

Robert Schneider
Assistant Professor of Mathematical Sciences
Michigan Technological University
Curriculum Vitae

Contact

Department of Mathematical Sciences
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Education

- Emory University, Atlanta, Georgia – Ph.D. in Mathematics (2018, advisor Ken Ono)
- Emory University, Atlanta, Georgia – M.S. in Mathematics (2016)
- University of Kentucky, Lexington, Kentucky – B.S. in Mathematics (2012)

Research interests

- Number theory and combinatorics; in particular, the theory of integer partitions, special functions in the orbit of modular forms (q -series, mock theta functions, quantum modular forms), and analytic number theory (zeta functions and other L -functions, arithmetic density, prime distribution).
- Secondary research interests include algebra, computational number theory, artificial intelligence, statistical physics, computational chemistry, computer science, acoustics, mathematical music theory, history of mathematics.

Employment

- Michigan Technological University (MTU), Assistant Professor (2022 –)
- University of Georgia (UGA), Lecturer (2018 – 2022), Mathematics Undergraduate Research Program Coordinator (2019 – 2022)
- Emory University, Visiting Assistant Professor (Summer 2019, Summer 2018)
- Emory University, Dean's Teaching Fellow at Arrendale Women's Prison: History of Mathematics–Ancient Arithmetic and the Birth of Mathematics (Spring 2018), Writing Workshop (Fall 2017)
- Emory University, Graduate Student Instructor: Math 111–Calculus 1 (2013–2016)

Other professional experience

- Musician, songwriter, record producer, composer for film/stage/television/installation, band-leader of The Apples in stereo (and member of other musical groups), co-founder of Elephant 6 Recording Co. collective of musicians and artist, recording engineer, recording studio manager, record label manager, inventor, sound sculpture artist, visual artist (1993 – , see [Wikipedia entry](#))
- Co-founder of the Michigan Tech Mathematics and Music Lab (MML), MTU Mathematics and AI Lab, MTU Computer History Museum (CACHE), and online [Rogers-Ramanujan-Slater Database](#) (RRSDB)

Fellowships, awards and residencies

- MTU Institute of Computing and Cybersystems (ICC) Rapid Seedling Award grant (Fall 2026)

- Outstanding Research Award, Michigan Tech Department of Mathematical Sciences (2025)
- Top 10% of MTU Instructors based on “Average of Seven Dimensions” on student evaluations (Fall 2023, Fall 2025)
- Outstanding Teaching Award (TTF), Michigan Tech Department of Mathematical Sciences (2024)
- Exceptional Graduate Mentor Award, Michigan Tech Graduate Student Government (2023)
- 2020 Athens Music Walk of Fame Inductee: The Elephant 6 Recording Co. (record label and art collective that I co-founded and managed), Athens Cultural Affairs Commission (2020)
- 2018 Marshall Hall, Jr., Graduate Teaching Award, Department of Mathematics and Computer Science, Emory University (2017–2018)
- Dean’s Teaching Fellowship, Emory University (2017–2018)
- Residency, Banff International Research Station, Banff, Alberta, Canada, “*MSI: Music, Film and Mathematics Together*” (interdisciplinary collaboration with number theorist Andrew Granville, screenwriter Jennifer Granville, musicians from Banff Centre) (Aug. 10–17, 2013)
- Woodruff Fellowship, Emory University (2012–2017)

Work with graduate students

- Aidan Botkin (Ph.D. Mathematical Sciences, MTU), Ph.D. advisor, current
- Philip Cuthbertson (Ph.D. Mathematical Sciences, MTU), Ph.D. co-advisor with W. Keith, current
- Faria Tasnim (Ph.D. Mathematical Sciences, MTU), Ph.D. co-advisor with M. Keranen, current
- Geneva Archer (M.S. Mathematical Sciences, MTU), Master’s report advisor, current
- Cody McCarthy (M.S. Mathematical Sciences, MTU), Research project mentor, 2023-2024
- Michael Elegah (M.S. Mathematical Sciences, MTU), MS advisor, 2022-2023, student transferred
- Travis Andrus (Ph.D. Mathematical Sciences, MTU), Dissertation committee member, current
- Jeyhun Lee (Ph.D. Mathematical Sciences, MTU, graduated May 2025), Dissertation committee member, 2023 - 2025
- Karlee Westrem (Ph.D. Mathematical Sciences, MTU, graduated May 2025), Dissertation committee member, 2022 - 2025
- Agbolade Patrick Akande (Ph.D. Mathematics, UGA), Directed project mentor resulting in two published papers, 2020 - 2022
- Dru Horne (Ph.D. Mathematics Education, UGA), Research project mentor associated to MATH 6670 Combinatorics course, 2021 - 2022
- Matthew Just (Ph.D. Mathematics, UGA, graduated May 2021), Informal mentor and research collaborator resulting in three published papers, 2019 - 2021
- Zachary Peck (MS Artificial Intelligence, UGA, graduated May 2021), Research mentor, MS thesis committee member, 2019 - 2021
- Neelima Pulagam (MS Computer Science, UGA, graduated May 2021), Research mentor resulting in one published paper, MS thesis committee member, 2020 - 2021

