

# LISA MARQUAND

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## EDUCATION

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### **Stony Brook University**

*August 2017 - ongoing*

Pursuing a PhD in Mathematics, Advisor: Prof. Radu Laza

**Research Interests:** Algebraic geometry, in particular Hyperkähler Manifolds and automorphisms, special classes of varieties ( $K$ -trivial, cubic hypersurfaces).

### **The University of Edinburgh**

*Sep 2013 - May 2017*

Degree of Master of Mathematics with First Class Honours in Mathematics.

Master's Thesis Title: *Cylinders in Rational Surfaces*, advised by Ivan Cheltsov

## RESEARCH PAPERS

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**Classification of Symplectic Birational Involutions of Manifolds of OG10 type,** *2022*  
Preprint, with Muller, S.

**The Moduli space of Cubic Threefolds with a non-Eckardt Involution,** *2022*  
Preprint, with Casalaina-Martin, S. and Zhang, Z.

**Cubic Fourfolds with an Involution,** *2022*  
To appear in Trans. Amer. Math. Soc.

**Cylinders in Rational Surfaces,** *2018*  
with Won, J.  
Eur. J. Math. 4 (2018), no. 3, 11611196.

## INVITED TALKS

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**AMS Special Session: Brauer groups in Algebraic Geometry and Arithmetic** *Apr 2023*  
University of Cincinnati

**University of Waterloo** *Mar 2023*  
Geometry and Topology Seminar

**Banff International Research Station Workshop** *Feb 2023*  
Explicit Moduli Problems in Higher Dimension

**Brown University** *Feb 2023*  
Algebraic Geometry Seminar

**University of Michigan** *Dec 2022*  
Algebraic Geometry Seminar

**Purdue University** *Nov 2022*  
Algebraic Geometry Seminar

**AMS Special Session: Geometry and Arithmetic of Hyperkähler Manifolds** *Oct 2022*  
University of Tennessee at Chattanooga

**University of Massachusetts Valley Geometry seminar** *Oct 2022*  
Algebraic Geometry Seminar

**University of Edinburgh** *Oct 2022*  
Hodge Club Seminar

<b>Columbia University</b> Algebraic Geometry Seminar	<i>Sep 2022</i>
<b>Stony Brook University</b> Algebraic Geometry Seminar	<i>Sep 2022</i>
<b>C.I.M.E Summer School, Cetraro Italy</b> Hyperkähler manifolds and related geometries	<i>Sep 2022</i>
<b>MPS Conference on Higher Dimensional Geometry</b> Simons Center for Geometry and Physics, (short talk)	<i>Aug 2022</i>
<b>AWM Research Symposium</b> Women in Algebraic Geometry special session	<i>June 2022</i>
<b>University of Connecticut</b> Algebra Seminar	<i>Oct 2021</i>
<b>Trieste Algebraic Geometry Summer School (TAGSS) 2021</b> Hyperkähler and Prym varieties: classical and new results (virtual talk)	<i>July 2021</i>
<b>American Graduate Student Algebraic Geometry Seminar</b> (virtual talk)	<i>Sept 2020</i>

## CONFERENCES ATTENDED

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<b>Hyperkahler quotients, singularities, and quivers Workshop</b> Simons Center for Geometry and Physics	<i>Jan 2023</i>
<b>Birational Complexity of Algebraic Varieties Workshop</b> Simons Center for Geometry and Physics	<i>Dec 2022</i>
<b>Derived Categories, Moduli Spaces, and Hyperkähler Varieties</b> University of Michigan	<i>Aug 2022</i>
<b>MPS Conference on Higher Dimensional Geometry</b> Simons Foundation NYC, <i>Presented a Poster</i>	<i>Feb 2022</i>
<b>Geometry &amp; Arithmetic of Surfaces Workshop</b> University of Wisconsin	<i>Feb 2019</i>
<b>Géométrie Algébrique en Liberté (GAeL)</b> Organised and attended the GAeL workshop for Young Algebraic Geometers <a href="https://sites.google.com/view/gaelxxviii">https://sites.google.com/view/gaelxxviii</a>	<i>2019 - 2021</i>

## TEACHING AND MENTORING

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<b>Chairman's Award for Excellence in Teaching</b> by a First or Second Year Graduate Student.	<i>2019</i>
<b>Course Instructor, Stony Brook University</b> MAT130 Trigonometry and Logarithms (Fall 2022, Fall 2021), MAT118 Mathematical Thinking (Summer 2020), MAT123 Precalculus (Summer 2019), MAT200 Logic Language and Proof (Summer 2018).	<i>2018-present</i>
<b>Graduate Teaching Assistant at Stony Brook University</b> MAT312 Applied Algebra, MAT123 Precalculus, MAT131 Calculus 1, MAT125/126 Calculus A/B, MAT203 Calculus III with applications, Grading MAT 534/535 Algebra I/II (Graduate class).	<i>Fall 2017 - present</i>
<b>Directed Reading Program (DRP) Stonybrook</b> Mentor for the DRP program, leading an undergraduate student in a reading project following Undergraduate Algebraic Geometry, Miles Reid.	<i>Fall 2019</i>

**GWISE Mentor Program***2019 - 2020*

Mentor for the GWISE (Graduate Women in Science and Engineering) program in order to encourage more women to pursue graduate studies in Mathematics.

**OUTREACH AND SERVICE**

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**Reviewer for zbMATH Open***2022-present***Graduate Representative for Mathematics department***2020 - 2022*

Representing the interests of the graduate students in departmental committee meeting.

**Co-organizer for the Student Algebraic Geometry Seminar***2019 - 2021*

Topics: Moduli of Curves (Spring 2020), Deformations of Algebraic Schemes (Fall 2020), Positivity (Spring 2021).

**Co-organizer for the Graduate Student Seminar***2018 - 2019*

Organised a seminar desired to expose graduate students to different areas of mathematics outside of their research interests.

**Cryptography Instructor for Port Jefferson Highschool - ISTEM***January 2021*

Created and taught a four week program for High school students as an introduction to Cryptography. Syllabus included classical ciphers, public key cryptography techniques, the Merkle-Hellman Knapsack Algorithm, the RSA algorithm.

**Teacher for The Della Pietra Applied Mathematics Program***2019 - present*

Taught classes in a Saturday Mathematics program for Highschool students: Cryptography, geometric puzzles.

**Teacher for The ISTEM Summer Mathematics Program***2018 - present*

Gave lectures in a Summer Camp for Highschool students on geometric puzzles and Wallpaper patterns as part of a program to get more students interested in Mathematics.