# Curriculum Vitae Russ Woodroofe


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| Personal information: | US citizen. |


## Research interests

Geometric and topological combinatorics, including connections with group theory (especially subgroup lattices) and with commutative algebra (face rings and edge ideals).

## Academic positions

- University of Primorska
  - Redni profesor / Full Professor — Nov 2023 –
  - Izredni profesor / Associate Professor — Oct 2017 – Nov 2023
- Mississippi State University (Assistant Professor) — Aug 2012 – Aug 2017
- Washington University in St. Louis
  - William Chauvenet Postdoctoral Lecturer — Sep 2008 – May 2012
  - Visiting Research Scholar — Jan 2008 – Aug 2008
- Weill Cornell Medical College in Qatar
  - Lecturer — Aug 2006 – Dec 2007
  - Academic Assistant — Aug 2005 – May 2006

## Education

- PhD, 2005, Cornell University, mathematics. (Advisor Kenneth S. Brown.)
- MS, 2002, Cornell University, mathematics.
- BS, 1998, University of Michigan, mathematics and computer science, honors in both.

## Grants

- PI, Slovenian Research Agency Research project grant J1-3003. Award amount 100,000 eur / year, three-year grant. (2021 – 2024, no-cost extension through 2025)
- PI, Slovenian Research Agency ERC-complementary grant N1-0160. Award amount 100,000 eur / year, three-year grant. (2020 – 2023)
- PI, Slovenian Research Agency bilateral project grant with Russia. Award amount 1875 eur / year. (2019 – 2020)
- PI, Slovenian Research Agency bilateral project grant with USA. Award amount 1500 eur / year. (2018 – 2020)
- Foreign PI, Slovenian Research Agency bilateral project grant (PI Dragan Stevanović). Award amount 1785 eur / year. (2015 – 2016)

**Papers and preprints** (see https://osebje.famnit.upr.si/~russ.woodroofe/research.html )
h-index: 12 i10-index: 15 (both according to Google Scholar)

31. Russ Woodroofe, *Partitionability is NP-complete*, arXiv:2610.27083.
30. Robert M. Guralnick, John Shareshian, and Russ Woodroofe, *Infinitely many finite simple groups of Lie type are not generated invariably by two elements of prime order*, arXiv:2609.31861.
29. Stephan Foldes and Russ Woodroofe, *Antichain cutsets in real-ranked lattices*, arXiv:2512.14826.
28. Denys Bulavka and Russ Woodroofe, *Strict Erdős-Ko-Rado theorems for simplicial complexes*, arXiv:2503.15608.

..... ↑preprints / published↓ .....

27. Denys Bulavka, Francesca Gandini, and Russ Woodroofe, *A Hilton-Milner theorem for exterior algebras*, Trans. London Math. Soc. **12** (2025), no. 1, Paper e70022, 16 pages, arXiv:2406.17857.
26. Denys Bulavka and Russ Woodroofe, *A short proof of the Hilton-Milner Theorem*, Canad. Math. Bull. **69** (2026), no. 2, 603–608, arXiv:2411.02513.
25. David Eppstein, Joel Brewster Lewis, Russ Woodroofe, and XOR'easter, *Princ-wiki-a Mathematica: Wikipedia editing and mathematics*, Notices Amer. Math. Soc. **72** (2025), no. 1, 65–73, arXiv:2412.20419. (Professional paper)
24. Anton Dochtermann, Ritika Nair, Jay Schweig, Adam Van Tuyl, and Russ Woodroofe, *Simplicial complexes with many facets are vertex decomposable*, Electron. J. Combin. **31** (2024), no. 4, Paper P4.34, 11 pages, arXiv:2403.07316.
23. Robert M. Guralnick, John Shareshian, and Russ Woodroofe, *Invariable generation of finite simple groups and rational homology of coset posets*, J. Algebra **659** (2024), 686–697, arXiv:2312.16319.
22. Dániel T. Nagy, Zoltán Lóránt Nagy, and Russ Woodroofe, *The extensible No-Three-In-Line problem*, European J. Combin. **114** (2023), Paper 103796, 11 pages, arXiv:2209.01447.
21. Robert M. Guralnick, John Shareshian, and Russ Woodroofe, *On invariable generation of alternating groups by elements of prime and prime power order*, Math. Comp. **92** (2023), no. 341, 1349–1361, arXiv:2201.12371.
Code on GitHub; computational data on Zenodo.
20. Russ Woodroofe, *An algebraic groups perspective on Erdős-Ko-Rado*, Linear Multilinear Algebra **70** (2022), no. 22, 7825–7835, arXiv:2007.03707.
19. Stephan Foldes and Russ Woodroofe, *A modular characterization of supersolvable lattices*, Proc. Amer. Math. Soc. **150** (2022), no. 1, 31–39, arXiv:2011.11657.
18. Andrés Santamaría-Galvis and Russ Woodroofe, *Shellings from relative shellings, with* an application to NP-completeness, Discrete Comput. Geom. **66** (2021), no. 2, 792–807, arXiv:1906.01651.
17. John Shareshian and Russ Woodroofe, *Divisibility of binomial coefficients and generation of alternating groups*, Pacific J. Math. **292** (2018), no. 1, 223–238, arXiv:1505.05143.
16. Alireza Abdollahi, Russ Woodroofe, and Gjergji Zaimi, *Frankl's Conjecture for subgroup*