Peer-reviewed research publications

1. A "strange" vector-valued quantum modular form (coauthor Larry Rolen), *Archiv der Mathematik* **101.1** (2013): 43-52.
2. A golden product identity for e , *Mathematics Magazine* **87.2** (2014): 132-134.

3. Combinatorial applications of Moebius inversion (coauthor Marie Jameson), *Proc. of the Am. Math. Soc.* **142.0** (2014): 2965-2971.
4. Partition zeta functions, *Research in Number Theory* **2.1** (2016): 9.
5. Fibonacci numbers and the golden ratio, *Parabola* **52:3** (2016).
6. Arithmetic of partitions and the q -bracket operator, *Proc. of the Am. Math. Soc.* **145.5** (2017): 1953-1968.
7. Explorations in the theory of partition zeta functions (coauthors Ken Ono and Larry Rolen), *Exploring the Riemann Zeta Function, 190 years from Riemann's Birth*, editors: H. Montgomery, A. Nikeghbali, M. Rassias, Springer, Cham., 2017. 223-264.
8. Extracting aggregation free energies of mixed clusters from simulations of small systems: application to ionic surfactant micelles (coauthors Xiaokun Zhang, Lara Patel, Olivia Beckwith, Christopher Weeden, James Kindt), *Journal of Chemical Theory and Computation* **13.11** (2017): 5195-5206.
9. Partition-theoretic formulas for arithmetic densities (coauthors Ken Ono and Ian Wagner), *Analytic Number Theory, modular forms and q -hypergeometric series*, Springer Proc. Math. Stat **221** (2017): 611-624.
10. Jacobi's triple product, mock theta functions, unimodal sequences and the q -bracket, *International Journal of Number Theory* **14.07** (2018): 1961-1981.
11. Alternating "strange" functions, *Ramanujan Journal* **48.2** (2019): 245-250.
12. Sequentially congruent partitions and related bijections (coauthor Maxwell Schneider), *Annals of Combinatorics* **23.3** (2019): 1027-1037.
13. The product of parts or "norm" of a partition (coauthor Andrew V. Sills), *Integers* **20A**: Paper A13 (2020): 2-18.
14. Digit sums and generating functions (coauthor Maxwell Schneider), *Ramanujan J.* **52(2)** (2020): 1-12.
15. Partition-theoretic formulas for arithmetic densities, II (coauthors Ken Ono and Ian Wagner), *Hardy-Ramanujan Journal* **43** (2020).
16. Analysis and combinatorics of partition zeta functions (coauthor Andrew V. Sills), *International Journal of Number Theory* **17.03** (2021): 805-814.
17. Sequentially congruent partitions and partitions into squares (coauthors James A. Sellers and Ian Wagner), *Ramanujan Journal* **56** (2021): 645-650.
18. Nuclear partitions and a formula for $p(n)$, *Journal of the Ramanujan Mathematical Society* **36:1** (2021): 33-37.
19. Partition Eisenstein series and semi-modular forms (coauthor Matthew Just), *Research in Number Theory* **7.61** (2021).
20. Combinatorial formulas for arithmetic density (coauthor A. V. Sills), *Integers* **22A** (2022).
21. A "supernormal" partition statistic (coauthors Madeline Locus Dawsey and Matthew Just), *Journal of Number Theory* **241:1** (2022).
22. Infinite series for $\pi/3$ and other identities, *Parabola* **58:2** (2022).
23. Semi-modular forms from Fibonacci-Eisenstein series (coauthor A. P. Akande), *Ramanujan Journal* **60:1** (2023).
24. Computational study of non-unitary partitions (coauthors A. P. Akande, T. Genao, S. Haag, M. D. Hendon, N. Pulagam and A. V. Sills), *Journal of the Ramanujan Mathematical Society* **38:2** (2023).
25. Composition-theoretic series in partition theory (coauthor A. V. Sills), *Ramanujan Journal* (2023).

