

Special Session: Algebraic Combinatorics

Organizers: Hélène Barcelo, Susanna Fishel, and Kelli Talaska

Algebraic Combinatorics I

Saturday, March 16, Room 104 O'Connor Hall

10:00-10:20 Isabella Novik, University of Washington

Face Numbers of Centrally Symmetric Polytopes

10:30-10:50 Laura Escobar-Vega, Cornell University

Bott-Samelson Varieties, Subword Complexes and Associahedra

11:00-11:20 Fu Liu, University of California, Davis

Perturbation of Transportation Polytopes

11:30-11:50 Margaret Bayer, University of Kansas

Counting Faces and Flags in Polytopes

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 I

Saturday March 16, Room 206 O'Connor Hall

10:00-10:20 Mihaela Ignatova, Stanford University

Harnack-type Inequality and One-sided Liouville's Theorem for Second Order Elliptic Equations with Divergence Free Drift

10:30-10:50 Elaine Cozzi, Oregon State University

The Inviscid Limit for Two-dimensional Incompressible Flow

11:00-11:20 Aseel Farhat, Indiana University

The Global Well-posedness of a 3D Pseudo-Hasegawa-Mima Model

11:30-11:50 Evelyn M. Lunasin, University of Michigan

Optimal Mixing for Fixed Energy, Fixed Power and Fixed Palenstrophy Flows

Special Session: Commutative Algebra

Organizers: Louiza Fouli and Claudia Polini

Commutative Algebra I

Sunday, March 17, Room 105 O'Connor Hall

10:00-10:20 Claudia Miller, Syracuse University
Duality Phenomena for Koszul Homology

10:30-10:50 Jooyoun Hong, Southern Connecticut State University
Hilbert Coefficients of Parameter Ideals

11:00-11:20 Kuei-Nuan Lin, University of California, Riverside
Normality of Square-free Monomial Ideals

11:30-11:50 Rosa Miró-Roig, Universitat de Barcelona
Laplace Equations and the Weak Lefschetz Property

Special Session: Groups and Geometry

Organizers: Alexandra Pettet and Jing Tao

Groups and Geometry I

Saturday, March 16, Room 106 O'Connor Hall

10:00-10:20 Jennifer Schultens, University of California, Davis
The Kakimizu Complex of a Knot

10:30-10:50 Tam Nguyen Phan, Ohio State University
Ends of Finite Volume, Negatively Curved Manifolds

11:00-11:20 Genevieve Walsh, Tufts University
Right-angled Coxeter Groups, Polyhedral Complexes, and Acute Triangulations

11:30-11:50 Pallavi Dani, Louisiana State University
Divergence in Right-angled Coxeter Groups

Special Session: Harmonic Analysis and its Applications

Organizer: Malabika Pramanik

Harmonic Analysis and its Applications I

Saturday, March 16, Room 204 O'Connor Hall

10:00-10:40 Loredana Lanzani, University of Arkansas and NSF
Harmonic Analysis in Several Complex Variables

10:45-11:05 Lesley Ward, University of South Australia
Intersection of Translates of Dyadic Function Classes

11:10-11:30 Taryn Flock, University of California, Berkeley
Uniqueness of Extremizers in an Endpoint Inequality of the k-Plane Transform

11:35-11:55 Betsy Stovall, University of Wisconsin-Madison
Uniform L_p Improving for Weighted Averages on Curves

Special Session: Low-dimensional Topology

Organizers: Shelly Harvey and Ina Petkova

Low-dimensional Topology Informal Discussion

Room 109 O'Connor Hall, Saturday, March 16, 10:00-12:00

Special Session: Mathematics for Human Physiology and Disease

Organizers: Victoria Booth and Trachette Jackson

Mathematics for Human Physiology and Disease I

Saturday, March 16, Room 207 O'Connor Hall

10:00-10:20 Chuan Xue, Ohio State University
Multiscale Models of the Axonal Cytoskeleton

10:30-10:50 Julia Arciero, Indiana University-Purdue University Indianapolis
Theoretical Model of Blood Flow Autoregulation in the Retina

11:00-11:20 Jasmine Foo, University of Minnesota
Modeling Tumor Heterogeneity and Drug Resistance

11:30-11:50 Marisa Eisenberg, University of Michigan
Exploring Cholera Dynamics and Transmission Pathways Using Identifiability and
Parameter Estimation

Special Session: Model Theory Session in Honor of Carol Wood

Organizers: Alice Medvedev and Lynn Scow

Model Theory Session in Honor of Carol Wood I

Saturday, March 16, Room 107 O'Connor Hall

10:00-10:35 Deirdre Haskell, McMaster University

Some New Results in the Model Theory of Separably Closed Valued Fields

10:45-11:20 Zoe Chatzidakis, Université Paris 7

Stability Theoretic Properties of Omega-free PAC Fields

11:30-11:50 Jennifer Park, MIT

A Universal First-order Formula for the Ring of Integers Inside a Number Field

Special Session: Numerical Methods for PDEs

Organizers: Yingda Cheng and Fengyan Li

Numerical Methods for PDEs Informal Discussion

Room 208 O'Connor Hall, Saturday March 16, 10:00-12:00

Special Session: Random Matrix Theory and Applications

Organizer: Ioana Dumitriu

Random Matrix Theory and Applications I

Saturday, March 16, Room 205 O'Connor Hall

10:00-10:45 Estelle Basor, AIM

From Operator Theory to Random Matrix Theory and Back Again

11:00-11:20 Irina Nenciu, University of Illinois-Chicago

On Confinement and Stochastic Particles

11:30-11:50 Diane Holcomb, University of Wisconsin-Madison

Large Deviations for Point Process Limits of Random Matrices