*lattices*, Electron. J. Combin. **24** (2017), no. 3, Paper 25, 9 pages, arXiv:1606.00011.

15. Jay Schweig and Russ Woodroofe, *A broad class of shellable lattices*, Adv. Math. **313** (2017), 537–563, arXiv:1604.03115.
14. John Shareshian and Russ Woodroofe, *Order complexes of coset posets of finite groups are not contractible*, Adv. Math. **291** (2016), 758–773, arXiv:1406.6067.
13. Huy Tài Hà and Russ Woodroofe, *Results on the regularity of square-free monomial ideals*, Adv. Appl. Math. **58** (2014), 21–36, arXiv:1301.6779.
A corrigendum to Lemma 3.4 of the paper appears in Adv. Appl. Math. **86** (2017), 175–177.
12. Russ Woodroofe, *Matchings, coverings, and Castelnuovo-Mumford regularity*, J. Commut. Algebra **6** (2014), no. 2, 287–304, arXiv:1009.2756.
11. Stephan Foldes and Russ Woodroofe, *Antichain cutsets of strongly connected posets*, Order **30** (2013), no. 2, 351–361, arXiv:1109.5705.
10. Russ Woodroofe, Chains of modular elements and shellability, J. Combin. Theory Ser. A **119** (2012), no. 6, 1315–1327, arXiv:1104.0936.
9. John Shareshian and Russ Woodroofe, *A new subgroup lattice characterization of finite solvable groups*, J. Algebra **351** (2012), no. 1, 448–458, arXiv:1011.2503.
8. Russ Woodroofe, Chordal and sequentially Cohen-Macaulay clutters, Electron. J. Combin. **18** (2011), no. 1, Paper 208, 20 pages, arXiv:0911.4697.
7. _____, *Erdős-Ko-Rado theorems for simplicial complexes*, J. Combin. Theory Ser. A **118** (2011), no. 4, 1218–1227, arXiv:1001.0313.
6. _____, *Vertex decomposable graphs and obstructions to shellability*, Proc. Amer. Math. Soc. **137** (2009), no. 10, 3235–3246, arXiv:0810.0311.
5. _____, *Cubical convex ear decompositions*, Electron. J. Combin. **16** (2009), no. 2, Research Paper 17, approx. 33 pp. (electronic), arXiv:0709.2793.
4. _____, *An EL-labeling of the subgroup lattice*, Proc. Amer. Math. Soc. **136** (2008), no. 11, 3795–3801, arXiv:0708.3539.
3. _____, *Shelling the coset poset*, J. Combin. Theory Ser. A **114** (2007), no. 4, 733–746, arXiv:math/0306346.
2. Alexander Barvinok, Sándor P. Fekete, David S. Johnson, Arie Tamir, Gerhard J. Woeginger, and Russ Woodroofe, *The geometric maximum traveling salesman problem*, J. ACM **50** (2003), no. 5, 641–664 (electronic), arXiv:cs/0204024.
1. Alexander Barvinok, David S. Johnson, Gerhard J. Woeginger, and Russ Woodroofe, *The maximum traveling salesman problem under polyhedral norms*, Integer programming and combinatorial optimization (Houston, TX, 1998), Lecture Notes in Comput. Sci., vol. 1412, Springer, Berlin, 1998, 195–201.

