

Seattle University
Department of Mathematics
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Steven Klee

Employment History

- 2018– **Associate Professor**, *Seattle University*, Seattle, WA.
- 2012–18 **Assistant Professor**, *Seattle University*, Seattle, WA.
- 2013– **Affiliate Assistant Professor**, *University of Washington*, Seattle, WA.
- 2010–12 **VIGRE Postdoctoral Fellow**, *University of California, Davis*, Davis, CA.
Mentor: Jesús De Loera

Education

- 2010 **Ph.D. Mathematics**, *University of Washington*, Seattle, WA.
Thesis: *Lower bound theorems for simplicial and cubical complexes*
Advisor: Isabella Novik
- 2009 **M.S. Mathematics**, *University of Washington*, Seattle, WA.
- 2005 **B.S. Mathematics**, *Valparaiso University*, Valparaiso, IN.
Minor: Computer Science
Graduated Summa Cum Laude
- 2004 **Budapest Semesters in Mathematics**, Budapest, Hungary.

Research Interests

Algebraic and geometric combinatorics. Combinatorics of simplicial and cubical decompositions of polytopes and manifolds. Connections between combinatorics, commutative algebra, and algebraic topology.

Grants

- 2016–19 **NSF RUI Award DMS-1600048**.
Principal Investigator
Project Title: *Structural and enumerative problems on simplicial complexes*
Award amount: \$163,321 over 3 years
- 2015–18 **NSF REU Award DMS-1460537**.
Co-Principal Investigator (with Allison Henrich)
Project title: *REU Site: Seattle University Early Mathematics Research (SUMMER)*
Award amount: \$279,997 over 3 years

Honors and Awards

- 2017 **Henry L. Alder Award**, *Mathematical Association of America*.
National award for distinguished teaching by a beginning college or university mathematics faculty member
- 2016–17 **Seattle University Academic Service-Learning Fellow**.
Incorporated service learning into Math 2080 (Math for K-8 Teachers) course during Winter 2017 by having students reflect on tutoring experiences in the community.
- 2016 **Seattle University College of Science & Engineering**.
Support for two summer research students for 10 weeks.
- 2015 **Seattle University College of Science & Engineering**.
Support for two summer research students for 10 weeks.
- 2014 **Seattle University College of Science & Engineering**.
Support for one summer research student for 10 weeks.
- 2012–13 **Project NExT Fellow**.
Professional development for early-career mathematics faculty.
- 2008 **NSF VIGRE Graduate Fellowship**.
University of Washington Department of Mathematics
- 2005 **Graduate Student Top Scholar Award**.
University of Washington Department of Mathematics
- 2005 **Phi Beta Kappa**.
Eta of Indiana Chapter

Publications

* indicates undergraduate co-author; ** indicates graduate student

Refereed Journal Publications

1. Steven Klee, Satoshi Murai, and Yusuke Suzuki, "Exceptional balanced triangulations on surfaces," *Graphs and Combinatorics*, to appear, 2018.
2. Jackson Evoniuk*, Steven Klee, and Van Magnan*, "Enumerating minimal length lattice paths," *Journal of Integer Sequences*, **18 (3)** (2018), Article 18.3.6, 12pp.
3. Steven Klee, Eran Nevo, Isabella Novik, and Hailun Zheng**, "A lower bound theorem for centrally symmetric simplicial polytopes," *Discrete & Computational Geometry*, **51 (3)** (2019), 541–561.
4. Philip de Castro*, Desiree Domini*, Tom Edgar, Devon Johnson*, Steven Klee, and Ranjani Sundaresan*, "Digital representations of rows of Pascal's triangles with no entries divisible by a fixed prime power," *Pi Mu Epsilon Journal*, **14 (7)** (2017), 431 – 442.
5. Philip de Castro*, Desiree Domini*, Tom Edgar, Devon Johnson*, Steven Klee, and Ranjani Sundaresan*, "Counting binomial coefficients divisible by a prime power," *American Mathematical Monthly*, **125 (6)** (2018), 531–541.
6. Andre Bland*, Zoe Cramer*, Philip de Castro*, Desiree Domini*, Tom Edgar, Devon Johnson*, Steven Klee, Joseph Koblitz*, and Ranjani Sundaresan*, "Happiness is integral, but not rational," *Math Horizons*, **25 (1)**, (2017), 8–11.
7. Steven Klee, "Footballs and donuts in four dimensions," *Snapshots of modern mathematics from Oberwolfach*, no. 12/2016, 8pp.
8. Ivan Izmistiev, Steven Klee, and Isabella Novik, "Simplicial moves on balanced complexes," *Advances in Mathematics*, **320** (2017), 82–114.
9. Steven Klee, Maiya Loucks*, Samantha Meek*, Levi Overcast*, A.J. Stewart, and Erik R. Tou,