26. Partition-theoretic Frobenius-type limit formulas, *Ramanujan Journal* **65** (2024).
27. Composition-theoretic series and false theta functions (coauthors W. J. Keith and A. V. Sills), *Integers* **24A** (2024).
28. Almost-linear approximation of $\ln(1+x)$ valid for $0 \leq x \leq 1$, *Parabola* **60:1** (2024).
29. Mathematics of the MML functional quantizer modules for VCV Rack software synthesizer, (coauthors C. McCarthy, M. Schneider, M. Maxwell, J. Pfeffer, A. V. Sills), *Infinite Loop* **1:2** (2024).
30. On the q -factorization of power series (coauthors A. V. Sills, H. Waldron), *Ramanujan Journal* **67(4)** (2025).
31. Infinite series identities involving π and $\ln 2$ (coauthor A. Maxwell-Abrams), *Parabola* **61:2** (2025).
32. Algebra of overpartitions, *Journal of the Ramanujan Mathematical Society* **41:1** (2026).
33. Multimodal sequences and their generating functions (coauthor P. Cuthbertson), *Ramanujan Journal* **69** (2026).
34. Partition-theoretic model of prime distribution (coauthors A. Botkin, M. L. Dawsey, D. J. Hemmer, M. R. Just), *Journal of Number Theory* **284** (2026).
35. Note on a partition model of prime numbers (coauthor Eli DeWitt), *Infinite Loop* **3** (2026).
36. Partition-theoretic model of prime distribution, II, *Integers* (To appear).

Research papers submitted to refereed journals

37. Theory for chemical equilibrium in small systems: General results and examination of micelle self-assembly (coauthors O. Beckwith, L. Patel, X. Zhang, J. Kindt), Submitted.

Other publications (subject to editorial oversight)

38. Uncovering Ramanujan's "lost" notebook: An oral history, *Ramanujan J.* **29.1-3** (2012): 3-24.
39. A non-Pythagorean musical scale based on logarithms, *Proceedings of Bridges: Mathematics, Music, Art, Architecture, Culture Conference* (2012).
40. A golden connection, *Mathematics Magazine* **87.2** (2014): 143.
41. Encounter with the infinite (coauthor Benjamin Phelan), *The Believer* (January-February, 2015), reprinted in *Namarupa: Categories of Indian Thought* (2015).
42. Why Ramanujan Matters (coauthor Ken Ono), *Sloan Science & Film* (May, 2016), reprinted in *Ramanujan Mathematical Society Newsletter* (March-June, 2016), reprinted in *Asia Pacific Mathematics News* (November, 2016).
43. The music of *Prime Suspects* (article and musical score), *Prime Suspects: The Anatomy of Integers and Permutations*, authors: A. Granville, J. Granville, R. J. Lewis, Princeton University Press (2019).
44. Journal refereeing: Merge with the collective mind (coauthor Ken Ono), *Notices of the American Mathematical Society* **67.2** (2020).
45. We're still untangling Ramanujan's mathematics 100 years after he died (coauthor Ken Ono), *New Scientist* (22 April, 2020).
46. *Srinivasa Ramanujan: His Life, Legacy, and Mathematical Influence* (contributed three articles to math encyclopedia), Springer Nature (2026).

Courses taught

- Michigan Tech: MA 2320 Elementary Linear Algebra, 2990 Elementary Topics in Math (sophomore undergraduate research), 3210 Introduction to Combinatorics, 4990 Topics in Math (senior undergraduate research), 5301 Abstract Algebra I (graduate), 5302 Abstract Algebra II (graduate), 5360 Number Theory (graduate), 6280 Advanced Topics in Algebra/Combinatorics/Number Theory (graduate), 6999 Mathematical Sciences Doctoral Research
- University of Georgia: MATH 1060 Mathematics of Decision Making, 1113 Precalculus, 2250 Calculus I, 4400/6400 Number Theory, 4670/6670 Combinatorics, 4760/6760 Mathematics and Music, 4850/6850 History of Mathematics, 5001/7001 Arithmetic and Problem Solving, 4950/4960R Undergraduate Research, 7000 Master's Research, 8800 Doctoral Directed Reading
- Emory University: Math 111 Calculus I, 112 Calculus II, 221 Linear Algebra - Recitation

