Sarah C. Koch

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Employment

University of Michigan	Arthur F. Thurnau Professor	2021 – present
University of Michigan	Professor	2021 – present
University of Michigan	Associate Professor	2016 – 2021
University of Michigan	Assistant Professor	2013 – 2016
Harvard University	Benjamin Peirce Assistant Professor	2010 – 2013
Harvard University	NSF Mathematical Sciences Research Postdoctoral Fellow	2009 – 2011
University of Warwick	NSF Mathematical Sciences Research Postdoctoral Fellow	2008 – 2009

Education

PhD	Cornell University, Mathematics Advisor: John H. Hubbard	2002 – 2008
PhD	Université de Provence, Mathematics Advisor: John H. Hubbard	2006 – 2007
MS	Cornell University, Mathematics	2002 – 2005
BS	Rensselaer Polytechnic Institute, Mathematics graduated summa cum laude	1997 – 2001

Research Interests

Complex dynamics (in one and several variables), Teichmüller theory

Awards and Honors

* *Sulski Lecture at the College of the Holy Cross*, Spring 2026
* *Distinguished Lecture Series at Indiana University*, Spring 2025
* *Distinguished Lecture at Kansas State University*, Spring 2024
* *Deborah and Franklin Tepper Haimo National Teaching Award*, MAA MathFest, Summer 2023
* *Simons Professor*, Mathematical Sciences Research Institute, Spring 2022
* *Distinguished Teaching Award*, Mathematical Association of American, Michigan Section, Spring 2021
* *Arthur F. Thurnau Professor*, University of Michigan, Spring 2021
* *Dresden Lecture Series*, Swarthmore College, Spring 2021
* *Harold R. Johnson Diversity Service Award*, University of Michigan, Spring 2020
* *Nominated for the Golden Apple Teaching Award*, University of Michigan, Spring 2020
* *Plenary lecture on the work of Maryam Mirzakhani*, the first International Women in Mathematics Day, MSRI, Berkeley, California, May 2019
* *AMS-MAA Invited Address*, Joint Mathematics Meetings, Baltimore, Maryland, January 2019
* *Honored Instructor Award*, University of Michigan, Fall 2018, Winter 2019, Fall 2019, Winter 2020, Fall 2022, Fall 2024
* *AWM Mentorship and Advocacy Award*, University of Michigan, Spring 2018
* *AMS Invited Address*, AMS Meeting, Indiana University; Bloomington, Indiana, April 2017
* *Freedman Colloquium Address*, Boston University; Boston, Massachusetts, March 2017
* *Class of 1923 Memorial Teaching Award*, University of Michigan, 2016
* *Harvard University Certificate of Teaching Excellence*, Harvard University, 2012 and 2013
* *Robert John Battig Prize in Mathematics*, Cornell University, 2006

Funding

* *National Science Foundation Research Grant DMS–2506489*, 2025–2028
* *National Science Foundation Research Grant DMS–2104649*, 2021–2024 (extended until 2025)
* *Faculty Structured Outreach Support Fellowship*, University of Michigan, June 2019
* *Associate Professor Support Fund*, University of Michigan, 2018–2021
* *National Science Foundation CAREER Grant DMS–1452392*, 2015–2021
* *National Science Foundation Conference Grant DMS–1500750, Dynamical developments: a conference in complex dynamics and Teichmüller theory*, Jacobs University, Aug 17–21, 2015
* *National Science Foundation Research Grant DMS–1422335*, 2013–2017
* *Sloan Research Fellowship* 2013–2017
* *National Science Foundation Mathematical Sciences Research Postdoctoral Fellowship*, 2008–2011
* *National Physical Science Consortium Graduate Research Fellowship*, 2001–2007
* *Bell Labs Graduate Research Fellowship*, 2001–2005
  Award was declined.
* *National Science Foundation Graduate Research Fellowship*, 2001–2004
  Award was declined.

Papers

* *Boundary stable Thurston maps*
  with W. Floyd, R. Lodge, W. Parry, K. Pilgrim, and E. Saenz
  In preparation, 2026.
* *Realizing Thurston Matrices*
  with X. Buff, W. Floyd, and W. Parry
  In preparation, 2026.
* *Algebraic conspiracies*
  with X. Buff
  In preparation, 2026.
* *Realizing polynomial portraits*
  with W. Floyd, D. Kim, W. Parry, and E. Saenz
  Ergodic Theory and Dynamical Systems, to appear.
* *Totally real points in the Mandelbrot set*
  with X. Buff
  Submitted, 2023.
* *On the deck groups of iterates of bicritical rational maps*
  with K. Lindsey and T. Sharland
  Submitted, 2023.
* *Bicritical rational maps with a common iterate*
  with K. Lindsey and T. Sharland
  International Mathematics Research Notices, 2023.
* *Factoring Gleason polynomials modulo 2*
  with X. Buff, W. Floyd, and W. Parry
  Journal de Théorie des Nombres de Bordeaux, Vol. 34, 2022.
* *Prefixed curves in moduli space*
  with X. Buff and A. Epstein
  American Journal of Mathematics, Vol. 144, 2022.
* *Eigenvalues of the Thurston operator*
  with X. Buff, A. Epstein
  Journal of Topology, Vol. 13, 2020.
* *On the postcritical set of a rational map*
  with L. DeMarco, C. McMullen
  Mathematische Annalen, Vol. 377, 2020.

