

# Dori Bejleri | Curriculum vitae

University of Maryland, College Park – Department of Mathematics

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## Academic Positions

- 2023 - **Assistant Professor**, University of Maryland, College Park.
- 2019 - 23 **Benjamin Peirce Fellow**, Harvard University.
- 2019 - 21 **NSF Postdoctoral Fellow**, Harvard University.
- 2018 - 19 **NSF Postdoctoral Fellow**, Massachusetts Institute of Technology.

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## Education

- 2014 - 18 **Ph.D. in Mathematics**, *Brown University*, Providence, RI, USA.  
Advisor: Dan Abramovich
- 2009 - 13 **B.Sc. in Mathematics**, *California Institute of Technology (Caltech)*, Pasadena, CA, USA.  
Graduated with Honors

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## Publications

- 2023 **Wall crossing for moduli of stable log varieties**, *With Kenny Ascher, Giovanni Inchiostro, and Zolt Patakfalvi*, **Annals of Mathematics**, Volume 198, Issue 2. arXiv:2108.07402.
- 2023 **Smoothability of relative stable maps to stacky curves**, *With Kenny Ascher*, **Épjournal Géom. Algébrique.**, Volume 7. arXiv:2108.05324.
- 2023 **Compact moduli of elliptic K3 surfaces**, *With Kenny Ascher*, **Geometry & Topology**, Volume 27, Issue 5. arXiv:1902.10686.
- 2022 **Compact moduli of degree one del Pezzo surfaces**, *with Kenny Ascher*, **Mathematische Annalen**, Volume 384, Issue 1-2. arXiv:1802.00805.
- 2021 **Stable pairs with a twist and gluing morphisms for moduli of surfaces**, *With Giovanni Inchiostro*, **Selecta Mathematica N.S.**, Volume 27, Issue 3. arXiv:1902.0050.
- 2021 **Moduli of weighted stable elliptic surfaces and invariance of log plurigenera**, *with Kenny Ascher*, **Proceedings of the London Mathematical Society (3)**, Volume 122, Issue 5. arXiv:1702.06107.
- 2021 **Moduli of double covers and degree one del Pezzo surfaces**, *With Kenny Ascher*, **European Journal of Mathematics**, Volume 7, Issue 2. arXiv:1910.05198.
- 2020 **Motivic Hilbert zeta functions of curves are rational**, *with Dhruv Ranganathan and Ravi Vakil*, **Journal of the Institute of Mathematics of Jussieu**, Volume 19, Issue 3. arXiv:1710.04198.

- 2019 **Moduli of fibered surface pairs from twisted stable maps**, with Kenny Ascher, *Mathematische Annalen*, Volume 374. arXiv:1612.00792.
- 2018 **The SYZ conjecture via homological mirror symmetry**, *Expository article*, Superschool on Derived Categories and D-branes (Springer Proceedings in Mathematics and Statistics), arXiv:1710.05894.
- 2017 **Log canonical models of elliptic surfaces**, with Kenny Ascher, *Advances in Mathematics*, Volume 320. arXiv:1610.08033.
- 2017 **The tangent space to the punctual Hilbert scheme**, with David Stapleton, *Michigan Math Journal*, Volume 66, Issue 3. arXiv:1604.04915.
- 2023 **The topology of equivariant Hilbert schemes**, with Gjergji Zaimi, *Res. Math. Sci.*, Volume 10, Issue 3. arXiv:1512.05774.
- 2013 **Quantum field theory over  $\mathbb{F}_1$** , with Matilde Marcolli, *Journal of Geometry and Physics*, Volume 69. arXiv:1209.4837.

## Preprints

- 2025 **A normal crossings compactification of Hurwitz space**, With Aaron Landesman. Appendix to *Homological stability for generalized Hurwitz spaces and Selmer groups in quadratic twist families over function fields* by Jordan Ellenberg and Aaron Landesman
- 2024 **Proper splittings and projectivity for good moduli spaces**, With Elden Elmanto and Matthew Satriano, Submitted, arXiv:2408.11057.
- 2024 **Moduli of elliptic surfaces of Kodaira dimension one fibered over rational curves**, With Josiah Foster, Andres Fernandez Herrero, Giovanni Inchiostro, Svetlana Makarova, and Junyan Zhao, Submitted, arXiv:2407.05539.
- 2024 **Symmetric powers of null motivic Euler characteristic**, With Stephen McKean, Submitted, arXiv:2406.19506.
- 2023 **Moduli of boundary polarized Calabi-Yau pairs**, With Kenny Ascher, Harold Blum, Kristin DeVleming, Giovanni Inchiostro, Yuchen Liu, and Xiaowei Wang, Submitted, arXiv:2307.06522.
- 2022 **Height moduli on cyclotomic stacks and counting elliptic surfaces over function fields**, With June Park and Matthew Satriano, Submitted, arXiv:2210.04450.
- 2022 **The motivic Hilbert zeta function of a planar  $n$ -fold thickening of a smooth curve**, Draft available here.
- 2018 **The Hilbert zeta function of a curve singularity is constructible in families**, Draft available here.

