

# 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, Low-dimensional Topology, Subfactors, Operator Algebras, Planar Algebras, Quantum Groups, 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. The grant program also includes increased awareness of valuable experiences, career readiness, post-event follow through, and peer-to-peer networking.	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 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>	May 2023

Moab Topology Conference, Utah State University - Moab

*Skein Theory of Affine Type A Subfactor Planar Algebras*  
Redbud Topology Conference, University of Oklahoma

March 2023

*Diagrammatic Presentations of Index 4 Planar Algebras*  
Underrepresented Students in Topology and Algebra Symposium, University of Washington

March 2023

*Diagrammatic Presentations of Index 4 Subfactor Planar Algebras*  
Tech Topology Conference, Georgia Tech

December 2022

*Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4*  
Topology Students Workshop, Georgia Tech

July 2022

*Diagrammatic Presentations of Affine Type A Subfactor Planar Algebras of Index 4*  
BRIDGES Conference, Poster Session, University of Utah

June 2022

*Comparing Voting Systems Using Kemeny Rankings*  
Undergraduate Research Conference, Student Poster Session - UC Davis

April 2014

*Comparing Voting Systems Using Kemeny Rankings*  
MAA Golden Section Meeting, Student Poster Session - Sonoma State University

February 2014

## TEACHING EXPERIENCE

**Teaching Assistant - UC Santa Barbara**  
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

**Associate Instructor - UC Santa Barbara**  
MATH 6A - Vector Calculus I  
MATH 4A - Linear Algebra with Applications

Summer 2020, Summer 2021

**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, Summer 2016

## TALKS FOR STUDENTS

*Katherine Johnson: The Pioneer Whose Research Got Us to Outer Space!*  
Hypatian Seminar, UC Santa Barbara

November 2021

*The Total Beginner's Guide to Creating Your Graduate Student Webpage*  
Hypatian Seminar, UC Santa Barbara

January 2021

*Pascal's Triangle*  
AWM, UC Santa Barbara

February 2020

*Ada Lovelace: Victorian Computer Programming Visionary*

November 2019

Hypatian Seminar - University of California, Santa Barbara

*My Career In Web Development (and Teaching!)*  
Mathematics Career Day - University of California, Davis

May 2018

*Fractals and the World Around Us* (with Dr. Jeffrey Meyer)  
Math Day Fun Session - University of Oklahoma

November 2015

*Barbers, Painters, and Berry: Famous Paradoxes and Their Relation to Mathematics*  
Math Club at UC Davis

October 2013

## WORK EXPERIENCE

**Graduate Teaching Assistant**  
Mathematics Department, UC Santa Barbara

September 2019-present

**Adjunct Faculty Professor**  
Cosumnes River College, Los Rios Community College District

January 2018 - August 2019

**Internet Data Exchange Director**  
iHOUSEweb Inc.

July 2017 - August 2019

**Lead Mathematics Academic Tutor**  
Kingsfield Tutors

July 2017 - February 2018

**Graduate Teaching Assistant**  
Mathematics Department, University of Oklahoma

August 2014 - May 2017

**Tutor**  
Math Center, Mathematics Department, University of Oklahoma

August 2014 - May 2017

**Grader**  
Mathematics Department, University of California - Davis

August 2013 - June 2014

**Tutor**  
Student Academic Success Center, University of California - Davis

August 2013 - June 2014

## ACADEMIC SERVICE

AWM Student Chapter at UCSB Secretary  
Directed Reading Program Co-Organizer and Mentor, UCSB  
Graduate Quantum Algebra and Topology Seminar Co-Organizer, UCSB  
AWM Chapter at UCSB Founder and President  
REU Graduate Mentor, UCSB  
Quantum Algebra and Topology Seminar Co-Organizer, UCSB  
Women in STEM Mentor, UCSB  
UC Santa Barbara Math Circle Aide  
Mathematics Career Day Panelist, UC Davis  
Mathematics Graduate Student Association Vice President, OU  
Math Day Fun Session Coordinator, OU  
Volunteer - Women in STEM Conference by OK-EPSCOR  
Directed Reading Program Graduate Mentor, OU  
Math Teacher's Circle in OKC, Graduate Coordinator and Co-Founder  
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

June 2023 - present  
Winter 2020 - present  
September 2021 - present  
August 2022 - June 2023  
June 2022 - August 2022  
September 2021 - June 2022  
September 2019 - June 2022  
September 2020 - September 2021  
May 2018  
August 2016 - May 2017  
November 2015, November 2016  
October 2016  
January 2016 - May 2016  
August 2015 - May 2017  
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