

Samouil Molcho

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PERSONAL INFORMATION

Citizenship: Greece
Date of Birth: 19/1/1988

EMPLOYMENT

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| Postdoctoral Researcher
ETH Zurich
Zurich, Switzerland | September 2020- |
| Postdoctoral Researcher
Einstein Institute of Mathematics
Hebrew University of Jerusalem
Jerusalem, Israel | October 2018-September 2020 |
| Postdoctoral Researcher
Scuola Normale Superiore
Pisa, Italy | October 2016-October 2018 |
| Burnett Meyer Instructor
University of Colorado
Boulder, CO, USA | September 2014-July 2016 |
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EDUCATION

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| Brown University
Advisor: Dan Abramovich | Ph.D. Mathematics | May 2014 |
| Brandeis University
Wien International Scholar | B.A. Mathematics (summa cum laude) | May 2009 |
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RESEARCH INTERESTS

Algebraic Geometry; Logarithmic Geometry; Toric and Tropical Geometry; Moduli Spaces;
Abelian Varieties; Gromov-Witten Theory; Curve Counting Invariants;

PAPERS AND PREPRINTS

- **Pullbacks of Brill-Noether Classes under Abel-Jacobi Sections** (Submitted)
- **Smooth Compactifications of the Abel-Jacobi Section** -- *Forum of Mathematics, Sigma*, 11, E88.
doi:10.1017/fms.2023.83

- **Logarithmic Double Ramification Cycles** With D. Holmes, R. Pandharipande, A. Pixton, J. Schmitt -- (Submitted)
- **Tropicalization of the Universal Jacobian** With M. Melo, M. Ulirsch, F. Viviani -- *Épjournal Géom. Algébrique* 6 (2022), Art. 15, 51 pp.
- **A Case Study of Intersections on Blowups of The Moduli of Curves** With D. Ranganathan -- Accepted at *Algebra & Number Theory*
- **The Hodge bundle, the universal 0-section, and the log Chow ring of the moduli space of curves** With R. Pandharipande, J. Schmitt -- *Compositio Mathematica*, 159(2), 306-354
- **Models of Jacobians of Curves** With D. Holmes, G. Orecchia, T. Poiré -- *Journal für die reine und angewandte Mathematik (Crelle's Journal)*, vol. 2023, no. 801, 2023, pp. 115-159
- **Logarithmically Regular Morphisms** With M. Temkin -- *Math Ann.* 379 (2021), no. 1-2, 325-346
- **The Logarithmic Picard Group and its Tropicalization** With J. Wise -- *Compositio Mathematica* 158 (2022), no. 7, 1477–1562.
- **Tropicalizing the Moduli Space of Broken Toric Varieties** With J. Wise
- **Universal Stacky Semistable Reduction** -- *Israel Journal of Math*, 242 (2021), no.1, 55-82
- **Appendix to: Moduli of Morphisms of Logarithmic Schemes:** Appendix C in the paper of J. Wise – *Algebra & Number Theory* 10 (2016), no.4, 695-735
- **A Theory of Stacky Fans** With W.D Gillam
- **Logarithmic Stable Toric Varieties and their Moduli** With K. Ascher – *Algebraic Geometry* 3(2016), no. 3, 296-319
- **Log Stable Maps as Moduli Spaces of Flow Lines** With W.D Gillam
- **Localization for Logarithmic Stable Maps** With E. Routis – *Transactions of the American Mathematical Society, Series B*, 6 (2019)
- **Log Differentiable Spaces and Manifolds with Corners** With W.D. Gillam

TEACHING EXPERIENCE

Supervised Undergraduate Students:

- Lukas Bertsch (Reading Project on Riemann Surfaces) (2021)
- Lukas Oestmann (Bachelor's Thesis on the ELSV formula) (2021)
- Mashiro Hauenstein (Bachelor's Thesis on the Grothendieck-Riemann Roch Theorem) (2022)
- Philip Sandt (Bachelor's Thesis On Resolution of Toric Singularities)(2023)

Supervised Master's Students:

- Jeremy Feusi (Masters' Thesis on log line bundles on the moduli space of curves) (2023)

Toric Geometry Fall 2023
ETH Zurich

Course on Logarithmic Geometry Spring 2018
Scuola Normale Superiore

Seminar on Derived Geometry Fall 2017
Scuola Normale Superiore
Organized the seminar and gave half of the lectures

Seminar on Bridgeland Stability Conditions Spring 2017
Scuola Normale Superiore

Organized the seminar and gave half of the lectures

Seminar on Fourier-Mukai Transforms Fall 2016

Scuola Normale Superiore

Organized the seminar and gave half of the lectures

Math 8174: Topics in Algebraic Geometry - Spring 2016

Moduli Spaces

CU Boulder

Math 2400: Multivariable Calculus Fall 2015

CU Boulder

Math 3130: Linear Algebra Spring 2016

CU Boulder

Math 3001: Real Analysis Spring 2015

CU Boulder

Math 2001: Discrete Mathematics Fall 2014

CU Boulder

Math 0190: AP Calculus Fall 2013

Brown University

Math 0200: Multivariable Calculus Fall 2012

Brown University

Math 0200: Multivariable Calculus Fall 2011

Brown University

Math 0090: Introductory Calculus I Fall 2010

Brown University

INVITED TALKS

Curves: Algebraic, Tropical and Logarithmic Conference, BIRS, Banff Summer 2023

Arithmetic, Birational Geometry, and Moduli Spaces Summer 2023

Conference at Brown University

Institut Mittag-Leffler, Moduli and Logarithmic Geometry Conference Summer 2023

ETH Zurich Spring 2023

Humbolt University Spring 2023

EPFL Spring 2023

University of Liverpool Spring 2023

Moduli spaces: Theory and Coding Spring 2023

Log Geometry and Moduli Conference, Frankfurt Spring 2023

Helvetic Algebraic Geometry Conference Summer 2022

ETH Zurich Spring 2022

University of Utah Spring 2022

Institut Mittag-Leffler, Moduli and Logarithmic Geometry Conference	Fall 2021
Harvard/MIT	Fall 2021
ETH Zurich	2 lectures, Fall 2021
Roma Tre	Fall 2021
Stanford	Spring 2021
Moduli Across the Pandemic Conference	Spring 2021
ETH Zurich	Spring 2021
ICERM	Spring 2021
ETH Zurich	5 lectures, Fall 2020
ETH Zurich	November 2019
Universitat Regensburg: NATROP 19	July 2019
Oberwolfach: Logarithmic Enumerative Geometry and Mirror Symmetry	June 2019
Goethe-Universitat Frankfurt	June 2019
University of Leiden	June 2019
University of British Columbia	Spring 2016
AMS Sectional Meeting, San Francisco	Fall 2014
University of Colorado at Boulder	Spring 2014
ETH Zurich	Spring 2013
University of Utah	Spring 2013

LANGUAGES

English (Fluent), Greek (Native), Italian (Intermediate), German (Basic)

REFERENCES

Dan Abramovich

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Rahul Pandharipande

ETH Zurich
Zurich, Switzerland
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Michael Temkin

Einstein Institute of Mathematics,
The Hebrew University of Jerusalem,
Giv'at Ram, Jerusalem, 91904, Israel
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Angelo Vistoli

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