Other teaching experience

- Michigan Technological University, Research mentor for seven undergraduate projects, including two summer projects (Aliyah Maxwell-Abrams, Mason Moran) funded under the McNair Scholars program (2023), Mentor for MTU-funded SURF summer undergraduate research project (Aliyah Maxwell-Abrams, Summer 2024), Advisor for Visual and Performing Arts Sound Program senior practicum project in mathematical acoustics (Jake Condon, Spring 2025), Mentor for Mathematical Sciences Department-funded REU research project (Eli DeWitt, Summer 2025), Mentor for funded MTU computer science student (Dominic Hann, Fall 2026), Mentor for high school student in Fall 2025 – Spring 2026, 2 high school students in Summer 2026, and 3 high school students in Fall 2026
- University of Georgia, Mathematics Undergraduate Research Program, Coordinator (2019 – 2022)
- University of Georgia, Research mentor for over two dozen undergraduates including 7 research students with competitive funding from UGA's Center for Undergraduate Research Opportunities (Logan Bayer, Daniel Desena, Summer Haag, Nikita Jakkam, Elizabeth Kim, Martha Sikora, Alex Walker), and another student (Alex Harp) speaking at the Spring 2019 AMS Southeastern Sectional Meeting (2018 – 2022)
- Peach State LSAMP (Louis Stokes Alliance for Minority Participation) Summer Bridge seminar (for incoming UGA freshman), Instructor: Intro to Calculus (Summer 2020, Summer 2021, Summer 2022)
- Emory QTM Math Circle (Math Camp for High School Students), Instructor: Number Theory II and History of Mathematics (Summer 2019)
- Decatur High School, Decatur, Georgia, Math Team coach volunteer (2016–2019)
- Glendover Elementary School, Lexington, Kentucky, Weekly math tutor volunteer (2006–2012)

Committee Membership

- Michigan Tech Mathematical Sciences Graduate Committee (2023 – present)
- Michigan Tech Mathematical Sciences Undergraduate Committee (2022–2023)
- Michigan Tech Mathematical Sciences Outreach Committee (2024 – 2025)
- Michigan Tech Mathematical Sciences Weekly Seminar Planning Team (2022 – 2026)
- Michigan Tech Art in Silico Computational Art Show Planning Committee (2023 – present)
- Michigan Tech Mathematical Sciences PhD Program Review *Ad Hoc* Committee (2025 – 2026)

Editorships

- *Contributions to Discrete Mathematics*, member of Editorial Board (2025 – present)

- *Journal of Combinatorial Mathematics and Combinatorial Computing* (JCMCC), member of Editorial Board (2024 – present)

Referee experience

- Book publishers: CRC Press, Princeton University Press, Springer Books
- Journals: *American Mathematical Monthly*, *Annals of Combinatorics*, *Bulletin des Sciences Mathématiques*, *Contributions to Discrete Mathematics*, *Electronic Journal of Combinatorics*, *Experimental Mathematics*, *Integers*, *Journal of Integer Sequences*, *Journal of Mathematical Analysis and Applications*, *Journal of the Ramanujan Mathematical Society*, *Mathematics Magazine*, *Minnesota Journal of Undergraduate Mathematics*, *Ramanujan Journal*, *Research in Number Theory*, *Research in the Mathematical Sciences*, *Symmetry*, *Transactions on Combinatorics*, others

Conference sponsorship or moderatorship

- Art in Silico Computational Arts Show and Conference 2026 (organizing committee chair), Michigan Technological University, Houghton, Michigan (April 13-17, 2026)
- Art in Silico Computational Art Show and Conference 2025 (co-organizer), Michigan Technological University, Houghton, Michigan (April 3, 2025)
- Special session on partitions and q -series (co-organizer), AMS Fall Southeastern Sectional Meeting, Georgia Southern University, Savannah, Georgia (Oct. 5-6, 2024 – *Canceled due to hurricane*)
- Art in Silico Computational Art Show and Conference 2024, “*Generative AI: breaking artistic and programming barriers*” (moderator), Michigan Technological University, Houghton, Michigan (April 3, 2024)
- Integers Conference 2023, Afternoon Session B - Partitions and Combinatorics (moderator), University of Georgia, Athens, Georgia (May 19, 2023)
- Art in Silico Computational Art Show and Conference 2023, “*New music from mathematics*” (session co-organizer), Michigan Technological University, Houghton, Michigan, workshop and panel presentation (March 13, 2023)
- AMS Special session in modular forms and combinatorics (co-organizer), Joint Mathematical Meetings (JMM) 2022, Seattle, Washington (April 9, 2022)
- UGA Summer Mathematics Undergraduate Research (SUMR) Conference (co-organizer), University of Georgia (Aug. 2020, Aug. 2021)

Invited talks and contributed paper talks

- SIAM Annual Meeting 2026 (AN26), Special Functions with Applications in Number Theory and Combinatorics Session, invited lecture, “Estimating the imaginary parts of the roots of $\zeta(s)$ and other partition zeta functions” (July 10, 2026)
- African Night (sponsored by the MTU African Students Organization), Michigan Tech University, Houghton, Michigan, keynote speech, “*Ubuntu: I am because we are*” (history of mathematics in Africa) (April 18, 2026)
- Alladi 70: The 2026 Gainesville Number Theory Conference in Honor of Krishnaswami Alladi's 70th Birthday, University of Florida, Gainesville, Florida, invited lecture, “*Partition-theoretic model of prime distribution*” (joint work with A. Botkin, M. L. Dawsey, M. R. Just, D. J. Hemmer – Mar. 22, 2026, delivered remotely)
- Specialty Seminar in Partition Theory, q -Series and Related Topics, Michigan Tech, Houghton, Michigan, invited lecture (online format), “*Partition-theoretic model of prime distribution*” (joint work with A. Botkin, M. L. Dawsey, M. R. Just, D. J. Hemmer – Jan. 22, 2026)

