Florencia Orosz Hunziker

Contact Information

University of Colorado, Boulder
Department of Mathematics
Campus Box 395
2300 Colorado Avenue,
Room 315,
Boulder, CO 80309-0395, USA.

florencia.orosz@colorado.edu

Research Interests

Representation theory, Lie theory, Vertex algebra theory.

Current position

University of Colorado, Boulder
Assistant Professor

Previous employment

University of Denver
NSF Postdoctoral Fellow (2021-2023)
Mentor: Andrew Linshaw.
University of Colorado, Boulder
Burnett Meyer Postdoctoral Fellow, 2020-2021.

Harvard University
Lecturer in Mathematics, 2019-2020.

Education

Yale University

Ph.D. in Mathematics, 2019.

- Advisor: Igor B. Frenkel

Master of science in mathematics, 2016.

Master of philosophy in mathematcics, 2016.

Universidad Nacional de Córdoba, Argentina

B.A. in Mathematics, 2011, GPA: 9/10.

Professional Development

Learning by design, CU Boulder, Fall 2020.

Advocating for students of color, AMS Webinars, 2020.

Certificate of College Teaching Preparation, Center for teaching and learning, Yale University, 2017.

Publications

Graded Pseudo-traces of indecomposable modules for Heisenberg and universal Virasoro vertex operator algebras. (2023), Preprint arXiv:2311.17257 [math.QA].

On rationality of C-graded vertex algebras and applications to Weyl vertex algebras under conformal flow.
K. Barron, K. Batistelli, F. Orosz Hunziker, V. Pedić and G. Yamskulna, Journal of Mathematical Physics 63, 091706 (2022); https://doi.org/10.1063/5.0117895

Tensor categories arising from the Virasoro algebras,
T. Creutzig, C. Jiang, F. Orosz Hunziker, D. Ridout, J. Yang, Advances in Mathematics 380 (2021); https://doi.org/10.1016/j.aim.2021.107601.

Fusion rules for the Virasoro algebra of central charge 25,
F. Orosz Hunziker, *Algebras and Representation Theory* (2019)
https://doi.org/10.1007/s10468-019-09923-2.

Relaxed fusion rules for the $N = 2$ and sl_2 algebras
F. Orosz Hunziker, A. Ros Camacho, and S. Wood, (in preparation 2024)

Tensor structures for N=1 super Virasoro algebras
T. Creutzig, R. McRae, F. Orosz Hunziker, J. Yang (in preparation, 2024)

Diagonal and Grassmanian cosets
T. Creutzig, A. Linshaw, F. Orosz Hunziker (in preparation, 2024)

Feigin-Fuchs duality for Virasoro vertex algebras, Ph. D Thesis, (2019), Yale University, ProQuest Dissertations Publishing, 2019. 13809885.

Vertex coalgebras, Co-associator and Co-commutator formula,
F. Orosz Hunziker and J. I. Liberati, Algebra, (2014)
http://dx.doi.org/10.1155/2014/861768.

Álgebras de vértices (Vertex algebras).
F. Orosz Hunziker, BS Thesis, Universidad Nacional de Córdoba, Argentina, (2011).

Teaching Experience

University of Colorado, Boulder

Fall	2023	Instructor, Introduction to Discrete Mathematics.
Spring	2021	Instructor, Graduate course on Non commutative rings.
Spring	2021	Instructor, Linear algebra.
Fall	2020	Instructor, Abstract Algebra I.

Harvard University

Spring	2020	Instructor, Calculus, Series, and Differential Equations.
Spring	2020	Instructor, Introduction to functions and Calculus II.
Fall	2019	Instructor, Multivariable Calculus.
Fall	2019	Instructor, Introduction to functions and Calculus I .

Yale University

Fall	2018	Instructor, Multivariable Calculus.
Fall	2017	Instructor, Multivariable Calculus.
Spring	2017	Instructor, Multivariable Calculus.
Fall	2015	Instructor, Calculus of one varible II.
Spring	2015	Mathematics tutor at Saybrook College.
Spring	2015	Teaching Assistant, Linear algebra and Matrix theory.
Fall	2014	Mathematics tutor at Saybrook College.
Summer	2014	Undegraduate research mentor at SUMRY, Summer Undergraduate Research at Yale.
Spring	2014	Teaching Assistant, Calculus of one variable II.

Universidad Nacional de Córdoba, Argentina

Fall	2010	Teaching Assistant, Analysis I.
Spring	2010	Teaching Assistant, Algebra II.
Fall	2009	Teaching Assistant, Algebra I.
Spring	2009	Teaching Assistant, Algebra II.
Fall	2008	Teaching Assistant, Analysis I.
Spring	2008	Teaching Assistant, Algebra II.

Honors and Awards

2021-2023	NSF Mathematical Sciences Postdoctoral Research Fellowship.
2020	Special Commendation for Extraordinary Teaching in Extraordinary times, Harvard University.
2019	Certificate of Distinction in Teaching, Harvard University.
2017-2018	Horace T. Burgess Fellowship in Mathematics Fund, Yale University.
2016	Austin B. Creed award, Yale University.
2016-2018	Horace T. Burgess Fellowship in Mathematics Fund, Yale University.
2015-2016	Horace T. Burgess Fellowship in Mathematics Fund, Yale University.
2014-2015	Warren A. and Hibernia S. Tyrrell Fellowship Fund, Yale University.
2012-2013	Research Scholarship granted by CONICET (National Council of Science and Technology in Argentina.)

