

Special Session: Algebraic Combinatorics

Organizers: H el ene Barcelo, Susanna Fishel, and Kelli Talaska

Algebraic Combinatorics II

Saturday, March 16, Room 104 O'Connor Hall

- 1:30-1:50 Tamsen McGinley, Santa Clara University
Flows on Honeycombs and Sums of Littlewood-Richardson Tableaux
- 2:00-2:20 Martha Yip, University of Pennsylvania
q-Rook Placements and Jordan Forms
- 2:30-2:50 Tina Garrett, St. Olaf College
Fixed Points and Gardens of Eden in the Dominance Poset
- 3:00-3:20 Elizabeth Beazley, Haverford College
Bijective Projections on Parabolic Quotients of Affine Weyl Groups

Special Session: Analysis of PDEs in Newtonian and Non-Newtonian Fluid Mechanics

Organizers: Evelyn Lunasin and Anna Mazzucato

Analysis of PDEs in Newtonian and Non-Newtonian Fluid Mechanics II

Saturday March 16, Room 206 O'Connor Hall

- 1:30-1:50 Hakima Bessaih, University of Wyoming
Inviscid Limit of Stochastic Damped 2D Navier-Stokes Equations
- 2:00-2:20 Becca Thomases, University of California Davis
Instabilities and Elastic Turbulence in a Stokesian Viscoelastic Flow
- 2:30-2:50 Mimi Dai, University of Colorado at Boulder
Norm inflation for Generalized Navier-Stokes Equations
- 3:00-3:20 Magdalena Czubak, SUNY-Binghamton
Uniqueness and Non-uniqueness Questions for the Navier-Stokes Equations on Hyperbolic Space

Special Session: Commutative Algebra

Organizers: Louiza Fouli and Claudia Polini

Commutative Algebra II

Saturday, March 16, Room 105 O'Connor Hall

1:30-1:50 Hema Srinivasan, University of Missouri
Betti Numbers of Monomial Curves

2:00-2:20 Emily Witt, University of Minnesota
F-Pure Thresholds of Quasi-homogenous Polynomials

2:30-2:50 Yu Xie, Georgia State University
The Generalized First Hilbert Coefficient

3:00-3:20 Janet Vassiliev, University of New Mexico
Chains of Square-free Monomial Ideals and Their Frobenius Algebras

Special Session: Groups and Geometry

Organizers: Alexandra Pettet and Jing Tao

Groups and Geometry Informal Discussion

Room 109 O'Connor Hall, Saturday March 16, 1:30-3:30

Special Session: Harmonic Analysis and its Applications

Organizer: Malabika Pramanik

Harmonic Analysis and its Applications II

Saturday, March 16, Room 204 O'Connor Hall

1:30-1:50 Svitlana Mayboroda, University of Minnesota
Boundary Value Problems for Elliptic Operators with Real Non-symmetric Coefficients

2:00-2:20 Theresa Anderson, Brown University
The A_2 Conjecture for Spaces of Homogeneous Type

2:30-2:50 Joan Lind, University of Tennessee
Space-filling Curves and Phases of the Loewner Equation

3:00-3:20 Allison Lewko, Microsoft Research
The Square Variation of Rearranged Fourier Series

Special Session: Low-dimensional Topology

Organizers: Shelly Harvey and Ina Petkova

Low-dimensional Topology I

Saturday, March 16, Room 106 O'Connor Hall

1:30-1:50 Ellsenda Grisby, Boston College

Categorified Invariants and the Braid Group

2:00-2:20 Ailsa Keating, Massachusetts Institute of Technology

Dehn Twists and Free Subgroups of the Symplectic Mapping Class Group

2:30-2:50 Heather Russell, University of Southern California

Knots and Webs

3:00-3:20 Margaret Doig, Indiana University

Obstructing Finite Surgery: an Application of Heegaard Floer Homology

Special Session: Mathematics for Human Physiology and Disease

Organizers: Victoria Booth and Trachette Jackson

Mathematics for Human Physiology and Disease II

Saturday, March 16, Room 207 O'Connor Hall

1:30-1:50 Sharmila Venugopal, Dept. of Integrative Biology & Physiology, UCLA

Conductance-based Motoneuron Model for Examining Multiple Channelopathies in Motoneuron Disease

2:00-2:20 Sukbin Lim, Dept. of Neurobiology, University of Chicago

Balanced Cortical Microcircuitry for Maintaining Short-term Memory

2:30-2:50 Cecilia Diniz Behn, Gettysburg College

Mathematical Modeling of Sleep-wake Dynamics

3:00-3:20 Andrea Barreiro, Southern Methodist University

Low-dimensional Descriptions of Neural Networks

Special Session: Model Theory Session in Honor of Carol Wood

Organizers: Alice Medvedev and Lynn Scow

Model Theory Session in Honor of Carol Wood II

Saturday, March 16, Room 107 O'Connor Hall

1:30-1:50 Maryanthe Malliaris, University of Chicago

Ultrapowers of Graphs: Theorems, Examples, Questions

2:00-2:20 Rehana Patel, Olin College of Engineering

Zero-One Miscellanea

2:30-2:50 Yun Lu, Kutztown University of PA

The Reducts of Countable Categorical Graphs

3:00-3:20 Gwyneth Harrison-Shermoen, University of California Berkeley

NTP1 Theorems

Special Session: Numerical Methods for PDEs

Organizers: Yingda Cheng and Fengyan Li

Numerical Methods for PDEs I

Saturday March 16, Room 205 O'Connor Hall

1:30-1:50 Chiu-Yen Kao, Claremont McKenna College

Lax-Friedrichs Fast Sweeping Methods

2:00-2:20 Brittany Froese, University of Texas, Austin

Fast Sweeping Methods for Systems of Conservation Laws

2:30-2:50 Xinghui Zhong, Michigan State University

A Simple WENO Limiter

3:00-3:20 Vrushali A. Bokil, Oregon State University

High Order Finite Difference Methods for Maxwell's Equations in Dispersive Media

Special Session: Random Matrix Theory and Applications

Organizer: Ioana Dumitriu

Random Matrix Theory and Applications Informal Discussion

Room 208 O'Connor Hall, Saturday, March 16, 1:30-3:30