- AMS Fall Southeastern Sectional Meeting, Tulane University, New Orleans, Louisiana, Special Session on Experimental Mathematics, invited lecture, "*Partition-theoretic model of prime distribution*" (joint work with A. Botkin, M. L. Dawsey, M. R. Just, D. J. Hemmer – Oct. 4, 2025)
- Joint Mathematics Meetings (JMM), Seattle, Washington, AMS Special Session on Partition Theory and q -Series, invited lecture, "*Algebra of overpartitions*" (Jan. 8, 2025)
- Graduate Colloquium, University of Minnesota Duluth, Duluth, Minnesota, invited lecture, "*Making music with logarithms*" (Nov. 18, 2024)
- The Legacy of Ramanujan 2024: Celebrating the 85th Birthdays of George Andrews and Bruce Berndt, Pennsylvania State University, State College, Pennsylvania, invited lecture, "*Partition-theoretic divergent series*" (June 7, 2024)
- Number Theory Seminar, University of Texas at Tyler, Tyler, Texas, invited lecture (online format), "*Multiplicative theory of integer partitions*" (April 16, 2024)
- Cliff Lecture Series, Tulane University, New Orleans, Louisiana, invited lecture, "*Composition-theoretic series in partition theory*" (joint work with W. J. Keith, A. V. Sills – Feb. 23, 2024)
- Integers Conference 2023, University of Georgia, Athens, Georgia, contributed paper, " *q -series generating functions for 'integer mixtures'*" (joint work with G. Beck, P. Cuthbertson, Cuthbertson presenting author - May 20, 2023)
- Integers Conference 2023, University of Georgia, Athens, Georgia, contributed paper, "*Semimodular forms*" (joint work with A. P. Akande and M. Just – May 17 2023)
- Number Theory Seminar, Vanderbilt University, Nashville, Tennessee, invited lecture, "*Multiplicative theory of integer partitions*" (Mar. 22, 2023)
- Art in Silico Conference, Michigan Technological University, Houghton, Michigan, workshop and panel presentation, "*New music from mathematics*" (co-speakers Michael G. Maxwell, Andrew V. Sills – March 13, 2023)
- Number Theory Seminar, University of Georgia, Athens, Georgia, invited lecture, "*Semi-modular forms*" (joint work with A. P. Akande and M. Just – Oct. 14, 2022)
- Number Theory Colloquium, University of Virginia, Charlottesville, Virginia, invited lecture, "*Multiplicative theory of integer partitions*" (July 12, 2022)
- Number Theory Colloquium, University of Virginia, Charlottesville, Virginia, invited lecture, "*Making music with logarithms*" (June 14, 2022)
- Michigan Technological University, Houghton, Michigan, job talk, "*Multiplicative theory of integer partitions*" (Mar. 4, 2022)
- UGA Math Club, University of Georgia, Athens, Georgia, invited lecture, "*Making music with logarithms*" (Feb. 22, 2022)
- Specialty Seminar in Partition Theory, q -Series and Related Topics, Michigan Tech, Houghton, Michigan, invited lecture (online format), "*Semi-modular forms*" (joint work with A. P. Akande and M. Just – Dec. 2, 2021)
- Focus on Math Colloquium, Brigham Young University, Provo, Utah, invited lecture, "*Making music with logarithms*" (Nov. 4, 2021)
- Number Theory Seminar, Brigham Young University, Provo, Utah, invited lecture, "*Semi-modular forms*" (Nov. 4, 2021)
- Number Theory Seminar, University of Illinois Urbana-Champaign, Illinois, invited lecture (online format), "*Work in progress: a multiplicative theory of integer partitions*" (April 20, 2021)
- Specialty Seminar in Partition Theory, q -Series and Related Topics, Michigan Tech, Houghton, Michigan, invited lecture (online format), "*Under construction: a multiplicative theory of integer partitions*" (March 4, 2021)