## Other research products

- Russ Woodroofe, *Gap.app – a native Macintosh GUI for GAP*, Version 0.7 (2022). (`https://cocoagap.sourceforge.io/` ).

  Version history: 0.7 – Oct 2022, 0.61 – Mar 2020, 0.6 – Nov 2018, 0.5 – May 2018, 0.22 – Sep 2009, 0.2 – Mar 2008, 0.1 – Sep 2007.

- The On-Line Encyclopedia of Integer Sequences (2015), Sequence A258577.
  `Numbers n with greatest prime power divisor p^a, s.t. gcd{binomial(n,k) : 1 <= k <= n-1, binomial(n,k) is not divisible by p} <> 1.`

## Awards and honors

- Guido L. Weiss Teaching and Service Award from Washington University in St. Louis Department of Mathematics (Spring 2011).

## Research advising (see https://osebje.famnit.upr.si/~russ.woodroofe/advising.html )

**PhD**:

- Directed PhD thesis of Andrés Santamaría-Galvis (Fall 2017 – Fall 2022).

**Master's**:

- Directed master's project of Lee Hathcock, *Relaxations of the weakly chordal condition in graphs* (Summer 2016 – Summer 2017).
- Directed master's project of Bonnie Sessions: *EL-labelings of colored graph posets and exponential structures* (Spring 2013).

**Undergraduate**:

- Directed undergraduate research project of Nejc Zadnik: *On orthoschemes and lattices* (Fall 2025 – Spring 2026).
- Directed undergraduate research project of Dorotea Redžepi: *Continuous lattices of partitions* (Fall 2022 – Spring 2023).
- Directed undergraduate research project of Todor Antić: *Cross-polytopal Alexander duality* (Spring 2022).
- Directed bachelor's thesis project of Besfort Shala: *The probabilistic zeta function of a finite lattice* (Fall 2020 – Spring 2021). Received Srečko Kosovel award from the University of Primorska. Revised version appears with the same title in Rocky Mountain J. Math. **54** (2024), no. 5, 1511–1526, arXiv:2112.13766.
- Directed bachelor's thesis project of Eva Silađi (Éva Szilágyi): *Partitionability of simplicial complexes* (Fall 2020 – Spring 2021).
- Directed undergraduate research project of Ethan Brockmann: *Independence polynomials of claw-free graphs and trees* (Fall 2015).
- Directed undergraduate research project of Bailey Swinford: *Divisibility of binomial coefficients at* $p = 2$ (Fall 2015).
- Directed undergraduate research project of Joshua Dean: *Homology using linear algebra* (Spring 2014).
- Directed honors thesis project of Yoni Marshall: *Ramsey theory: from finite to infinite* (Spring 2011).

## Research and professional talks

- *Extremal set theory as algebraic geometry*:

