

Nebraska Conference for
Undergraduate Women
in Mathematics

Schedule for February 2-4, 2001

Friday, February 2, 2001

2:30 p.m. Welcome and Registration, Burnett 106

There will be soft drinks and snacks at registration.

3:30 p.m. Opening Session, Burnett Auditorium

Welcome: Judy Walker, Chair of the Conference Organizing Committee
Opening Remarks: Richard Hoffmann, Dean of the College of Arts and Sciences

3:45 p.m. Plenary Session, Burnett Auditorium

Jennifer Key, Clemson University
"Error-Correcting Codes"

4:45 p.m. Break, Burnett 106

5:00 p.m. Session 1 - Presentations by Undergraduate Women

5:00 - 5:15 p.m.

Burnett 107: Andrea Young, Pennsylvania State University,
Spindown of an Elastic Fluid

Burnett 120: Wendy Corp, Benedictine University,
Who Has my Hat?

Burnett 124: Jane Holsapple, Bryn Mawr College
Group Actions on R-Trees

5:20 - 5:35 p.m.

Burnett 107: Kristin Spaulding, University of Washington,
Mode-Locking in Optical Fiber Ring Lasers

Burnett 120: Dorea Claassen, University Of Nebraska-Lincoln,
The Bandwidth of a Random Graph

Burnett 124: Sonja Willis, University of California at San Diego,
Cayley Digraphs Using MAPLE

7:00 p.m. Banquet, Cornhusker Hotel Grand Ballroom

Welcoming Remarks: Harvey Perlman, Chancellor, University of Nebraska-Lincoln

Speaker: Wendy Hines, UNL Department of Mathematics and Statistics
"What Would You Do to Be a Mathematician?"

Saturday, February 3, 2001

8:00 a.m. Coffee, Juice and Rolls, Burnett 106

8:30 a.m. Session 2 - Presentations by Undergraduate Women

8:30 - 8:45 a.m.

Burnett 118: Johanna Franklin, Carnegie Mellon University,
Statistical Analysis of the Determinants of Certain Sign Pattern Matrices

Burnett 120: Michelle Bradley, University College Cork,
Statistical Study on the Healing of Post Surgery Wounds

Burnett 124: Juliana Belding, Bryn Mawr College,
Finding Fundamental Units of Quartic Fields

8:50 - 9:05 a.m.

Burnett 118: Kaniz Rashid Mamun, California State University, Hayward,
Cross-Validation versus Bootstrap Estimates of the Prediction Error in
Statistical Modelling.

Burnett 120: Theresa Kim, Bryn Mawr College,
Optimizing Your Soul Mate

Burnett 124: Ellen Eischen, Princeton University,
Patterns, Line Sums, and Symmetry

9:10 - 9:25 a.m.

Burnett 118: Deborah E. Sinclair, University of Redlands,
Competition Between Random Variables

Burnett 120: Susan Ott, Smith College,
Widely Spaced Matrix Modifications and their Resultant Localized
Eigenvectors

Burnett 124: Laura Hall, Bryn Mawr College,
Solutions to the Equation $xyz=x+y+z=1$

9:30 - 9:45 a.m.

Burnett 118: Jennifer Bailey, Colorado School of Mines,
American Option Pricing

Burnett 120: Megan Sheets, University Of Nebraska-Lincoln,
Digitally Analyzing and Compressing the Artwork of Edward Hopper

Burnett 124: Crystal Hoyt, Texas A&M,
Irreducible Representations of Solvable Lie Superalgebras

9:50 a.m. Break, Burnett 106

10:10 a.m. Panel Discussion, Burnett Auditorium

"Life in Graduate School"

Panelists: Mari Campbell, Lloyd Douglas, Susan Hermiller, Kristie Pfabe,
Victoria Sapko

Moderator: Roger Wiegand, Graduate Chair, UNL Department of Mathematics
and Statistics

11:10 a.m. Special Session, Burnett Auditorium

"Opportunities for Math Students"

Speakers: Lloyd Douglas, Rick Poss, Sylvia Wiegand

Moderator: Jackie Anderson

12:10 p.m. Lunch, Top of the Rock

1:40 p.m. Plenary Session, Burnett Auditorium

Alice Silverberg, Ohio State University

"Elliptic Curves are Everywhere!"

2:40 p.m. Short Break, Burnett 106

2:50 p.m. Session 3 - Presentations by Undergraduate Women

2:50 - 3:05 p.m.

Burnett 118: Lisa Raquel Casanova-Del Moral, University of Puerto Rico
in Humacao,

A Genetic Algorithm for the Calculus of Variations in Two Dimensions

Burnett 120: Sarah Croog, Mount Holyoke College,

Limits of Normals at Singular Points of Curves

Burnett 124: Jennifer Beilfuss, St. Olaf College,

Determining the Volume of Polyhedra

3:10 - 3:25 p.m.