## In preparation

- 2025 **A root stack valuative criterion for good moduli spaces**, With Giovanni Inchiostro and Matthew Satriano, Draft available.
- 2025 **On the rational locus in the moduli space of quartic surfaces**, With Nathan Chen, Benjamin Church and Kristin DeVleming, In preparation.
- 2025 **Virtual fundamental classes on moduli of fibered surfaces**, With Kenneth Ascher and Yunfeng Jiang, In preparation.

- 2025 **Multi Abramovich Hassett families and applications to higher dimensional moduli**, *With Zhengkai Pan*, In preparation.
- 2025 **Twisted stable pairs with standard coefficients**, *With Giovanni Inchiostro*, In preparation.
- 2024 **Moduli of  $\mathbb{Q}$ -polarized Calabi-Yau pairs**, *With Kenny Ascher, Harold Blum, Kristin DeVleming, Giovanni Inchiostro, Yuchen Liu, Xiaowei Wang, and Chuyu Zhou*, In preparation.
- 2024 **The cotangent complex of perfect pairs**, *With Elden Elmanto and Giovanni Inchiostro*, In preparation.
- 2024 **Deformations of twisted stable pairs**, *With Giovanni Inchiostro*, Draft available upon request.

## Teaching

### Instructor

- Spring 2025 Algebraic Geometry II (MATH 607)  
*University of Maryland, College Park*
- Fall 2024 Algebraic Geometry I (MATH 606)  
*University of Maryland, College Park*
- Spring 2024 Introduction to Number Theory (MATH 406)  
*University of Maryland, College Park*
- Spring 2022 K3 surfaces (Math 277Z)  
*Harvard University*
- Fall 2022 Algebraic Geometry I (Math 232a)  
*Harvard University*
- Spring 2022 Rationality questions in algebraic geometry (Math 260X)  
*Harvard University*
- Spring 2022 Linear Algebra and Differential Equations (Math 21b)  
*Harvard University*
- Fall 2021 Differential geometry (Math 136)  
*Harvard University*
- Fall 2020 Birational geometry of algebraic varieties (Math 290)  
*Harvard University*
- Spring 2020 Linear Algebra and Differential Equations (Math 21b)  
*Harvard University*
- Fall 2019 Moduli Spaces in algebraic geometry (Math 259x)  
*Harvard University*
- Spring 2018 Calculus I (Math 90)  
*Brown University*
- Summer 2017 Million Dollar Mathematics  
*Part of the STEM II summer program at Brown University. Co-designed and co-taught an introduction to higher math topics for rising 9th graders. Topics included number theory, graph theory, linear algebra, probability and combinatorics.*

Spring 2017 Calculus II (Math 100)  
*Brown University*

#### Graduate students advised

2024 - Myeong Jae Jeon  
*University of Maryland, College Park*

2024 - Javier Reyes  
*University of Maryland, College Park*

2023 - Zhengkai Pan  
*Harvard University*

#### Postdocs mentored

2024 - Junyan Zhao  
*University of Maryland, College Park*

#### Undergraduate students mentored

Summer 2024 Samuel Lidz  
*Summer reading project on linear series on curves and moduli of weighted pointed curves.*

Summer 2021 Leo Alcock  
*Summer reading project on refined enumerative geometry.*

Spring 2019 Hung-Hsun Yu  
*UROP project on Hilbert schemes of non-reduced curves.*

Fall 2017 Jonghyun Lee  
*DRP project on Riemann surfaces and Hurwitz theory following Riemann Surfaces and Algebraic Curves: A First Course in Hurwitz Theory.*

Spring 2017 Anabel Tassoni  
*DRP project on moduli spaces following Hypergeometric functions, my love: modular interpretations of configuration spaces.*

