

# Jay Pantone

---

CONTACT INFORMATION Department of Mathematical and Statistical Sciences  
Marquette University  
P.O. Box 1881  
Milwaukee, WI 53201-1881 USA  
jay.pantone@marquette.edu  
<https://jaypantone.com/>

EDUCATION **University of Florida**, Gainesville, Florida, USA  
Ph.D., Mathematics, 2015  
M.S., Mathematics, 2013  
Advisor: Vincent Vatter

**University of Florida**, Gainesville, Florida, USA  
B.S., Mathematics, 2011  
B.S., Computer Science, 2011

APPOINTMENTS **Marquette University**, Milwaukee, Wisconsin, USA  
Assistant Professor (tenure track), 2018–present

**Dartmouth College**, Hanover, New Hampshire, USA  
John Wesley Young Research Instructor, 2015–2018

**University of Melbourne**, Melbourne, Australia  
NSF-funded East Asia and Pacific Summer Institute Fellow, June 2015–August 2015

PUBLICATIONS Particularly significant publications are marked with boxes.

27. **Exactly-solvable self-trapping lattice walks. II. Lattices of arbitrary height**, under consideration. 33pp. With Alexander R. Klotz and Everett Sullivan.
26. **Restricted permutations enumerated by inversions**, *Electronic Proceedings in Theoretical Computer Science* **403**, (2024), 96–100. With Christian Bean, Anders Claesson, Atli Fannar Franklín, and Henning Ulfarsson.
25. **Permutations avoiding bipartite partially ordered patterns have a regular insertion encoding**, *Electronic Journal of Combinatorics* **31**, 3 (2024), Paper 3.3, 19pp. With Christian Bean, Émile Nadeau, and Henning Ulfarsson.
24. **The enumeration of inversion sequences avoiding the patterns 201 and 210**, *Enumerative Combinatorics and Applications* **4**, 4 (2024), Paper No. S2R25, 12pp.
23. **Combinatorial Exploration: An algorithmic framework for enumeration**, under consideration. 99pp. With Michael H. Albert, Christian Bean, Anders Claesson, Émile Nadeau, and Henning Ulfarsson.
22. **Permutations avoiding sets of patterns with long monotone subsequences**, *Journal of Symbolic Computation* **116**, (2023), 130–138. With Miklós Bóna.
21. **Counting pop-stacked permutations in polynomial time**, *Experimental Mathematics* **32**, 1 (2023), 97–104. With Anders Claesson and Bjarki Ágúst Guðmundsson.
20. **Using large random permutations to partition permutation classes**, *Pure Mathematics and Applications* **30**, 1 (2022), 31–36. With Christian Bean, Émile Nadeau, and Henning Ulfarsson.