Burnett 118: Deborah Zadina, University Of Nebraska-Lincoln,

Good Sampling Times for Sampled Data Control

Burnett 120: Rachael Floit, Augustana College,
Trigonometric Functions of Matrices

Burnett 124: Alice Medvedev, California Institute of Technology,
Divisions into Triangles

3:30 - 3:45 p.m.

Burnett 118: Sarah Moss, Harvard University,
Ruminations on Rearrangeability

Burnett 120: Raegan Higgins, Xavier University,
The Stability Analysis of the Nonlinear Difference Equation $x(n+1) = 1/(Ax(n)^3 + x(n-1)^2)$

Burnett 124: Camillia Smith, Michigan State University,
The Optimal Oriented Diameter of the 3×5 Torus and of Joins of Graphs

3:45 p.m. Break, Burnett 106

4:10 p.m. Session 4 - Presentations by Undergraduate Women

4:10 - 4:25 p.m.

Burnett 118: Andrea Cook, University of Washington,
Spatial Analysis of West Coast Groundfish

Burnett 120: Jenna Nichols, Mount Holyoke College,
The Search for a $(288, 42, 6)$ Difference Set

Burnett 124: Michelle Kidd, University of Pittsburgh,
Numerical Simulations of Flow in Porous Media

4:30 - 4:45 p.m.

Burnett 118: Suzanne Sindi, California State University, Fullerton,
A Stochastic Model of Chromosome Evolution

Burnett 120: Cornelia Yuen, University of California, Berkeley,
Polynomial Knots of Fifth Degree

Burnett 124: Anne-Marie Hunter, University College Cork,
Modeling Blood Flow from the Heart

4:50 p.m. Panel Discussion, Burnett Auditorium

"What to Do with a Graduate Degree in Math"

Panelists: Lloyd Douglas, Jennifer Key, Glenn Ledder, Jane Meza, Theresa Strei

Moderator: Sylvia Wiegand, UNL Department of Mathematics and Statistics

5:50 p.m. End of the Day Reception, Burnett 106

7:30 - 10:00 p.m. Game Night, Heritage Room, Nebraska Union

Sponsored by the UNL Women's Undergraduate Math Network
Come and go as you please.

Sunday, February 4, 2001

8:00 a.m. Coffee, Juice and Rolls, Burnett 106

8:30 a.m. Remarks by the Department Chair, Jim Lewis

8:50 a.m. Session 5 - Presentations by Undergraduate Women

8:50 - 9:15 a.m.

Burnett 118: Patricia Howard and Amelia O'Hanlon, Ithaca College,
Path Length and Tree Height in the Asymmetric Binary Branching Fractal
Tree

Burnett 120: Beth McClanahan and Janet Trimm, Birmingham-Southern
College and Rose-Hulman Institute of Technology,
A New Formula for Frobenius Numbers in Three Variables

Burnett 124: Betsy LaPlant and Bethany McLemore, Bemidji State
University and East Texas Baptist University,
The Search for Latin Transversals in $n \times n$ Cayley Tables

9:15 a.m. Short Break, Burnett 106

9:30 - 9:45 a.m.

Burnett 118: Anna Hu, Bryn Mawr College,
Knot Invariants

Burnett 120: Julie Rowlett, University of Washington,
Bounding the Radii of a Family of Siegel Disks

9:50 - 10:05 a.m.

Burnett 118: Erika Roberts, Virginia Tech,
Discrete Morse Theory for Cell Complexes

Burnett 120: Melanie Wood, Duke University,
Generalized Factorials and P-orderings

10:10 a.m. Break, Burnett 106

10:30 a.m. Session 6 - Presentations by Undergraduate Women

10:30 - 10:45 a.m.

Burnett 118: Erin M. Bergman, St. Norbert College,
Energizer Fractions: They Keep Going and Going and ...

Burnett 120: Stephanie Mosier, Xavier University,
The Gerschgorin Circle Theorem and its Consequences

10:50 - 11:05 a.m.

Burnett 118: Abby Mroczenski, St. Norbert College,
Figure It Out

Burnett 120: Katherine Rasing, Iowa State University,
The Application of ISAc Structures to the Problem of Aligning Gene
Fragments

11:10 - 11:25 a.m.

Burnett 118: Dana D. Thompson, North Park University,
The Homeless Traveling Salesman

Burnett 120: Jody Radowicz, North Central College,
Cwatsets as Codes

11:25 a.m. End of Conference Wrap-up, Burnett Auditorium: Judy Walker