EDUCATION	University of California, Santa Barbara	September 2019 - present
	Ph.D. in Mathematics (pursuing)	
	University of Oklahoma	August 2014 - May 2017
	M.A. in Mathematics	
	University of California, Davis	September 2010 - June 2014
	B.S. in Mathematics	
PAPERS	2. "Skein Theory of Affine ADE Subfactor Planar Algebras" with S. Bigelow (in preparation)	
	1. "A Determinant Formula of the Jones Polynomial for a Family of Braids" with D. Asaner, S. Kumar, A. Pease, and A. Poudel (in preparation)	
RESEARCH INTERESTS	Quantum algebra, low-dimensional topology, operator algebras, tensor categories, diagrammatic algebras, subfactors, structure and classification of C*-algebras and their relations to dynamical systems, knot theory, quantum groups	
CURRENT RESEARCH PROJECTS	· "Nuclear Dimension of Crossed Products by Hilbert Bimodules over Commutative C*-algebras", with M. Forough, Z. Hassanpour-Yakhdani, J. Jeong, P. Luthra, and K. Strung	
	\cdot "A Skein Theory for Nichols Hopf Algebras", with A. Bisnath, and Q. Kolt	
	· "Diagrammatics for Dihedral Pointed Fusion Categories", with A. Czenky	
AWARDS	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
TALKS *=INVITED	*20. AMS Western Sectional Meeting ; Graphical Calculus in Representation Theory and Low-Dimensional Topology Special Session; University of California, Riverside; Riverside, California <i>TBD</i>	October 2024
	19. Young Mathematicians in C Algebras ; University of Glasgow; Glasgow, Scotland	August 2024
	"Using Diagrams to Describe Quantum Symmetries of Subfactors"	
	18. Oberwolfach Seminar ; Classification of C-Algebras and Dynamics Seminar; Oberwolfach Research Institute for Mathematics; Oberwolfach, Germany "Nuclear Dimension of Cuntz-Pimsner Algebras of C*-Correspondences"	May 2024

17. Banff International Research Station Workshop ; Skew Braces, Braids, and the Yang-Baxter Equation; Banff International Research Station; Banff, Canada <i>"Skein Theory of Subfactor Planar Algebras"</i>	May 2024
*16. USTARS Distinguished Graduate Student in Topology Speaker ; Underrepresented Students in Topology and Algebra Research Symposium; University of Iowa; Iowa City, Iowa "Using Diagrams to Describe Quantum Symmetries of Subfactors"	April 2024
15. Graduate Student Topology and Geometry Conference ; Michigan State University; East Lansing, Michigan "Skein Theory for Index 4 Subfactor Planar Algebras"	April 2024
14. Southeastern Lie Theory Workshop ; Quantum Structures in Lie Theory; University of Virginia; Charlottesville, Virginia "Skein Theory for Index 4 Subfactor Planar Algebras"	March 2024
13. Women in Mathematics in Southern California Symposium ; Pomona College; Claremont, California "Using Diagrams to Describe Quantum Symmetries of Subfactors"	February 2024
*12. Joint Mathematics Meetings ; Knots, Skein Modules, and Categorification Special Session; Moscone Center; San Francisco, California "Skein Theory of Index 4 Subfactor Planar Algebras"	January 2024
*11. Claremont Topology Seminar ; Pomona College; Claremont, California <i>"Skein Theory for Affine ADE Subfactor Planar Algebras"</i>	November 2023
10. Twinned Conference on C-Algebras and Tensor Categories ; Fields Institute; in person in Toronto, Canada; and International Centre for Mathematical Sciences; streamed live at Edinburgh, Scotland "Skein Theory for Affine ADE Subfactor Planar Algebras"	November 2023
9. Young Mathematicians in C*-Algebras ; KU Leuven; Leuven, Belgium <i>"Skein Theory of Subfactor Planar Algebras"</i>	August 2023
8. Great Plains Operator Theory Symposium ; The Ohio State University; Columbus, Ohio "Skein Theory for Index 4 Subfactor Planar Algebras"	May 2023
7. AMS Spring Western Sectional ; Algebraic Structures in Knot Theory Special Session; Fresno State University; Fresno, California "Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4"	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, Okl "Skein Theory of Affine Type A Subfactor Planar Algebras"	March 2023
4. Underrepresented Students in Topology and Algebra Symposium ; University of Washington, Seattle, Washington "Diagrammatic Presentations of Index 4 Planar Algebras"	March 2023
*3. Quantum Groups Seminar ; On Zoom; Hosted by Université de Lille in Lille, France & University of Oslo in Oslo, Norway "Skein Theory for Affine ADE Subfactor Planar Algebras"	March 2023
2. Tech Topology Conference ; Georgia Institute of Technology; Atlanta, Georgia "Diagrammatic Presentations of Index 4 Subfactor Planar Algebras"	December 2022
1. Topology Students Workshop ; Georgia Institute of Technology; Atlanta, Georgia "Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4"	July 2022