- *Origami, affine maps, and complex dynamics*
  with W. Floyd, G. Kelsey, R. Lodge, W. Parry, K. Pilgrim, E. Saenz
  Arnold Mathematical Journal, Vol. 3, 2017.
- *A disconnected deformation space of rational maps*
  with E. Hironaka
  Journal of Modern Dynamics, Vol. 11, 2017.
- *Roots, Schottky Semigroups, and a proof of Bandt's conjecture*
  with D. Calegari, A. Walker
  Ergodic Theory Dynamical Systems, Vol. 37, 2017.
- *Computing dynamical degrees of rational maps on moduli space*
  with R. Roeder
  Ergodic Theory and Dynamical Systems, Vol. 36, 2016.
- *Pullback invariants of Thurston maps*
  with K. Pilgrim, N. Selinger
  Transactions of the American Mathematical Society, 368, No. 7, 2016.
- *On balanced planar graphs, following W. Thurston*
  with Tan Lei
  Thurston Memorial Conference Proceedings, 2015.
- *An analytic construction of the Deligne-Mumford compactification of the moduli space of curves*
  with J. H. Hubbard
  Journal of Differential Geometry, Vol. 98 No. 2, 2014.
- *Teichmüller theory and critically finite endomorphisms*
  Advances in Mathematics, Vol. 248, 2013.
- *Böttcher coordinates*
  with X. Buff, A. Epstein
  Indiana University Mathematics Journal, Vol. 61 No. 5, 2012.
- *Twisted matings and equipotential gluings*
  with X. Buff, A. Epstein
  Annales de la faculté des sciences de Toulouse, Sér. 6 Vol. 21 No. S5, 2012.
- *Questions about polynomial matings*
  with X. Buff, A. Epstein, D. Meyer, K. Pilgrim, M. Rees, Tan Lei
  Annales de la Faculté des Sciences de Toulouse, Sér. 6 Vol. 21 No. S5, 2012.
- *On a theorem of Kas and Schlessinger*
  with O. Antolín-Camarena
  Quasiconformal Mappings, Riemann Surfaces, and Teichmüller Spaces.
  Contemporary Mathematics, 575. American Mathematical Society, 2012.
- *Iterated monodromy of a two-dimensional map* with J. Belk
  In the tradition of Ahlfors-Bers V.
  Contemporary Mathematics, 510. American Mathematical Society, 2010.
- *SaddleDrop: a tool for studying dynamics in* $\mathbb{C}^2$
  Ramanujan Mathematical Society, Lecture Notes Series, Vol. 10, 2010.
- *On Thurston's Pullback Map*
  with X. Buff, A. Epstein, K. Pilgrim
  Complex Dynamics, Families and Friends, AK Peters, 2009.

Invited Conference Lectures since 2012

- *Invited Speaker for SB80*
  IMPA, Rio de Janeiro, Brazil, November 2027.
- *Invited Speaker for KMP60*
  University of Michigan, Ann Arbor, Michigan, June 2027.
- *Plenary Speaker for ICM Satellite Conference*
  Vanderbilt University, Nashville, Tennessee, July 2026.