- Nashville Math Club (high school group), Vanderbilt University, Nashville, Tennessee, invited workshop, “*Complex universe: Imaginary numbers and quaternions*” (Nov. 17, 2020)
- Number Theory Seminar, Vanderbilt University, Nashville, Tennessee, invited lecture (online format), “*Multiplicative theory of (additive) partitions*” (Oct. 27, 2020)
- Palmetto Joint Arithmetic, Modularity, and Analysis Series (PAJAMAS), Online conference, contributed talk, “*Analysis and combinatorics of partition zeta functions*” (joint work with A. V. Sills – Sept. 20, 2020)
- AMS/MAA Joint Mathematics Meetings (JMM), Denver, Colorado, AMS Special Session on Partition Theory and q -Series, invited lecture, “*Analysis and combinatorics of partition zeta functions*” (joint work with A. V. Sills – Jan. 18, 2020)
- Modular Forms, Arithmetic and Women in Mathematics (MAAIM) 2019, Emory University, Atlanta, Georgia, contributed talk, “*Sequentially congruent partitions and related bijections*” (joint work with Maxwell Schneider – Nov. 3, 2019)
- TATT 600: Emory Teaching Assistant Training and Teaching Opportunity (TATTO) Introductory Workshop 2019, Emory University, Atlanta, Georgia, invited lecture, “*You are the face of your subject*” (Aug. 20, 2019)
- Emory University, Atlanta, Georgia, Chalk Talk Physics Seminar, “*Partitions, statistical physics and the universe*” (June 27, 2019)
- Analytic and Combinatorial Number Theory: The Legacy of Ramanujan – A Conference in Honor of Bruce C. Berndt’s 80th Birthday, University of Illinois, Urbana-Champaign, Illinois, contributed talk, “*Eulerian series and the algebra of partitions*” (June 8, 2019)
- AMS Spring Southeastern Sectional Meeting, University of Alabama, Auburn, Alabama, Special Session on Experimental Mathematics, invited lecture, “*Sequentially congruent partitions and related bijections*” (joint work with Maxwell Schneider – March 16, 2019)
- Palmetto Number Theory Series (PANTS) XXXI, University of South Carolina, Columbia, South Carolina, “*Multiplicative theory of (additive) partitions*” (Dec. 8, 2018)
- Integers Conference 2018, Augusta, Georgia, invited lecture, “*Multiplicative theory of (additive) partitions*” (Oct. 6, 2018)
- Focus on Math Colloquium, Brigham Young University, Provo, Utah, invited lecture, “*Music of the primes (literally)*” (Sept. 20, 2018)
- Number Theory Seminar, Brigham Young University, Provo, Utah, invited lecture, “*Multiplicative theory of (additive) partitions*” (Sept. 20, 2018)
- Combinatory Analysis 2018: A Conference in Honor of George Andrews’ 80th Birthday, Pennsylvania State University, State College, Pennsylvania, contributed paper, “*Toward an algebra of partitions*” (June 23, 2018)
- AMS Western Sectional Meeting, Portland State University, Portland, Oregon, Special Session on Mock Modular and Quantum Modular Forms, invited lecture, “*Jacobi’s triple product, mock theta functions, unimodal sequences and the q -bracket*” (April 14, 2018)
- University of Georgia, Athens, Georgia, job talk, “*Music of the primes (literally)*” (Feb. 27, 2018)
- AMS/MAA Joint Mathematics Meetings (JMM), San Diego, California, AMS Contributed Papers Session on Partitions, Paths and Permutations, “*Toward an algebra of partitions*” (Jan. 12, 2018)
- Number Theory Seminar, Georgia Southern University, Statesboro, Georgia, invited lecture, “*Partition zeta functions*” (Nov. 9, 2017)
- Computational Sciences Seminar, Georgia Southern University, Statesboro, Georgia, invited lecture, “*Number theory in statistical physics: using partitions to compute expected values*” (Nov. 8, 2017)

