



SCHEDULE

APRIL 27-29, 2023



Thursday, April 27, 2023 – Reception (6:00 – 8:00 pm)

Courtyard by Marriott

Friday, April 28, 2023

Nebraska Innovation Campus (NIC) Conference Center

8:15 am

Registration and informal introductions

- Coffee, hot tea, and orange juice available

8:45 – 10:45 am

Opening plenary session

Auditorium

- 8:45 – 9:00

Welcome to MATH 125

Petronela Radu, Leland J. and Dorothy H. Olson Professor and Chair,
Department of Mathematics

Mark Button, Dean, College of Arts and Sciences

Amy Goodburn, Senior Associate Vice Chancellor and Dean of Undergraduate
Education, Office of the Executive Vice Chancellor for Academic Affairs

- 9:00 – 9:50

John Meakin, Milton Mohr Emeritus Professor of Mathematics at UNL
Title: *Research and graduate education in mathematics at the University of
Nebraska-Lincoln: A pocket history*

Introduced by Petronela Radu

- 9:55 – 10:45

Gopi Shah Goda, Senior Fellow at the Stanford Institute for Economic Policy
Research, Stanford University

Title: *Lessons learned from Math 107H to the White House*

Introduced by Jim Lewis

10:45 – 11:15 am

Break (Coffee and Snacks)

11:15 – 12:05 pm

Special Session #1

- UNL Faculty Research

Moderator, David Pitts, Professor

- 11:15 – 11:35 Yu Jin, Associate Professor

Title: *Mathematical modeling and analysis in population dynamics*

- 11:45 – 12:05 Mikil Foss, Professor

Title: *Some of us have gone nonlocal*

Room A1 (first level)

- **Achievements of our Graduates** **Room A2 (first level)**
 Moderator, Mark Walker, Willa Cather Professor

 - 11:15 – 11:35 Jennifer Mueller, Professor, Colorado State University
 Title: *Inverse problems and pulmonary imaging*
 - 11:45 – 12:05 Katie Morrison, Associate Professor, University of Northern Colorado
 Title: *Graphs, neural networks, and emergent dynamics in the brain*

- **Mathematics Outside Academia** **Room A3 (first level)**
 Moderator, Alexandra Seceleanu, Associate Professor

 - 11:15 – 11:35 Laura White, Aerospace Engineer, NASA Langley Research Center
 Title: *The day in the life of a NASA mathematician*
 - 11:45 – 12:05 Amy Bouska, Former Managing Director, Tillinghast
 Title: *Becoming the 'Spreadsheet Lady'*

- **A Commitment to Mathematics Education** **Auditorium**
 Moderator, Jim Lewis, Aaron Douglas Professor

 - 11:15 – 11:35 Allan Donsig, UNL Professor and Vice Chair
 Title: *Student success in first year courses*
 - 11:45-12:05 Raegan Higgins, Associate Professor and Assistant Vice Provost for Faculty Success, Texas Tech University
 Title: *Reach back and go forward*

- 12:15 – 1:05 pm **Lunch** **Banquet Hall**

- 1:15 – 3:05 pm **Plenary Session #2** **Auditorium**

 - 1:15 – 2:05 **Michael Parks**, Director, Computer Science and Mathematics Division, Oak Ridge National Laboratory
 Title: *Real-world impacts of mathematics*
 Introduced by Petronela Radu
 - 2:15 – 3:05 **Panel: My graduate school experience.**
 Moderator: Isabel Safarik, UNL graduate student
Reflections from women who earned Ph.Ds. at UNL
 Panelists: **Raegan Higgins** (2008), **Katie Morrison** (2012), **Jennifer Mueller** (1997), **Kristin Pfabe** (1995), and **Karina Uhing** (2020)

- 3:05 – 3:30 pm **Break**

- 3:30 – 4:20 pm **Plenary Session #3** **Auditorium**

 - 3:30 – 4:20 **Jane Meza**, UNMC Associate Vice Chancellor, Office of Global Engagement and Professor, Department of Biostatistics
 Title: *What I learned from the question I asked as an undergraduate: What can I do with a math degree?*
 Introduced by Jim Lewis

4:30 – 5:20 pm

Special Session #2

- UNL Faculty Research **Room A1 (first level)**
Moderator, David Pitts, Professor
 - 4:30 – 4:50 Xavier Perez Gimenez, Associate Professor
Title: *Finding spanning structures in random graphs – a brief survey*
 - 5:00 – 5:20 Chris Schafhauser, Assistant Professor
Title: *Approximate finite-dimensional representations of groups*

- Achievements of our Graduates **Room A2 (first level)**
Moderator, Eloísa Grifo, Assistant Professor
 - 4:30 – 4:50 Karina Uhing, Assistant Professor, University of Nebraska at Omaha
Title: *Innovations in first year mathematics courses: Using research to inform practice*
 - 5:00 – 5:20 Josh Pollitz, NSF Postdoctoral Fellow, University of Utah
Title: *Structural results in commutative algebra*

