

# Melody A.H. Molander

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<b>CONTACT INFORMATION</b>		melodymolander[at]ucsb.edu melodymolander.com
<b>EDUCATION</b>	University of California, Santa Barbara <b>Ph.D. in Mathematics (pursuing)</b>	September 2019 - present
	University of Oklahoma <b>M.A. in Mathematics</b>	August 2014 - May 2017
	University of California, Davis <b>B.S. in Mathematics</b>	September 2010 - June 2014
<b>PAPER</b>	1. “Skein Theory of Index 4 Subfactor Planar Algebras” (in preparation)	
<b>RESEARCH INTERESTS</b>	Quantum Algebra, Quantum Topology, Low-dimensional Topology, Subfactors, Operator Algebras, Planar Algebras, Category Theory, Knot Theory	
<b>AWARDS</b>	<b>National Science Foundation Travel Grant</b> Awarded to graduate students to attend the Young Mathematicians in C*-Algebras (YMC*A) conference at KU Leuven.	2023
	<b>Decolvenaere Research Accelerator Award - UC Santa Barbara Graduate Division</b> Awarded to a top-ranked student with substantial research expenses in recognition of their outstanding research and academic work.	2023
	<b>Individualized Professional Skills (IPS) Grant - UC Santa Barbara</b> Awarded to graduate students to take greater agency in their own career path by funding exploration of a range of professional development opportunities across a variety of career and skill interests.	2023
	<b>Department of Mathematics Graduate Fellowship - University of Oklahoma</b> Awarded to graduate students who make exceptional contributions to the mathematics department	2015
	<b>Richard V. Andree Memorial Scholarship - University of Oklahoma</b> Awarded to graduate students who have shown academic excellence, department and university citizenship, and activity in support of Pi Mu Epsilon	2015
	<b>Yueh-Jing Lin Fund - UC Davis</b> Awarded to high-achieving graduate or undergraduate students.	2013
<b>INVITED TALKS</b>	<i>TBD</i> Joint Mathematics Meetings, “Knots, Skein Modules, and Categorification” Special Session	January 2024
	<i>Skein Theory for Affine ADE Subfactor Planar Algebras</i> QGS: Quantum Groups Seminar (Zoom), Université de Lille & University of Oslo	March 2022
<b>CONFERENCE TALKS</b>	<i>Skein Theory of Subfactor Planar Algebras</i> Young Mathematicians in C*-Algebras, KU Leuven	August 2023
	<i>Skein Theory for Index 4 Subfactor Planar Algebras</i> Great Plains Operator Theory Symposium, The Ohio State University	May 2023
	<i>Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4</i> AMS Spring Western Sectional, “Algebraic Structures in Knot Theory” Session, Fresno State	May 2023

<i>Skein Theory for Affine ADE Subfactor Planar Algebras</i> Moab Topology Conference, Utah State University - Moab	May 2023
<i>Skein Theory of Affine Type A Subfactor Planar Algebras</i> Redbud Topology Conference, University of Oklahoma	March 2023
<i>Diagrammatic Presentations of Index 4 Planar Algebras</i> Underrepresented Students in Topology and Algebra Symposium, University of Washington	March 2023
<i>Diagrammatic Presentations of Index 4 Subfactor Planar Algebras</i> Tech Topology Conference, Georgia Tech	December 2022
<i>Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4</i> Topology Students Workshop, Georgia Tech	July 2022
<i>Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4</i> BRIDGES Conference, Poster Session, University of Utah	June 2022
<i>Comparing Voting Systems Using Kemeny Rankings</i> Undergraduate Research Conference, Student Poster Session - UC Davis	April 2014
<i>Comparing Voting Systems Using Kemeny Rankings</i> MAA Golden Section Meeting, Student Poster Session - Sonoma State University	February 2014

## TEACHING EXPERIENCE

<b>Lead TA - UC Santa Barbara</b> Provided professional development and TA training to new mathematics department TAs	Fall 2022 - Spring 2023
<b>Teaching Assistant - UC Santa Barbara</b> 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	Fall 2019 - Present
<b>Associate Instructor - UC Santa Barbara</b> MATH 6A - Vector Calculus I MATH 4A - Linear Algebra with Applications	Summer 2020, Summer 2021
<b>Adjunct Mathematics Professor - Cosumnes River College</b> MATH 30 - Pre-Algebra STAT 300 - Introduction to Statistics and Probability MATH 20 - Arithmetic	Spring 2018 - Spring 2019
<b>Teaching Assistant - University of Oklahoma</b> 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
<b>Instructor of Record - University of Oklahoma</b> MATH 1823 - Calculus 1 MATH 1503 - College Algebra	Fall 2014 - Summer 2015, Summer 2016

