

COOPER KAURI JACOB

CURRICULUM VITAE

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EDUCATION

University of California, Davis

Ph.D. Candidate in Mathematics	GPA 3.88	Fall 2016–present
Thesis Title:		
Topological Recursion of Generalized bc-Motzkin Numbers		Spring 2022 (expected)
Advisor: Motohico Mulase		

University of California, Berkeley

Intercampus Exchange Program	GPA 4.0	Fall 2017
Bachelor of Arts in Mathematics	GPA 3.82	Fall 2014–Spring 2016

College of Marin

(coursework in lieu of high school)	GPA 4.0	Fall 2009–Spring 2014
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RESEARCH INTERESTS

Differential Geometry, Complex Geometry, Combinatorics, Topological Recursion.

ARTICLES

Topological Recursion of Generalized bc-Motzkin Numbers

(preprint, arXiv:2111.12839)	November 2021
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PRESENTATIONS

Equivariant Cohomology and the First Eigenvalue of a Modified Laplacian

(U.C. Davis Student-Run Research Seminar)	May 2019
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The Figure-Eight Knot

(U.C. Davis graduate Hyperbolic Geometry topics class)	April 2017
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Hyperbolic Knots

(U.C. Berkeley undergraduate Introduction to Research via Knot Theory class)	May 2016
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The Mosaic Number of Knots

(U.C. Berkeley undergraduate Introduction to Research via Knot Theory class)	March 2016
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Celtic Knots

(U.C. Berkeley undergraduate Combinatorial Topology topics class)	May 2015
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TEACHING EXPERIENCE

University of California, Davis, Associate Instructor:

Linear Algebra (approximately 60 students)	Summer 2020, Summer 2021
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University of California, Davis, Lead Teaching Assistant:

first-quarter Calculus for Biological Sciences majors	
(served as a liaison between instructor, TAs, and students, including coordinating accommodations for students with disabilities and answering logistical questions for students and TAs)	Fall 2021
University of California, Davis, Teaching Assistant:	Fall 2016–present
Complex Analysis	Winter 2019, Fall 2020, Winter 2021
Combinatorics	Fall 2020
Topics class on the Mathematics of Theoretical Physics	Fall 2018
Differential Equations	Spring 2019, Winter 2021
Linear Algebra	Spring 2017, Fall 2017, Winter 2018, Spring 2018, Winter 2019, Winter 2020, Spring 2020, Spring 2021, Fall 2021
third-quarter Calculus	Winter 2017
first-quarter Calculus	Fall 2016

University of California, Berkeley, Course Reader:

Complex Analysis	Summer 2019
Abstract Algebra	Summer 2015

AWARDS AND HONORS**U.C. Davis Schwarze Scholarship in Mathematics**

(awarded each year to two mathematics graduate students at U.C. Davis who have demonstrated excellence in teaching and academic ability)

June 2021

Member of Phi Beta Kappa Honors Society

Spring 2016–present

U.C. Berkeley Dean's Honors List for College of Letters and Sciences

Spring 2015

Member of Phi Theta Kappa Honors Society

Spring 2011–Spring 2014

SERVICE**U.C. Davis SIAM Chapter Treasurer**

Fall 2021–present

Volunteer Foster Care Provider for Guide Dogs for the Blind

Spring 2005–present

Forum Moderator for Death Valley hiking forum (dv.netllama.us)

Fall 2020–present

CONFERENCES AND SUMMER SCHOOLS ATTENDED**Graduate Student Geometry and Topology Conference**

(online, hosted by Indiana University, Bloomington)

April 2021

MAA Golden Section Meeting (online)

February 2021

Topology Students Workshop

(online, hosted by Georgia Institute of Technology)

July 2020

2020 Virtual Workshop on Ricci and Scalar Curvature (online)

Spring 2020

Southern California Geometric Analysis Seminar

(U.C. Irvine, received partial funding to attend)

February 2020

New Developments in Quantum Topology Conference

(U.C. Berkeley, received partial funding to attend)

June 2019

Bay Graduate Math Conference (U.C. Berkeley)

May 2019

AMS Fall Western Sectional Meeting (San Francisco State University)	October 2018
Minimal Surfaces, Flows, and Relativity Summer School (University of Connecticut, received partial funding to attend)	July 2018
Minimal Surfaces and Mean Curvature Flow Conference (Stanford University)	July 2018
MSRI Summer School on the dbar Problem in the 21st Century	June 2018
Geometry and Analysis on Manifolds Conference (U.C. Santa Barbara)	May 2018
AMS/MAA Joint Mathematics Meeting 2018 (San Diego)	January 2018
Bay Area Differential Geometry Seminar (U.C. Davis)	April 2017

PROFESSIONAL AFFILIATIONS

- American Mathematical Society**
- Association for Women in Mathematics**
- Mathematical Association of America**
- Society for Industrial and Applied Mathematics**

PROFESSIONAL DEVELOPMENT TRAININGS ATTENDED

Gatekeeper Training to Support Student Mental Health Workshop (held by the U.C. Davis Office of Student Affairs)	Fall 2021
Unlocking the Inspiring Aspects of Teaching Course (self-paced course on mentorship, inclusivity, and engagement, held by the U.C. Davis Center for Educational Effectiveness)	Spring 2021
Accelerate Asynchronously Course (self-paced course on online and hybrid class (re)design and teaching best practices, with a focus on equity and inclusion, held by the U.C. Davis Center for Educational Effectiveness)	Fall 2020
Inclusive Online Course Design Workshop (held by U.C. Davis Center for Educational Effectiveness)	Summer 2020