- "Bertrand's postulate over the Gaussian integers," *Pi Mu Epsilon Journal*, to appear.
10. Steven Klee, Hunter Lehmann*, and Andrew Park*, "Prime labeling of families of trees with the Gaussian integers," *AKCE Int. J. Graphs Comb.*, **13 (2)** (2016), 165–176.
 11. Steven Klee and Matthew Stamps, "Graded Betti numbers of cycle graphs and standard Young tableaux," *Journal of Combinatorics*, **9 (1)** (2018), 1–7.
 12. Steven Klee and José Alejandro Samper**, "Lexicographic shellability, matroids and order ideals," *Advances in Applied Mathematics*, **67** (2015), 1–19.
 13. Steven Klee and Isabella Novik, "Lower Bound Theorems and a generalized Lower Bound Conjecture for balanced simplicial complexes," *Mathematika*, **62 (2)**, (2016), 441-477.
 14. Jonathan Browder and Steven Klee, "A classification of the face numbers of Buchsbaum simplicial posets," *Mathematische Zeitschrift*, **277** (2014), no. 3-4, 937–952.
 15. Nima Imani*, Lee Johnson*, Mckenzie Keeling-Garcia*, Steven Klee, and Casey Pinckney*, "The h -vectors of PS ear-decomposable graphs," *Involve*, **7-6** (2014), 743–750.
 16. Steven Klee and Matthew Stamps, "Face numbers of Engström representations of matroids," submitted, *Discrete Mathematics*, to appear.
 17. Allan Edmonds and Steven Klee, "The combinatorics of hyperbolized manifolds," *Mathematica Scandinavica*, **117** (2015), no. 1, 31-63.
 18. Steven Klee and Isabella Novik, "From flag complexes to banner complexes," *SIAM Journal on Discrete Mathematics*, **27** (2013), no. 2, 1146–1158.
 19. Nicolai Hähnle, Steven Klee, and Vincent Pilaud, "Obstructions to weak decomposability for simplicial polytopes," *Proceedings of the American Mathematical Society*, **142** (2014), 3249-3257.
 20. Arvind Ayyer, Steven Klee, and Anne Schilling, "Combinatorial Markov chains on linear extensions," *Journal of Algebraic Combinatorics*, **39** (2014), no. 4, 853-881.
 21. Jesús De Loera and Steven Klee, "Transportation problems and simplicial polytopes that are not weakly vertex-decomposable," *Mathematics of Operations Research*, **37** (2012), no. 4, 670-674.
 22. Sara Cohen*, Steven Klee, and Katherine Pannell*, "Bistellar equivalences of two families of simplicial complexes," *Journal of Combinatorial Mathematics and Combinatorial Computing*, **89** (2014), 65-89.
 23. Jesús De Loera, Yvonne Kemper, and Steven Klee, " h -vectors of small matroid complexes," *Electronic Journal of Combinatorics*, **19** (2012), no. 1, 11pp.
 24. Lauren Guerra* and Steven Klee, "Betti numbers of order preserving graph homomorphisms," *Involve*, **5-1** (2012), 67–80.
 25. Steven Klee and Isabella Novik, "Centrally symmetric manifolds with few vertices," *Advances in Mathematics*, **229** (2012) 487-500.
 26. Benjamin Braun, Jonathan Browder, and Steven Klee, "Cellular resolutions of ideals defined by simplicial homomorphisms," *Israel Journal of Mathematics*, **196** (2013), no. 1, 321-344.
 27. Jonathan Browder and Steven Klee, "Lower bounds for Buchsbaum* complexes," *European Journal of Combinatorics*, **32** (2011), 146-153.
 28. Steven Klee, "Lower bounds for cubical pseudomanifolds," *Discrete & Computational Geometry*, **46** (2011), no. 2, 212-222.
 29. Michael Goff, Steven Klee, and Isabella Novik, "Balanced complexes and complexes without large missing faces," *Arkiv fur Matematik*, **49**, (2011), no. 2, 335-350.
 30. Steven Klee, "The fundamental group of balanced simplicial complexes and posets," *Electronic Journal of Combinatorics*, **16** (2009), no. 2, Special volume in honor of Anders Björner, Research Paper 7, 12pp.
 31. Steven Klee and Leah Yates, "Tight subdesigns of the Higman-Sims design," *Rose-Hulman*

