

MATTHEW I. JONES

Curriculum Vitae

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ACADEMIC APPOINTMENTS

Colby College , Waterville, ME Assistant Professor	July 2025-Present
College of the Holy Cross , Worcester, MA Visiting Assistant Professor	August 2024-June 2025
Yale University , New Haven, CT Postdoctoral Associate	July 2022-August 2024

EDUCATION

Ph.D. Mathematics , Dartmouth College, Hanover, NH	Awarded June 2022
M.A. Mathematics , Dartmouth College, Hanover, NH	Awarded March 2019
B.S. Physics , Arizona State University (Barrett, The Honors College), Tempe, AZ	Awarded May 2017

RESEARCH PUBLICATIONS

Accepted Papers

- A1: *New fairness criteria for truncated ballots in multi-winner ranked-choice elections*, Adam Graham-Squire, Matthew I. Jones, and David McCune, *Mathematical Social Sciences* 140(102506), 2026
- A2: *Equilibria and Group Welfare in Vote Trading Systems*, Matthew I. Jones, *Social Choice and Welfare*, 2025
- A3: *Bringing Leaders of Network Sub-Groups Closer Together Does Not Facilitate Consensus*, Matthew I. Jones and Nicholas A. Christakis, *Scientific Reports* 14(30183), 2024
- A4: *Simple Autonomous Agents can Enhance Creative Semantic Discovery by Human Groups*, Atsushi Ueshima, Matthew I. Jones, and Nicholas A. Christakis, *Nature Communications* 15(5212), 2024
- A5: *Containing Misinformation: Spatial Games of Fake News*, Matthew I. Jones, Scott D. Pauls, and Feng Fu, *PNAS Nexus* 3(3), 2024
- A6: *Estimating Recycling of Fish in Catch-and-Release Fisheries*, Thomas S. Jones, Matthew I. Jones, Melissa Treml, and Thomas Heinrich, *Fisheries* 47(12), 2022
- A7: *Polarization, Abstention, and the Median Voter Theorem* Matthew I. Jones, Antonio D. Sirianni and Feng Fu, *Humanities and Social Science Communications* 9(43), 2022
- A8: *The Dual Problems of Coordination and Anti-coordination on Random Bipartite Graphs*, Matthew I. Jones, Scott D. Pauls, and Feng Fu, *New Journal of Physics* 23(113018), 2021
- A9: *Random Choices can Facilitate the Solving of Collective Network Coloring Problems by Artificial Agents*, Matthew I. Jones, Scott D. Pauls, and Feng Fu, *iScience* 24(4), 2021

Preprints

- P1: *Counting Strict Gridlock on Graphs*, Matthew I. Jones and Zachary Winkeler, arXiv: 2603.18289, 2026

- P2: *Candidate Moderation under Instant Runoff and Condorcet Voting: Evidence from the Cooperative Election Study*, David McCune, Matthew I. Jones, Andy Schultz, Adam Graham-Squire, Ismar Volic, Belle See, Karen Xiao, Malavika Mukundan, arXiv: 2603.03619, 2026
- P3: *The Minimal Group Paradigm Revisited: On the Design and Testing of AI-Generated Preference-Indifferent Avatars for Online Experiments*, Ashley Oaks, Matthew I. Jones, Kai Xu, Feng Fu, and Nicholas A. Christakis, (Click here for link) 2025
- P4: *It is Easy for Multi-Issue Bundles to Advance Anti-Democratic Agendas*, Matthew I. Jones, Matthew Chervenak, and Nicholas A. Christakis, arXiv: 2307.11873, 2023

Technical Reports

- T1: *Empirical Investigation of Ranked Voting Methods*, David McCune, Andy Schultz, Ismar Volic, Adam Graham-Squire, Matthew I. Jones, Malavika Mukundan, Belle See, and Karen Xiao, (Click here for link), 2025
- T2: *Modeling STV for the California Legislature*, Christopher Donnay, Moon Duchin, Matthew I. Jones, Hane Lee, Jay Lee, and Max Springer, (Click here for link), 2025