- Algebra Seminar, University of Tennessee, Knoxville, Tennessee, invited lecture, "*Partition zeta functions*" (May 2, 2017)
- AMS/MAA Joint Mathematics Meetings (JMM), Atlanta, Georgia, invited panel, "*MAA Panel: Outside the Equation – Exploring Alternative Forms of Mathematics Communication*" (Jan. 7, 2017)
- AMS/MAA Joint Mathematics Meetings (JMM), Atlanta, Georgia, invited talk, "*MAA Special Presentation: Relatively Prime – Live Podcast*" (Jan. 6, 2017)
- AMS/MAA Joint Mathematics Meetings (JMM), Atlanta, Georgia, AMS Contributed Papers Session on Number Theory, "*Jacobi's triple product, mock theta functions and the q -bracket*" (Jan. 4, 2017)
- Emory University, invited lectures to undergraduate Probability and Statistics class, "*Partitions, statistical physics and the universe*" (Nov. 29 - 30, 2016)
- International Conference on Number Theory in Honor of Krishna Alladi for His 60th Birthday, University of Florida, Gainesville, Florida, invited lecture, "*Arithmetic of partitions*" (Mar. 20, 2016)
- AMS Spring Southeast Sectional Meeting, University of Georgia, Athens, Georgia, Special Session on Experimental Mathematics, invited lecture, "*Arithmetic of partitions*" (Mar. 5, 2016)
- International Conference on Number Theory, SASTRA University, Kumbakonam, India, invited lecture, "*Partition zeta functions*" (Dec. 21, 2015)
- Combinatorics Seminar, Pennsylvania State University, State College, Pennsylvania, invited lecture, "*Partition zeta functions*" (Oct. 23, 2015)
- Maker Faire Atlanta 2015, Decatur, Georgia, electronics build demonstrations sponsored by Acorn Amplifiers, "*How to make a mind-controlled synthesizer*" (Oct. 3–4, 2015)
- Palmetto Number Theory Series (PANTS) XXIV, Emory University, Atlanta, Georgia, "*Partition-theoretic zeta functions*" (Sept. 12, 2015)
- TEDx Emory 2014 Conference, Emory University, Atlanta, Georgia, invited lecture, "*Patterns etched in sound*" (Apr. 12, 2014)
- The Legacy of Ramanujan, SASTRA University, Kumbakonam, India, invited lecture, "*A new 'strange' quantum modular form*" (joint work with Larry Rolen – Dec. 14, 2012)
- International Conference on the Works of Srinivasa Ramanujan and Related Topics, University of Mysore, Mysore, India, invited lecture, "*A new 'strange' quantum modular form*" (joint work with Larry Rolen – Dec. 12, 2012)
- Berry College, Floyd, Georgia, invited lecture, "*Proofs without lyrics: Mathematical ideas in musical form*" (Nov. 26, 2012)
- Kentucky Section MAA Annual Meeting, Bellarmine University, Louisville, Kentucky, Contributed Paper Session, "*Al-Jabar: A mathematical game of strategy*" (joint wwith Cyrus Hettle – Mar. 31, 2012)
- Banff International Research Station for Mathematical Innovation and Discovery, Banff, Alberta, Canada, Mathematics: Muse, Maker, and Measure of the Arts Workshop, "*Proofs without lyrics: Mathematical ideas in musical form*" (Dec. 6, 2011)
- Spelman College, Atlanta, Georgia, invited lecture, "*Proofs without lyrics: Mathematical ideas in musical form*" (Sept. 22, 2011)
- University of Georgia, invited lecture to undergraduate Mathematics and Music class, "*Proofs without lyrics: Mathematical ideas in musical form*" (Sept. 21, 2011)
- Centre College, Danville, Kentucky, Bluegrass Undergraduate Mathematics Symposium, "*A golden pair of identities in the theory of numbers*" (Sept. 17, 2011)
- MAA MathFest, Lexington, Kentucky, Pure Mathematics Contributed Paper Session, "*A golden pair of identities in the theory of numbers*" (Aug. 6, 2011)

- Duke University, Durham, North Carolina, invited lecture to undergraduate neuroscience class, “*The Teletron mind-control interface for analog synthesizers*,” with ensemble performance of experimental score “Eclipses of the Sun and Moon” composed by J. Mangum (Apr. 20, 2011)
- MAA MathFest, Portland, Oregon, Undergraduate Student Paper Session, “*On a fruitful identity in the theory of numbers*” (Aug. 7, 2009)
- Clemson University, Clemson, South Carolina, invited lecture to REU class, “*On a fruitful identity in the theory of numbers*” (June 6, 2009)
- MAA MathFest, San Jose, California, “*Public interview with Robert Schneider by MAA President Joe Gallian*” (Aug. 3, 2007)