19. **Colored multipermutations and a combinatorial generalization of Worpitzky's identity**, *Australasian Journal of Combinatorics* **78**, 2 (2020), 335–347. With John Engbers and Christopher Stocker.
18. **A structural characterisation of  $\text{Av}(1324)$  and new bounds on its growth rate**, *European Journal of Combinatorics* **88**, (2020), 103115, 29pp. With David Bevan, Robert Brignall, and Andrew Elvey Price.
17. **Growth rates of permutation classes: Categorization up to the uncountability threshold**, *Israel Journal of Mathematics* **236**, (2020), 44pp. With Vincent Vatter.
16. **On the growth of merges and staircases of permutation classes**, *Rocky Mountain Journal of Mathematics* **49**, 2 (2019), 355–367. With Michael H. Albert and Vincent Vatter.
15. **Universal layered permutations**, *Electronic Journal of Combinatorics* **25**, 3 (2018), Paper 3.23, 5pp. With Michael H. Albert, Michael Engen, and Vincent Vatter.
14. **Generating permutations with restricted containers**, *Journal of Combinatorial Theory, Series A*. **157**, (2018), 205–232. With Michael H. Albert, Cheyne Homberger, Nathaniel Shar, and Vincent Vatter.
13. **Completing the structural analysis of the  $2 \times 4$  permutation classes**, *arXiv [math.CO]* (2018), <https://arxiv.org/abs/1802.00483>. With Samuel Miner.
12. **Shift equivalence in the generalized factor order**, *Archiv der Mathematik (Basel)* **110**, 6 (2018), 539–547. With Jennifer Fidler, Daniel Glasscock, Brian Miceli, and Min Xu.
11. **The asymptotic number of simple singular vector tuples of a cubical tensor**, *Online Journal of Analytic Combinatorics* **12**, (2017), 11pp.
10. **Staircases, dominoes, and the growth rate of 1324-avoiders**, *Electronic Notes in Discrete Mathematics* **61**, (2017), 123–129. With David Bevan, Robert Brignall, and Andrew Elvey Price.
9. **The enumeration of permutation classes avoiding 3124 and 4312**, *Annals of Combinatorics* **21**, 2 (2017), 293–315.
8. **Deflatability of permutation classes**, *Australasian Journal of Combinatorics* **64**, 1 (2016), 252–276. With Michael H. Albert, Michael D. Atkinson, and Cheyne Homberger.
7. **Is the full susceptibility of the square-lattice Ising model a differentially algebraic function?**, *Journal of Physics, A* **49**, 50 (2016), 504002, 36pp. With Anthony Guttmann, Iwan Jensen, and Jean-Marie Maillard.
6. **On isomorphism classes of generalized Fibonacci cubes**, *European Journal of Combinatorics* **51**, (2016), 372–329. With Jernej Azarika, Sandi Klavžar, Jaehun Lee, and Yoomi Rho.
5. **Pattern avoidance in forests of binary shrubs**, *Discrete Mathematics & Theoretical Computer Science* **18**, 2 (2016), Paper No. 8, 22pp. With David Bevan, Derek Levin, Peter Nugent, Lara Pudwell, Manda Riehl, and M. L. Tlachac.
4. **Pattern-avoiding involutions: exact and asymptotic enumeration**, *Australasian Journal of Combinatorics* **64**, 1 (2016), 88–119. With Miklós Bóna, Cheyne Homberger, and Vincent Vatter.
3. **Equipopularity classes in the separable permutations**, *Electronic Journal of Combinatorics* **22**, 2 (2015), Paper 2.2, 18pp. With Michael H. Albert and Cheyne Homberger.
2. **Two examples of unbalanced Wilf-equivalence**, *Journal of Combinatorics* **6**, 1–2 (2015), 55–67. With Alexander Burstein.
1. **On the Rearrangement Conjecture for generalized factor order over  $\mathbb{P}$** , *Discrete Mathematics & Theoretical Computer Science*, Proceedings of FPSAC 2014 (2014), 217–228. With Vincent Vatter.

SOFTWARE  
PACKAGES

See <https://jaypantone.com/software> for more information, including a list of citations to these software packages.

8. **Permutation Pattern Avoidance Library** (PermPAL). An online database of permutation pattern avoidance classes and their enumerations.  
<https://permpal.com>
7. **FiniteStateMachines**. Open-source Python library to construct and manipulate several kinds of finite state machines.  
<https://github.com/jaypantone/FiniteStateMachines>  
doi: 10.5281/zenodo.4592555
6. **DiffApprox**. Open-source Maple package to empirically predict the asymptotic behavior of counting sequences based on known initial terms.  
<https://github.com/jaypantone/DiffApprox>  
doi: 10.5281/zenodo.5810652
5. **GuessFunc**. Open-source Maple package to conjecture generating functions of counting sequences based on known initial terms.  
<https://github.com/jaypantone/guessfunc>  
doi: 10.5281/zenodo.5810636
4. **CombSpecSearcher / Tilings**. Open-source Python libraries that implement the Combinatorial Exploration framework and apply it to the field of permutation patterns. Co-authored with Christian Bean, Émile Nadeau, and Henning Ulfarsson.  
[https://github.com/PermutaTriangle/comb\\_spec\\_searcher](https://github.com/PermutaTriangle/comb_spec_searcher)  
doi: 10.5281/zenodo.4946832  
<https://github.com/PermutaTriangle/Tilings>  
doi: 10.5281/zenodo.4948344
3. **Permuta**. Open-source Python library for working with permutations and patterns. Successor (in part) to PermPy. Co-authored with many other contributors.  
<https://github.com/PermutaTriangle/Permuta>  
doi: 10.5281/zenodo.4725758
2. **Distributed Superpermutation Search**. Created a web-based application to manage a worldwide distributed computational effort to compute the shortest superpermutation containing all permutations of length 6. Over a million computers participated in this effort and over a hundred million CPU-hours were contributed. Co-authored largely with Greg Egan.  
<https://github.com/jaypantone/superperm>
1. **PermPy**. Open-source Python library for handling large sets of permutations. Co-authored with Michael Engen and Cheyne Homberger.  
<https://github.com/engenmt/permpy>