RESEARCH PRESENTATIONS

Talks

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| 1. SIAM MDS26, Salt Lake City, UT
<i>Social Networks, Group Coordination, and Graph Coloring Problems</i> | November 2026 |
| 2. SIAM NE Sectional, Dartmouth, MA
<i>Colorings and Consensus on Graphs</i> | August 2026 |
| 3. BIRS Workshop: Elections, Fairness, and Representation, Banff, AB
<i>Strategic ballot manipulation in real election data</i> | March 2026 |
| 4. MAGNETS Weekly Seminar, virtual
<i>Coordination and Network Structure</i> | March 2026 |
| 5. Dept. of Mathematics and Statistics, Vassar College, Poughkeepsie, NY
<i>Math to Data Science: The Study of Voting</i> | March 2026 |
| 6. Dept. of Mathematics, University of Maine, Orono, ME
<i>Colorings and Consensus on Graphs</i> | March 2026 |
| 7. Dept. of Mathematics, Colby College, Waterville, ME
<i>Math to Data Science: The Study of Voting</i> | March 2026 |
| 8. Joint Math Meeting 2026, Washington, DC
<i>Equilibria and group welfare in vote trading systems</i> | January 2026 |
| 9. Data and Democracy Lab, University of Chicago, Chicago, IL
<i>An Empirical Analysis of Single-Winner Election Methods</i> | October 2025 |
| 10. Dept. of Mathematics, Bates College, Lewiston, ME
<i>Colorings and Consensus on Graphs</i> | October 2025 |
| 11. Dept. of Mathematics, Lafayette College, Easton, PA
<i>Colorings and Consensus on Graphs</i> | February 2025 |
| 12. Dept. of Mathematics, Colby College, Waterville, ME
<i>Colorings and Consensus on Graphs</i> | January 2025 |
| 13. Dept. of Math, Stats, and CS, College of the Holy Cross, Worcester, MA
<i>Colorings and Consensus on Graphs</i> | January 2025 |
| 14. Joint Math Meeting 2025, Seattle, WA
<i>New fairness criteria for truncated ballots in multi-winner ranked-choice elections</i> | January 2025 |
| 15. Dept. of Mathematics, Le Moyne College, Syracuse, NY
<i>Graph Colorings: How to Make Maps and Work Together</i> | January 2024 |
| 16. Depts. of Mathematics and Data Analytics, Dickinson College, Carlisle, PA
<i>The Distributed Graph Coloring Problem and Social Coordination</i> | January 2024 |

17. Center for Mathematical Biology, University of Pennsylvania, Philadelphia, PA January 2024
The Distributed Graph Coloring Problem and Social Coordination
18. Joint Math Meeting 2024, San Francisco, CA January 2024
Nash Equilibrium in a Low-Information Vote Trading Game
19. Dept. of Math, Stats, and CS, Hollins University, Roanoke, VA December 2023
Enhancing Group Creativity with Bots
20. Dept. of Mathematics and Statistics, Williams College, Williamstown, MA November 2023
Enhancing Group Creativity with Bots
21. Human Nature Lab, Yale University, New Haven, CT April 2023
Three Experiments on Homophily, Consensus, and Information
22. Applied and Computational Math Seminar, Dartmouth College, Hanover, NH March 2023
Nash Equilibrium in a Low-Information Vote Trading Game
23. Human Nature Lab, Yale University, New Haven, CT November 2022
The Value of Vote Trading
24. New England Statistics Symposium 2022, Storrs, CT May 2022
Random Human Behavior in a Distributed Network Coloring Problem
25. Fu Lab, Dartmouth College, Hanover, NH March 2022
Spatial Games of Fake News
26. Dept. of Math and Stats, Washington State University, Pullman, WA November 2021
Polarization, Third Parties, and the Median Voter Theorem
27. Minnesota Dept. of Natural Resources, Fisheries, MN October 2021
Angler Recycling Rate: An Ill-Posed Inverse Problem
28. Fu Lab, Dartmouth College, Hanover, NH September 2021
Random Behavior in Collective Network Coloring Problems
29. Human Nature Lab, Yale University, New Haven, CT April 2021
Random Behavior in Collective Network Coloring Problems
30. eSMB Annual Meeting 2020, virtual August 2020
Spatial Games of Fake News
31. Applied and Computational Math Seminar, Dartmouth College, Hanover, NH October 2020
Voter Preference and Party Ideological Shifts

Posters

1. SIAM Annual Meeting 2020, virtual July 2020
Spatial Games of Fake News
2. IC²S² 2020, virtual July 2020
Spatial Games of Fake News

Press and Public Outreach

1. Independent Voter News December 2025
Why Mathematicians Love Ranked Choice Voting (Click here for link)
2. The Conversation December 2025
Ranked choice voting outperforms the winner-take-all system...(Click here for link)
3. The Wall Street Journal January 2025
Why Trump's 'One Big Beautiful Bill' Is Bad for Democracy (Click here for link)
4. The Sunwater Institute July 2024
The Science of Group Creativity (Click here for link)
5. Dartmouth News March 2022
New Research Predicts Rising Political Polarization (Click here for link)

TEACHING EXPERIENCE

Colby College

Assistant Professor

- **MA 253** - Linear Algebra Spring 2027
- **MA 381** - Probability Spring 2027
- **MA 262** - Series and Multi-variable Calculus (2 sections) Fall 2026
- **MA 381** - Probability Fall 2026
- **MA 262** - Vector Calculus Spring 2026
- **MA 381** - Probability Spring 2026
- **MA 262** - Vector Calculus Fall 2025
- **MA 381** - Probability Fall 2025