- Undergraduate Mathematics Journal*, **5** (2004), no. 2, 15pp. (written as an undergraduate)
32. Rick Gillman, Steven Klee, and Lara Pudwell, "On the edge set of graphs of lattice paths," *International Journal of Mathematics and Mathematical Sciences*, **61** (2004), 3291-3299. (written as an undergraduate)

Refereed Student Publications

33. Hunter Lehmann* and Andrew Park*, "Prime labeling of small trees with Gaussian Integers," *Rose-Hulman Undergraduate Mathematics Journal*, **17**, no. 1, (2016), 27pp.

Papers Under Review

34. Steven Klee and Matthew T. Stamps, "Linear algebraic techniques for spanning tree enumeration, submitted, 2019.
35. Steven Klee and Matthew T. Stamps, "Linear algebraic techniques for weighted spanning tree enumeration, submitted, 2019.
36. Steven Klee and Brian Nugent*, "Pure \mathcal{O} -sequences arising from 2-dimensional PS ear-decomposable simplicial complexes," submitted, 2018.

Book Chapters

37. Steven Klee and Isabella Novik, "Face enumeration on simplicial complexes," *Recent trends in combinatorics*, 653–686, IMA Vol. Math. Appl., 159, Springer, 2016.

Blog Posts

38. Steven Klee, "Thinking outside the textbook", AMS Blog *On Teaching and Learning Mathematics*, 16 July 2018.
39. Steven Klee, "What do hobbits know about mathematics?", AMS Blog *On Teaching and Learning Mathematics*, 5 March 2018.
40. Steven Klee, "The joy of mathematical discovery," AMS Blog *On Teaching and Learning Mathematics*, 22 January 2018.
41. Steven Klee, "Do we get to work on the board today?", AMS Blog *On Teaching and Learning Mathematics*, 18 September 2017.
42. Steven Klee, "If you don't talk to your students about math, who will?", AMS Blog *On Teaching and Learning Mathematics*, 12 December 2016.

Teaching Experience

2010– **Seattle University.**

Courses taught:

MATH 1322 (Trigonometry)	F14
MATH 1331 (Calculus Ia)	F17
MATH 1332 (Calculus Ib)	W18
MATH 1334 (Calculus I)	F12, F13, W15
MATH 1335 (Calculus II)	S13
MATH 2080 (Math for K-8 Teachers)	W13, W14, W17, W18
MATH 2320 (Linear Algebra)	W13, S13, S14, S15, S16, F16
MATH 3000 (Intro to Advanced Math)	W14, F14, S18
MATH 3910 (Graph Theory)	S14, W17
MATH 3910 (Research in Baseball Sabermetrics)	S16
UCOR 1200 (Quantitative Reasoning)	S17

2010–12 **UC Davis.**

Courses taught:

MATH 16B (Short Calculus II)	F10
MATH 21C (Calculus III)	S12
MATH 25 (Advanced Calculus)	F10
MATH 165 (Mathematics and Computers)	F11
MATH 280 (Geometric/Topological Combinatorics)	F11

2005–10 **University of Washington.**

Courses for which I was the instructor of record:

MATH 124 (Calculus I)	Summer 07
MATH 308 (Linear Algebra)	S10
MATH 324 (Calculus IV)	F08

Advising

Undergraduate Research Projects

2018 **Shifting and compression on rank-3 PS Ear Decomposable complexes.**

Senior synthesis research project advised during AY 2017-18

Student: Brian Nugent (SU '18)

2017 **Enumerating minimal-length lattice paths.**

Summer research project

Students: Jackson Evoniuk (SU '18) and Van Magnan (SU '18)

2017 **Measuring the effect of the designated hitter on run production.**

Senior synthesis research project WQ '17, SQ '17

Student: Nick Norton (Seattle U.)