GRANTS

- **Funded**, Co-PI, *Artificial Intelligence for Humanizing and Enhancing the Learning of Proofs (AI-HELP)*, NSF, \$749,996 for 2024–2026.
- **Funded**, PI, *Collaborative Research on Enumerative and Experimental Combinatorics*, Simons Foundation Collaboration Grant for Mathematicians, \$42,000 for 2020–2025.
- **Funded**, PI, *Conference Grant: Permutation Patterns 2018*, from The Conant 1879 Memorial Lectureship and the Robert 1931 and Ruth Fraser Fund at Dartmouth College, \$27,000.

- **Funded**, PI, *East Asia and Pacific Summer Institutes, Award #1514825*, NSF, for 2015. Joint program between NSF and the Australian Research Council. Supported travel, housing, and a stipend to perform research at the University of Melbourne.

HONORS AND AWARDS

- Selected as a keynote speaker for the conference Permutation Patterns 2023 in Dijon, France
- Project NExT (New Experiences in Teaching) Fellow, 2018–2019
- Graduate Mathematics Teaching Award, University of Florida, 2015

POPULAR PRESS

My work on superpermutations (available here: <https://oeis.org/A180632/a180632.pdf>) has been covered in the following articles in the popular press.

- Delahaye, J.-P., Le secret d'Arsène Lupin: les superpermutations, *Pour La Science*, 513 (Juillet 2020), 82–87.
- Honner, P., Unscrambling the hidden secrets of superpermutations, *Quanta Magazine*, January 16, 2019.  
<https://www.quantamagazine.org/unscrambling-the-hidden-secrets-of-superpermutations-20190116/>
- Klarreich, E., Mystery math whiz and novelist advance permutation problem, *Quanta Magazine*, November 5, 2018.  
<https://www.quantamagazine.org/sci-fi-writer-greg-egan-and-anonymous-math-whiz-advance-permutation-problem-20181105/>
- Griggs, M., An anonymous 4chan post could help solve a 25-year-old math mystery, *The Verge*, October 24, 2018,  
<https://www.theverge.com/2018/10/24/18019464/4chan-anon-anime-haruhi-math-mystery>.

TALKS

Key: ○ = local, ● = contributed, \* = invited, □ = keynote

2024

- \* **Inversion-Counting Sequences of Permutation Classes**  
AMS Spring Central Sectional Meeting, Special Session on New Research and Open Problems in Combinatorics; Milwaukee, Wisconsin
- **Experimental Methods in Combinatorics**  
Marquette University Mathematical and Statistical Sciences Colloquium; Milwaukee, Wisconsin
- \* **Inversion-Counting Sequences of Permutation Classes**  
AMS Spring Eastern Sectional Meeting, Special Session on Permutation Patterns; Washington, D.C.
- \* **Experimental Methods in Combinatorics**  
UW-Milwaukee Mathematics Colloquium; Milwaukee, Wisconsin
- **Solution to a functional equation for  $\text{Av}(1243, 1324, 1432)$**   
Oberwolfach Mini-Workshop on Permutation Patterns; Oberwolfach, Germany

2023

- **Computational and Experimental Methods in Permutation Patterns**  
Permutation Patterns 2023; Dijon, France
- **Speed Research Talks: Combinatorial Exploration**  
Marquette University Mathematical and Statistical Sciences Colloquium; Milwaukee, Wisconsin