  - University of Michigan combinatorics seminar. Ann Arbor, MI (Sep 2026)
  - Combinatorics and Geometry in İstanbul. Istanbul, Turkey (Aug 2025)
- *Cosets and posets of stabilizers*: Joint Meeting of the Czech, Slovenian, Austrian, Slovak, and Catalan Mathematical Societies 2026. Pilsen, Czechia (Feb 2026)
- *You can count with poset topology*: Konferenca slovenskih matematikov 2025. Koper, Slovenia (Sep 2025)
- *Managing your digital presence* (professional talk): Software Tools for Mathematics. Ljubljana, Slovenia (Sep 2025)
- *Two problems on lattices of groups*: lecture on the occasion of inauguration to full professor at the University of Primorska. Koper, Slovenia (Mar 2024)
- *Strict Erdős-Ko-Rado theorems for simplicial complexes*: University of Kansas algebra seminar. Lawrence, KS (Sep 2023)
- *Nonunimodal forests*: Emléktábla workshop problem proposal. Vác, Hungary (Aug 2023)
- *Vertex-decomposable graphs and the INDEPENDENT SET problem*: 10th Slovenian Conference on Graph Theory. Kranjska Gora, Slovenia (Jun 2023)
- *Perfect matchings and Alexander duals*: Banff International Research Station. Banff, Canada (Apr 2023)
- *Topology and combinatorics of lattices on groups*: a series of 2 talks at the University of Ljubljana topology seminar. Ljubljana, Slovenia (Apr–May 2022)
- *Algebra and topology of lattices of subgroups*: Lahore University of Management Sciences "John Conway Spirited" seminar. Via Zoom to Lahore, Pakistan (Nov 2021)
- *Invariable generation of alternating groups by prime-power elements*:
  - University of Ljubljana seminar. Ljubljana, Slovenia (Oct 2021)
  - Institute for Research in Fundamental Sciences seminar. Isfahan, Iran (Jan 2019)
  - BSM 100/3 Reunion Conference. Budapest, Hungary (Jun 2018)
  - Groups, Graphs, and More. Koper, Slovenia (May 2018)
- *Shellings from relative shellings*: 8th European Congress of Mathematics minisymposium talk. Portorož, Slovenia (Jun 2021)
- *k-decomposable and shellable complexes*: Technical University of Munich seminar. Munich, Germany (Aug 2020)
- *The Erdős-Ko-Rado theorem, a theorem of algebraic geometry*
  - University of Ljubljana Discrete Math seminar. Ljubljana, Slovenia (Apr 2020)
  - University of Bielefeld Groups and Geometry seminar. Bielefeld, Germany (Jan 2020)
  - Washington University in St. Louis Combinatorics seminar. St. Louis, MO (Nov 2019)
- *Binomial divisibility out to 128 billion*: Friedrich-Alexander University seminar. Erlangen, Germany (May 2019)
- *Commutative algebra via simplicial combinatorics*: a series of 3 expository lectures of 90 min each in the workshop (winter school) attached to the 15th Seminar on Commutative Algebra and Related Topics. Tehran, Iran (2019).
- *Arrangements and the independence polynomial*:

