

## Thursday

- 8:45am – 8:50am: Opening Remarks
- 8:50am – 9:10am: A Bivariate Spline Analysis of the TEM mode of a Parallel Plate Waveguide  
*Clay Mersmann*
- 9:15am – 9:35am: Duality in Optimization  
*Yidong Xu*
- 9:40am – 10:00am: The Affine Low-Rank Matrix Completion Algorithm  
*Eric Perkerson*
- 10:05am – 10:25am: Debiasing Word Embeddings  
*Andrew Maurer*

### *Coffee Break*

- 10:50am – 11:10am: Thinking Inside the (Distinct or Identical) Boxes: A Friendly Introduction to Object Distributions and Stirling Numbers of the Second Kind  
*Catrina May*
- 11:15am – 11:35am: Introduction to Grassmannians  
*Joseph Dorta*
- 11:40am – 12:00pm: A Mathematical Introduction to Quantum Mechanics  
*Kenneth Allen*
- 12:05pm – 12:25pm: Tannakian Reconstruction of Finite Groups  
*Jack Wagner*

### *Lunch Break*

- 1:40pm – 2:00pm: About finite groups acting freely on  $S^{2k-1}$   
*Swapnil Banerjee*
- 2:05pm – 2:25pm: Ribbon genus, Virtual graphs, and Wirtinger deficiency  
*Jason Joseph*
- 2:30pm – 2:50pm: Four-manifold invariants from broken Lefschetz fibrations and trisections  
*William Olsen*
- 2:55pm – 3:15pm: Differential Graded Algebras of Legendrian Knots  
*Sarah Blackwell*

### *Coffee Break*

- 3:40pm – 4:00pm: What makes a metric super?  
*Terrin Warren*
- 4:05pm – 4:25pm: Totally geodesic subspaces of the space of polygons in  $\mathbb{R}^3$   
*Erik Schreyer*
- 4:30pm – 4:50pm: An Axiomatic Approach to Homology Theory In Algebraic Topology  
*Freddy Saia*
- 4:55pm – 5:15pm: Computing the Fundamental Group of the Circle Using Van Kampen's Theorem  
*Ernest Guico*

## Friday

- 8:30am – 8:50am: Hasse Principle Violations of Quadratic Twists of Hyperelliptic Curves  
*Lori Watson*
- 8:55am – 9:15am: Iwasawa Theory of Elliptic Curves  
*Makoto Suwama*
- 9:20am – 9:40am: Collatz Conjecture  
*Komal Agrawal*
- 9:45am – 10:05am: First Digits of  $2^n$   
*Peter Woolfitt*

### *Coffee Break*

- 10:30am – 10:50am: Small prime power residues  
*Kubra Benli*
- 10:55am – 11:15am: Existence of positive solution for fractional  $p$  laplacian equation  
*Jinsil Lee*
- 11:20am – 11:40am: Irreducible quadratic polynomials and Euler's function  
*Noah Lebowitz-Lockard*
- 11:45am – 12:05pm: Galois theory and Covering Spaces  
*Amelia Ernst*
- 12:10pm – 12:30pm: Geometry and Galois Theory  
*Nolan Schock*

### *Lunch Break*

- 1:45pm – 2:05pm: Synchrony and bistability in a Boolean network model of the L-arabinose operon  
*Andy Jenkins*
- 2:10pm – 2:30pm: Subsequence Pattern Packing in Permutations and Compositions  
*Matt Just*
- 2:35pm – 2:55pm: Good subsets of the unit circle  
*Ziqing Xiang*
- 3:00pm – 3:20pm: Fractional Coloring  
*Kirsten Morris*

### *Coffee Break*

- 3:45pm – 4:05pm: Ultrafilters and Arrow's Impossibility Theorem  
*David Galban*
- 4:10pm – 4:30pm: Sudoku Symmetry Group  
*Alex Newman*
- 4:35pm – 4:55pm: Hodge Theory, Period Maps and Period Domains  
*Benjamin Tighe*
- 5:00pm – 5:20pm: An Overview of Compactifying Moduli Spaces  
*Xian Wu*