D. Zack Garza

dzackgarza@gmail.com • +1 (530) 210-9130 • dzackgarza.com

EDUCATION	University of Georgia	Aug 2019 – May 2025
	 Ph.D. in Mathematics. Supervised by Valery Alexeev. Thesis: Compact moduli spaces of Enriques and Coble surfaces. 	
	University of California, San Diego	Aug 2015 – Jun 2018
	 B.S. in Mathematics, minor in Computer Science. 	
	University of California, Berkeley (Concurrent enrollment)	Sep 2014 – Jun 2015
	Sierra College	Sep 2011 – Jun 2014
	• A.A. in Mathematics, A.S. in Physics, A.A. in Fine Arts.	I
RESEARCH INTERESTS	Algebraic geometry, complex analytic surfaces, moduli spaces, lat compactifications.	tice theory, Coxeter groups,
PUBLICATIONS	 Compact moduli of Enriques surfaces with a numerical polarization of Joint with Valery Alexeev, Philip Engel, Luca Schaffler. Submitted to Algebraic Geometry. 	degree 2. Nov 2023
OTHER WRITING	 Talbot workshop proceedings: scissors congruence and K-theory. Expanded exposition of workshop talks, with added figures and citations 	June 2022 s.
SELECTED HONORS	 AGANT VRG Research Fellowship. (UGA) UGA at Oxford Graduate Assistantship. (UGA, Oxford) Summer 20 	2024–2025 22, Spring 2023, Summer 2023
	UGA Capturing Science Contest, 2nd Place. (UCSD)	2020
	• Louise Hoffmasterand and Frank R. Etchberger Graduate Scholarship. ((×5, UGA) 2019 – 2024
	 UCSD AEP Undergraduate Research Scholarship. (UCSD, Declined) 	2018
	Diana C. Miles Scholarship. (UCSD)	2017 – 2018
	• Errett Bishop Scholarship. (UCSD)	2016 – 2017
	 Richard L. and Fern W. Erion and Laidlaw-Erion Scholarship. (UCSD) Muir College Provost Honors. (UCSD) 	2016 – 2017 2015 – 2016
TEACHING	• Calculus I (UGA)	Spring 2024
	Complex Analysis (Recitation, UGA)	Fall 2023
	 Precalculus. (UGA) 	Fall 2023
	 Precalculus. (2 sections, UGA) 	Fall 2022
	• Calculus I. (UGA)	Spring 2022
	• Calculus I. (UGA)	Fall 2021
	 Qualifying exam review courses. (UGA) 	Summer 2021
	Algebra, Topology, Real Analysis, Complex Analysis.	
	 Precalculus. (2 sections, UGA) 	Spring 2021
	 Precalculus. (UGA) 	Fall 2020
	 Qualifying exam review courses. (UGA) 	Summer 2020
	Algebra, Topology, Real Analysis, Complex Analysis.	
	 Calculus I. (Recitation, UGA) 	Fall 2019
	 Math department study hall tutoring. (UGA) 	Fall 2019 – Spring 2025
SERVICE AND	 Graduate Assistant, UGA MathCamp 2024 	Summer 2024
OUTREACH	 Co-organizer, GROOT. (seminar series) 	Summer 2023/2024
	 Treasurer, Student Chapter of the AMS. (UGA) 	Fall 2022–Spring 2023
	 Organizer, Mock AMS Conference. (UGA) 	Summer 2021
	 Co-organizer, Graduate Student Seminar. (UGA) 	Spring 2021 – Spring 2023