  - 15th Seminar on Commutative Algebra and Related Topics (hour-long plenary talk). Tehran, Iran (Jan 2019)
  - Washington University in St. Louis Combinatorics seminar. St. Louis, MO (Nov 2018)
  - University of Primorska seminar. Koper, Slovenia (May 2017)
  - Spring 2017 AMS Central Sectional Meeting. Bloomington, IN (Apr 2017)
- *The story of a figure*: Software Tools For Mathematics. Koper, Slovenia (Sep 2018)
- *GAP should move beyond the terminal*: International Congress on Mathematical Software. Notre Dame, IN (Jul 2018)
- *Interactive investigation of lattices*: Non-commutative Structures 2018 Workshop. Portorož, Slovenia (May 2018)
- *Non-contractibility and non-acyclicity of coset lattices*: UNAM Morelia Topology seminar. Morelia, Mexico (Jan 2018)
- *The story of a computation*; *The story of a figure*; *Using make in unexpected ways* (3 invited short talks): Software Tools For Mathematics. Morelia, Mexico (Jan 2018)
- *Order congruence lattices have convex ear decompositions*: 2017 CMS Winter Meeting. Waterloo, Canada (Dec 2017)
- *Non-acyclicity of coset lattices and generation of finite groups*:
  - Fall 2017 AMS Central Sectional Meeting. Denton, TX (Sep 2017),
  - SIAM Conference on Applied Algebraic Geometry. Atlanta, GA (Aug 2017).
- *A broad class of shellable lattices*:
  - New Mexico State University colloquium. Las Cruces, NM (Feb 2017)
  - Algebraic Combinatorics and Group Actions. Herstmonceux, England (Jul 2016)
  - SUNY Binghamton Combinatorics seminar. Binghamton, NY (May 2016)
  - Spring 2016 AMS Southeastern Sectional Meeting. Athens, GA (Mar 2016)
  - University of Miami Combinatorics seminar. Miami, FL (Feb 2016)
- *Frankl's Conjecture for subgroup lattices*:
  - Special Section at 2017 Joint Mathematics Meetings. Atlanta, GA (Jan 2017)
  - University of Ljubljana Discrete Math seminar. Ljubljana, Slovenia (May 2016)
- *Comodernistic lattices: a lattice-theoretic analogue of solvable groups*: Groups in Florence. Florence, Italy (Jun 2016)
- *Order congruence lattices are shellable* / *A broad class of shellable lattices*: Special Section at 2016 Joint Mathematics Meetings. Seattle, WA (Jan 2016)
- *Lattice labelings and modular elements*: University of Primorska seminar. Koper, Slovenia (Dec 2015)
- *Unimodal $f$-vectors and $h$-vectors of trees*:
  - University of Ljubljana Discrete Math seminar. Ljubljana, Slovenia (Dec 2015)
  - University of Mississippi Combinatorics seminar. Oxford, MS (Oct 2015)
  - Fall 2015 AMS Central Sectional Meeting. Chicago, IL (Oct 2015)
- *Order congruence lattices are CL-shellable*: 8th Slovenian Conference on Graph Theory. Kranjska Gora, Slovenia (Jun 2015)
- *On an analogue of Kummer's Theorem for the number of equipartitions*: 2015 Interna-

tional Conference in Graph Theory (hour-long plenary talk). Koper, Slovenia (May 2015)

- *Divisibility questions for alternating groups and for binomial coefficients*: University of Padua Algebra seminar. Padua, Italy (May 2015)
- *Topology and combinatorics of subgroup and coset lattices*: University of Georgia Topology seminar. Athens, GA (Apr 2015)
- *Several divisibility questions from group theory and combinatorics*: a poster presented at the IMA Workshop on Geometric and Enumerative Combinatorics. Minneapolis, MN (Nov 2014)
- *Coset lattices are noncontractible, even for groups with alternating factors*: Fall 2014 AMS Western Sectional Meeting. San Francisco, CA (Oct 2014)
- *Some topological combinatorics for combinatorial algebraists*: a series of 4 expository lectures in the 2014 Atlantic Association for Research in the Mathematical Sciences (AARMS) Summer School in Commutative Algebra at Dalhousie University (Aug 2014).
- *Noncontractibility of the coset lattice and fixed points of group actions*:
  - Dalhousie University colloquium. Halifax, Canada (Aug 2014)
  - University of Primorska seminar. Koper, Slovenia (Jun 2014)
- *Regularity: a homological measure of graph complexity*: International Conference on Graph Theory and Combinatorics. Rogla, Slovenia (May 2014)
- *Why coset lattices involving $A_{15}$ are non-contractible*: Spring 2014 AMS Southeastern Sectional Meeting. Knoxville, TN (Mar 2014)
- *Inclusion-exclusion and the coset lattice*: Oklahoma State University Algebra seminar. Stillwater, OK (Mar 2014)
- *An absence of leaves in regularity*:
  - Fall 2013 AMS Eastern Sectional Meeting. Philadelphia, PA (Oct 2013)
  - 2013 CMS Summer Meeting. Halifax, Canada (Jun 2013)
- *Several lattices on groups*: Miskolc Discrete Mathematics Roundtable Workshop. Miskolc, Hungary (Jun 2013)
- *On inclusion-exclusion in the subgroup and coset lattice*: 26th Cumberland Conference on Combinatorics, Graph Theory, and Computing. Murfreesboro, TN (May 2013)
- *Homology cycles in the coset posets of certain finite groups*: Spring 2013 AMS Southeastern Sectional Meeting. Oxford, MS (Mar 2013)
- *Regularity of clutters with collages*: Fall 2012 AMS Southeastern Sectional Meeting. New Orleans, LA (Oct 2012)
- *Modular and maximal chains in the subgroup lattice of a finite group*: Conference on Universal Algebra and Lattice Theory. Szeged, Hungary (Jun 2012)
- *Noncontractibility of the coset lattice of a finite group*: Spring 2012 AMS Central Sectional Meeting. Lawrence, KS (Mar 2012)
- *Shellability and its obstructions*: St. Louis University colloquium. St. Louis, MO (Feb 2012)
- *Topology of subgroup lattices*: Mississippi State University colloquium. Starkville, MS