Spring 2017 Nicholas Tomlin  
*DRP project on category theory following Category theory in context.*

### Awards

2025 - 2027 NSA Conference Grant  
*For JHU-UMD ANTD \$9,352*

2024 - 2027 NSF Standard Grant DMS-2401483  
*\$225,000*

2019 - 2021 Certificate of Teaching Excellence  
*Derek Bok Center for Teaching and Learning, Harvard University (two awards)*

2018 NSF Mathematical Sciences Postdoctoral Research Fellowship

2016, 2017 Joukowsky Summer Research Award  
*Brown University*

## Service and professional activities

### Conferences and seminars

- 2026 **Co-organizer of SL Math Summer Graduate School**  
*Moduli of Varieties*
- 2025 **Online mentor for the SRI in Algebraic Geometry Graduate Student Bootcamp**  
*Co-running an online session on Geometry of Higher Dimensional Moduli*
- 2025 **Co-organizer of Brin MRC workshop**  
*Counting Invariants and Enumerative Geometry*
- 2024 - **Co-organizer of the Johns Hopkins-University of Maryland Algebra and Number Theory Day**
- 2024 - **Co-organizer of the RIT on K3 Surfaces**
- 2024 **Organizer of the Informal Moduli Seminar**  
*University of Maryland*
- 2023 - **Co-organizer of the University of Maryland Algebraic Geometry Seminar**
- 2025 **Co-organizer of Brin MRC workshop**  
*Perspectives on Moduli in Algebraic Geometry*
- 2021 - 23 **Co-organizer of the Open Neighborhood Seminar**  
*Harvard's undergraduate math colloquium*
- 2020 - 23 **Co-organizer of the Harvard-MIT Algebraic Geometry Seminar**
- 2023 **Co-organizer of Banff Workshop**  
*Explicit Moduli Problems in Higher Dimensions*
- 2023 **Co-organizer of ABGMS, Brown University**  
*Conference on Arithmetic, Birational Geometry, and Moduli Spaces in celebration of Dan Abramovich's 60th birthday*
- 2022 **Guest Speaker at AGNES Summer School on Higher Dimensional Moduli**  
*Taught a weeklong minicourse on moduli spaces of stable pairs and helped organize afternoon sessions for graduate students to work on research problems in the area.*
- 2017 - 18 **Co-founded the Directed Reading Program (DRP) at Brown**  
*The DRP pairs undergraduate students with graduate student mentors to pursue an independent reading project throughout the semester. The DRP aims to further interactions between undergraduate and graduate students and provide another avenue for pursuing topics of interest in mathematics.*
- 2016 - 18 **Co-organized the 3rd-5th annual AMS Graduate Student Conferences at Brown**  
*A series of subject specific conferences in analysis and probability, geometry and topology, and algebra and number theory, bringing together graduate students from around New England.*
- 2017 - 20 **Co-organizer of Bi-annual Algebraic and Tropical Meetings of Brown and YaLE (BATMOBYLE).**

### Departmental service

- 2023 - **Postdoc hiring committee**, University of Maryland, College Park.
- 2019 - 23 **Graduate admissions committee**, Harvard University.
- 2017 - 18 **President of the AMS Graduate Student Chapter**, Brown University.
- 2016 - 17 **Treasurer of the AMS Graduate Student Chapter**, Brown University.
- 2015 - 18 **Graduate Student Council finance committee member**, Brown University.
- 2015 - 18 **Graduate Student Council Mathematics Department representative**, Brown University.

**PhD Thesis Committees**, Shin Eui Song, UMD (2024), Efstratios Tsoukanis, UMD (2024), Changho Han, Harvard (2019), Hunter Spink, Harvard (2020), Geoffrey Smith, Harvard (2020), Dennis Tseng, Harvard (2020), Gwyneth Moreland, Harvard (2023).

**Preliminary Exam Committees**, Yu-Chi Hou (2024), Pablo Arnulfo Cedillos (2024), Jesus Emilio Dominguez Russel (2024), Samuel Jay Bachuber (2025).

**Senior Thesis Reader**, Raluca Vlad (2022).

### Other

- 2021 - **Editor**, Albanian Journal of Mathematics.
- 2021 - 22 **Math Includes**, Undergraduate mentorship program at Harvard University.
- 2017 - 18 **Brown Math Circle**, Lead several sessions.