2017 **Combinatorial matrices arising from topology.**

Research project for credit, WQ '17

Students: Andrew Lenart (Seattle U.) and Mark Taylor (Seattle U.)

2016 **Digital patterns and dominance in base-3/2.**

SUMmER REU project.

Students: Andre Bland (Edmonds Community College/U. Washington), Zoe Cramer (Central Connecticut State), Joseph Koblitz (Seattle U.)

2016 **Divisibility of entries of Pascal's Triangle by prime powers.**

SUMmER REU project.

Students: Philip de Castro (Whittier College), Desiree Domini (Pacific Lutheran), Devon Johnson (Pacific Lutheran), Ranjani Sundaresan (Seattle U.)

2016 **Baseball's psychological effects.**

Research project in *MATH 3910: Research in Baseball Sabermetrics* course during SQ16

Students: Joseph Nakao (Seattle U.), Isabelle Butterfield (Seattle U.)

2016 **Exploring shift effects.**

Research project in *MATH 3910: Research in Baseball Sabermetrics* course during SQ16

Students: Brian Liston-Clark (Seattle U.), Colin Murphy (Seattle U.)

2016 **Velocity decline and adaptation for pitchers.**

Research project in *MATH 3910: Research in Baseball Sabermetrics* course during SQ16

Student: Michael Schwartze (Seattle U.)

- 2016 **Using Markov chains to simulate batting lineups.**
 Research project in *MATH 3910: Research in Baseball Sabermetrics* course during SQ16
 Students: Fintan Garrett (Seattle U.), Randi Reed (Seattle U.), Jacob Wydick (Seattle U.)
- 2016 **Using Markov chains to predict win percentage.**
 Research project in *MATH 3910: Research in Baseball Sabermetrics* course during SQ16
 Students: Peter Brown (Seattle U.), Andrew Park (Seattle U.)
- 2015 **Bertrand's Postulate over the Gaussian integers.**
 SUMmER REU project.
 Students: Maiya Loucks (Seattle U.), Samantha Meek (St. Martin's U.), Levi Overcast (U. Washington)
- 2015 **Prime labelings of graphs with the Gaussian integers.**
 SUMmER REU project.
 Students: Hunter Lehmann (Seattle U.), Andrew Park (Seattle U.)
- 2014 **Upper bounds on the number of spanning trees in a bipartite graph.**
 Summer research project funded by Seattle University College of Science & Engineering
 Student: Fintan Garrett (Seattle U.)
- 2013–14 **h -vectors of two-dimensional PS-ear decomposable simplicial complexes.**
 Year-long research/senior capstone project for credit.
 Student: Casey Pinckney (Seattle U.)
- 2013 **h -vectors of PS-ear decomposable graphs.**
 Research project for credit during winter/spring quarters.
 Students: Nima Imani (U. Washington), Lee Johnson (Seattle U.), Mckenzie Keeling-Garcia (Seattle U.), Casey Pinckney (Seattle U.)
- 2011 **Bistellar equivalence of two families of simplicial complexes.**
 Summer REU project at UC Davis.
 Students: Sara Cohen (UC Davis), Katherine Pannell (UC Davis)
- 2011 **Betti numbers of order preserving graph homomorphisms.**
 Research project for credit during winter/spring quarters
 Student: Lauren Guerra (UC Davis)
- Senior Capstone Projects
- 2017-18 **Applications of the min cut/max flow theorem.**
 Student: Jacob Hagen (SU '18)
- 2016-17 **Explorations in probabilistic graph theory.**
 Student: Jordan Callero (SU '17)
- 2014-15 **Using electrical networks to model migratory patterns of raccoons in Seattle.**
 Student: Dylan Rich (Seattle U.)
 Joint project with Mark Jordan (biology)
- 2013-14 **Exploring Google's Pagerank algorithm.**
 Student: Jen Govola (Seattle U.)
- 2013-14 **Exploring the P. vs. NP problem.**
 Student: Hien Nguyen (Seattle U.)
- Graduate Students
- R. Amzi Jeffs, University of Washington.**
 Qualifying exam committee member (2018)

Connor Swastke, *University of Washington*.

Ph.D. thesis reading committee member (2018)

Qualifying exam committee member (2016)

Hailun Zheng, *University of Washington*, Ph.D., Mathematics, 2017.