(Feb 2012)

- *Lexicographic labelings of posets and subgroup lattices*: University of Miskolc colloquium. Miskolc, Hungary (Dec 2011)
- *Antichain cutsets of strongly connected posets*: Workshop on Algebraic Topology and Combinatorics. Buenos Aires, Argentina (Nov 2011)
- *Erdős-Ko-Rado theorems on simplicial complexes*:
  - Turán Memorial Conference. Budapest, Hungary (Aug 2011)
  - University of Illinois Algebraic Combinatorics seminar, Urbana-Champaign, IL (Mar 2011)
  - BSM Reunion Conference. Budapest, Hungary (Jun 2010)
  - 23rd Cumberland Conference on Combinatorics, Graph Theory, and Computing. Oxford, MS (May 2010)
  - Spring 2010 AMS Southeastern Sectional Meeting. Lexington, KY (Mar 2010)
- *Chains of modular elements and shellability*:
  - University of Bremen Combinatorics seminar. Bremen, Germany (Jul 2011)
  - Fall 2010 AMS Central Sectional Meeting. Notre Dame, IN (Nov 2010).
- *Polytopes in subgroup and coset lattices*: Rocky Mountain Mathematics Consortium Summer School on Polyhedral Combinatorics and Algebraic Combinatorics. Laramie, WY (Jun 2011)
- *Matchings, coverings, and Castelnuovo-Mumford regularity*:
  - 24th Cumberland Conference on Combinatorics, Graph Theory, and Computing. Louisville, KY (May 2011)
  - University of Kansas Algebra seminar. Lawrence, KS (May 2011)
  - Dalhousie University Commutative Algebra seminar. Halifax, Canada (Mar 2011)
  - Tulane University Algebra seminar. New Orleans, LA (Jan 2011)
  - 2010 CMS Winter Meeting. Vancouver, Canada (Dec 2010)
- *Minimax chains and topology of the subgroup lattice*:
  - University of Kansas Combinatorics seminar. Lawrence, KS (May 2011)
  - University of Idaho seminar. Moscow, ID (Apr 2011)
  - Dalhousie University colloquium. Halifax, Canada (Mar 2011)
  - Approaches to Group Theory Conference. Ithaca, NY (Oct 2010)
- *Chordal and k-decomposable clutters*:
  - University of Illinois Combinatorics seminar. Urbana-Champaign, IL (Mar 2011)
  - Fall 2010 AMS Eastern Sectional Meeting (45 min talk). Syracuse, NY (Oct 2010)
  - Cornell University Combinatorics seminar. Ithaca, NY (Nov 2009)
  - *also presented as a poster at* IPAM Workshop on Combinatorial Geometry (Oct 2009)
- *Vertex decomposable graphs*:
  - Fall 2009 AMS Eastern Sectional Meeting. University Park, PA (Oct 2009)
  - St. Louis University Combinatorics seminar. St. Louis, MO (Mar 2009).
- *Gap.app demonstration*: Groups and Computation V Conference. Columbus, OH (Mar 2008).
- *An EL-shelling of the subgroup lattice*:
  - Alfréd Rényi Institute of Mathematics Algebra seminar. Budapest, Hungary (Jun

