

Curriculum Vitae

Aleksandra Sobieska

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Education

Texas A&M University August 2014 – present

Ph.D. Student

Advisor: Dr. Laura Matusevich

Kent State University August 2010 – May 2014

Bachelor of Science in Mathematics

Bachelor of Arts in German Language

Research Interests

My research interests include combinatorial commutative algebra and algebraic combinatorics.

Papers

1. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Laura Felicia Matusevich and **Aleksandra Sobieska**.
arXiv:1804.03647
To appear in *Communications in Algebra*.
2. *On transformations of A-hypergeometric functions*
Jens Forsgård, Laura Felicia Matusevich, and **Aleksandra Sobieska**.
arXiv:1703.03036.
To appear in *Funkcialaj Ekvacioj*.
3. *Splitting techniques and Betti numbers of secant powers*
Reza Akhtar, Brittany Burns, Haley Dohrmann, Hannah Hoganson, **Ola Sobieska**, and Zerotti Woods.
Involve, Vol. 9 (2016), pp. 737 - 750.

Presentations

Research

1. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Algebra & Combinatorics Seminar Texas A&M University April 20, 2018
2. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Graduate Student Organization Seminar Texas A&M University April 12, 2018
3. *Edge Ideals of Graphs and Minimal Free Resolutions*
PME Student Paper Session – Mathfest Hartford, CT August 2013

Posters

1. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Texas Women in Math Symposium University of Houston November 17-18, 2018
2. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
NSF/CBMS Regional Conference: Applications of Polynomial Systems Texas Christian University June 4-8, 2018
3. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Texas Algebraic Geometry Symposium Texas A&M University April 6-8, 2018

4. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Singularities, Toric Geometry and Differential Equations TU Chemnitz March 19-23, 2018
5. *Counterexamples for Cohen–Macaulayness of Lattice Ideals*
Southwest Local Algebra Symposium University of Arkansas February 24-25, 2018
6. *Finding Radioactive Potatoes: An Exploration in Error Detection*
Choose Ohio First Research Poster Session Cleveland, OH April 2014
7. *Edge Ideals of Graphs and Minimal Free Resolutions*
MAA Student Poster Session – JMM Baltimore, MD January 2014

Other

1. *What is a Complete Intersection?*
AMS Student Chapter Gathering in Graduate Expository Mathematics (AMS G.I.G. E.M.)
Texas A&M University March 4, 2018

Teaching and Mentoring

1. *Math Concepts – Calculus (MATH 131)* – Instructor of Record
Texas A&M University Fall 2017
Responsibilities include: preparing and giving lecture, writing and grading 3 midterm exams and a final, writing weekly quizzes, and holding weekly office hours.
2. *Linear Algebra & Differential Equations* – Help Session
Texas A&M University Fall 2018
Provides drop-in tutoring for students in junior-level linear algebra and differential equations courses.
3. *AWM Peer Mentor*
Texas A&M University Fall 2017 – present
Worked as a peer-mentor with incoming mathematics graduate students to help transition new students to new environment and responsibilities.
4. *Engineering Calculus II* – Teaching Assistant
Texas A&M University Spring 2018, Spring 2016
Responsibilities include: leading weekly recitation, leading weekly MATLAB labs, writing and grading weekly quizzes.
5. *Assistant REU Instructor*
Texas A&M University Summer 2017, Summer 2016
Assisted both the Algebraic Methods in Computational Biology (lead by Dr. Shiu) and Topological Quantum Computation (lead by Dr. Plavnik) groups, helped students prepare for presentations and edit final reports, prepared and/or assisted at panels and workshops for students.
6. *Engineering Calculus I* – Teaching Assistant
Texas A&M University Fall 2017, Fall 2016
Responsibilities include: leading weekly recitation, leading weekly MATLAB labs, writing and grading weekly quizzes.
7. *Academic Success Center Tutor*
Kent State University Fall 2011 – Spring 2014
Worked as both a one-on-one and small group tutor for algebra and calculus students.

Service

President – Association for Women in Mathematics A&M Graduate Student Chapter
Texas A&M University Fall 2017 – present
Activities include: monthly Women in Math Mentoring Lunches and organizing AWM Peer-Mentoring Program, including pairing mentors with mentees and organizing panels and informal discussions.

Social Coordinator – American Mathematical Society Texas A&M Graduate Student Chapter
Texas A&M University Fall 2017 – present

Co-Organizer – Women in Math Mentoring Lunches

Texas A&M University Fall 2015 – Spring 2017

Help to organize monthly lunches for women in mathematics. The lunches focus on topics and issues of interest to graduate students, each with a specific theme.

