

D. Zack Garza

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EDUCATION	University of Georgia	Aug 2019 – May 2025
	▪ Ph.D. in Mathematics. Supervised by Valery Alexeev. Thesis: <i>Compact moduli spaces of Enriques and Coble surfaces.</i>	
	University of California, San Diego	Aug 2015 – Jun 2018
	▪ B.S. in Mathematics, minor in Computer Science.	
	University of California, Berkeley (<i>Concurrent enrollment</i>)	Sep 2014 – Jun 2015
	Sierra College	Sep 2011 – Jun 2014
	▪ A.A. in Mathematics, A.S. in Physics, A.A. in Fine Arts.	
RESEARCH INTERESTS	Algebraic geometry, complex analytic surfaces, moduli spaces, lattice theory, Coxeter groups, compactifications.	
PUBLICATIONS	▪ <i>Compact moduli of Enriques surfaces with a numerical polarization of degree 2.</i> Preprint. Joint with Valery Alexeev, Philip Engel, Luca Schaffler.	Nov 2023
OTHER WRITING	▪ Talbot workshop proceedings: scissors congruence and K-theory. Expanded exposition of workshop talks, with added figures and citations.	June 2022
SELECTED HONORS	▪ AGANT VRG Research Fellowship. (<i>UGA</i>)	2024–2025
	▪ UGA at Oxford Graduate Assistantship. (<i>UGA, Oxford</i>)	Summer 2022, Spring 2023, Summer 2023
	▪ University of Georgia Capturing Science Contest, 2nd Place. (<i>UCSD</i>)	2020
	▪ Louise Hoffmaster and Frank R. Etchberger Graduate Scholarship. ($\times 4$, <i>University of Georgia</i>)	2019 – 2023
	▪ UCSD AEP Undergraduate Research Scholarship. (<i>UCSD, Declined</i>)	2018
	▪ Diana C. Miles Scholarship. (<i>UCSD</i>)	2017 – 2018
	▪ Errett Bishop Scholarship. (<i>UCSD</i>)	2016 – 2017
	▪ Richard L. and Fern W. Erion and Laidlaw-Erion Scholarship. (<i>UCSD</i>)	2016 – 2017
	▪ Muir College Provost Honors. (<i>UCSD</i>)	2015 – 2016
TEACHING	▪ Calculus I. (<i>University of Georgia</i>)	Spring 2024
	▪ Complex Analysis (<i>Recitation, University of Georgia</i>)	Fall 2023
	▪ Precalculus. (<i>University of Georgia</i>)	Fall 2023
	▪ Precalculus. (<i>2 sections, University of Georgia</i>)	Fall 2022
	▪ Calculus I. (<i>University of Georgia</i>)	Spring 2022
	▪ Calculus I. (<i>University of Georgia</i>)	Fall 2021
	▪ Qualifying exam review courses. (<i>University of Georgia</i>) <i>Algebra, Topology, Real Analysis, Complex Analysis.</i>	Summer 2021
	▪ Precalculus. (<i>2 sections, University of Georgia</i>)	Spring 2021
	▪ Precalculus. (<i>University of Georgia</i>)	Fall 2020
	▪ Qualifying exam review courses. (<i>University of Georgia</i>) <i>Algebra, Topology, Real Analysis, Complex Analysis.</i>	Summer 2020
	▪ Calculus I. (<i>Recitation, University of Georgia</i>)	Fall 2019
	▪ Math department study hall tutoring. (<i>University of Georgia</i>)	Fall 2019 – Spring 2025
SERVICE AND OUTREACH	▪ Graduate Assistant, UGA MathCamp 2024	Summer 2024
	▪ Co-organizer, GROOT. (<i>seminar series</i>)	Summer 2023/2024
	▪ Treasurer, Student Chapter of the AMS. (<i>University of Georgia</i>)	Fall 2022–Spring 2023
	▪ Organizer, Mock AMS Conference. (<i>University of Georgia</i>)	Summer 2021
	▪ Co-organizer, Graduate Student Seminar. (<i>University of Georgia</i>)	Spring 2021 – Spring 2023

