Jasmine Browne

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Research Interests

Geometric analysis, Ricci flow, generalizations to orbifolds; mathematical physics, topological quantum field theories.

Education

Fall 2021 - Present	**University of California, San Diego** Ph.D. in Mathematics Advisor: Bennett Chow
Fall 2018 - Spring 2020	**New York University, Tandon School of Engineering** M.S. in Mathematics Advisor: Yisong Yang Thesis: *Maxwell's Equations and the Higgs Mechanism as an Introduction to Gauge Theory*
Spring 2012 - Spring 2015	**University of California, Berkeley** B.A. in Mathematics

Teaching

Instructor of Record

Summer 2026	MATH 3C, Precalculus

Teaching Assistant

Spring 2026	MATH 10B, Calculus II
Winter 2026	MATH 20A, Calculus for Science and Engineering
Fall 2025	MATH 3B, Foundations of Precalculus
Summer 2025	MATH 3C, Precalculus
Fall 2024 - Spring 2025	MATH 500, Teaching Assistant Training
Summer 2024	MATH 109, Mathematical Reasoning
Spring 2024	MATH 20C, Calculus and Analytic Geometry for Science and Engineering
Winter 2024	MATH 3C, Precalculus
Fall 2023	MATH 500, Teaching Assistant Training
Summer 2023	MATH 10B, Calculus II
Spring 2023	MATH 10A, Calculus I
Winter 2023	MATH 10A, Calculus I
Fall 2022	MATH 20C, Calculus and Analytic Geometry for Science and Engineering
Summer 2022	MATH 4C, Precalculus for Science & Engineering
Spring 2022	MATH 10B, Calculus II
Winter 2022	MATH 10B, Calculus II
Fall 2021	MATH 3C, Precalculus
Spring 2020	MA-UY 211, Math for Economics I
Fall 2019	MA-UY 914, Precalculus for Engineers

Awards and scholarships

2026 Summer Graduate Teaching Scholars Program: received additional training through UC San Diego's Teaching and Learning Commons' Advanced College Teaching course, and taught my own faculty-mentored course.

2025-26 TA Award: for excellence as a Teaching Assistant over the course of one's career at UC San Diego. Nominated by Prof. Frances Hammock.

Conferences and workshops attended

April 4-5, 2026 — **Southern California Geometric Analysis Seminar**
University of California, San Diego
An annual conference devoted to highlighting research in geometric analysis from mathematicians in the southern California region.

June 16-27, 2025 — **SLMath Summer Graduate School, *Sea Ice and Polar Ecosystems***
University of Alaska, Fairbanks
A 2-week summer school covering a breadth of topics, from physics of sea ice to modeling populations of sea algae in polar regions. Along with group-mates, delivered a final presentation exploring problems in differential geometry related to the formation of melt ponds.

May 16, 2025 — **SciCom Training, UC San Diego MRSEC & Fleet Science Center**
University of California, San Diego
A 3-hour professional development workshop on science communication for informal audiences, emphasizing tools to create impactful, curiosity-driven science and engineering experiences at public engagement and outreach events.

April 13-14, 2024 — **Southern California Geometric Analysis Seminar**
University of California, San Diego
An annual conference devoted to highlighting research in geometric analysis from mathematicians in the southern California region and beyond.

June 12-16 2023 — **Los Angeles Workshop on Representations and Geometry, *3d Mirror Symmetry and 3d TQFT***
University of Southern California
A week-long workshop centered ideas in 3-dimensional topological quantum field theory, such as simplectic duality, Coulomb branches, and quantum K-theory.

Department activities

Fall 2024 - Spring 2025

Senior TA
Planning lessons and delivering material in Teaching Assistant Training course, performing TA observations and providing feedback throughout the year.

Graduate Affairs Committee
Attended committee meetings to deliver teaching-related information and feedback from graduate students, and subsequently conveyed updates back to graduate students.

Undergraduate Affairs Committee
Attended committee meetings covering updates to undergraduate courses and relayed relevant information to graduate students in the department.

Graduate Program Review Committee
Solicited graduate student feedback and organized the agenda for meeting with external review committee.

Fall 2023 - Spring 2024

Junior TA
Assisting with planning Teaching Assistant Training course, performing TA observations and providing feedback. Created updated Teaching Assistant Training website with updated, more easily-accessible information.

Fall 2022 - Spring 2024

Events Committee Co-Chair
Planning community-building activities for graduate students, including Math-A-Thon events in which groups of students collaborate on highly-focused projects over the course of a weekend, and an annual department-wide trivia night to encourage faculty-student interaction.

Professional experience

October 2020 - July 2021

Outlier.org, Student Success Specialist - Mathematics
Organized mathematics tutoring team for this education technologies startup, aided other teams within the company to develop and refine educational material, provided tutoring support for offered mathematics courses.

Spring 2020

NYU Tandon Math Tutoring Center, Tutor
Aided students with a wide variety of math courses, from calculus to upper-division linear algebra.

Summer 2015

Ross Mathematics Program, Head Counselor
Organized and managed counselors in program dedicated to introducing high school students to proof-writing and mathematical reasoning through elementary number theory. Additionally performed the usual counselor responsibilities of grading students' problem sets and exams.