President – American Mathematical Society Texas A&M Graduate Student Chapter

Texas A&M University Fall 2016 – Spring 2017

Co-organizer – Student Working Group in Algebra & Geometry

Texas A&M University Fall 2016

Secretary – American Mathematical Society Texas A&M Graduate Student Chapter

Texas A&M University Fall 2015 – Spring 2016

Vice President – Pi Mu Epsilon Ohio Epsilon Chapter

Kent State University Fall 2013 – Spring 2014

Secretary – Pi Mu Epsilon Ohio Epsilon Chapter

Kent State University Fall 2012 – Spring 2013

Outreach

Volunteer – Texas A&M University Math Circle

Texas A&M University Fall 2014 – present

Assisted students with the activities, developed and presented activities for the students

Volunteer Coordinator – Texas A&M University Math Circle

Texas A&M University Fall 2016 – Spring 2018

Coordinate volunteers and graduate student involvement in Math Circle.

Volunteer – STEMfest

Texas A&M University February 2018, February 2017

Helped run math booth at STEMfest, STEM fair organized for Girl Scouts of Central Texas.

Volunteer – Texas A&M Physics and Engineering Festival

Texas A&M University April 2017

Helped run math booth at festival, played mathematical games with participants.

Volunteer – Texas A&M Math & Stat Fair

Texas A&M University March 2017

Helped run math art booth focusing on symmetries in snowflakes craft activity.

Volunteer – Texas A&M University Pi Day of the Century

Texas A&M University March 2015

Awards and Honors

L.F. Guseman Award

Texas A&M University Department of Mathematics Fall 2018

Given each year to a graduate student in math with high scholastic achievement and who has demonstrated outstanding achievement in teaching, research or service.

TAMU Graduate Merit Fellowship

Texas A&M University Fall 2014 – Spring 2020

Outstanding Teaching Assistant Award

Texas A&M University Department of Mathematics Spring 2017

Carl M. Pearcy, Jr. '55/Heep Endowed Graduate Fellowship in Mathematics

Texas A&M University Department of Mathematics Fall 2014 – Spring 2015

Choose Ohio First Outstanding Poster Award

Choose Ohio First Research Poster Session April 2014

College of Arts & Sciences Distinguished Senior Leader Award
Kent State University April 2014

Harshbarger Scholarship in Mathematics
Kent State University Fall 2013 – Spring 2014

Choose Ohio First Scholarship – Mathematics
Kent State University Fall 2010 – Spring 2014

Conferences & Workshops Attended

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| <i>NSF/CBMS Regional Conference: Applications of Polynomial Systems</i> | Texas Christian University | June 4-8, 2018 |
| <i>Texas Algebraic Geometry Symposium</i> | Texas A&M University | April 6-8, 2018 |
| <i>Singularities, Toric Geometry and Differential Equations</i> | TU Chemnitz | March 19-23, 2018 |
| <i>Southwest Local Algebra Meeting</i> | University of Arkansas | February 24-25, 2018 |
| <i>Combinatexas</i> | Texas A&M University | February 10-11, 2018 |
| <i>Joint Mathematics Meeting</i> | San Diego CA | January 2018 |
| <i>Texas Women in Math Symposium</i> | Sam Houston State University | December 2, 2017 |
| <i>AMS Fall Central Sectional Meeting</i> | University of North Texas | September 9-10, 2017 |
| <i>Texas Algebraic Geometry Symposium</i> | Rice University | April 21 - 23, 2017 |
| <i>MSRI Summer Graduate School on Chip Firing and Tropical Curves</i> | MSRI | July 25 - August 5, 2016 |
| <i>Combinatexas</i> | Texas A&M University | May 7-8, 2016 |
| <i>Texas Algebraic Geometry Symposium</i> | UT Austin | April 1-3, 2016 |
| <i>Southwest Local Algebra Meeting</i> | Texas State University | February 27-28, 2016 |
| <i>CIMPA-ICTP Research School: Toric methods in geometry, arithmetics, and dynamics</i> | Pontificia Universidad Catlica de Chile | January 11-22, 2016 |
| <i>Mini TAGS (Texas Algebraic Geometry Symposium)</i> | Texas A&M University | September 26 & October 24, 2015 |
| <i>Texas Geometry & Topology Conference</i> | University of Houston | February 27 – March 1 2015 |
| <i>Joint Mathematics Meeting</i> | Baltimore MD | January 2014 |
| <i>Mathfest</i> | Hartford CT | August 2013 |
| <i>Choose Ohio First Research Poster Sessions</i> | Northeast Ohio | April 2011, April 2012, April 2013, April 2014 |

Miscellaneous

Languages

English, Polish – Native
German – Good written comprehension

Software

OS: Linux, Windows.
Mathematical: \LaTeX , Macaulay2, MATLAB.
Educational: SMART Notebook, ecampus.