**Reviewer**, *Journal of the American Mathematical Society*, *Inventiones*, *Journal of the European Mathematical Society*, *Geometry & Topology*, *Algebra & Number Theory*, *Journal of Algebraic Geometry*, *Manuscripta Mathematica*, *Math Z*, *Advances in Mathematics*, *Revista Matemática Complutense*, *Springer Proceedings*, *Notices of the American Mathematical Society*, *Journal of Symbolic Computation*, *Pacific Journal of Mathematics*, *Duke Mathematics Journal*, *Selecta*.

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### Talks and presentations

- March 2025 **Proper splittings and projectivity for good moduli spaces**, *AMS Central Sectional Meeting*, Special Session on Enumerative Invariants of Moduli Spaces.
- March 2025 **Proper splittings and projectivity for good moduli spaces**, *Birational Geometry and K-stability in Moduli Spaces*, University of Quebec in Montreal.
- December 2024 **Proper splittings and projectivity for good moduli spaces**, *Algebraic Geometry Seminar*, Princeton University.
- October 2024 **Proper splittings and projectivity for good moduli spaces**, *Algebraic Geometry Seminar*, University of Pennsylvania.
- April 2024 **Moduli of boundary polarized Calabi-Yau pairs**, *Smith Colloquium*, University of Kansas.
- March 2024 **Hilbert schemes of points on surfaces**, *Degree  $d$  points on algebraic surfaces*, American Institute of Mathematics.
- March 2024 **Moduli of boundary polarized Calabi-Yau pairs**, *AMS Southeastern Sectional Meeting*, Special Session on Moduli Spaces in Algebraic Geometry.

- February 2024 **Moduli of boundary polarized Calabi-Yau pairs**, *Algebraic Geometry Seminar*, The Ohio State University.
- February 2024 **A moduli theoretic approach to heights on stacks**, *Algebraic Geometry Seminar*, Johns Hopkins University.
- December 2023 **A moduli theoretic approach to heights on stacks**, *Algebraic Geometry Seminar*, UC Irvine.
- November 2023 **Moduli of algebraic varieties**, *Research Seminar in Mathematics*, Northeastern University.
- October 2023 **Moduli of boundary polarized Calabi-Yau pairs**, *Algebraic Geometry in String Theory Seminar*, Center for Mathematical Sciences and Applications, Harvard University.
- September 2023 **Moduli of boundary polarized Calabi-Yau pairs**, *Algebraic Geometry Seminar*, Boston College.
- September 2023 **A moduli theoretic approach to heights on stacks**, *Categorified Enumerative Geometry and Representation Theory*, EPFL.
- June 2023 **Height moduli on cyclotomic stacks**, *Arithmetic, Birational Geometry and Moduli Spaces*, Brown University.
- May 2023 **Hilbert schemes of singular curves**, *FRG Special Month in Ann Arbor*, University of Michigan.
- May 2023 **The cotangent complex of pairs**, *FRG Special Month in Ann Arbor*, University of Michigan.
- April 2023 **From triangles to algebraic geometry**, *Special Lecture*, Harvard University, General audience.
- April 2023 **Height moduli on cyclotomic stacks**, *Algebraic Geometry Seminar*, Columbia University.
- April 2023 **Deformations of pairs**, *Algebraic Geometry Seminar*, Brown University.
- February 2023 **Height moduli on cyclotomic stacks**, *Arithmetic Statistics Seminar*, Harvard University.
- January 2023 **Compact moduli and degenerations**, *Colloquium*, University of Maryland, College Park.
- January 2023 **Compact moduli and degenerations**, *Colloquium*, University of Southern California.
- January 2023 **Compact moduli and degenerations**, *Colloquium*, UC Davis.
- January 2023 **Height moduli on cyclotomic stacks**, *Joint Math Meetings*, Special Session on Excursions in Arithmetic Geometry, Boston, MA.
- December 2022 **Compact moduli and degenerations**, *Colloquium*, University of North Carolina at Chapel Hill.
- November 2022 **Compact moduli and degenerations**, *Colloquium*, University of Illinois at Chicago.
- November 2022 **Deformations of pairs**, *Algebra and Algebraic Geometry Seminar*, University of Washington.

