Mara Ungureanu

Contact information

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Employment

2018–present	**Postdoctoral research associate**
	Albert-Ludwigs-Universität Freiburg

Education

2015–2018	**PhD in Mathematics**
	Humboldt-Universität zu Berlin, Germany
	Thesis: "Enumerative formulas of de Jonquières type on algebraic curves"
	Advisor: Gavril Farkas
2012–2015	**Master of Science in Mathematics**
	Humboldt-Universität zu Berlin, Germany
	Thesis: "Introduction to the Enumerative Geometry of Curves"
	Advisor: Gavril Farkas
2008–2012	**Bachelor of Science with Honours in Mathematics and Physics**
	University of Edinburgh, United Kingdom
	Thesis: "Spinor Geometry'"
	Advisor: José Figueroa-O'Farrill

Research interests

Algebraic geometry, moduli of curves, Brill-Noether type questions, compactifications of Picard schemes, relations to topological field theories and singularity theory.

Honours

2012–2015	Berlin Mathematical School Phase I Scholarship
2012	Tait Medal, University of Edinburgh
2012	James Murray Brown Honours Project Prize, University of Edinburgh
2011	Nuffield Foundation Undergraduate Research Bursary

Research articles

"Refined de Jonquières divisors and secant varieties on algebraic curves", arXiv:1911.09457

"Geometry of intersections of some secant varieties to algebraic curves", arXiv:1810.05461

"Dimension theory and degenerations of de Jonquières divisors,"
Published online ahead of print in Int.Math.Res.Not. IMRN, DOI: 10.1093/imrn/rnz267

"Homogeneous M2 duals" (with J. Figueroa-O'Farrill), Journal of High Energy Physics, 2016(1), 1-54.

Seminar and conference talks

12/2019	"The geometry of intersections of secant varieties to algebraic curves", at the Women in Algebra and Symbolic Computations Conference, Bad Dürkheim
10/2019	"The geometry of intersections of secant varieties to algebraic curves", at the Algebra and Geometry Seminar, Institut Fourier, Grenoble
04/2019	"Secant varieties, Segre classes, and BPS counts", at the Algebraic and Geometric Aspects in Quantum Field Theory Workshop, Freiburg
02/2019	"The geometry of intersections of secant varieties to algebraic curves", at the KCL/UCL Junior Geometry Seminar, Kings College London
06/2018	"The enumerative geometry of de Jonquières divisors'", at Géométrie Algébrique en Liberté XXVI, Strasbourg.
06/2018	"The enumerative geometry of de Jonquières divisors", at the Algebraic Geometry Seminar, IMAR Bucharest.
03/2018	"From billiards in polygons to de Jonquières divisors", at the Pure Mathematics Seminar, University of Liverpool.
10/2017	"From billiards in polygons to de Jonquières divisors", at the EDGE Seminar, University of Edinburgh.
06/2017	"Billiards, cohomological field theories, and de Jonquières divisors", at the Junior String Seminar, University of Oxford.
03/2017	"From de Jonquières counts to cohomological field theory", at the Women at the Intersection of Mathematics and High Energy Physics Workshop, MITP, Mainz.
02/2017	"The geometry of divisors with multiplicity on projective curves", at the Third Meeting for Young Women in Mathematics, University of Freiburg.

Poster presentations

06/2019	"The geometry of intersections of secant varieties to algebraic curves", at the New Perspectives in Gromov-Witten Theory Summer School, Paris
03/2017	"From de Jonquières' counts to cohomological field theories", at the Cycles and Moduli Workshop, ETH Zürich.

Organisational activities

07/2020	Géométrie Alegébrique en Liberté XXVIII Conference, Loughborough
06/2019	Géométrie Alegébrique en Liberté XXVII Conference, Bucharest
05/2019	Fourth Meeting for Young Women in Mathematics "Cohomological Methods in Geometry"

Conferences and summer schools attended

11/2019	Joint Seminar in Algebraic and Complex Geometry Basel-Freiburg-Nancy-Strasbourg, Strasbourg
08/2019	Integrability, Geometry and Moduli, Bonn
10/2018	Darmstadt-Erlangen-Freiburg Conformal Field Theory Seminar, Erlangen.
11/2017	North German Algebraic Geometry Seminar, Berlin.
10/2017	Moduli of Curves Workshop, Gothenburg.
09/2017	Instruments of Algebraic Geometry, Bucharest.
07/2017	Pre-StringMath Summer School, Hamburg.
07/2017	Higgs Bundles, K3 Surfaces, and Moduli, Berlin.
08/2016	Summer School of the IRTG Moduli and Automorphic forms, Vlieland.
08/2016	Advanced School and Workshop on Moduli Spaces, Mirror Symmetry and Enumerative Geometry, ICTP, Trieste.
08/2015	Summer School of the IRTG Moduli and Automorphic forms, University of Siena.

Teaching experience

2018–present	Teaching assistant at Albert-Ludwigs-Universität Freiburg Differential geometry I, Complex Geometry, Modular Forms
2015–2018	Teaching assistant at Humboldt-Universität zu Berlin Linear algebra and analytic geometry I (for mathematicians) Linear algebra and analytic geometry II (for mathematicians) Algebra and number theory (for teachers) Mathematics for natural sciences I
2011–2012	Teaching assistant at the University of Edinburgh Mathematics for Physicists

Languages

Native proficiency: Romanian.

Full professional proficiency: English.

Professional working proficiency: German, French.