

EDUCATION	University of California, Santa Barbara	Fall 2019 - Spring 2025
	Ph.D. in Mathematics , Advisor: Stephen Bigelow	(expected)
	University of Oklahoma	Fall 2014 - Spring 2017
	M.A. in Mathematics	
	University of California, Davis	Fall 2010 - Spring 2014
	B.S. in Mathematics	
PAPERS	3. Skein Theory of Affine ADE Subfactor Planar Algebras	
	<i>Thesis, in preparation.</i>	
	2. Skein Theory of Affine A Subfactor Planar Algebras	
	<i>Preprint on arXiv.</i> arxiv.org/abs/2410.05519	
	1. A Determinant Formula of the Jones Polynomial for a Family of Braids	
	with Derya Asaner, Sanjay Kumar, Andrew Pease, and Anup Poudel	
	<i>Submitted.</i> arxiv.org/abs/2408.13410	
RESEARCH INTERESTS	Quantum algebra, low-dimensional topology, operator algebras, tensor categories, diagrammatic algebras, subfactors, knot theory, quantum groups, C*-algebras, quantum topology, representation theory	
CURRENT RESEARCH PROJECTS	<ul style="list-style-type: none"> • Nuclear Dimension of Crossed Products by Hilbert Bimodules over Commutative C*-algebras with Marzieh Forough, Zahra Hasanpour-Yakhdani, Ja A Jeong, Preeti Luthra, and Karen Strung • A Skein Theory for Nichols Hopf Algebras with Alex Bisnath, and Quinn Kolt 	
AWARDS	UCSB Doctoral Student Travel Grant (\$900)	2024
	AMS Sectional Travel Grant (\$250)	2024
	National Science Foundation Travel Grant (\$2300)	2024
	National Science Foundation Travel Grant (\$1000)	2024
	GSA Conference Travel Grant, UC Santa Barbara (\$500)	2024
	USTARS Distinguished Graduate Student Speaker in Topology (\$200)	2024
	National Science Foundation Travel Grant (\$1350)	2023
	Operator Algebra Mentor Network Grant (\$500)	2023
	Decolvenaere Research Accelerator Award, UCSB Graduate Division (\$8000)	2023
	Individualized Professional Skills (IPS) Grant, UC Santa Barbara (\$1000)	2023
	Math Department Graduate Fellowship, University of Oklahoma (\$3000)	2015
	Richard V. Andree Memorial Scholarship, University of Oklahoma (\$2000)	2015
	Yueh-Jing Lin Fund, UC Davis (\$2500)	2013
MENTORSHIP	UCSB Directed Reading Program Mentor	December 2019 - June 2023
	REU Graduate Mentor, UCSB	June 2022 - August 2022
	Women in STEM Mentor, UCSB	September 2019 - June 2022
SERVICE	Topology Seminar Co-Organizer	October 2024 - present
	USTARS 2025 Conference Organizer Shadow	May 2024 - present
	AWM Student Chapter at UCSB, Secretary	June 2023 - present
	AWM EvenQuads 3 Data Collector	June 2024
	Directed Reading Program at UCSB Co-Organizer	December 2020 - July 2023
	Graduate Quantum Algebra and Topology Seminar Co-Organizer, UCSB	July 2023 - January 2024
	AWM Chapter at UCSB Founder and President	August 2022 - June 2023
	Quantum Algebra and Topology Seminar Co-Organizer, UCSB	September 2021 - June 2022
	AWM Essay Contest Judge	January 2020 - March 2020
	Math Teacher's Circle - Oklahoma City Founder and Instructional Leader	April 2015 - June 2017
TALKS	*25. AMS Spring Western Sectional Meeting: Knot Theory and Quantum Topology	
*=INVITED	Special Session; California Polytechnic State University; San Luis Obispo, California	
	TBD	

24. **Quantum Groups, Tensor Categories and Quantum Field Theory Workshop;** January 2025
University of Oslo, Oslo, Norway
TBD
- *23. **Joint Mathematics Meetings;** Knots, 3-manifolds, and Their Invariants Special January 2025
Session; Seattle Convention Center; Seattle, Washington
A determinant formula of the Jones Polynomial for a family of braids
22. **Joint Mathematics Meetings;** Advances in Operator Algebras Special Session; January 2025
Seattle Convention Center; Seattle, Washington
Using Diagrams to Describe Quantum Symmetries and Subfactors
- *21. **AMS Western Sectional Meeting;** Graphical Calculus in Representation October 2024
Theory and Low-Dimensional Topology Special Session; University of California,
Riverside; Riverside, California
Index 4 Subfactor Planar Algebras and Their Corresponding Categories
20. **Quantum Groups and Representation Theory;** North Carolina State University, October 2024
Raleigh, North Carolina
Index 4 Subfactor Planar Algebras and their Corresponding Categories
- *19. **Young Mathematicians in C^* Algebras;** University of Glasgow; Glasgow, August 2024
Scotland
Using Diagrams to Describe Quantum Symmetries of Subfactors
- *18. **Oberwolfach Seminar;** Classification of C^* -Algebras and Dynamics Seminar; May 2024
Oberwolfach Research Institute for Mathematics; Oberwolfach, Germany
Nuclear Dimension of Cuntz-Pimsner Algebras of C^ -Correspondences*
17. **Banff International Research Station Workshop;** Skew Braces, Braids, and the May 2024
Yang-Baxter Equation; Banff International Research Station; Banff, Canada
Skein Theory of Subfactor Planar Algebras
- *16. **USTARS Distinguished Graduate Student in Topology Speaker;** April 2024
Underrepresented Students in Topology and Algebra Research Symposium; Univer-
sity of Iowa; Iowa City, Iowa
Using Diagrams to Describe Quantum Symmetries of Subfactors
15. **Graduate Student Topology and Geometry Conference;** Michigan State April 2024
University; East Lansing, Michigan
Skein Theory for Index 4 Subfactor Planar Algebras
14. **Southeastern Lie Theory Workshop;** Quantum Structures in Lie Theory; March 2024
University of Virginia; Charlottesville, Virginia
Skein Theory for Index 4 Subfactor Planar Algebras
13. **Women in Mathematics in Southern California Symposium;** Pomona February 2024
College; Claremont, California
Using Diagrams to Describe Quantum Symmetries of Subfactors
- *12. **Joint Mathematics Meetings;** Knots, Skein Modules, and Categorification January 2024
Special Session; Moscone Center; San Francisco, California
Skein Theory of Index 4 Subfactor Planar Algebras
- *11. **Claremont Topology Seminar;** Pomona College; Claremont, California November 2023
Skein Theory for Affine ADE Subfactor Planar Algebras
- *10. **Twinned Conference on C^* -Algebras and Tensor Categories;** Fields Institute; November 2023
in person in Toronto, Canada; and International Centre for Mathematical Sciences;
streamed live at Edinburgh, Scotland
Skein Theory for Affine ADE Subfactor Planar Algebras
9. **Young Mathematicians in C^* -Algebras;** KU Leuven; Leuven, Belgium August 2023
Skein Theory of Subfactor Planar Algebras