	▪ Organizer, GOSS. (seminar series)	Summer 2021
	▪ Co-organizer, GOATS. (conferences, 3 iterations)	Summer 2020
	▪ President, Society of Undergraduate Mathematics Students. (<i>UC San Diego</i>)	2016 – 2018
	▪ Officer, Mathematics Club. (<i>Sierra College</i>)	2013 – 2014
MENTORSHIP	▪ Directed reading program: <i>Representation Theory</i> . <i>Student: Hugh Cunningham</i>	Spring 2024
	▪ Complex analysis qualifying exam review sessions. (<i>University of Georgia</i>)	Fall 2023, Spring 2022
	▪ Directed reading program: <i>Hodge theory</i> . <i>Student: Hugh Cunningham</i>	Fall 2023
	▪ Directed reading program: <i>Generatingfunctionology</i> . <i>Student: Sage Bobrow-Goss</i>	Fall 2022
	▪ Algebra/Topology/Analysis qualifying exam review sessions. (<i>University of Georgia</i>)	Spring 2022
	▪ Directed reading program: <i>Fourier analysis</i> . <i>Student: Joshua Konfrst</i>	Spring 2022
	▪ Directed reading program: <i>Diophantine geometry, introductory algebraic number theory</i> . <i>Student: Sage Bobrow-Goss</i>	Fall 2021
	▪ Directed reading program: <i>L-functions, the prime number theorem</i> . <i>Student: Aaron Cofer</i>	Summer 2021
	▪ Workshop: Mathematics Subject GRE. (<i>UCSD</i>)	Mar 2019
	▪ Workshops: Intermediate L ^A T _E X. (7 iterations, <i>UCSD</i>)	2016–2017
	▪ Workshops: Functional programming in Haskell. (3 iterations, <i>UCSD</i>)	2016–2017
SELECTED TALKS	▪ 2024 AMS Spring Southeastern Sectional Meeting, Florida State University. <i>Compact moduli of numerically polarized degree 2 Enriques surfaces</i>	Mar 2024
	▪ 2024 AGNES, Boston College. <i>Compact moduli of degree two polarized Enriques surfaces</i>	Mar 2024
	▪ Centro de Matemática da Universidade do Porto, Algebraic Geometry Seminar. <i>Compact moduli of numerically polarized degree 2 Enriques surfaces</i>	Mar 2024
	▪ University of Georgia, Algebraic Geometry Seminar. <i>Compact moduli of Enriques surfaces via “folding” K3 moduli data</i>	Feb 2024
	▪ University of Georgia, Graduate Student Seminar. <i>Hodge and lattice-theoretic compactifications of moduli spaces of K3 surfaces</i>	Feb 2023
	▪ University of Georgia, Fukaya categories reading seminar. <i>A_∞ categories and defining the Fukaya category</i>	Dec 2022
	▪ University of Georgia, oral exams. <i>Engel’s proof of Looijenga’s conjecture via integral-affine geometry</i>	Oct 2022
	▪ University of Georgia, Number Theory Reading Seminar. <i>Applications of Torelli: Faltings’ proof of the Mordell conjecture.</i>	Jun 2022
	▪ 2022 MIT Talbot Workshop on Scissors Congruence and K-Theory. <i>The annihilator of the Lefschetz motive.</i>	May 2022
	▪ University of Georgia, Graduate Student Seminar. <i>An introduction to derived geometry</i>	Feb 2022
	▪ University of Georgia, Graduate Student Topology Seminar. <i>Betz-Cohen’s graph moduli spaces and cohomology operations.</i>	Nov 2021

- University of Georgia, Number Theory reading seminar.
Catalan's Conjecture, the cases $q = p = 2$
Nov 2021
- 2021 Mock AMS conference, University of Georgia.
Weil-Petersson volumes of moduli spaces and zeta values
Nov 2021
- University of Georgia, J -holomorphic curves reading seminar.
Regularity for J -holomorphic curves.
Jun 2021
- CRAG seminar, University of Georgia
On the de Rham cohomology of algebraic varieties.
Jul 2021
- University of Georgia.
Sarkar-Wang's algorithm to compute Heegaard-Floer homology
May 2021
- University of Georgia
An overview of stable homotopy theory.
Mar 2021
- *Stable homotopy seminar.*
Constructing the Adams spectral sequence
Mar 2021
- *Stable homotopy seminar.*
Homotopy groups of spectra
Mar 2021
- University of Georgia
Morse Theory and Floer Homology, multiple talks
Aug 2020
- 2020 Mock AMS conference, University of Georgia.
Classification theorems in topology and geometry
Jul 2020
- University of Georgia
Homotopy groups of spheres
Apr 2020
- CRAG seminar, University of Georgia
Zeta functions and the Weil conjectures
Feb 2020
- University of Georgia
The Arnold conjecture: periodic orbits in symplectic geometry.
Feb 2020
- University of Georgia
Poincaré conjectures and the Kervaire invariant one problem.
Oct 2019
- University of Georgia
Spectral sequences: a primer.
Oct 2019
- University of Georgia
Singular, simplicial, de Rham, and Čech cohomology
Sep 2019
- University of California, San Diego.
Homotopy and the Hopf fibration
Jun 2018
- Undergraduate Research Symposium, University of California, San Diego.
Spectral sequences and higher homotopy groups of spheres
May 2018
- University of California, San Diego.
Topological fixed point theorems
Mar 2018

- University of California, San Diego.
Homology and the snake lemma Nov 2017
- University of California, San Diego.
Algebraic geometry: a historical primer Oct 2017
- University of California, San Diego.
Introduction to category theory Oct 2016, Nov 2016, Jan 2017
- Sierra College.
The combinatorics of graphs and trees May 2014

MISC.

- Expository writing and open-source collection of notes in \LaTeX :
<https://dzackgarza.com/writing/>