

# Mara Ungureanu

Mathematisches Institut  
Abteilung Reine Mathematik  
Albert-Ludwigs-Universität Freiburg  
Ernst-Zermelo-Str.1  
79104 Freiburg i.Br., Germany

mara.ungureanu@math.uni-freiburg.de  
<https://home.mathematik.uni-freiburg.de/mathphys/mitarbeiter/ungureanu/>

## Employment

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2018–present      **Postdoctoral research associate**, Albert-Ludwigs-Universität Freiburg  
Mathematical Physics group of Katrin Wendland

## Education

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2015–2018      **PhD in Mathematics**, Humboldt-Universität zu Berlin  
Thesis: “Enumerative formulas of de Jonquières type on algebraic curves”  
Advisor: Gavril Farkas

2012–2015      **MSc in Mathematics**, Humboldt-Universität zu Berlin  
Thesis: “Introduction to the Enumerative Geometry of Curves”  
Advisor: Gavril Farkas

2008–2012      **BSc with Honours in Mathematics and Physics**, University of Edinburgh  
Thesis: “Spinor Geometry”  
Advisor: José Figueroa-O’Farrill

## Research articles

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“Universal polynomials for counts of secant planes to projective curves”, arXiv:2011.04458

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

“Geometry of intersections of some secant varieties to algebraic curves”, published online ahead of print in *J. London. Math. Soc.*, DOI: 10.1112/jlms.12374

“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, *JHEP*, 2016(1), 1-54.

## Selected seminar and conference talks

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12/2019      “The geometry of intersections of secant varieties to algebraic curves”, Women in Algebra and Symbolic Computations Conference, Bad Dürkheim

10/2019      “The geometry of intersections of secant varieties to algebraic curves”, Algebra and Geometry Seminar, Institut Fourier, Grenoble

04/2019      “Secant varieties, Segre classes, and BPS counts”, Algebraic and Geometric Aspects in QFT Workshop, Freiburg

02/2019      “The geometry of intersections of secant varieties to algebraic curves”, KCL/UCL Junior Geometry Seminar, Kings College London

06/2018      “The enumerative geometry of de Jonquières divisors”, Géométrie Algébrique en Liberté XXVI, Strasbourg

06/2018      “The enumerative geometry of de Jonquières divisors”, Algebraic Geometry Seminar, IMAR, Bucharest

04/2018      “From billiards in polygons to de Jonquières divisors”, Pure Mathematics Seminar, University of Liverpool

10/2017      “From billiards in polygons to de Jonquières divisors”, EDGE Seminar, University of Edinburgh

06/2017      “Billiards, cohomological field theories, and de Jonquières divisors”, Junior String Seminar, University of Oxford

## Honours

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2012–2015      Berlin Mathematical School Phase I Scholarship  
2012            Tait Medal, University of Edinburgh

## Organizational activities

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I am a co-organizer of:

07/2021      “Géométrie Algébrique en Liberté XXVIII” Conference, Loughborough  
06/2019      “Géométrie Algébrique en Liberté XXVII” Conference, Bucharest  
05/2019      “The Fourth Meeting for Young Women in Mathematics”, Freiburg

## Service

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Postdoc representative in the Studienkommission of the Mathematics Institute at Freiburg University

## Teaching

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Lectured advanced course on Algebraic Curves.

Teaching assistant for various courses, including: Modular Forms, Differential Geometry, Complex Geometry, Linear Algebra.

Organized undergraduate and graduate seminars on various topics, including: Integrable Systems, Quantum Cohomology, Intermediate Jacobians.