

## Friday, January 20, 2023

Time	Event	Location
1 pm – 3:15 pm	<b>Registration, Snacks &amp; Campus Tours</b> <i>Snacks will be provided. Campus tours meet in the lobby and leave every 15 minutes from 2:30 pm to 3:30 pm.</i>	Atrium and Lobby, Embassy Suites
3:40 pm – 6:05 pm	<b>Conference Opening Session</b> Christine Kelley, Professor of Mathematics and Co-Chair of NCUWM, University of Nebraska-Lincoln Amy Goodburn, Senior Vice Chancellor of Academic Affairs, University of Nebraska-Lincoln Petronela Radu, Professor and Chair, Department of Mathematics, University of Nebraska-Lincoln	Auditorium Second Floor, Nebraska Union
	<b>1<sup>st</sup> Plenary Talk: <i>The Importance of Mentors</i></b> Judy Walker, University of Nebraska-Lincoln	
	<b>Panel Discussion:</b> <i>Careers Using Mathematics</i> <b>Moderator:</b> Allan Donsig, University of Nebraska-Lincoln <b>Panelists:</b> Jessica De Silva, California State University, Stanislaus Samantha Erwin, Pacific Northwest National Lab Angelica Gonzalez, McGraw Hill Emily Price, Singularity 6 Amelia Taylor, Shopify Stephanie Vance, U.S. Department of Defense	
6:15 pm – 6:45 pm	<b>Social Time</b>	Atrium, Embassy Suites
6:45 pm – 9 pm	<b>Banquet &amp; Panel Discussion:</b> <i>Random Bits of Advice</i> <b>Moderator:</b> Eloísa Grifo, Professor of Mathematics and Co-Chair of NCUWM, University of Nebraska-Lincoln <b>Panelists:</b> Deanna Haunsperger, Carleton College Raegan Higgins, Texas Tech University Judy Walker, University of Nebraska-Lincoln Talithia Williams, Harvey Mudd College	Regents Ballroom BCDEF, Embassy Suites

## Saturday, January 21, 2023

Time	Event	Location	
7 am – 8 am	<b>Networking Breakfast &amp; Poster Session Setup</b> <i>Poster presenters should set up their posters at this time in Regents Ballroom A. T-pins will be provided. While the conference social hour will be from 7 am to 8 am, the hotel will have breakfast available until 10:30 am.</i>	Breakfast in Atrium; Posters in Regents Ballroom A, Embassy Suites	
<b>Session 1 – Presentations by Undergraduate Students</b>			
	Regents Ballroom - B Embassy Suites	Regents Ballroom - C Embassy Suites	Regents Ballroom - DE Embassy Suites
8 am – 8:15 am	<i>Knots from Puzzle Pieces</i> Sayde Jude and Lizzie Paterson, University of St. Thomas	<i>A Surprising Way to Work with The Group of Integers Modulo <math>n</math></i> Rachel Hill, University of North Alabama	<i>Bayesian Online Change-point Detection on COVID-19 Data and National Policy Analysis</i> Yuhan Fu, Denison University
8:20 am – 8:35 am	<i>Fault-Free and Simple Tilings with L-Trominoes on Cylinders, Möbius Strips, and Tori</i> Anika Homan, Dordt University	<i>Characterizing Simple Alternating Groups by Their Codegree Sets</i> Mallory Dolorfino, Kalamazoo College, and Yuxuan Sun, Haverford College	<i>A Generalization of a Putnam Problem</i> Rachael Harbaugh, Ohio Northern University
8:40 am – 8:55 am	<i>Untangling Knot Theory for Undergraduates: the Jones Polynomial and Khovanov Homology</i> Jordan Martino, Northeastern University	<i>N-potents in Commutative Rings</i> Delaney Morgan, Wellesley College	<i>Varying Attitudes Toward Discovery-Based Learning Within Higher Level Mathematics Education: A Case Study</i> Grace Morrell, Furman University
9:10 am – 10 am	<b>Panel Discussion:</b> <i>Choosing a Graduate Mathematics Program</i> <b>Moderator:</b> Josh Brummer, University of Nebraska-Lincoln <b>Panelists:</b> Caitlin Berry, University of Colorado-Boulder Molly Creagar, University of Nebraska-Lincoln Allison Cruikshank, Duke University Anna Johnsen, Georgia State University Sue Parkinson, University of Chicago Amethyst Price, University of California Santa Cruz	Regents Ballroom BC, Embassy Suites	

10:10 am – 10:25 am **Conference Photo** Meet in Regents BC, will head outside if weather permits  
*If you did not sign a photo release statement, please do not participate in the group photo.*  
*Note: A **beverage break** will be provided until 11:30.*

10:30 am – 11:20 am **2<sup>nd</sup> Plenary Talk: *The Power of Talk: Engaging the Public in Mathematics*** Regents Ballroom BC, Embassy Suites  
 Talithia Williams, Harvey Mudd College

