BGSU Department of Mathematics and Statistics

BOWLING GREEN STATE UNIVERSITY

Weekly Calendar – Spring Semester 2025
Week 9, March 10 - 14

Monday, March 10	**Undergraduate Committee** 3:30pm – 4:20pm, McLeod Hall 400
Tuesday, March 11	**Graduate Student Seminar** 11:00am – 11:45am, McLeod 459 Speaker: Ayako Carter Title: The Matrix Tree Theorem and Generalization of Cayley's Formula **Math 1150 Meeting** 12:40pm – 1:20pm, McLeod Hall 459 **Faculty Meeting with Search Committee** 3:30pm – 5:00pm, McLeod Hall 459
Wednesday, March 12	**Geometry and Topology Seminar** 12:00pm – 1:00pm, via Zoom link TBA Speaker: Eduardo Martinez-Pedroza, Memorial University of Newfoundland, Canada Title: The Coset Intersection Complex **Analysis Reading Seminar** 2:30pm – 3:30pm, McLeod Hall 459 Speaker: Salma Hasannejad Title: Universal Functions for the Composition Operator, Part 4 **Advisory Committee** 3:30pm – 4:30pm, McLeod Hall 400

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Thursday, March 13	**TTF Candidate Teaching Presentation** 9:00am – 9:30am, McLeod Hall 459 Topic: Candidate's choice from statistics or data science concepts **TTF Candidate Open Meeting with Faculty/Graduate Students** 9:45am – 10:45am, McLeod Hall 459 **TTF Candidate Open Meeting with Faculty/Graduate Students** 2:15pm – 2:45pm, McLeod Hall 459 **TTF Candidate Research Presentation** 3:00pm – 4:00pm, McLeod Hall 459 Topic: A Novel Class of Unfolding Models for Binary Preference Data
Friday, March 14	**Peer Mentor Seminar** 3:30pm – 5:00pm, McLeod Hall 240 **Colloquium** 3:45pm – 5:00pm, McLeod Hall 459 Speaker: Tonghui Wang, New Mexico State University Title: Family of Skew Normal distributions: Properties, Applications, and Recent Research Developments

ABSTRACTS

Geometry and Topology Seminar

Title: The Coset Intersection Complex

Abstract: For a pair (G,P) consisting of a group and finite collection of subgroups, the talk will discuss a simplicial G-complex K(G,P) called the coset intersection complex. The complex has a number of properties including that its quasi-isometry type and homotopy type are quasi-isometric invariants of the group pair (G,P). Classical properties of P in G correspond to topological or geometric properties of K(G,P), such as having finite height, having finite width, or being almost malnormal. The coset intersection complex is closely related to several well-known complexes as the Extension graph for RAAGs. This is recent work with Carolyn Abbott.

TTF Candidate Research Presentation

Title: A Novel Class of Unfolding Models for Binary Preference Data

Abstract: We develop a new class of spatial voting models for binary preference data that can accommodate both monotonic and non-monotonic response functions, and are more flexible than alternative “unfolding” models previously introduced in the literature. We then use these models to estimate revealed preferences for legislators in the U.S. House of Representatives and justices on the U.S. Supreme Court. The results from these applications indicate that the new models provide superior complexity-adjusted performance to various alternatives and that the additional flexibility leads to preferences’ estimates that more closely match the perceived ideological positions of legislators and justices.

Colloquium

Title: Family of Skew Normal distributions: Properties, Applications, and Recent Research Developments

Abstract: In this talk, the family of skew normal distributions is introduced, which is an extension of normal family. Properties, such as moment generating function, linear functions, skew chi-square, and skew F distribution are discussed. Real data applications of this family of distributions are studied. Current research topics are provided including (i) The a Priori Procedure (APP) for finding minimum sample sizes in parameter estimations; (ii) Gain Probability Analysis, and (iii) Stochastic frontier model analysis, etc.