2022

- \* **Combinatorial Exploration: An Algorithmic Framework for Enumeration**  
Oberwolfach Workshop on Enumerative Combinatorics; Oberwolfach, Germany
- \* **Combinatorial Exploration: An Algorithmic Framework for Enumeration**  
AMS Fall Western Sectional Meeting, Special Session on Topics in Graphs, Hypergraphs and Set Systems; Salt Lake City, Utah
- **Combinatorial Exploration: An Algorithmic Framework for Enumeration**  
Permutation Patterns 2022; Valparaiso, Indiana

2021

- \* **Combinatorial Exploration: An Algorithmic Framework for Enumeration**  
Rutgers University Experimental Mathematics Seminar; Piscataway, New Jersey (virtual)
- \* **Combinatorial Exploration: An Algorithmic Framework for Enumeration**  
University of Waterloo Combinatorics Seminar; Waterloo, Ontario (virtual)
- \* **Combinatorial Exploration: An Algorithmic Framework for Enumeration**  
AMS Fall Southeastern Sectional Meeting, Special Session on Experimental Mathematics in Number Theory and Combinatorics; Mobile, Alabama (virtual)
- \* **Combinatorial Exploration: A New Approach To Enumeration**  
26th International Conference on Applications of Computer Algebra; virtual
- **Speed Research Talks: Experimental Combinatorics**  
Marquette University Mathematical and Statistical Sciences Colloquium; Milwaukee, Wisconsin

2020

- \* **Combinatorial Exploration: A New Approach To Enumeration**  
AMS Fall Eastern Sectional Meeting, Special Session on Combinatorics and Computing; State College, Pennsylvania (virtual)
- **Pattern-Avoiding Involution Classes and their Growth Rates**  
Permutation Patterns 2020; Valparaiso, Indiana (virtual)
- \* **Sorting Permutations with C-Machines**  
REU Lecture Series for East Tennessee State University and University of Puerto Rico at Ponce; virtual

2019

- **A Survey of a Half Century of Permutation Class Enumeration**  
AMS Fall Southeastern Sectional Meeting, Special Session on Patterns in Permutations; Gainesville, Florida
- \* **Experimental Methods in Combinatorics**  
DePaul University Pure Math Seminar; Chicago, Illinois
- **Counting with Language Theory, Parts I and II**  
Marquette University Pure Math Seminar; Milwaukee, Wisconsin
- **Enumerative Combinatorics**  
Permutation Patterns 2019, pre-conference workshop (3.5 hour lecture); Zurich, Switzerland
- **How Many Chord Diagrams Have No Short Chords?**  
Permutation Patterns 2019; Zurich, Switzerland
- \* **How Many Chord Diagrams Have No Short Chords?**  
Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM) 2019; Vancouver, British Columbia

- \* **Experimental Methods in Combinatorics**  
Reykjavik University Theoretical Computer Science Seminar; Reykjavik, Iceland
- \* **Experimental Methods in Combinatorics**  
Institute For Defense Analysis Colloquium; La Jolla, California

2018

- o **Circuit Scramble – Using Algebra for Fun and Profit**  
Marquette University Pure Math Seminar; Milwaukee, Wisconsin
- \* **How Many Chord Diagrams Have No Short Chords?**  
2019 Joint Math Meetings, Special Session on Enumerative Combinatorics; Baltimore, Maryland
- \* **Sorting with  $\mathcal{C}$ -Machines**  
Dagstuhl Seminar on Genomics and Statistical Mechanics; Wadern, Germany
- \* **guessfunc: A new software package for the automated conjecturing of generating functions**  
International Congress on Mathematical Software; South Bend, Indiana
- **On the Growth of Merges and Staircases of Permutation Classes**  
Permutation Patterns 2018; Hanover, New Hampshire
- \* **Local Patterns in Chord Diagrams**  
University of Pennsylvania Probability Seminar; Philadelphia, Pennsylvania
- \* **Sorting with  $\mathcal{C}$ -Machines**  
University of South Alabama Mathematics Colloquium; Mobile, Alabama
- \* **Sorting with  $\mathcal{C}$ -Machines**  
Marquette University Mathematics, Statistics, and Computer Science Colloquium; Milwaukee, Wisconsin
- \* **Šindel Sequences and Triangular Numbers: The Mathematics of the Orloj**  
Marquette University Mathematics, Statistics, and Computer Science Colloquium; Milwaukee, Wisconsin
- \* **Sorting with  $\mathcal{C}$ -Machines**  
Mississippi State University Mathematics Colloquium; Starkville, Mississippi
- \* **Sorting with  $\mathcal{C}$ -Machines**  
University of Nebraska Omaha Mathematics Colloquium; Omaha, Nebraska
- \* **Šindel Sequences and Triangular Numbers: The Mathematics of the Orloj**  
University of Nebraska Omaha Mathematics Colloquium; Omaha, Nebraska
- \* **Sorting with  $\mathcal{C}$ -Machines**  
Rose-Hulman Institute of Technology Mathematics Colloquium; Terre Haute, Indiana
- **Patterns and Colorability in Chord Diagrams**  
2018 Joint Math Meetings, Special Session on Applied and Computational Combinatorics; San Diego, California