	 Organizer, GOSS. (seminar series) Co-organizer, GOATS. (conferences, 3 iterations) 	Summer 2021 Summer 2020
	 President, Society of Undergraduate Mathematics Students. (UC San Diego) Officer, Mathematics Club. (Sierra College) 	2016 – 2018 2013 – 2014
MENTORSHIP	 Directed reading program: Representation Theory. Student: Hugh Cunningham 	Spring 2024
	 Complex analysis qualifying exam review sessions. (UGA) Directed reading program: Hodge theory. Student: Hugh Cunningham 	Fall 2023, Spring 2022 Fall 2023
	 Directed reading program: Generatingfunctionology. Student: Sage Bobrow-Goss 	Fall 2022
	 Algebra/Topology/Analysis qualifying exam review sessions. (UGA) Directed reading program: Fourier analysis. Student: Joshua Konfrst 	Spring 2022 Spring 2022
	 Directed reading program: Diophantine geometry, introductory algebraic numb Student: Sage Bobrow-Goss 	er theory. Fall 2021
	 Directed reading program: L-functions, the prime number theorem. Student: Aaron Cofer 	Summer 2021
	 Workshop: Mathematics Subject GRE. (UCSD) 	Mar 2019
	 Workshops: Intermediate LATEX. (7 iterations, UCSD) 	2016–2017
	• Workshops: Functional programming in Haskell. (3 <i>iterations</i> , UCSD)	2016–2017
SELECTED TALKS	 2024 AMS Spring Southeastern Sectional Meeting, Florida State University. Compact moduli of numerically polarized degree 2 Enriques surfaces 	Mar 2024
	 2024 AGNES, Boston College. 	
	Compact moduli of degree two polarized Enriques surfaces	Mar 2024
	 Centro de Matemática da Universidade do Porto, Algebraic Geometry Seminar. Compact moduli of numerically polarized degree 2 Enriques surfaces 	Mar 2024
	 UGA, Algebraic Geometry Seminar. <i>Compact moduli of Enriques surfaces via "folding" K3 moduli data</i> 	Feb 2024
	 UGA, Graduate Student Seminar. Hodge and lattice-theoretic compactifications of moduli spaces of K3 surfaces 	Feb 2023
	• UGA, Fukaya categories reading seminar. A_{∞} categories and defining the Fukaya category	Dec 2022
	 UGA, oral exams. Engel's proof of Looijenga's conjecture via integral-affine geometry 	Oct 2022
	 UGA, Number Theory Reading Seminar. Applications of Torelli: Faltings' proof of the Mordell conjecture. 	Jun 2022
	 2022 MIT Talbot Workshop on Scissors Congruence and <i>K</i>-Theory. <i>The annihilator of the Lefschetz motive.</i> 	May 2022
	 UGA, Graduate Student Seminar. An introduction to derived geometry 	Feb 2022
	 UGA, Graduate Student Topology Seminar. Betz-Cohen's graph moduli spaces and cohomology operations. 	Nov 2021

• UGA, Number Theory reading seminar. Catalan's Conjecture, the cases $q = p = 2$	Nov 2021
 2021 Mock AMS conference, UGA. Weil-Petersson volumes of moduli spaces and zeta values 	Nov 2021
 UGA, <i>J</i>-holomorphic curves reading seminar. <i>Regularity for J-holomorphic curves</i>. 	Jun 2021
 CRAG seminar, UGA On the de Rham cohomology of algebraic varieties. 	Jul 2021
 UGA. Sarkar-Wang's algorithm to compute Heegaard-Floer homology 	May 2021
 UGA 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
 UGA Morse Theory and Floer Homology, multiple talks 	Aug 2020
 2020 Mock AMS conference, UGA. Classification theorems in topology and geometry 	Jul 2020
• UGA Homotopy groups of spheres	Apr 2020
 CRAG seminar, UGA Zeta functions and the Weil conjectures 	Feb 2020
• UGA The Arnold conjecture: periodic orbits in symplectic geometry.	Feb 2020
 UGA Poincaré conjectures and the Kervaire invariant one problem. 	Oct 2019
• UGA Spectral sequences: a primer.	Oct 2019
 UGA 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
 Expository writing and open-source collection of notes in LAT_EX: https://dzackgarza.com/writing/ 	

MISC.