Ph.D. thesis reading committee member (2017)

Qualifying exam committee member (2015)

José Alejandro Samper, *University of Washington*, Ph.D., Mathematics, 2016.

Co-advisor with Isabella Novik

Thesis: *On f -vectors of polytopes and matroids*

Yvonne Kemper, *UC Davis*, Ph.D., Mathematics, 2013.

Qualifying exam committee member

Professional Service

Nov. 2019 **AMS Fall Sectional Meeting**, *University of Florida, Gainesville*.

Organized AMS Special Session on *Geometric and Topological Combinatorics* (with Bruno Benedetti and Isabella Novik).

2019– **AMC 8 Editorial Board**, *Associate Editor*.

Mar. 2019 **AMS Spring Sectional Meeting**, *University of Hawaii, Manoa*.

Organized AMS Special Session on *Algebraic and Geometric Combinatorics* (with Andrew Berget).

Apr. 2018 **MAA PNW Sectional Meeting**, *Local Organizing Committee*.

One of five members of the local organizing committee.

2016– **AMS Blog *On Teaching and Learning Mathematics***, *Contributing Editor*.

Responsible for writing, editing, and soliciting blog posts.

2016–17 **Formal Power Series in Algebraic Combinatorics 2017**, *Program Committee*.

Review submitted papers to determine those that will be accepted as talks.

Jan. 2016 **Joint Mathematics Meetings**, *Seattle, WA*.

Organized AMS Special Session on *Algebraic and Topological Methods in Combinatorics* (with Andrew Berget and Isabella Novik).

Oct. 2015 **AMS Fall Sectional Meeting**, *Loyola University, Chicago*.

Organized AMS Special Session on *Enumerative Algebraic and Geometric Combinatorics* (with Kyle Petersen).

2014–15 **Seattle University Problem Solving Competition**.

Organized bi-weekly problem solving contest for students in the College of Science & Engineering.

2012–14 **Putnam Exam Seminar**, *Seattle University*.

Organized weekly training seminars during Fall Quarters for students who participated in the annual Putnam Examination.

Jan. 2013 **Joint Mathematics Meetings**, *San Diego, CA*.

Organized AMS Special Session on *Topological Combinatorics* (with Alexander Engström and Matthew Stamps).

2012– **Zentralblatt Math**, *Reviewer*.

2011–12 **Putnam Exam Seminar**, *UC Davis*.

Organized weekly training seminars during Fall Quarter for students who participated in the annual Putnam Examination (with Fu Liu).

2011–12 **VIGRE Research Focus Group**, *UC Davis*.
Organized year-long research focus group on research methods in combinatorics for undergraduate students, grad students, postdocs, and professors (with Jesús De Loera).

2011– **Math Reviews**, *Reviewer*.

Referee.

Journals for which I have served as a referee:

- Algebraic Combinatorics
- American Mathematical Monthly
- Annals of Combinatorics
- Archiv der Mathematik
- Australasian Journal of Combinatorics
- Compositio Mathematica
- Discrete & Computational Geometry
- Discrete Mathematics
- Electronic Journal of Combinatorics
- European Journal of Combinatorics
- International Mathematics Research Notices
- Journal of Algebraic Combinatorics
- Journal of Combinatorial Theory, Series A
- Minnesota Journal of Undergraduate Mathematics
- Proceedings of the American Mathematical Society
- Results in Mathematics
- Selecta Mathematica
- SIAM Journal on Discrete Mathematics
- Symposium on Computational Geometry

Grant reviewer.

Reviewed grant proposals for NSF and NSA.

Department/University Service

2018 **College of Science & Engineering Assessment Committee.**

Reviewed and provided feedback to departmental assessment reports that had been submitted to the university in (WQ '18; one of six committee members).

2018 **Office of Sponsored Projects.**

Served on SRO interview committee. (SQ '18)

Served on OSP faculty advisory board (SQ '18)

2017 **NWCCU reaccreditation self-study report.**

Provided feedback on draft sections of SU's 2018 Northwest Commission for Colleges and Universities reaccreditation report, related to two identified core themes of the University's strategic plan. (SQ '17)

2017– **Math Department Assessment Committee**, *Chair*.

2015–18 **Seattle University Oral Reviews Program**, *Director*.