## SELECTED WORKSHOPS ATTENDED

<b>Quantum Invariants and Low-dimensional Topology</b> American Institute of Mathematics (AIM)	August 2023
<b>Women in Operator Algebras 3</b> Banff International Research Station (BIRS)	June 2023

## TALKS FOR STUDENTS

<i>Katherine Johnson: The Pioneer Whose Research Got Us to Outer Space!</i> Hypatian Seminar, UC Santa Barbara	November 2021
<i>The Total Beginner's Guide to Creating Your Graduate Student Webpage</i> Hypatian Seminar, UC Santa Barbara	January 2021
<i>Pascal's Triangle</i> AWM, UC Santa Barbara	February 2020
<i>Ada Lovelace: Victorian Computer Programming Visionary</i> Hypatian Seminar - University of California, Santa Barbara	November 2019
<i>My Career In Web Development (and Teaching!)</i> Mathematics Career Day - University of California, Davis	May 2018
<i>Fractals and the World Around Us</i> (with Dr. Jeffrey Meyer) Math Day Fun Session - University of Oklahoma	November 2015
<i>Barbers, Painters, and Berry: Famous Paradoxes and Their Relation to Mathematics</i> Math Club at UC Davis	October 2013

## WORK EXPERIENCE

<b>Graduate Teaching Assistant</b> Mathematics Department, UC Santa Barbara	September 2019-present
<b>Adjunct Faculty Professor</b> Cosumnes River College, Los Rios Community College District	January 2018 - August 2019
<b>Internet Data Exchange Director</b> iHOUSEweb Inc.	July 2017 - August 2019
<b>Lead Mathematics Academic Tutor</b> Kingsfield Tutors	July 2017 - February 2018
<b>Graduate Teaching Assistant</b> Mathematics Department, University of Oklahoma	August 2014 - May 2017
<b>Tutor</b> Math Center, Mathematics Department, University of Oklahoma	August 2014 - May 2017
<b>Grader</b> Mathematics Department, University of California - Davis	August 2013 - June 2014
<b>Tutor</b> Student Academic Success Center, University of California - Davis	August 2013 - June 2014

## ACADEMIC SERVICE

<b>AWM Student Chapter at UCSB, Secretary</b>	June 2023 - present
<b>Directed Reading Program Co-Organizer and Mentor, UCSB</b>	Winter 2020 - present
<b>Graduate Quantum Algebra and Topology Seminar Co-Organizer, UCSB</b>	September 2021 - present
<b>AWM Chapter at UCSB Founder and President</b>	August 2022 - June 2023
<b>REU Graduate Mentor, UCSB</b>	June 2022 - August 2022
<b>Quantum Algebra and Topology Seminar Co-Organizer, UCSB</b>	September 2021 - June 2022
<b>Women in STEM Mentor, UCSB</b>	September 2019 - June 2022
<b>UC Santa Barbara Math Circle Aide</b>	September 2020 - September 2021
<b>Mathematics Career Day Panelist, UC Davis</b>	May 2018
<b>Mathematics Graduate Student Association Vice President, OU</b>	August 2016 - May 2017
<b>Math Day Fun Session Coordinator, OU</b>	November 2015, November 2016
<b>Volunteer - Women in STEM Conference by OK-EPSCOR</b>	October 2016
<b>Directed Reading Program Graduate Mentor, OU</b>	January 2016 - May 2016
<b>Math Teacher's Circle in OKC, Graduate Coordinator and Co-Founder</b>	August 2015 - May 2017

**TORAS Conference, Co-Organizer**  
**Undergraduate Mathematics Committee, Graduate Representative, OU**  
**Math Club Event Coordinator, UC Davis**  
**Undergraduate Volunteer, Davis Math Circle**  
**Coach, SF Bay Area/NorCal American Regions Mathematics League**  
**Math Club President, Math Club at UC Davis**

March 2015  
August 2014 - May 2015  
August 2013 - June 2014  
December 2012 - April 2013  
December 2012 - June 2014  
August 2012 - June 2013

**PROGRAMMING**      Excel, MATLAB, C, HTML, CSS, Python, Mathematica, Sage, and LaTeX