

Eighth Annual

Nebraska Conference for
Undergraduate Women
in Mathematics

All talks are open to the entire UNL Community

The Conference will give outstanding undergraduate women the opportunity to discuss their own research and to meet other women who share their interest in the mathematical sciences. Conference activities will occur on the university's city campus, a short walk from downtown Lincoln.

We will regularly update this page as plans for the conference are finalized.

Plenary Speakers:

- [Lenore Blum](#), Carnegie Mellon University, School of Computer Science
- [Krystyna Kuperberg](#), Auburn University, Department of Mathematics

Banquet Speaker:

- [Bettye Anne Case](#), Florida State University, Department of Mathematics

Guests:

- Lloyd Douglas, [National Science Foundation](#)
- [Christine Heitsch](#), University of Wisconsin [Genome Center](#) and [Mathematics Department](#)
- Cindy Farthing, [UNL Mathematics Department](#)
- Laura S. Kang, Boeing
- Krista Taylor, [Shawnee State University](#) Department of Mathematics
- Michelle D. Wagner, [National Security Agency](#)
- Roger Wiegand, [UNL Mathematics Department](#)

Invited Graduate Students:

- Isabel Averill (Ohio State University)
- Kathy Bartley (University of Nebraska)
- Jessie Coe (USC)
- Andrea Frazier (University of Iowa)
- Jennifer Leahy (University of Arizona)
- Angelica Osorno (MIT)
- Ellen Veomett (University of Michigan)
- Andrea Watkins (Duke University)

Panel Discussions:

- Choosing a Mathematics Graduate Program
- Careers using Mathematics

The Organizing Committee gratefully acknowledges generous support from the National Science Foundation (through our [Mentoring Through Critical Transition Points](#) grant) and the National Security Agency

Friday, February 3, 2006

2:30

Welcome and Registration, [City Campus Nebraska Union Auditorium, Rm. 211](#)
There will be soft drinks and snacks at the registration

3:30

Opening Session, [City Campus Nebraska Union Auditorium, Rm. 211](#)
Welcome: Judy Walker, University of Nebraska-Lincoln
Remarks: J.B. Milliken, President, University of Nebraska

3:45 - 4:45

Plenary Session I, [City Campus Nebraska Union Auditorium, Rm. 211](#)
Lenore Blum, Carnegie Mellon University
Computing over the reals: where Turing meets Newton

4:45

Break, [City Campus Nebraska Union Auditorium, Rm. 211](#)

5:00

Opportunities from Federal Agencies, [City Campus Nebraska Union Auditorium, Rm. 211](#)
Michelle Wagner, National Security Agency
Lloyd Douglas, National Science Foundation

7:00

Banquet, Holiday Inn

Speaker: Bettye Anne Case, Florida State University

Saturday, February 4, 2006

8:00

Continental Breakfast, CBA Courtyard

8:30

Session 1 - Presentations by Undergraduate Participants

Graph Theory, CBA 143 (Chair: Christine Heitsch)

Statistics and Financial Mathematics, CBA 025 (Chair: Kristie Pfabe)

Number Theory, CBA 128 (Chair: Andrea Frazier)

8:30 - 8:45

CBA 143

Sarah Bleiler, Seton Hall University

A surgery reducing the number of spanning trees for certain threshold graphs

CBA 025

Aubrey Komorowski, Duquesne University

Independence models, likelihood ratio tests, and a side of bacon

CBA 128

Pam Welch, Nazareth College of Rochester

Partitions of integers

8:50 - 9:05

CBA 143

Diana Carr, Central College

The congestion of graphs

CBA 025

Tabitha Huntemann, St. Mary's College of Maryland

A simple method for parameter estimation for the left-truncated normal distribution

CBA 128

Lola Thompson, University of Chicago

Impartial combinatorial games and the field ON_2

9:10 - 9:25

CBA 143

Elizabeth Hayden, Coe College

Finding short paths, minimal cutsets, and enumerations of graphs

CBA 025

Shengjie Guo, University of Nebraska-Lincoln

Topics in financial mathematics

CBA 128

Kensey Riley, Truman State University

On the frequency and generation of Sturmian and one-dimensional cut and project sequences

9:30

Short Break, CBA Courtyard

9:45

Panel Discussion: Careers Using Mathematics, Love Library Auditorium

Panelists: Lenore Blum, Carnegie Mellon University
Christine Heitsch, University of Washington
Laura S. Kang, Boeing
Krista Taylor, Shawnee State University
Michelle D. Wagner, National Security Agency

Moderator: Lloyd Douglas, National Science Foundation

10:40

Break, CBA Courtyard

11:00

Session 2 - Presentations by Undergraduate Participants

Graph Theory, CBA 143 (Chair: Amelia Taylor)
Mathematical Biology, CBA 025 (Chair: Richard Rebarber)
General, CBA 128 (Chair: Sue Geller)

11:00 - 11:15

CBA 143

Diane Lunman, Nazareth College of Rochester
Applications of covering maps to spectral theory of graphs

CBA 025

Jennifer Houle, University of Maine
A spatial population model on a dynamic heterogenous landscape

CBA 128

Heather Anderton, Houghton College
Shanille shoots baskets: a generalization of a 2002 Putnam Exam contest problem