Melody A.H. Molander

POSTERS 4. Graduate Student Topology and Geometry Conference; Michigan State April 2024 University; East Lansing, Michigan "A Determinant Formula of the Jones Polynomial for a Family of Braids" 3. **BRIDGES Conference**; University of Utah; Salt Lake City, Utah June 2022 "Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4" 2. Undergraduate Research Conference; University of California, Davis; April 2014 Davis, California "Comparing Voting Systems Using Kemeny Rankings" 1. MAA Golden Section Meeting; Sonoma State University; Sonoma, Califor-February 2014 nia "Comparing Voting Systems Using Kemeny Rankings" **TEACHING** Lead TA - UC Santa Barbara Fall 2022 - Spring 2023 Provided professional development and training to new math department TAs Teaching Assistant - UC Santa Barbara Fall 2019 - present MATH 108AB - Introduction to Linear Algebra MATH 8 - Transition to Higher Mathematics MATH 6A - Vector Calculus I MATH 6B - Vector Calculus II MATH 34B - Calculus for Social and Life Sciences Associate Instructor - UC Santa Barbara Summer 2020, 2021, & 2024 MATH 6A - Vector Calculus I MATH 4A - Linear Algebra with Applications Adjunct Mathematics Professor - Cosumnes River College Spring 2018 - Spring 2019 MATH 30 - Pre-Algebra STAT 300 - Introduction to Statistics and Probability MATH 20 - Arithmetic Teaching Assistant - University of Oklahoma Fall 2015 - Spring 2017 MATH 1743 - Business Calculus I MATH 1914 - Calculus 1 (Fast Track) MATH 2924 - Calculus 2 (Fast Track) MATH 1823 - Calculus 1 Instructor of Record - University of Oklahoma Fall 2014 - Summer 2015 & 2016 MATH 1823 - Calculus 1 MATH 1503 - College Algebra **WORKSHOPS** Classification of C*-Algebras and Dynamics Seminar May 2024 Oberwolfach Research Institute for Mathematics (MFO) Skew Braces, Braids, and the Yang-Baxter Equation Workshop May 2024 Banff International Research Station (BIRS) **Quantum Invariants and Low-dimensional Topology** August 2023

American Institute of Mathematics (AIM)

Women in Operator Algebras 3 June 2023

Banff International Research Station (BIRS)

MENTORSHIP UCSB Directed Reading Program Mentor December 2019 - June 2023

REU Graduate Mentor, UCSB Women in STEM Mentor, UCSBJune 2022 - August 2022

September 2019 - June 2022

SERVICE USTARS 2025 Conference Co-Organizer May 2024 - present

AWM Student Chapter at UCSB, Secretary June 2023 - present

Directed Reading Program at UCSB Co-OrganizerDecember 2020 - July 2023Graduate Quantum Algebra and Topology Seminar Co-Organizer, UCSBJuly 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

ORGANIZATIONS Operator Algebra Mentor Network - Mentee February 2023 - present