- March 2022 **Wall crossing for moduli of higher dimensional varieties**, *AMS Spring Eastern Virtual Sectional Meeting*, Online.
- February 2022 **Wall crossing for moduli of stable log varieties**, *MPS Conference on Higher Dimensional Geometry*, Simons Foundation, New York City.
- November 2021 **Wall crossing for moduli of stable log varieties**, *Harvard/MIT Algebraic Geometry Seminar*, Harvard University.
- November 2021 **Wall crossing for moduli of stable log varieties**, *Algebraic Geometry in String Theory*, Online.
- November 2021 **Wall crossing for moduli of stable log varieties**, *Intercontinental Algebraic Geometry and Moduli Seminar*, Online.
- October 2021 **Wall crossing for moduli of stable log varieties**, *Valley Geometry Seminar*, UMass Amherst, Online.
- September 2021 **Deformations of pairs**, *Algebraic Geometry Seminar*, Princeton.
- September 2021 **Wall crossing for moduli of stable log varieties**, *Moduli Across the Pandemic*, Online.
- April 2021 **Stable pairs with a twist**, *Algebraic Geometry Seminar*, Stony Brook, Online.
- March 2021 **Wall-crossing for compact moduli of higher dimensional varieties**, *Algebra and Number Theory Seminar*, University of Maryland, Online.
- March 2021 **The locus of rational maps with marked poles inside the Kontsevich space**, *AMS Eastern Sectional Meeting*, Special Session on Moduli of Curves, Hilbert Schemes, and Tropical Geometry, Online.
- January 2021 **Compact moduli of higher dimensional varieties**, *Algebra and Geometry Seminar*, Goethe University Frankfurt, Online.
- November 2020 **Compact moduli of higher dimensional varieties**, *Geometric Representation Theory Seminar*, University of Toronto.
- October 2020 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces**, *Seminario nacional de geometría algebraica (en línea)*.
- September 2020 **Stable pairs with a twist**, *Algebraic Geometry Seminar*, University of Georgia, Online.
- August 2020 **Stable pairs with a twist**, *Stacks Project Online Geometry Event (SPONGE)*, Online.
- March 2020 **Hilbert schemes of points on singular curves**, *AMS Eastern Sectional Meeting*, Special Session on Moduli of Curves, Hilbert Schemes, and Tropical Geometry, Tufts University.  
CANCELLED
- March 2020 **Moduli spaces and compactifications**, *Open Neighborhood Seminar*, Harvard University, General Audience.
- November 2019 **Stable pairs with a twist**, *Moduli and Invariants*, Casa Matemática Oaxaca.



- November 2019 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces**, *Algebraic Geometry Seminar*, Ohio State University.
- October 2019 **Compact moduli of higher dimensional varieties and wall-crossing**, *Algebraic Geometry Seminar*, UC Davis.
- January 2019 **Motivic Hilbert Zeta functions of curves**, *Geometry, Physics, and Representation Theory Seminar*, Northeastern University.
- December 2018 **Motivic Hilbert zeta functions of curves**, *Geometric Representation Theory Seminar*, MIT.
- December 2018 **Compact moduli of elliptic fibrations and degree one del Pezzo surfaces**, *Geometry and Physics Seminar*, Boston University.
- November 2018 **Motivic Hilbert zeta functions of curves**, *Algebraic Geometry Seminar*, UBC.
- October 2018 **Compact moduli of elliptic fibrations and degree one del Pezzo surfaces**, *Harvard/MIT Algebraic Geometry Seminar*.
- October 2018 **Compact moduli of elliptic fibrations and wall-crossing**, *Moduli Spaces: Birational Geometry and Wall Crossings*, Banff International Research Station.
- October 2018 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces via elliptic fibrations**, *Mathematical Physics Seminar*, Center for Mathematical Sciences and Applications, Harvard University.
- May 2018 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces via elliptic fibrations**, *Algebraic Geometry Seminar*, Stanford.
- May 2018 **Hilbert schemes and invariants of algebraic links**, *Mini-school on Compactified Jacobians and Applications*, UNC Chapel Hill.
- April 2018 **Motivic Hilbert zeta functions of curves**, *Algebraic Geometry Seminar*, University of South Carolina.
- April 2018 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces via elliptic fibrations**, *AMS Eastern Sectional Meeting*, Special Session on Geometry of Moduli Spaces, Northeastern University.
- March 2018 **Combinatorial and tropical geometry of Hilbert schemes of points**, *AMS Central Sectional Meeting*, Special Session on Algebraic and Combinatorial Aspects of Tropical Geometry, Ohio State University.
- March 2018 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces via elliptic fibrations**, *FRAGMENT*, UC Boulder.
- March 2018 **Stable pair compactifications of the moduli space of degree one del Pezzo surfaces via elliptic fibrations**, *Geometry Seminar*, UT Austin.
- March 2018 **Motivic Hilbert zeta functions of curves**, *Back Porch Seminar*, UT Austin.
- January 2018 **Compactifying the moduli space of degree one del Pezzo surfaces via elliptic fibrations**, *Algebraic Geometry Seminar*, Brown.
- November 2017 **Motivic Hilbert zeta functions of singular curves**, *Geometry, Representation Theory and Some Physics*, Berkeley.