2008)
  - St. Louis University Algebra seminar. St. Louis, MO (Apr 2008)
  - Bilkent University Algebra seminar. Ankara, Turkey (Apr 2008)
  - Summer School on Algebra and Combinatorics. Lisbon, Portugal (Jun 2007)
- *Groups, posets, and shellings*:
  - American University of Sharjah seminar. Sharjah, UAE (Apr 2006)
  - American University in Cairo seminar. Cairo, Egypt (Mar 2006)
  - Qatar University seminar. Doha, Qatar (Mar 2006)
  - BSM Reunion conference. Budapest, Hungary (Jun 2005)

**Mathematical outreach** (see https://osebje.famnit.upr.si/~russ.woodroofe/outreach.html )

- Talk at summer camp "Matematično Raziskovalno Srečanje" (MaRS): *Computational techniques for binomial divisibility*. Javorniški Rovt, Slovenia (Aug 2023).
- Public talk in the "Izleti v matematično vesolje" lecture series: *Prime divisibility of binomial coefficients*. University of Primorska (Mar 2022).
- Activities for high school students at summer camp "Matematika je kul": *Nonplatonic polyhedra*. University of Primorska (Aug 2019).
- Math Club talk for undergraduates: *The probability of generating a group*. Rhodes College (Apr 2017), Mississippi State University (Jan 2017).
- Public talk at outreach event "The Talk: Promoting STEM In Youth": *Prime divisibility of binomial coefficients*. Tupelo, MS (Nov 2016).
- Math Club talk for undergraduates: *How to type Mathematics in LyX*, Mississippi State University (Sep 2016, Sep 2014). University of Primorska (May 2014).
- Math Club talk for undergraduates: *Small, large, and typical gaps between primes*. Mississippi State University (Sep 2015).
- Math Club talk for undergraduates: *A conjecture on divisibility of binomial coefficients*. University of Primorska (May 2014), Rhodes College (Jan 2014), Mississippi State University (Apr 2013).
- Math Circle activities for middle and high school students: *Nonplatonic polyhedra*. Ferguson Middle School (Sep 2011), Washington University in St. Louis (Sep 2011, Oct 2009).
- Math Circle activities for middle and high school students: *Graph theory*. Washington University in St. Louis (Feb 2011, Jan 2009).
- Math Club talk for undergraduates: *Vertex-edge-face numbers of polyhedra*. Washington University in St. Louis (Apr 2010).
- Math Circle for elementary school teachers: *Polyhedra*. Metamo4ic Math Center, St. Louis (Mar 2009).
- Math Club talk for pre-medical students: *How big is infinity?* Weill Cornell Medical College in Qatar (Dec 2007).
- Math Club talk for pre-medical students: *Subsets, counting, and polynomials*. Weill Cornell Medical College in Qatar (Nov 2006).
- Math Club talk for pre-medical students: *The Fibonacci numbers*. Weill Cornell Medical

College in Qatar (Oct 2006).