### Session 2 – Presentations by Undergraduate Students

	Regents Ballroom- B Embassy Suites	Regents Ballroom - C Embassy Suites	Regents Ballroom - DE Embassy Suites
11:30 am – 11:45 am	<i>Subsequences of Divergent Series</i> Megan Blanchette, Keene State College	<i>An Agent-Based Model of Environmental Transmission of C. difficile in Healthcare Settings</i> Laila Mahrat, Lewis University	<i>Fractional Graph Coloring</i> Heather Vogler, Northern Arizona University
11:50 am – 12:05 pm	<i>Frame Theory and its Applications</i> Madison Sousa, University of Denver	<i>User-Item Recommendation Approaches to Detect Genomic Variant Interactions</i> Emma Andrade, California State University, Fresno	<i>Packing edge-colorings of graphs with maximum degree at most 4</i> Cicely Henderson, Wellesley College
12:10 pm – 12:25 pm	<i>Change Point Detection of Internet Traffic Anomalies via Singular Values of the Laplacian Matrix</i> Addison Wisniewski, Saint Louis University	<i>The Relationship Between Adolescent Obesity and Sleep</i> Armelle Duston, Colorado School of Mines	<i>Mountain Glacier Segmentation Method Using <math>L^*a^*b^*</math> Color Space</i> Grace Stroh, Wisconsin Lutheran College
12:30 pm – 12:45 pm	<i>Betti Numbers and Axial Constants of Homogeneous Ideals</i> Huiwen Lu, University of California San Diego	<i>Structural and Practical Identifiability of Adult-Child Compartment Epidemic Models</i> Zoe Plzak, Boston University	<i>The Independence Coloring Game</i> Emily Hed, College of Saint Benedict and St. John's University

12:45 pm – 1:50 pm **Lunch (on your own)** Downtown Lincoln  
*Please see restaurant list in your registration materials. If you'd like to go with a group, meet in the hotel lobby by 12:50 pm.*

Session 3 – Presentations by Undergraduate Students			
	Regents Ballroom - B Embassy Suites	Regents Ballroom - C Embassy Suites	Regents Ballroom - DE Embassy Suites
2 pm – 2:15 pm	<i>The p-adic Numbers</i> Uyen Tran, University of Nebraska-Lincoln	<i>Complementation of Subquandles</i> Meghan Lee, Occidental College	<i>Doubly Non-Local Cahn- Hilliard Equation with Fractional Time Derivative</i> Saja Gherri, Univ. of Michigan
2:20 pm – 2:35 pm		<i>A Topological Invariant of Fullerenes</i> Kaylee Freudenthal, Ohio Northern Univ., and Madison Cox, Northern Arizona Univ.	<i>Numerical Analysis of the 1D Semilinear Heat Equation</i> Victoria Luongo, Clemson University
2:40 pm – 2:55 pm		<i>The Tuffley Poset: Characterizations of Elements with Joins</i> Maddie Levesque and Regan Richardson, Furman University	<i>Machine Learning and the Discovery of Differential Equations</i> Katherine Levandosky, Northeastern University
3 pm – 4:20 pm	<b>Poster Session</b> <i>Poster presenters will be available to discuss their posters. Snacks will also be available during the poster session. Poster presenters should take down their posters after the third plenary or between 7 pm and 7:15 pm.</i>		Regents Ballroom AB, Embassy Suites
4:25 pm – 5:15 pm	<b>3<sup>rd</sup> Plenary Talk: <i>Community and Belonging in Mathematics</i></b> Deanna Haunsperger, Carleton College		Regents Ballroom BC, Embassy Suites
5:15 pm – 5:35 pm	<b>Poster Session Takedown</b> <i>If you presented a poster, please pick it up and remove it from the ballroom before the breakout sessions begin.</i>		Regents Ballroom A, Embassy Suites
5:35 pm – 6:15 pm	<b>Breakout Session 1</b> <i>Undergraduates have been assigned to breakouts. Please find your tickets at the back of your nametag. Faculty and graduate students are welcome to attend any of the breakout sessions or have been asked to facilitate a session. See the registration desk to confirm breakout facilitation assignments. If you would like to attend different breakouts, please come to the conference registration desk to switch your tickets with any extras that are available.</i>		Alumni Room, Regents D, E or F, Chancellor's Rooms 1, 2, 3, Bar & Grille, Embassy Suites
6:20 pm – 7 pm	<b>Breakout Session 2</b> <i>See notes for Breakout Session 1.</i>		Same rooms as Session 1
7:15 pm	<b>Networking Dinner</b> <i>Note to undergraduates: Table assignments for conference guests are featured in your bio packet. Be prepared to switch tables during the meal to maximize networking opportunities.</i>		Regents Ballroom ABC, Embassy Suites

***Please note: Check-out time for the Embassy Suites Hotel is 1 p.m. Sunday.***

If you are flying out of Lincoln: Hotel shuttles to the airport depart on the hour, and every half hour as needed. Please be sure to let the front desk staff know on Saturday when you need to depart. The typical amount of time needed to arrive at the Lincoln airport is 1 hour and 15 minutes prior to flight departure.