Coordinate the Oral Reviews Program across twelve lower-level mathematics courses. Responsible for hiring and overseeing undergraduate learning assistants, facilitating a weekly meeting/professional development seminar with learning assistants and faculty, and securing internal funding (with Dylan Helliwell).

Community Service/Outreach

- 2012– **University of Washington Math Circle, Director.**
I coordinate three math circles for students in grades 7–9. Responsibilities include recruiting students, recruiting and training instructors, and overseeing general administration and fundraising (with Julia Pevtsova, UW).
- 2012–14 **University of Washington Math Circle, Instructor.**
Led weekly math circle enrichment activities for students in grades 7–9.
- 2010, 2012– **University of Washington Math Hour Olympiad, Director.**
The UW Math Hour is a series of monthly lectures held each spring whose mission is to make mathematics fun and engaging for students in grades 6–9. Each lecture draws 150–200 students and their families from across Washington. The lecture series culminates with an oral Olympiad that draws 150 students, and requires a core scientific committee of 16 scientists to construct original problem sets, along with 60 additional volunteer judges and proctors. I collaborate with Julia Pevtsova (UW) to coordinate both events.
- 2009–10 **Washington Middle School Math Challenge, Instructor, Seattle, WA.**
Weekly math circle for students in grades 6–7.
- 2007–09 **Montlake Elementary School Math Challenge, Instructor, Seattle, WA.**
Weekly math circle for students in grades 4–5.
- 2009– **University of Washington Math Day, Invited Lecturer.**
Made presentations for approximately 200 students who participated in the annual Math Day program. 2009, 2010, 2013, 2014, 2016, 2017
- 2005– **Summer Institute for Mathematics at the University of Washington.**
SIMUW is a residential summer camp for talented high school students from the Pacific Northwest. I have served the camp in many different roles:
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| <i>Instructor</i> | 2013, 2014, 2017, 2018 |
| <i>Special Guest Lecturer</i> | 2010, 2015, 2016 |
| <i>Student Activities Coordinator</i> | 2008, 2009, 2010 |
| <i>Head Teaching Assistant/Counselor</i> | 2006, 2008 |
| <i>Teaching Assistant/Counselor</i> | 2005 |

Conference Presentations

- Jan. 2018 **Joint Mathematics Meetings, San Diego, CA.**
Special Session on Commutative Algebra and Polytopes
Title: *A Lower Bound Theorem for centrally symmetric simplicial polytopes*
- Jul. 2017 **MathFest 2017, Chicago, IL.**
Henry L. Alder Award Session
Title: *Tell me how you got here*
- Jan. 2017 **Joint Mathematics Meetings, Atlanta, GA.**
Special Session on Open and Accessible Problems for Undergraduate Research
- Oct. 2015 **AMS Fall Sectional Meeting, University of Memphis, Memphis, TN.**
Special Session on Topological Combinatorics
- Oct. 2015 **AMS Fall Sectional Meeting, Loyola University, Chicago, IL.**
Special Session on Combinatorial and Computational Algebra
- Feb. 2015 **Western Washington Community College Student Math Conference.**
Invited plenary speaker

- Nov. 2014 **Combinatorial Potlatch Conference**, *Western Washington University*.
Invited plenary speaker (one of three)
- Oct. 2014 **AMS Fall Sectional Meeting**, *San Francisco State University*, San Francisco, CA.
Special Session on Topological Combinatorics and Combinatorial Commutative Algebra
- Aug. 2014 **Mathfest 2014**, *Portland, OR*.
Contributed Paper Session on Active Learning in Mathematics
- Jul. 2014 **Formal Power Series in Algebraic Combinatorics**, *Chicago, IL*.
- Mar. 2014 **AMS Spring Sectional Meeting**, *University of Tennessee*, Knoxville, TN.
Special Session on Geometric and Algebraic Combinatorics
- Oct. 2013 **AMS Fall Sectional Meeting**, *Washington University*, St. Louis, MO.
Special Session on Topological Combinatorics
- Sep. 2013 **Combinatorial Methods in Topology and Algebra**, *Cortona, Italy*.
- May 2012 **Oberwolfach Mathematics Research Institute**, *Oberwolfach, Germany*.
Workshop on Triangulations
- Mar. 2012 **AMS Spring Sectional Meeting**, *University of Hawaii*, Manoa, HI.
Special Session on Algebraic Combinatorics
- Jan. 2012 **Joint Mathematics Meetings**, *Boston, MA*.
AMS Contributed Paper Session on Combinatorics and Graph Theory
- Mar. 2011 **AMS Spring Sectional Meeting**, *Georgia Southern University*, Statesboro, GA.
Special Session on Algebraic and Geometric Combinatorics
- Feb. 2011 **Oberwolfach Mathematics Research Institute**, *Oberwolfach, Germany*.
Workshop on Geometric and Topological Combinatorics
- Nov. 2010 **AMS Fall Sectional Meeting**, *University of Notre Dame*, South Bend, IN.
Special Session on Algebraic and Topological Combinatorics
- Jan. 2010 **Joint Mathematics Meetings**, *San Francisco, CA*.
AMS Contributed Paper Session on Discrete Mathematics
- Mar. 2009 **Graduate Student Combinatorics Conference**, *University of Kentucky*.