College of the Holy Cross

Visiting Assistant Professor

- **Math 135** - Calculus 1 (2 sections) Spring 2025
- **Math 199** - Discrete Mathematics Spring 2025
- **Math 135** - Calculus 1 (2 sections) Fall 2024
- **Math 244** - Linear Algebra Fall 2024

Dartmouth College

Instructor of Record

- **Math 36** - Mathematical Models in the Social Sciences Fall 2021
- **Math 22** - Linear Algebra with Applications Spring 2021
- **Math 8** - Calculus of Functions of One and Several Variables Fall 2019

Teaching Assistant

- **Math 23** - Differential Equations Winter 2019
- **Math 76** - Topics in Applied Mathematics Summer 2018
- **Math 23** - Differential Equations Winter 2018
- **Math 13** - Calculus of Vector-valued Functions Fall 2017

Arizona State University

Learning Assistant

STUDENT RESEARCH SUPERVISION

- Gavin Cooley, Andrew Scott (Research Assistants - Colby College) Summer 2026 - Present
 - Distributed Graph Coloring Problems
- Anant Bagrodia (Research Assistant - Colby College) Spring 2026 - Present
 - Games on Networks
- Aum Desai (Senior Honors Thesis - Colby College) Fall 2025 - Spring 2026
 - Ostrogorski's Paradox and bundling in multi-issue decision making
- Austin Lieberman (Math Research Program - Schreiber High School) Spring 2025 - Present
 - Strategic Bullet Voting in Multiwinner Elections

- Vishak Srikanth (Research Assistant - Yale University) Spring 2024 - Fall 2024
 - Computational study of consensus on networks
- Kai Xu (Research Assistant - Yale University) Fall 2023 - Spring 2024
 - AI-Generated Preference-Indifferent Avatars

EDUCATIONAL OUTREACH

- Institute for Mathematics and Democracy High School Research Program Summer 2026
 - Faculty Advisor
- Colby College MCM/ICM Modeling Contest Spring 2026, Spring 2027
 - Faculty Advisor
- Dartmouth Math Directed Reading Program Winter 2021, Winter 2022
 - Graduate Student Mentor
- Dartmouth Rural STEM Educator Partnership Fall 2020 - Spring 2021
 - Graduate Student Mentor
- Dartmouth College Exploring Mathematics Camp Summer 2019
 - Co-Instructor

HONORS AND AWARDS

- Ken Bogart Teaching Award October 2021
- Dartmouth Graduate Fellowship 2017–2022
- Graduated Summa Cum Laude May 2017

PROFESSIONAL ACTIVITIES AND SERVICE

Institutional Service

- Runnals Seminar Organizer, Colby College Spring 2026
- Tenure-track hiring committee member, Colby College Fall 2025 - Spring 2026
- Colloquium Co-organizer, Colby College Fall 2025 - Spring 2026
- Math Graduate Program Committee Liaison, Dartmouth college Fall 2019 - Spring 2020

Service to the Discipline

- Mathematics of Applied Graph theory and NETworks (MAGNETS) Fall 2025 - present
 - Cofounder and organizer
- Conferences
 - Coorganized SIAM NE Section Annual Meeting Minisymposium August 2026
 - Coorganized SIAM MDS26 Minisymposium November 2026
- Peer Review
 - Autonomous Agents and Multi-Agent Systems
 - Group Decision and Negotiation
 - Journal of Mathematical Sociology
 - Journal of the Royal Statistical Society: Series A
 - Journal of Supercomputing
 - Mathematical Reviews
 - PNAS Nexus
 - Science Advances
 - Scientific Reports

Pedagogy Development

- Course Instructor, Mid-Semester Course Analysis Program, Colby College Spring 2026
- Participant, Inclusive Excellence Reading Group, College of the Holy Cross Fall 2024
- Participant, Fundamentals of Equitable Teaching Workshop, Yale University Winter 2023

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| • Participant, Gender in the Classroom Workshop, Yale University | Winter 2023 |
| • Participant, Teaching Seminar, Dartmouth College | Summer 2019 |
| • Facilitator, Teaching Assistant Orientation, Dartmouth College | December 2019 |

CODING EXPERIENCE

- Python
- Mathematica
- Matlab
- Java/Groovy
- R

PROFESSIONAL MEMBERSHIPS

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| • Society for Industrial and Applied Mathematics (SIAM) | <i>April 2026 - present</i> |
| • Mathematics of Applied Graph theory and NETworks (MAGNETS) | <i>February 2026 - present</i> |
| • Institute for Mathematics and Democracy (IMD) | <i>December 2025 - present</i> |
| • American Mathematical Society (AMS) | <i>September 2023 - present</i> |

Updated July 2025