abs/1801.09316>
- 2018 Solotar, A.; Zadunaisky P. *Change of grading, injective dimension and dualizing complexes*. Accepted for publication in Comm. in Alg. Preprint available at [arXiv:math.RA/1506.05080](https://arxiv.org/abs/math.RA/1506.05080)
- 2018 Ramírez L.E.; Zadunaisky, P. *Gelfand-Tsetlin modules over $\mathfrak{gl}(n, \mathbb{C})$ with arbitrary characters*. Accepted for publication in J. of Algebra, DOI <https://doi.org/10.1016/j.jalgebra.2018.01.034>.
- 2017 Zadunaisky, P. *A new way to construct 1-singular Gelfand-Tsetlin modules*. Algebra and Discrete Mathematics, vol. 31 No. 1 (2017). Preprint available at [arXiv:math.RT/1703.07264](https://arxiv.org/abs/math.RT/1703.07264)
- 2015 Rigal, L.; Zadunaisky, P. *Twisted semigroup algebras*. Algebr. Represent. Theory. Alg. and Rep. Theory. Vol. 18, tomo 5 (2015), pp. 1155-1186. Preprint available at [arXiv:math.QA/1406.2985](https://arxiv.org/abs/math.QA/1406.2985).
- 2012 Rigal, L.; Zadunaisky, P. *Quantum analogues of Richardson varieties in the Grassmannian and their toric degeneration*. J. Algebra 372 (2012), 293–317. Preprint available at [arXiv:math.QA/1107.1396](https://arxiv.org/abs/math.QA/1107.1396).

SENT FOR PUBLICATION

- 2019 Futorny, V.; Grantcharov, D.; Ramírez, L.E.; Zadunaisky P. *Bounds of Gelfand-Tsetlin multiplicities and tableaux realizations of Verma modules*. Preprint available at <https://arxiv.org/abs/1811.07992>
- 2019 Rigal, L.; Zadunaisky, P. *Toric degeneration of quantum flag and Schubert varieties*. Preprint available at [arxiv:math.QA/1902.07675](https://arxiv.org/abs/math.QA/1902.07675)

CONFERENCES AND COLLOQUIA

INVITED TALKS

- APRIL 2019 *Colloquium of the Math Department*. Trento University and the Centro Internazionale per la Ricerca Matematica, Trento, Italy. “Gelfand-Tsetlin tableaux”.
- APRIL 2019 *Representation Theory Seminar*. Jacobs University, Bremen, Germany. “Gelfand-Tsetlin modules for $sl(n, \mathbb{C})$ ”.

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- JAN. 2019 *Aspects of Higher Representation Theory*. Vrije Universiteit, Brussel, Belgium. "Tableaux realizations of Verma modules".
- OCT. 2018 "Gelfand-Tsetlin realization of Verma modules", *Representation Theory seminar*, University of Cologne, Germany.
- SEP. 2018 "Gelfand-Tsetlin modules of Postnikov-Stanley differential operators", *Seminaire d'algèbre et topologie algébrique*, University of Paris 13, France.
- NOV. 2017 "Representation theory of reflection groups." *Encontro álgebra é geometria, geometria é álgebra*, Universidade de Sao Paulo, Sao Paulo Brazil.
- OCT. 2017 "Gelfand-Tsetlin categories." *Lie and Jordan algebras, their Representations and Applications VII, in honour of P. Schestakov's 70th birthday*. Natal, Brazil.
- JUL. 2017 "Singular Gelfand-Tsetlin modules over $\mathfrak{gl}(n, \mathbb{C})$ with arbitrary characters." *11th International Algebraic Conference in Ukraine*. Kiev, Ukraine.
- JUN. 2017 "Singular Gelfand-Tsetlin modules over $\mathfrak{gl}(n, \mathbb{C})$ with arbitrary characters." *Representation Theory XV*, Dubrovnik, Croatia.
- OCT. 2016 "Hochschild cohomology of quantum spaces." *Combinatorics and algebra seminar*, Marburg, Germany.
- MARCH 2016 "Change of grading functors and applications." *Homological Methods, Representation Theory and Cluster Algebras*, Mar del Plata, Argentina.
- AUG. 2015 "Behaviour of injective dimension with respect to gradings." Meeting of the *Unión Matemática Argentina*.
- AUG. 2013 "Quantum toric varieties." *HH4: fourth Conference on Hochschild Cohomology, Structure and Applications*. Universidad de Buenos Aires, Buenos Aires, Argentina.
- AUG. 2013 "Quantum toric varieties." *Kent Algebra Days*. Kent University, Canterbury, UK.
- JULY 2013 "Quantum toric degenerations." *Journées d'algèbre à Clermont-Ferrand*. Université Blaise Pascal, Clermont-Ferrand, France.

ORGANIZATION

- NOV. 2019 *Algebraic and Geometrical Methods in String Theory*, Buenos Aires, Argentina. Local committee.
- JUNE 2013 *IVth Conference on Hochschild Cohomology, Structure and Applications*, Buenos Aires, Argentina. Local committee.
- DEC. 2012 *Encuentro Rioplatense de Álgebra y Geometría Algebraica*, Buenos Aires, Argentina. Local committee.
- 2010-2016 Homological Algebra and Related Flavours Seminar, Departamento de Matemática, Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires ([Homepage](#)).

TEACHING

- 2018 — Professor at Universidad CAECE, Buenos Aires.
- 2014 - 2017 Assistant Teacher, with research duties. Departamento de Matemática, Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires.
- 2012 - 2014 Teaching Assistant (graduate). Departamento de Matemática, Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires.

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- 2010 - 2012 Teaching Assistant (graduate). Departamento de Matemática, Ciclo Básico Común. Universidad de Buenos Aires.
- 2007 - 2010 Teaching Assistant (undergraduate). Departamento de Matemática, Facultad de Ciencias Exactas y Naturales. Universidad de Buenos Aires.

TEACHING DUTIES

As Professor at Universidad CAECE.

- 2018 Differential geometry. Ordinary Differential Equations.

As Assistant Teacher at the University of Buenos Aires.

- 2016 Introduction to real analysis in one variable. Differential geometry.
- 2015 Differential geometry. Algebra II (groups, rings and modules).
- 2014 Algebra I (Basic properties of integers). Projective geometry.

As graduate Teaching Assistant at the University of Buenos Aires.

- 2013 Linear algebra for physics majors (two semesters).
- 2012 Linear algebra. Calculus I.
- 2010-2012 Introduction to linear algebra for math majors and engineers.

As undergraduate Teaching Assistant at the University of Buenos Aires

- 2009 Linear algebra for biology majors. Complex analysis for physics majors.
- 2008 Algebra II (Groups, rings and modules). Algebra I.
- 2007 Calculus I (two semesters).

FURTHER INFORMATION

- 2015– I have reviewed articles for the Journal of Pure and Applied Algebra, the Journal of the Mexican Mathematical Society, and Communications in Algebra.
- 2016-17 I was part of the evaluation committee of two Master's Thesis presented at the University of Buenos Aires.
- *Cohomología de Hochschild de algunas extensiones de Ore de los polinomios y su estructura*, Maximiliano Valle. April 2017.
 - *Álgebras Jacobianas asociadas a superficies a través del Lema del Diamante*, Fernando Martín. March 2016.
- 2013 – I am a reviewer for *Mathematical Reviews*.
- 2006-2008 I worked as an online mathematics tutor for high school students in the US through Tutor.com.
- 2006 I translated the book "A History of Pi" by Petr Beckman to Spanish. Published as Beckmann, Petr (2006), "Historia de π ", México D.F., CONACULTA-Libraria S.A.