Selected art projects and public works

- [Album](#) of electronic baroque compositions generated by an AI that I programmed myself, *Switched-On Computer*, Cloud Recordings, digital download (March 2026)
- *Folk School At Midsummer* art show, Finlandia Art Gallery at the Finnish American Heritage Center, Hancock, Michigan, “*Experimental Whistle*”, ceramic musical instrument (June 12 – Sep. 10, 2025)
- [Album](#) of *musique concrète* compositions created from AI-generated audio, *Man and the Computer*, Cloud Recordings, digital download (Dec. 2024)
- Michigan Technological University 41-N Film Festival, Rosza Center for the Performing Arts, Houghton, Michigan, “*Gardening Not Architecture*” (collaborator Michael G. Maxwell, MTU Visual and Performing Arts faculty), musical performance with synthesizer and singing bowl (Nov. 9, 2024)
- Series of [software plugins](#) from MTU Mathematics and Music Lab (MML) for VCV Rack software modular synthesizer platform (Sep. 2024)
- Michigan Technological University *Art in Silico* computational art show, Copper Country Community Arts Center, Hancock, Michigan, “*Permutation Engine*” (collaborator Marci Schneider, fiber artist), pair of mathematical textiles based on computer science (April 2 – 5, 2024)
- Series of musical output from MTU Mathematics and Music Lab (MML) in partnership with independent music label, *New Music from Mathematics*, Cloud Recordings, online (Jan. 2022 –)
- Album of instrumental compositions in non-Pythagorean musical scale based on logarithms, *Songs for Other Worlds*, Cloud Recordings, cassette (Dec. 2022)
- *Parabola* mathematics journal for secondary school students, “*2ℤ Or Not 2ℤ: An odd comic about even numbers*”, ongoing comic series beginning Vol. 53, Issue 2 (Nov. 2017 – present); and “*Square root of negative pun*” (coauthor Mike Chapman, illustrator), comic series (Dec. 2018 –)
- *Advice from the Oceans* art installation, Athens Institute of Contemporary Art (ATHICA), Athens, Georgia, “*Ocean Telephone No. 3*”, “*Ocean Telephone No. 6*” and “*Synthesizer for the Wind*” (collaborations with Max Schneider), electronic sound sculptures (Sept. 13 – Nov. 16, 2014)
- Canadian Mathematical Society Meeting, Montreal, Quebec, Canada, musical score “*Reverie in Prime Time Signatures*” for play *MSI (Mathematical Sciences Investigation): The Anatomy of Integers and Permutations* by Andrew Granville, Jennifer Granville, electronic recording (Dec. 7 – 8, 2012)
- Gathering for Gardner – Celebration of Mind 2011, rules for original board game *Al-Jabar: A Mathematical Game of Strategy* based on abstract algebra (coauthor Cyrus Hettle), published online to commemorate Martin Gardner’s birthday (Oct. 21, 2011)
- AUX Experimental Arts Festival, Ciné Theater, Athens, Georgia, musical score “*Composition for Two Hemispheres*” for Teletron mind-controlled synthesizer, ensemble performance (May 7, 2011)

- Mathematical Sciences Research Institute (MSRI), Berkeley, California, musical score “*Reverie in Prime Time Signatures*” for play *MSI (Mathematical Sciences Investigation): The Anatomy of Integers and Permutations* by Andrew Granville and Jennifer Granville, electronic recording (Apr. 29, 2011)
- *The QR Code Show* art installation, Pink Hobo Gallery, Minneapolis, Minnesota, musical score “*Non-Pythagorean Composition No. 6*” based on logarithms, electronic recording (June 16 – Jul. 29, 2010)
- Institute for Advanced Study, Princeton, New Jersey, musical score “*Reverie in Prime Time Signatures*” for play *MSI (Mathematical Sciences Investigation): The Anatomy of Integers and Permutations* by Andrew Granville and Jennifer Granville, ensemble performance (Dec. 12, 2009)

Selected interviews and press about my art projects and public works

- J. Bloom, *The Apples in stereo*, J-Card Press (2025).
- C. B. Stockfleth (filmmaker), *The Elephant 6 Recording Co.*, Greenwich Entertainment (2023).
- Adam Clair, *Endless Endless: A Lo-Fi History of the Elephant 6 Mystery*, Hachette Books (2022).
- David Peisner, “True Harmony,” *Atlanta Magazine*, Feb. 2018.
- Carol Clark, “New method calculates equilibrium constant at the small scale,” *Phys.org*, 29 Jan. 2018.
- Joel Werner, “The Infinite God,” *Sum of All Parts*, Australian Broadcasting System, 29 Sept. 2017.
- Caitie Kealy, “Apples in Stereo frontman Robert Schneider releases nerdy new math strategy game,” *AVClub.com*, 17 July 2012.
- Scott Thill, “MindFlex Hack Turn Brain Waves Into Music,” *Wired.com*, 21 Oct. 2010.
- Evie Nagy, “6 Questions with Robert Schneider,” *Billboard*, Vol. 122 No. 14, 10 April 2010: 35.
- Mick Hamer, “Flexible Scales and Immutable Octaves,” *New Scientist*, 23 Feb. 2008: 32 – 34.
- Michael Molenda, “Producer’s Desk: Robert Schneider,” *Guitar Player*, Vol. 36 No. 12, Dec. 2002: 30.

Memberships in professional organizations

- American Mathematical Society (AMS)
- American Society of Composers, Authors and Publishers (ASCAP)
- Society for Industrial and Applied Mathematics (SIAM)