Seminar and Colloquium Presentations

- Feb. 2019 **Combinatorics Seminar**, *UC Davis*.
- Dec. 2018 **Combinatorics Seminar**, *University of Washington*.
- Oct. 2018 **Math Department Colloquium**, *Pacific Lutheran University*.
- May 2018 **Combinatorics Seminar**, *UC Davis*.
- Mar. 2018 **University of Washington Math Day**.
Plenary address
- Feb. 2018 **Washington Student Math Association**, *Issaquah, WA*.
- Sep. 2017 **Math Department Colloquium**, *Washington State University, Vancouver*.
- Jul. 2017 **Mathematical Sciences Research Institute**, *Berkeley, CA*.
- Apr. 2017 **The Bear Creek School**, *Redmond, WA*.
- Mar. 2017 **University of Washington Math Day**.

Jan. 2017 **Math Department Colloquium**, *Seattle University*.
Oct. 2016 **Math Department Colloquium**, *Western Washington University*.
Mar. 2016 **University of Washington Math Day**.
Oct. 2015 **Combinatorics Seminar**, *University of Washington*.
Apr. 2015 **Bannan Scholars Seminar**, *Seattle University*.
Apr. 2015 **Claremont Colleges Mathematics Colloquium**, *Harvey Mudd College*.
Mar. 2015 **Combinatorics and Algebra Seminar**, *KTH Stockholm*.
Mar. 2015 **Math Department Colloquium**, *Seattle University*.
Oct. 2014 **Combinatorics Seminar**, *University of Washington*.
Mar. 2014 **University of Washington Math Day**.
Feb. 2014 **MathCounts Competition Plenary Talk**, *Seattle Chapter*, Seattle, WA.
Jan. 2014 **Math Department Colloquium**, *Seattle University*.
Mar. 2013 **University of Washington Math Day**.
Jan. 2013 **Math Department Colloquium**, *Seattle University*.
Oct. 2012 **Combinatorics Seminar**, *University of Washington*.
Apr. 2012 **University of Washington Math Hour**.
Mar. 2012 **Algebra and Combinatorics Seminar**, *Aalto University*, Helsinki, Finland.
Nov. 2011 **Math Department Colloquium**, *Reed College*, Portland, OR.
Oct. 2011 **Student Run Geometry/Topology Seminar**, *UC Davis*.
May 2011 **Student Run Discrete Math Seminar**, *UC Davis*.
Apr. 2011 **Bay Area Discrete Math Day**, *San Francisco State University*.
Apr. 2011 **Undergraduate Math Club**, *UC Davis*.
Apr. 2011 **Discrete Geometry and Combinatorics Seminar**, *Cornell University*.
Apr. 2011 **Combinatorics Seminar**, *University of Washington*.
Feb. 2011 **Combinatorics Seminar**, *UC Berkeley*.
Oct. 2010 **Discrete Math Seminar**, *UC Davis*.
Jul. 2010 **VERUM REU Colloquium**, *Valparaiso University*.
Mar. 2010 **Discrete Math Seminar**, *UC Davis*.
Mar. 2010 **University of Washington Math Day**.
Feb. 2010 **Undergraduate Math Club**, *University of Washington*.
Sep. 2009 **Math Department Colloquium**, *Reed College*, Portland, OR.
Sep. 2009 **Discrete Math Seminar**, *University of Kentucky*.