2017

- \* **Sorting with  $\mathcal{C}$ -Machines**  
San Diego State University Mathematics Colloquium; San Diego, California
- \* **Sorting with  $\mathcal{C}$ -Machines**  
Brandeis University Combinatorics Seminar; Waltham, Massachusetts
- \* **Sorting with  $\mathcal{C}$ -Machines**  
Erwin Schrödinger International Institute Combinatorics Workshop; Vienna, Austria

- \* **Exact and Asymptotic Analysis of Combinatorial Sequences**  
University of Florida Combinatorics Seminar; Gainesville, Florida
- \* **Combinatorial Exploration**  
University of Florida Mathematics Colloquium; Gainesville, Florida
- \* **The Method of Differential Approximation**  
SIAM Conference on Applied Algebraic Geometry, Minisymposium on Symbolic Combinatorics; Atlanta, Georgia
- \* **Experimental Analysis of Combinatorial Sequences**  
Georgia Tech Combinatorics Seminar; Atlanta, Georgia

2016

- \* **On the Growth of Merges and Staircases of Permutation Classes**  
AMS Fall Central Sectional Meeting, Special Session on Enumerative Combinatorics; Minneapolis, Minnesota
- \* **Sorting with  $\mathcal{C}$ -machines: Enumerative and Analytic Aspects**  
Banff International Research Station, Workshop in Analytic and Probabilistic Combinatorics; Banff, Alberta
- \* **Approximate Asymptotic Analysis of Combinatorial Sequences**  
Rutgers Experimental Mathematics Seminar; Piscataway, New Jersey
- **Growth Rates of Permutation Classes**  
Permutation Patterns 2016; Washington, D.C.
- **Exact and Asymptotic Analysis of Combinatorial Sequences**  
Dartmouth College Mathematics Colloquium; Hanover, NH
- \* **The Method of Differential Approximants**  
Leibniz Center for Informatics, Workshop on Pattern Avoidance and Genome Sorting; Warden, Germany

2015

- \* **The Method of Differential Approximants**  
AMS Fall Central Sectional Meeting, Special Session on Enumerative Combinatorics and Graph Theoretic Applications; Chicago, Illinois
- \* **Sorting with  $\mathcal{C}$ -Machines**  
University of Florida Combinatorics Seminar; Gainesville, Florida
- **Sorting with  $\mathcal{C}$ -Machines**  
Dartmouth College Combinatorics Seminar; Gainesville, Florida
- \* **Sorting with  $\mathcal{C}$ -Machines**  
University of Melbourne Statistical Mechanics Seminar; Melbourne Australia
- \* **Equivalence of Words in the Generalized Factor Order**  
AMS Spring Eastern Sectional Meeting, Special Session on Patterns in Permutations and Words; Washington, D.C.