If you are flying out of Omaha: Allow at least an hour of drive time to the airport (weather permitting) and an additional 1 hour and 15 minutes prior to flight departure. If you are using OMAiNK or Leisure Limousine, they should have scheduled this trip with you.

***Check-out time for the Holiday Inn Express is 11 a.m. Sunday. They will hold your luggage for you until the conference ends and you return to the hotel.***

## Sunday, January 22, 2023

Time	Event	Location
7 am – 8 am	Networking Breakfast <i>While the conference social hour will be from 7 am to 8 am, the hotel will have breakfast available until 10:30 am.</i>	Atrium, Embassy Suites
<b>Session 4 – Presentations by Undergraduate Students</b>		
	Regents Ballroom - B Embassy Suites	Regents Ballroom - C Embassy Suites
8:10 am – 8:25 am	<i>Almost All Wreath Product Character Values are Divisible by Given Primes</i> Hannah Graff, Creighton University	<i>Constructing User Financial Profiles from SMS Messages</i> Natalie Dodson, Middlebury College
8:30 am – 8:45 am	<i>No Three in a Theta</i> Lani Southern, Willamette University, and Natalie Dodson, Middlebury College	<i>Machine Learning Improves Hemi Array EIT Reconstructions</i> Shelby Horth, Wake Forest University
8:50 am – 9:05 am	<i>The Change-making Problem with Six Types of Coins</i> Qiyu Zhang, University of San Francisco	<i>Budget Conservation in the Training of Differentially Private Models</i> Hanfei Lin, University of California Los Angeles
9:10 am – 9:25 am	<i>The Safety Net Problem: A Variation on Graph Theory's Minimum Spanning Tree (MST) Algorithm</i> Victoria Wiest, California State University, Fresno	<i>Finding Math in the Madness: Predicting Upsets in the March Madness Basketball Tournament</i> Lily Feingold and Louisa Brown, Furman University

Session 4 – Presentations by Undergraduate Students (continued)			
	Regents Ballroom - B Embassy Suites	Regents Ballroom - C Embassy Suites	Regents Ballroom - A Embassy Suites
9:30 am – 9:45 am	<i>Hopping Forcing</i> Nicole Lacey, Drake University	<i>Parabolas and the p-norm</i> Nicholetta Hitt, Keene State College	<i>Mathematical Approaches to the Archaeological Refit Problem</i> Nzingha Joseph, Carleton College
9:50 am – 10:05 am	<i>Supervised Machine Learning: Using Statistical Models to Predict College Completion Rates</i> Cassidy Cubra, United States Air Force Academy	<i>Statistical Analysis of Digoxin Medication in a Clinical Trial</i> Aimee Hernandez, California State University, Stanislaus	<i>Testing Hyperinflation Data Against Makochekanwa's Model (2007)</i> Laura Vaughan, Vanderbilt University
10:15 am – 10:55 am	<b>Breakout Session 3</b> <i>Undergraduates have been assigned to breakouts. Please find your tickets at the back of your nametag. Faculty and graduate students are welcome to attend any of the breakout sessions or have been asked to facilitate a session. See the registration desk to confirm breakout facilitation assignments. If you would like to attend a different breakout on Sunday, please come to the registration desk to switch your tickets with any extras that are available.</i>		Alumni Room, Regents D, E or F, Chancellor's Rooms 1, 2, 3, Bar & Grille, Embassy Suites
11:05 am – 11:15 am	<b>Closing Remarks</b> Eloisa Grifo, Assistant Professor of Mathematics and Co- Chair of NCUWM, University of Nebraska-Lincoln Christine Kelley, Professor of Mathematics and Co-Chair of NCUWM, University of Nebraska-Lincoln		Regents Ballroom BC, Embassy Suites
By 1 pm	<b>Check-out Time for Hotel</b>		Lobby, Embassy Suites

## Evaluation Survey

The evaluation survey is intended to help the conference planning committee and evaluators understand what worked well, what participants gained from participating in the conference, and what might be enhanced to make any future conferences more useful and beneficial for participants. Questions gather information on your perceptions on whether goals were met, your satisfaction with different facets of the sessions, opportunities to network, conference logistics, what you were able to take away from the conference, and your recommendations.



The survey does not collect identifying information. Data from the survey will be seen by conference organizers and the conference evaluators and may be used to plan future conferences. The information collected will be incorporated into conference reports. No individual identifying information will be published in any reports.

A link to the survey will be emailed to you. However, if you wish to take the survey sooner, please feel free to enter the following URL into your web browser or scan the QR code. Thanks for your consideration and participation in the conference evaluation survey.

[go.unl.edu/ncuwmsurvey2023](https://go.unl.edu/ncuwmsurvey2023)