Service

2023-2024	Supporting coorganizer of the Woman in Mathematical Physics III conference.
2023-2024	Coorganizer of Math for all Boulder, University of Colorado Boulder.
2023-2024	Coorganizer of Mates para todes, University of Colorado Boulder.
2022-2023	Organizer of the directed reading program at the University of Denver.
2021-2023	Organizer of Womxn+ in Math Lunches at the University of Denver.
Spring 2022	Organizer of Special Session "Some modern developments in the theory of vertex algebras" at the AMS Spring Western Sectional Meeting.
2020-present	Organizer of the Rocky Mountain Representation Theory Seminar.
2020-2021	Member of the Diversity Committee in the mathematics department, University of Colorado, Boulder.
Fall 2020	Facilitator in the Workshop "Inclusión" on gender inequality and initiatives to fight it in Mathematics, Encuentro Virtual de Álgebra Homológica, Argentina.
2019-2020	Mentor in Científico Latino - A program for students who are members of underrepresented groups and applying to doctoral studies in Mathematics.
2019-2020	Co-organizer of the Math undergraduate mentoring program at Harvard University.
2019-2020	Mentor to a first time teaching graduate student at Harvard university.
2019-2020	Member of the Harvard Mathematics Department Undergraduate Events committee.
Fall 2020	Facilitator of the Inclusivity in Math workshop at Harvard as part of the Calculus instruction orientation day for graduate students and postdocs.
Fall 2018	Mentor to an undergraduate women interested in Mathematics as part of the mentoring program of the Women in Science at Yale University.
Fall 2018	Co-founder of INTERSECTIONS, the Association of Women and Gender Minorities in Math at Yale University.
Fall 2018	Co-organizer of the INTERSECTIONS seminar, the Women and Gender Minorities seminar in the Mathematics department at Yale University.
Fall 2018	Graduate student mentor to a first time teaching graduate student at Yale University.
Fall 2017	Graduate student mentor to a first time teaching graduate student at Yale University.

2018	Mentor to a high school girl interested in STEM in the "1000 Girls, 1,000 Futures" program of the New York Academy of Sciences.
2017	Weekly volunteer as a Mathematics tutor at the Teen Center in the New Haven Public Library.
2017	Organizer of the postdoc and graduate student seminar in representation theory in the Mathematics department at Yale University.
Fall 2016	Organizer of the postdoc and graduate student seminar in representation theory in the Mathematics department at Yale University.
Summer 2014	Co-organized REU conference for Undergraduate research at Yale University.

Invited Presentations and Selected conferences

Women in Mathematical Physics II, Banff, Research group leader (08/2023).

Representation Theory, Calabi-Yau Manifolds, and Mirror Symmetry, Harvard University, Center of mathematical Sciences and Applications, (11/2022).

WINART 3-Women in Noncommutative Algebra and Representation Theory workshop 3 (04/2022).

Algebra Seminar, University of Zagreb (02/2022).

AGNT Seminar, Rice University, (12/2021).

Women and Mathematics, Institute for Advanced Study, Princeton, (05/2021).

Cardiff theoretical maths and mathematical physics group seminar (03/2021). Superalgebras, quantum groups, and related topics session in the AMS Spring Southeastern Sectional Meeting (03/2021).

Rocky Mountain Mathematical Physics Seminar, University of Colorado, Boulder (01/2021).

Algebraic Lie Theory Seminar, University of Colorado, Boulder (11/2020).

Algebra and Logic Seminar, University of Denver, (10/2020).

Illinois State University Algebra seminar (09/2020).

University Quantum Symmetries Lectures ($U_q(sl)$) (09/2020).

WOMAP-Women in Mathematical Physics (08/2020).

Seminario de Teoría de Lie, FAMAF, UNC, (*Lie Theory Seminar, FAMAF, National University of Córdoba, Argentina*) (08/2020).

Inclusión: Taller sobre desigualdades de género y medidas para la inclusión de mujeres y disidencias en Matemática, EVAH, (*Inclusion: Workshop about gender inequalities and initiatives for the inclusion of womxn and gender minorities in mathematics, EVAH*) (08/2020).

VCU Geometry and Topology Seminar (05/2020).

AMS Sectional Meeting at the University of Virginia: special session on Quantum Algebra and Geometry (03/2020).

Joint Mathematics Meetings: Special session on Mathematical Aspects of Conformal Field Theory (01/2020).

CUNY Representation Theory Seminar (11/2019).

Yale Undergraduate Mathematics Society Seminar (04/2019).

Rutgers University, Lie Group Quantum Mathematics Seminar (02/2019).

University of Denver, Colloquium (02/2019).

Ohio State University, Representation theory seminar (04/2019).

Relevant Skills

- Native Spanish speaker and fluent English speaker.