2014

- \* **Equipopularity in the Separable Permutations**  
AMS Fall Central Sectional Meeting, Special Session on Patterns in Permutations and Words, and Applications; Eau Claire, Wisconsin
- **Pattern-Avoiding Involutions: Exact and Asymptotic Enumeration**  
Permutation Patterns 2014; Johnson City, Tennessee
- **The Rearrangement Conjecture**, poster  
Formal Power Series and Algebraic Combinatorics (FPSAC) 2014; Chicago, Illinois

- **Introduction to LaTeX, parts 1 and 2**  
University of Florida LaTeX Workshop; Gainesville, Florida

2013

- **Checker Jumping, Coin Counting, and Cap Throwing: Why Generating Functions are Magic!**  
University of Florida Graduate Student Colloquium; Gainesville, Florida
- **The Enumeration of Permutations Avoiding the Patterns 3124 and 4312**  
Permutation Patterns 2013; Paris, France

2012

- **Enumeration of the Area Under Lattice Paths**  
University of Florida Combinatorics Seminar; Gainesville, Florida
- **The History of  $\pi$**   
University of Florida Pi Mu Epsilon Seminar; Gainesville Florida

#### MENTORING

- Advisor to Ph.D. students
  - Eric Redmon, 2020–present
- Advisor to M.S. students
  - Nichols, Masters Thesis, 2022–2023
  - Eric Redmon, Masters Essay, 2022
- Committee member (non-chair) for Ph.D. students
  - Haochen Sun, Ph.D., Marquette University, 2022
  - Émile Nadeau, Ph.D., Reykjavik University, 2022
  - Christian Bean, Ph.D., Reykjavik University, 2018
  - Everett Sullivan, Ph.D., Dartmouth College, 2018
  - Justin Troyka, Ph.D., Dartmouth College, 2017
- Committee member (non-chair) for M.S. students
  - Jón Stein Eliasson, M.S., Reykjavik University, 2022
  - Ragnar Páll Árdal, M.S., Reykjavik University, 2022
  - Arnar Arnarson, M.S., Reykjavik University, 2019
  - Unnar Erlendsson, M.S., Reykjavik University, 2019
  - Tómas Ken Magnússon, M.S., Reykjavik University, 2018
- Advised Alejandro Gruenwald (undergraduate, Marquette University) through the McNair Scholars program, including a summer research project, Feb–Aug 2023
- Advised Jack Dewsnap (undergraduate, Dartmouth College) through the Junior Research Scholar program, including a semester-long research project, Jan–Apr 2018



PROFESSIONAL  
SERVICE

- Editorial service:
  - Associate Editor for *Journal of Combinatorial Mathematics and Combinatorial Computing*, 2024–present
  - Lead Editor of *Discrete Mathematics & Theoretical Computer Science*, vol. 27, no. 1 (2024+), connected to the conference *Permutation Patterns 2024*.
  - Lead Editor of *Discrete Mathematics & Theoretical Computer Science*, vol. 26, no. 1 (2024+), connected to the conference *Permutation Patterns 2023*.
  - Editor (with Jonathan Bloom, Alexander Burstein, and Henning Ulfarsson) of *Discrete Mathematics & Theoretical Computer Science*, vol. 19, no. 2 (2018), connected to the conference *Permutation Patterns 2016*.
- Conference organization:
  - Member of the Permanent Steering Committee for the *Permutation Patterns* conference series, 2018–present.
  - Co-organizer of the *Oberwolfach Mini-Workshop on Permutation Patterns* at Mathematisches Forschungsinstitut Oberwolfach in Oberwolfach Germany in 2024.
  - Member of the Organizing and Scientific Committees for *Permutation Patterns 2020* held at Valparaiso University in Valparaiso, Indiana.
  - Co-organizer of the *Special Session on Analytic and Probabilistic Combinatorics* held at the 2020 Joint Math Meetings in Denver, Colorado.
  - Chair of the Organizing and Scientific Committees for *Permutation Patterns 2018* held at Dartmouth College in Hanover, New Hampshire.
  - Member of the Organizing Committee for *Formal Power Series and Algebraic Combinatorics (FPSAC) 2018* held at Dartmouth College in Hanover, New Hampshire.
  - Co-organizer of the *Special Session on Applied and Computational Combinatorics* held at the 2018 Joint Math Meetings in San Diego, California.
  - Co-organizer of *Discrete Math Days* held at Dartmouth College in Hanover, New Hampshire, in 2017.
  - Member of the Scientific Committee for *Permutation Patterns 2016*, held at Howard University in Washington, D.C.
  - Co-organizer of the *Special Session on Enumerative Combinatorics* held at the 2015 Joint Math Meetings in San Antonio, Texas.
  - Member of the Organizing Committee for *Bijjective and Algebraic Combinatorics*, held at the University of Florida in Gainesville, Florida in 2014.
- Journal refereeing:
  - ACM Transactions on Computer Systems
  - Advances in Applied Mathematics (x2)
  - Algebraic Combinatorics
  - Annals of Combinatorics
  - Australasian Journal of Combinatorics (x3)
  - Combinatorial Theory (x3)
  - Discrete Applied Mathematics (x3)
  - Discrete Mathematics (x5)
  - Discrete Mathematics & Theoretical Computer Science (x8)
  - Electronic Journal of Combinatorics (x8)