- October 2017 **Compact moduli spaces of elliptic surfaces**, *Number Theory and Algebraic Geometry Seminar*, Boston College.
- October 2017 **Motivic Hilbert zeta functions of singular curves**, *Algebraic Geometry Northeastern Series (AGNES)*, poster presentation, Northeastern University.
- July 2017  $\mathbb{A}_{\text{inf}}$  **and perfectoid rings**, *Integral  $p$ -adic hodge theory workshop*, Harvard University.
- March 2017 **Hilbert schemes of points and the combinatorics of Young diagrams**, *Algebraic Geometry Seminar*, Brown University.
- March 2017 **An introduction to the Fukaya category**, *Graduate Student Seminar*, Brown University.
- September 2016 **A glimpse of combinatorial commutative algebra**, *Graduate Student Seminar*, Brown University.
- July 2016 **SYZ mirror symmetry**, *Superschool on D-branes and Derived Categories*, University of Alberta.
- June 2016 **Motivic Hilbert zeta functions of singular curves**, *Symplectic topology, sheaves and mirror symmetry*, poster presentation, IMJ-PRG.
- March 2016 **Intersection theory and enumerative problems**, *Graduate Student Seminar*, Brown University.
- February 2016 **Motivic Hilbert zeta functions of singular curves**, *Algebraic Geometry Seminar*, Brown University.
- October 2015 **Categorification of knot invariants**, *Graduate Student Seminar*, Brown University.
- October 2015 **Betti numbers of equivariant Hilbert schemes**, *Algebraic Geometry Northeastern Series (AGNES)*, poster presentation, Brown University.
- September 2015 **Equivariant Hilbert schemes**, *Algebraic and Tropical Geometry Seminar*, Yale University.
- July 2015 **Betti numbers of equivariant Hilbert schemes**, *Summer Research Institute in Algebraic Geometry*, poster presentation, Salt Lake City, UT.
- February 2015 **A vista of TQFT**, *Graduate Student Seminar*, Brown University.
- September 2014 **Hilbert schemes: geometry, representation theory, and arithmetic**, *Graduate Student Seminar*, Brown University.
- February 2014 **Cohomology of equivariant Hilbert schemes of points on a surface**, *Midwest Algebraic Geometry Graduate Student Conference*, University of Illinois at Chicago.
- Fall 2012 **Periodicity in the cohomology of equivariant Hilbert schemes**, *Summer Undergraduate Research Fellowship presentations*, Caltech.
- Fall 2011 **Quantum field theory over  $\mathbb{F}_1$** , *Summer Undergraduate Research Fellowship presentations*, Caltech.
- May 2010 **Geometry over the field with one element**, *Noncommutative Geometry Seminar*, Caltech.

## Funded Collaborations and Research Workshops

- March 2024 **Degree  $d$  points on algebraic surfaces**, *American Institute of Mathematics*, Pasadena, CA.
- August 2023 **Algebra, geometry and combinatorics of link homology**, *American Institute of Mathematics*, Pasadena, CA.
- January 2023 **Special subvarieties of hypersurfaces**, *Collaborate@ICERM*, Providence, RI, with Nathan Chen, Kristin DeVleming and David Stapleton.
- September 2021 **Moduli spaces for algebraic dynamical systems**, *American Institute of Mathematics*, San Jose, CA.
- January 2021 **Moduli problems beyond geometric invariant theory**, *American Institute of Mathematics*, Online.

## Lecture notes and book projects

- 2024 **Moduli of higher dimensional varieties, with exercises**  
*In preparation, joint with Kristin DeVleming. Introduction to the theory of  $K$ -moduli and KSBA moduli for algebraic geometry graduate students based on lectures given at the 2022 AGNES Summer School*
- 2022 **Rationality problems in algebraic geometry**  
*Draft available [here](#)*
- 2019 **Moduli spaces in algebraic geometry**  
*Introduction to classical moduli theory including construction of Hilbert, Quot and Picard schemes. Draft available [here](#).*