

Joshua Miller

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EDUCATION

Kansas State University

Doctorate of Philosophy in Mathematics;

Manhattan, KS

Expected May 2021

Kansas State University

Masters of Science in Mathematics

Manhattan, KS

Aug 2016 - Dec 2019

Sam Houston State University

Masters of Science in Mathematics

Huntsville, TX

Aug 2014 - May 2016

Sam Houston State University

Bachelors of Science in Mathematics (Minor in Music)

Huntsville, TX

Aug 2012 - May 2014

COURSES TAUGHT

Kansas State University

Graduate Teaching Assistant (Instructor)

Manhattan, KS

Aug 2016 - Present

- **MATH 100:** College Algebra: **SU17 (Sec A)**, SP18 (Sec 59,64,67), FA20 (Sec 68,72,79)
- **MATH 100:** Studio College Algebra: F17 (Sec 05,09)
- **MATH 150:** Plane Trigonometry: SP17 (Sec A,E), **F19 (Sec ZA)**, SP20 (Sec F), **SU20 (Sec A)**, SP21 (Sec C,F)
- **MATH 205:** General Calculus I: **SU18 (Sec C)**, **SU19 (Sec ZA)**, **F19 (Sec ZA)**, **SP20 (Sec N)**
- **MATH 220:** Calculus I: F16 (Sec V)

Sam Houston State University

Graduate Teaching Assistant

Huntsville, TX

Aug 2014 - May 2016

- **MATH 170:** Instructor for Pre-Calculus Algebra: SP16 (Sec 13)
- **MATH 199:** Instructor for Mathematics for Managerial Decision Making: SP16 (Sec 03), FA15 (Sec 03)

RESEARCH INTERESTS

- **Algebraic Combinatorics:** Sandpile Groups, Hyperplane Arrangements, Whitney Numbers in Relation to Posets, and Tutte Polynomials of Hyperplane Arrangements
- **Graph Theory:** Problems relating to colorings, chromatic numbers, and the Erdős-Faber-Lovász conjecture

PUBLICATIONS

1. M. Mazin, **J. Miller**, Pak-Stanley Labeling for Central Graphical Arrangements, arXiv:1811.11924
2. **J. Miller**, On the Abelian Sandpile Model for Thick Cycle Graphs, in preparation.
3. M. Bayer, B. Groeckner, J. Carlson, **J. Miller**, K. Murphy, C. Pinckney, S. Song, J. Vega, On Whitney Duals for Graded Posets, in preparation.
4. K. Long, J. Martin, **J. Miller**, On Tutte Polynomials of Hyperplane Arrangements, in preparation.

SELECTED TALKS AND PRESENTATIONS

- **Great Plains Combinatorics Conference 2018:** Pak-Stanley Labeling for Central Graphical Arrangements
 - Poster presented April 2018 at Kansas State University
- **K-State Combinatorics Seminar:** On the Abelian Sandpile Model for Thick Cycle Graphs
 - Seminar talk given April 2017 at Kansas State University
- **Sam Houston Graduate Research Colloquia:** On the Abelian Sandpile Model for Thick Cycle Graphs
 - Colloquia talk given April 2016 in Sam Houston State University
- **Graduate Research Symposium:** On Ventricular Septal Defects Pre/Post Birth
 - Presentation given at the annual symposium in April 2014 at Sam Houston State University

PROFESSIONAL DEVELOPMENT

- **Graduate Research Workshop in Combinatorics 2019:**
 - Worked on Whitney duals of posets and tutte polynomials of hyperplane arrangements. University of Kansas, Lawrence, KS.
- **Graduate Student in Combinatorics Conference 2019:**
 - University of Pennsylvania, Philadelphia, PA.
- **Great Plains Combinatorics Conference 2018:** Local Organizer
 - Kansas State University, Manhattan, KS.
- **Graduate Student in Combinatorics Conference 2018:**
 - University of Texas- Dallas, Dallas, TX.
- **Graduate Student in Combinatorics Conference 2017:**
 - University of Kansas, Lawrence, KS.
- **Underrepresented Students in Topology and Algebra Research 2016:**
 - Sam Houston State University, Huntsville, TX.
- **Southwest Local Algebra Meeting 2016:**
 - Texas State University, San Marcos, TX.

AWARDS AND HONORS

- **Sam Houston State University:**
 - 2016 Outstanding Mathematics Graduate Student: only one graduate student is selected every year for outstanding achievement in teaching, research, and coursework.
 - 2016 Nominee for Outstanding Graduate Teaching Assistant: nominated by members of the Mathematics Department for a university-wide award.: For 4.0 GPA, university-wide recognition.
 - 2013 President's List
 - 2013 Von Neumann Scholarship (\$300): Selected by the SHSU Mathematics and Statistics faculty for mathematical merit.
 - 2012-2014 University Transfer Student GPA Scholarship (\$2000)
 - Dean's List: For 3.5 GPA or greater, university-wide recognition. (FA 2012, 2013 SP 2013)
- **Lone Star College System:**
 - President's List: For 3.3 GPA or higher, college-wide recognition (FA 2009, 2010, 2011, SP 2011, 2012)

PROFESSIONAL ORGANIZATIONS

- **Alpha Chi Honor Society:**
 - Membership based on being in the 10% at a Texas University
- **American Mathematical Society:**
 - Founding President for the Sam Houston State University chapter
 - Helped establish AMS as both a Sam Houston State University recognized and American Mathematical Society nationally recognized organization.
- **Phi Theta Kappa National Honor Society:**
 - International honor society of two-year colleges and academic programs
- **Pi Mu Epsilon Mathematical Honor Society:**
 - President January 2016-May 2016
 - Inducted as both Undergraduate and Graduate Student

SERVICES TO DEPARTMENT AND UNIVERSITY

- **Staff Writer:**
 - Contributed to the Viewpoints section of Sam Houston State University's newspaper, The Houstonian, Jan. 2016 - May 2016.
- **University Graduate Tutor:**
 - Employed by Sam Houston State University to be a tutor for all undergraduate course from MATH 031D to MATH 377, Aug. 2014 - Jan. 2015.