## Conference, section, and workshop organization

- Member of program committee for the 38th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2026), held Jul 2026 at the University of Washington.
- Co-organized (with Rhys Evans and Michel Lavrauw) the summer 2025 edition of GAP Days, held Aug 2025 at the University of Primorska.
- Member of organizing committee for the 8th European Congress of Mathematics, held Jun 2021 (rescheduled from 2020 due to COVID-19) in Portorož, Slovenia.
- Co-organized (with Ted Dobson, Klavdija Kutnar, Bernd Schroeder, Laura Sheppardson, and Vaidy Sivaraman) the "7th Annual Mississippi Discrete Mathematics Workshop", held Oct 2019 at the University of Mississippi.
- Member of program committee for the 31st International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2019), held Jul 2019 at the University of Ljubljana.
- Co-organized (with Ted Dobson, Klavdija Kutnar, Dragan Marušič, Bernd Schroeder, and Laura Sheppardson) the "6th Annual Mississippi Discrete Mathematics Workshop", held Nov 2018 at the University of Mississippi.
- Co-organized (with Ted Dobson, Klavdija Kutnar, Dragan Marušič, and Laura Sheppardson) the "5th Annual Mississippi Discrete Mathematics Workshop", held Nov 2017 at the University of Mississippi.
- Co-organized (with Ted Dobson, Klavdija Kutnar, Dragan Marušič, and Laura Sheppardson) the "4th Annual Mississippi Discrete Mathematics Workshop", held Nov 2015 at the University of Mississippi.
- Co-organized (with Eric Gottlieb) the Special Section on Topological Combinatorics at the AMS Fall Southeastern Sectional Meeting, held Oct 2015 at the University of Memphis.
- Co-organized (with Ted Dobson, Klavdija Kutnar, Dragan Marušič, and Laura Sheppardson) the "3rd Annual Mississippi Discrete Mathematics Workshop", held Nov 2014 at Mississippi State University.
- Co-organized (with Ted Dobson, Klavdija Kutnar, Dragan Marušič, and Laura Sheppardson) the "2nd Annual Mississippi Discrete Mathematics Workshop", held Nov 2013 at Mississippi State University.
- Co-organized (with John Shareshian) the Special Section on Topological Combinatorics at the AMS Fall Central Sectional Meeting, held Oct 2013 at Washington University in St. Louis.
- Co-organized (with Ted Dobson) an "Impromptu Combinatorics Workshop", held Nov 2012 at Mississippi State University.
- Webmaster of homepage for the conference "Approaches to Group Theory" in honor of Ken Brown, held Oct 2010 at Cornell University.

## Editorial service

- Editor, *Ars Mathematica Contemporanea*, 2019 –.
- Member of Editorial Board, *The Art of Discrete and Applied Mathematics*, 2018 –.

- Guest editor, *Galois Journal of Algebra*, Special Issue on Recent Advances in Algebraic Combinatorics, 2026.

## Other service related to mathematics

- Co-organized Algebra Seminar at University of Primorska 2023–2024 academic year.
- Organized Algebra/Combinatorics/Topology Seminar at Mississippi State University, Fall 2015, Spring 2017, sporadically in between.
- Served as Webmaster for departmental webpage www.math.msstate.edu at Mississippi State University; significantly redesigned news and seminars, Fall 2014 – Spring 2017.
- Co-organized Mississippi State Math Club, Fall 2013 – Spring 2017.
- Organized Top Combo Fun Seminar at Mississippi State University, Fall 2012 – Spring 2015.
- Organized Combinatorics Seminar at Washington University in St. Louis, Fall 2009 – Spring 2012.
- Organized Math Club at Weill Cornell Medical College in Qatar, Fall 2006 and 2007.
- Contributed several patches to LyX mathematical word processor: question environment, improved cases environment, bug-fixes for AMS document classes.
- Math Reviews reviewer.
- MathOverflow contributor.
- Wikipedia editor. Among other activities: created article on supersolvable lattices; biographies of mathematicians Roger Alperin, Thomas Brylawski, Henry Crapo, James Donaldson, Otto Kegel, Jan Saxl, Hal Schenck, Michael Stillman, Thomas Storer, Bernd Wegner.
- Member of professional organizations: American Mathematical Society (life member), European Mathematical Society, Slovenian Discrete and Applied Mathematics Society.

## Non-mathematical service

- Elected as departmental representative for College of Arts & Sciences Faculty Senate at Mississippi State University, served Fall 2015 – Spring 2017.
- Served as faculty mentor/liaison to a freshman residence hall as part of the Faculty Associates Program at Washington University in St. Louis, 2009 – 2010 academic year.
- Served as discussion leader for Freshman Reading Program at Weill Cornell Medical College in Qatar (Aug 2007) and Washington University in St. Louis (Aug 2009, Aug 2010).
- Served on Committee on Pre-medical Admissions at Weill Cornell Medical College in Qatar, 2006 – 2007 academic year.

## Technical skills

- Experienced programmer, with knowledge in GAP, C, C++, Objective-C, and various other languages and environments.
- Worked as programmer/computer consultant, 1993 – 1998.