- Enumerative Combinatorics and Applications
- European Journal of Combinatorics (x3)
- FILOMAT
- Journal of Combinatorial Theory, Series A (x2)
- Journal of Combinatorics (x2)
- Journal of Integer Sequences
- Journal of Mathematical Analysis and Applications
- Mathematics Magazine
- Séminaire Lotharingien de Combinatoire (x5)
- Transactions of the American Mathematical Society
- Grant reviewing:
  - External Reviewer for Austrian Science Fund grant, 2023
  - External Reviewer for Icelandic Research Fund grant, 2021
  - NSF Review Panelist for Combinatorics, 2020
- Miscellaneous reviewing:
  - Reviewer for *MathSciNet Mathematical Reviews* (x9)
  - Reviewed combinatorics textbook for Springer three times
- Associate Editor of the Online Encyclopedia of Integer Sequences, 2016–present

DEPARTMENTAL  
SERVICE

- Executive Committee: elected member 2022–2024, elected member 2024–2026
- Computer Support Committee: chair 2022–present
- Webmaster, 2021–present
- Chair Search Committee: member 2023–2024
- Graduate Comprehensive Exam Committee: member 2019, 2020, 2021, 2022, 2023, 2024 (x2)
- Graduate Committee: member 2019–2022
- Calculus Textbook Review Committee (ad hoc), member 2021
- Statistics Major Design Committee (ad hoc), member 2020
- Scientific Computing Course Design Committee (ad hoc), member 2020
- CSSRF Application Review Committee, member 2020
- Faculty Search Committee (Applied Mathematics), member 2019
- Grade Review Committee (ad hoc), member 2019
- MSSC Working Group for CMPS Ph.D. and M.S. programs, member 2018

TEACHING AT  
MARQUETTE  
UNIVERSITY

- **Math 1450 (Calculus 1)**, F20, S21, F22
- **Math 2100/2350 (Discrete Math / Fondations)**, F18, S19, F19, F20, F22, F24
- **Math 4760/5670 (Combinatorics)**, S22, S24
- **Math 4931/5931 (Special Topics, Theory of Computation)**, S23
- **MSSC 6000 (Scientific Computing)**, S21, S22, S23, S24
- **MSSC 6040 (Applied Linear Algebra)**, S19, F19
- **MSSC 6999 (Master’s Thesis)** F22, S23
- **MSSC 8995 (Independent Study)** F21, S22

TEACHING AT  
DARTMOUTH  
COLLEGE

- **Math 11 (Multivariable Calculus for Freshmen)**, F15
- **Math 13 (Multivariable Calculus)**, F16
- **Math 20 (Probability)**, Su17
- **Math 22 (Linear Algebra)**, Sp16
- **Math 28 (Combinatorics)**, W17
- **Math 31 (Abstract Algebra)**, Su17
- **Math 60 (Honors Probability)**, Sp18
- **Math 118 (Graduate Combinatorics)**, W16, Su17

TEACHING AT  
UNIVERSITY OF  
FLORIDA

- **MAC 1147 (Precalculus with Trigonometry)**, Su12
- **MAC 2233 (Survey of Calculus 1)**, Su14
- **MAP 2302 (Differential Equations)**, Su15