- Mathematics Outside Academia **Room A3 (first level)**
Moderator, Alexandra Seceleanu, Associate Professor
 - 4:30 – 4:50 Derek DeSantis, Staff Scientist, Los Alamos National Laboratory
Title: *A glimpse of mathematics research at the national labs*
 - 5:00 – 5:20 Levi Heath, UNL Postdoctoral Associate and Gabe Payson, UNL undergraduate mathematics major
Title: *Math in the City: Comparing neural network and regression models in predicting Lancaster County housing prices*

- A Commitment to Mathematics Education **Auditorium**
Moderator, Jim Lewis, Aaron Douglas Professor
 - 4:30 – 4:50 Kristie Pfabe, Professor and Chair, Mathematics and Computer Science
Department, Nebraska Wesleyan University
Title: *The transformative experience of teaching math in prison*
 - 5:00 – 5:20 Matt Larson, Associate Superintendent for Instruction, Lincoln Public Schools and Former President, National Council of Teachers of Mathematics
Title: *Serving the needs of K-12 mathematics teachers in the post-COVID era*

5:30 – 6:00 pm

Reception and Cash Bar

Banquet Hall

6:00 – 8:00 pm

MATH 125 Banquet
Judy Walker, Aaron Douglas Professor of Mathematics and UNL Associate Vice Chancellor for Faculty and Academic Affairs
Title: *Women in math at Nebraska*
Introduced by Jim Lewis

Banquet Hall

Saturday, April 29 – Avery Hall

8:00 – 8:30 am **Registration, Coffee, Tea, and Breakfast Snacks** **Avery 1st Floor**

8:30 – 10:20 am **Plenary Session #4** **Avery 115**

- 8:30 – 9:20 **Panel: *Using mathematics outside of academia***
Moderator: Austin Eide, UNL graduate student
Panelists: **Josh Brown-Kramer** (Ocuvera), **Paula Egging** (Bryan Health), **Jesse Moeller** (SpaceX), **Michael Parks** (Oak Ridge), **Laura White** (NASA)

- 9:30 – 10:20 **Graham Leuschke**, Professor and Chair, Department of Mathematics, Syracuse University
Title: *Climbing the chimney*
Introduced by Roger Wiegand, Willa Cather Professor Emeritus

10:20 – 10:45 am **Break**

10:45 – 12:00 pm **Special Session #3**

- **UNL Faculty Research** **Avery 115**
Moderator, Jack Jeffries, Assistant Professor of Mathematics
 - 10:45 – 11:05 Mark Brittenham, Professor
Title: *Topological conjecture-busting*
 - 11:15 – 11:35 Tom Marley, Professor
Title: *From Prüfer rings to geproci sets: A history of commutative algebra and algebraic geometry at Nebraska*
 - 11:40 – 12:00 Yvonne Lai, Milton Mohr Associate Professor
Title: *115 years since Felix Klein's naming of the double discontinuity*

- **Achievements of our Graduates** **Avery 110**
Moderator, Mark Walker, Willa Cather Professor
 - 10:45 – 11:05 Paula Egging, Data Scientist, Bryan Health Systems
Title: *One mathematician's experience of data science in healthcare*
 - 11:15 – 11:35 Anisah Nu'Man, Assistant Professor, Spelman College
Title: *My mathematical journey (so far)*
 - 11:40 – 12:00 Jesse Moeller, Software Engineer, SpaceX
Title: *After grad school: from low-dimensional topology to network topology*

- **Mathematics Outside Academia** **Avery 106**
Moderator, Bo Deng, Professor of Mathematics
 - 10:45 – 11:05 Josh Brown Kramer, Senior Data Scientist, Ocuvera, and Lucas Sabalka, Chief Data and Analytics Officer, Ocuvera
Title: *Fall prevention with AI at Ocuvera*

- 11:15 – 11:35 Brittney Keel-Mercer, Research Animal Geneticist, USDA
Title: *Development of online systems of monitoring behaviors of individual animals in livestock production*
- 11:40 – 12:00 Lisa Davis, Adjunct Operations Researcher, RAND Corporation
Title: *Oh, the places you can go!*

- A Commitment to Mathematics Education

Avery 119

Moderator, Allan Donsig, Professor of Mathematics

- 10:45 – 11:05 Michelle Homp, UNL Associate Professor of Practice and NMSSI Director
Title: *NebraskaMATH goes to Africa*
- 11:15 – 11:35 Delise Andrews, Grades 3-5 Mathematics Coordinator, Lincoln Public Schools
Title: *My mathematics learning journey: The power of sense-making*
- 11:40 – 12:00 Katie Soto, Professional Development Specialist, Educational Service Unit 9
Title: *From student to educator: A mathematical journey*

12:10

Closing session

Avery 115

Petronela Radu, Leland J. and Dorothy H. Olson Professor and Chair, Department of Mathematics