Angela Hanson

angela.hanson@uky.edu
(941)726-8054

3751 Appian Way, Apt 254
Lexington, KY 40517

EDUCATION

University of Kentucky, Lexington, KY
Ph.D., Mathematics, "Surjectivity of the Wahl map," Expected May 2023
Master of Arts, Mathematics, December 2019

Rose-Hulman Institute of Technology, Terre Haute, IN
Bachelor of Science, Mathematics, May 2017

RESEARCH INTERESTS

Algebraic geometry, tropical geometry, combinatorial applications to algebra

PUBLICATIONS

- "Implementing student-centered assessment: motivations, experiences, supports, and challenges" with Justin Barhite, Ben Braun, Courtney George, Hunter Lehmann, Camille Schuetz, and Chloe Wawrzyniak (In-progress)
- "Sliding Block Puzzles with a Twist: On Segermans 15+4 Puzzle" with Patrick Garcia, David Jensen, and Noah Owen (Submitted)
  `https://doi.org/10.48550/arXiv.2210.16930`
- Internal Department of Defense Paper, Ft. Meade, Maryland, Aug. 2015

HONORS

UK College of Arts & Sciences Outstanding TA Award	2021-22
Department of Mathematics Diversity, Equity, and Inclusion Award	2021-22
Emeritus Faculty Endowed Doctoral Fellow	2021-22
Ed Enochs Graduate Scholarship in Algebra	2020-21
Graduate Scholars in Mathematics Fellow	2018-20
Nominee for the Barry Goldwater Scholarship	2015-16
IP/ROP Best Student Project Travel Award	2014-15
CURM and MAA Research Funding	2014-15

SERVICE AND OUTREACH

UK Math Lab, *Project Mentor*	2021-22
Ethics, Equity, Inclusion and Justice in the Mathematical Sciences, *Member*	2021-22
Graduate Student Council, *Officer for Mathematics*	2019-22
UK Appalachian Initiative in Mathematics, *Volunteer*	2019
Rose-Hulman Math Competition, *Grader and Proctor*	2014, 2017
MATHCOUNTS, *Proctor*	2013, 2017
Putnam Exam, *Participant*	2013, 2015
Actuarial Club, *Member*	2013-14
Rose-Hulman Freshmen Math Competition, *Participant*	2013

CONFERENCES AND SUMMER SCHOOLS

Joint Mathematics Meetings	Jan. 2023
MSRI Summer School on Tropical Geometry	Aug. 2022
EMS International School on Tropical Geometry	May 2022
Georgia Algebraic Geometry Symposium	Apr. 2022
American Mathematical Society Spring Eastern Sectional Meeting	Mar. 2022
EWM/EMS Mittag Leffler Summer School on Tropical Moduli Spaces	Jun. 2021
Moduli on Chesnut Hill	Mar. 2020
Rose-Hulman Institute of Technology Undergraduate Math Conference	Apr. 2017
Rose-Hulman Institute of Technology Undergraduate Math Conference	Apr. 2015
Center for Undergraduate Research in Math Student Research Conference	Mar. 2015
Joint Mathematics Meetings	Jan. 2015

PRESENTATIONS

- "Application of Graph Theory to the Wahl Map," Joint Mathematics Meetings
  Boston, Massachusetts, Jan. 2023
- "Surjectivity of the Wahl Map," MSRI Summer School on Tropical Geometry - Mini-Talks
  Moraga, California, Aug. 2022
- "Surjectivity of the Wahl Map," EMS International School on Tropical Geometry - Mini-Talks
  Valladolid, Spain, Jun. 2022

- "Application of Graph Theory to the Wahl Map," AMS Spring Sectional Meeting, Invited Speaker
  Boston, Massachusetts, Mar. 2022

- "Chip Firing Game on Graphs," UK Graduate Student Colloquium
  Lexington, Kentucky, Feb. 2022

- "Geometric Approach to Surjectivity of the Wahl Map," UK Algebra Seminar
  Lexington, Kentucky, Sep. 2021

- "Surjectivity of the Wahl Map," EWM/EMS Mittag Leffler Summer School on Tropical Moduli Spaces - Mini-Talks
  Djursholm, Sweden, Jun. 2022

- "Surjectivity of the Wahl Map," UK Qualifying Oral Exam
  Lexington, Kentucky, Mar. 2021

- "An Introduction to Affine Geometry," UK Graduate Student Colloquium
  Lexington, Kentucky, Feb. 2020

- "Tropicalization of the Max Noether Theorem," UK Masters Oral Exam
  Lexington, Kentucky, Oct. 2019

- "Preventing Decreasing Subsequences in Stack Sorting Outputs," RHIT Math Senior Thesis Poster Session
  Terre Haute, Indiana, May 2017

- "Preventing Decreasing Subsequences in Stack Sorting Outputs," RHIT Undergraduate Math Conference
  Terre Haute, Indiana, Apr. 2017

- "Modeling the Relationship between Employment Levels and Gross Domestic Product Growth," Center for Undergraduate Research in Math Student Research Conference
  Provo, Utah, Mar. 2015

- "Determining Optimal Level of Unemployment to Maximize Growth of Real GDP," Joint Mathematics Meetings
  San Antonio, Texas, Jan. 2015

| **COURSES TAUGHT** | **Primary Instructor Positions at University of Kentucky** |

As primary instructor, I was responsible for my own course design including lectures, activities and assignments, and grading scheme. Average class size was 30 students, except for First Year Graduate Seminar which had 11 students.

- Mathematical Problem Solving for Middle School Teachers   Spring 2023
- First Year Graduate Seminar for Mathematics   Fall 2022
- Matrix Algebra   Spring 2022
- Introduction to Contemporary Mathematics   Fall 2021

Recitation Leader Positions at University of Kentucky
As recitation leader, I was responsible for supplementary lessons and worksheet activities to partner with primary lectures. I also graded and provided general feedback for the students. Some recitations were as small as 8 students and others were as large as 35 students.

- Algebra & Trigonometry for Calculus   Fall 2022
- Calculus I, MathExcel   Fall 2020 and Spring 2021
- Calculus II with Life Science Applications   Spring 2020
- Calculus I with Life Science Applications   Fall 2019
- Calculus III   Spring 2019
- Calculus I   Fall 2018

Primary Instructor Positions at Eastern Illinois University
As primary instructor, I was responsible for writing lectures, assignments, and exams under the supervision of a faculty member. Average class size was 20 students.

- College Algebra   Fall 2017 and Spring 2018