11:20 - 11:35

CBA 143

Tricia Profic, Canisius College
Covers, Laplacians, and Kesten's theorem

CBA 025

Jessica Schaefer, Northern Arizona University
Diffusive equations with non-constant harvesting

CBA 128

Brittany Mosby, Spelman College
Elliptic curve applications in number theory and cryptography

11:40 - 11:55

CBA 143

Eliana Hechter, University of Washington
Embeddings of circular planar graphs

CBA 025

Nancy Newren, University of Utah
Wild population augmentation from reserve populations

CBA 128

Traci Baker, Cathy George, and Laura Smith, Northwest Missouri State University
Observations and recommendations for reading mathematics

12:00

Group Photo, Nebraska Union

12:15

Lunch, Wick Alumni Center, 1520 R Street (corner of 16th & R)

Note: The plenary speakers, panelists, invited graduate students, and members of the organizing committee have agreed to sit at assigned tables so that participants can have an opportunity to talk with them informally. Check the packet of bios for table assignments.

2:00 - 3:00

Plenary Session II, Love Library Auditorium

Krystyna Kuperberg, Auburn University

From fixed points to dynamics

3:10

Session 3 - Presentations by Undergraduate Participants

Graph Theory and Optimization, CBA 143 (Chair: Laura S. Kang)

Mathematical Biology, CBA 025 (Chair: Brigitte Tenhumberg)

Analysis, CBA 128 (Chair: Wendy Hines)

3:10 - 3:25

CBA 143

Colleen Hughes, Denison University

The Steiner problem on a wide cone

CBA 025

Alyson Deines, Kansas State University

Robustness and transients applied to falcon harvesting

CBA 128

Erica Zrubek, Texas A&M University

Finite-interval wavelet sets

3:30 - 3:45

CBA 143

Sharon Hutton, Baylor University

Totally unimodular matrices and graphs

CBA 025

Amy Keighley, Rensselaer Polytechnic Institute

Cheetah conservation

CBA 128

Kim Meyer and Kelly Houston, University of Louisville

Small subsets of the real line

3:50 - 4:05

CBA 143

Candace Selneck, Emmanuel College

An optimal algorithm for a course scheduling problem

CBA 025

Joy Kogut, Simmons College
Modeling invasive species

4:10

Poster Session, CBA, main north-south hallway
Snacks, CBA Courtyard

5:15

Session 4 - Presentations by Undergraduate Participants

Knot Theory, CBA 143 (Chair: Krystyna Kuperberg)
Algebra, CBA 025 (Chair: Sue Geller)
Analysis, CBA 128 (Chair: Al Peterson)

5:15 - 5:30

CBA 143

Debbie Witczak, Benedictine University
The arccos(-1/3) regular stick number of knots

CBA 025

Daniela Banu, Hope College
Presentations and representations of metacyclic groups

CBA 128

Heather Rosenblatt, University of Missouri
A general converse theorem for mean value theorems in linear elasticity

5:35 - 5:50

CBA 143

Melanie DeVries, University of Iowa
Technology and the knot table

CBA 025

Sarah Gilles, St. Olaf College
Selftopes and their properties

CBA 128

Laura Cannon, Brigham Young University
Minimal surfaces and harmonic shearing

6:10

Dinner (see Restaurant Guide)

8:00

Game Night, Missouri and Niobrara Rooms, Holiday Inn

Sunday, February 5, 2006

8:00

Continental breakfast, CBA Courtyard

8:30

Session 5 - Presentations by Undergraduate Participants

Discrete Mathematics, CBA 143 (Chair: Kathy Bartley)
Analysis, CBA 025 (Chair: David Pitts)
Combinatorics, CBA 128 (Chair: Ellen Veomett)

8:30 - 8:45

CBA 143

Maureen Jackson, Lafayette College
The mathematics behind the game of SET

CBA 025

Rachel Saul, Texas A&M University
Tight frames in R^2

CBA 128

Emma Millman, Gettysburg College
On cutsets in the Boolean lattice

8:50 - 9:05

CBA 143

Sara Rowell, Xavier University
Using sets of winning coalitions to generate feasible Banzhaf power distributions

CBA 025

Megan Gallant, Trinity University
Periodic points in maps with f -invariant delta-scrambled sets

CBA 128

Margie Leopold, Regis University
Tropical mathematics in polynomials

9:10 - 9:25

CBA 143

Robyn Wolfe, Shippensburg University
Banzhaf power index applied to the 2005 German elections

CBA 025

Ashley Askew, Clayton State University
The delta derivative of the sine and cosine functions on time scales

9:45

Break, CBA Courtyard

10:00

Panel Discussion: Choosing a Mathematics Graduate Program, Love Library Auditorium

Panelists: Bettye Anne Case, Florida State University

Cindy Farthing, University of Nebraska-Lincoln, 1999 NCUWM participant

Krystyna Kuperberg, Auburn University

Jennifer Leahy, University of Arizona

Andrea Watkins, Duke University

Roger Wiegand, University of Nebraska-Lincoln

Moderator: Jim Lewis, University of Nebraska-Lincoln

11:00

Conference Wrap-up, Love Library Auditorium

Remarks: John Meakin, Chair of the UNL Department of Mathematics