	8. Great Plains Operator Theory Symposium ; The Ohio State University; Columbus, Ohio <i>Skein Theory for Index 4 Subfactor Planar Algebras</i>	May 2023
	7. AMS Spring Western Sectional ; Algebraic Structures in Knot Theory Special Session; Fresno State University; Fresno, California <i>Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras</i>	May 2023
	6. Moab Topology Conference ; Utah State University, Moab; Moab, Utah <i>Skein Theory for Affine ADE Subfactor Planar Algebras</i>	May 2023
	5. Redbud Topology Conference ; University of Oklahoma; Norman, Oklahoma <i>Skein Theory of Affine Type A Subfactor Planar Algebras</i>	March 2023
	4. Underrepresented Students in Topology and Algebra Symposium ; University of Washington, Seattle, Washington <i>Diagrammatic Presentations of Index 4 Planar Algebras</i>	March 2023
	*3. Quantum Groups Seminar ; On Zoom; Hosted by Université de Lille in Lille, France & University of Oslo in Oslo, Norway <i>Skein Theory for Affine ADE Subfactor Planar Algebras</i>	March 2023
	2. Tech Topology Conference ; Georgia Institute of Technology; Atlanta, Georgia <i>Diagrammatic Presentations of Index 4 Subfactor Planar Algebras</i>	December 2022
	1. Topology Students Workshop ; Georgia Institute of Technology; Atlanta, Georgia <i>Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras</i>	July 2022
TEACHING *=ONLINE COURSE	Lead TA - UC Santa Barbara Provided professional development and training to new math department TAs	Fall 2022 - Spring 2023
	Teaching Assistant - UC Santa Barbara MATH 111A - Abstract Algebra MATH 108AB - Introduction to Linear Algebra MATH 8 - Transition to Higher Mathematics *MATH 8 - Transition to Higher Mathematics *MATH 6AB - Vector Calculus MATH 34B - Calculus for Social and Life Sciences	Fall 2019 - present
	Associate Instructor - UC Santa Barbara MATH 4A - Linear Algebra with Applications *MATH 6A - Vector Calculus I *MATH 4A - Linear Algebra with Applications	Summer 2020, 2021, 2024
	Adjunct Mathematics Professor - Cosumnes River College MATH 30 - Pre-Algebra STAT 300 - Introduction to Statistics and Probability MATH 20 - Arithmetic	Spring 2018 - Spring 2019
	Teaching Assistant - University of Oklahoma MATH 1743 - Business Calculus I MATH 1914 - Calculus 1 (Fast Track) MATH 2924 - Calculus 2 (Fast Track) MATH 1823 - Calculus 1	Fall 2015 - Spring 2017
	Instructor of Record - University of Oklahoma MATH 1823 - Calculus 1 MATH 1503 - College Algebra	Fall 2014 - Summer 2015 & 2016

WORKSHOPS

Oberwolfach Research Institute for Mathematics (MFO)
Classification of C^* -Algebras and Dynamics Seminar
Banff International Research Station (BIRS)
Women in Noncommutative Algebra and Representation Theory 4
Skew Braces, Braids, and the Yang-Baxter Equation Workshop
Women in Operator Algebras 3
American Institute of Mathematics (AIM)
Quantum Invariants and Low-dimensional Topology

May 2024

March 2025
May 2024
June 2023

August 2023

REFERENCES

6. Stephen Bigelow, University of California, Santa Barbara, bigelow@math.ucsb.edu

5. David Penneys, The Ohio State University, penneys.2@osu.edu

4. Zhenghan Wang, University of California, Santa Barbara, zhenghwa@math.ucsb.edu

3. Noah Snyder, Indiana University Bloomington, nsnyder@gmail.com

2. Darren Long, University of California, Santa Barbara, long@math.ucsb.edu

1. Christopher Ograin, University of California, Santa Barbara, ograin@math.ucsb.edu (concerns teaching)