- *Invited Speaker for Arithmetic Dynamics Special Session, AMS Sectional Meeting*
  Boston College, Boston, Massachusetts, March 2026.
- *Plenary Speaker for Graduate Student Topology and Geometry Conference*
  Indiana University, Bloomington, Indiana, April 2025.
- *Invited Speaker for graduate students in BiG ideas in Dynamics, sponsored by AIM*
  held virtually, September 2024.
- *Invited Speaker at Simons Symposium in Complex, Algebraic, and Arithmetic Dynamical Systems*
  Schloss Elmau, Germany, June 2024.
- *Invited Speaker at Centennial Michigan MAA section meeting*
  University of Michigan, Ann Arbor, Michigan, April 2024.
- *Invited Speaker at Midwest Dynamical Systems Conference*
  University of Illinois at Chicago, Chicago, Illinois, October 2023.
- *Invited Speaker at Around the Mandelbrot set: a conference in honor of Mitsuhiro Shishikura*
  Kyoto University, Kyoto, Japan, May 2023.
- *Invited Speaker at the MAA Golden Section Meeting*
  California State University Maritime Academy, Vallejo, California, February 2022.
- *Invited Speaker at the Introductory Workshop as part of the semester in Complex Dynamics*
  MSRI, February 2022.
- *Invited Speaker at the Connections Workshop as part of the semester in Complex Dynamics*
  MSRI, February 2022.
- *Topology festival*
  held virtually at Cornell University, Ithaca, New York, May 2021.
- *Plenary Speaker: Graduate Student Topology & Geometry Conference*
  held virtually at Indiana University; Bloomington, Indiana, April 2021.
- *Geometry and Topology Workshop Turkey III*
  held virtually, March 2021.
- *Plenary Speaker*; MAA North Carolina State Dinner
  held virtually at Lenoir-Rhyne, March 2021.
- *Current Trends in Arithmetic Dynamics Special Session*
  Joint Math Meetings, held virtually, Jan 2021.
- *Arithmetic Dynamics Special Session*
  Joint Math Meetings, Denver, Colorado, Jan 2020.
- *Algorithms in Complex Dynamics and Mapping Class Groups Workshop*
  ICERM, Providence, Rhode Island, November 2019.
- *AGNES Conference*
  Boston College, Boston, Massachusetts, September 2019.
- *Geometric Topology, Geometric Group Theory & Dynamical Systems Conference*
  Inter-University Centre, Dubrovnik, Croatia, June 2019.
- *Invited Lecture: the work of Maryam Mirzakhani*
  International Women in Mathematics Day, MSRI, Berkeley, California, May 2019.
- *Arithmetic Dynamics Special Session*
  AMS Meeting; University of Hawaii, Honolulu, Hawaii, March 2019.
- *AMS-MAA Invited Address*
  Joint Mathematics Meetings, Baltimore, Maryland, January 2019
- *Complex Dynamics Workshop*
  Université Paul Sabatier, Toulouse, France, May 2018.
- *Arithmetic Dynamics Special Session*
  AMS Meeting; Northeastern University, Boston, Massachusetts, April 2018.
- *Keynote Speaker: 2017 Midwestern Workshop on Asymptotic Analysis*
  Indiana University Purdue University Indianapolis; Indianapolis, Indiana, October 2017.
- *13th William Rowan Hamilton Geometry and Topology Workshop*
  Hamilton Mathematics Institute, Dublin, Ireland, August 2017.

- *Arithmetic Dynamics Special Session*
  Mathematical Congress of the Americas; Montreal, Canada, July 2017.
- *Algebraic Dynamics*
  Rennes, France, June 2017.
- *Carolina Dynamics Symposium*
  University of North Carolina; Charlotte, North Carolina, April 2017.
- *AMS Invited Lecture*
  AMS Meeting, Indiana University; Bloomington, Indiana, April 2017.
- *Celebrating 100 years of the Benjamin Peirce Program*
  Harvard University; Cambridge, Massachusetts, June 2016.
- *Mexican-American Workshop in Holomorphic Dynamics*
  Cancun, Mexico, June 2016.
- *Fractal Geometry, Hyperbolic Dynamics and Thermodynamical Formalism*
  ICERM; Providence, Rhode Island, March 2016.
- *Arithmetic Dynamics*
  AMS Special Session, Joint Math Meetings; Seattle, Washington, Jan 2016.
- *Wasatch topology Conference*
  University of Utah; Salt Lake City, Utah, Dec 2015.
- *Midwest Topology Seminar*
  University of Chicago; Chicago, Illinois, May 2015.
- *13th Annual Bloomington Geometry Workshop*
  Indiana University; Bloomington, Indiana, April 2015.
- *Ahlfors-Bers Colloquium VI*
  Plenary Lecture, Yale University; New Haven, Connecticut, Oct 2014.
- *Holomorphic Dynamics in One and Several Variables*
  Kolon Hotel; Gyeoung-ju, Korea, Aug 2014.
- *Dynamics and Moduli Spaces*
  Senior lecture, GEAR Junior Retreat, University of Michigan; Ann Arbor, Michigan, May 2014.
- *Sixth Iberoamerican Congress on Geometry*
  Plenary Lecture, CUNY; New York, New York, May 2014.
- *Complex Dynamics*
  AMS Special Session, Joint Meetings of the AMS and the MAA; Baltimore, Maryland, Jan 2014.
- *Mathematical Congress of the Americas*
  Guanajuato, Mexico, August 2013.
- *Complex Dynamics and Arithmetic Geometry Conference*
  University of Illinois at Chicago; Chicago, Illinois, June 2013.
- *Tech Topology Conference*
  Georgia Institute of Technology; Atlanta, Georgia, Dec 2012.
- *Texas Geometry and Topology Conference*
  Rice University; Houston, Texas, Nov 2012.
- *Midwest Dynamical Systems Meeting*
  Notre Dame; South Bend, Indiana, Oct 2012.
- *Algebraic Dynamics Conference*
  UC Berkeley; Berkeley, California, May 2012.
- *Dynamics on Moduli Spaces Workshop*
  ICERM; Providence, Rhode Island, April 2012.
- *Ergodic Theory Workshop*
  University of North Carolina, Chapel Hill; Chapel Hill, North Carolina, March 2012.
- *Arithmetic Dynamics Conference*
  ICERM; Providence, Rhode Island, March 2012.
- *Dynamical Systems in Algebraic and Arithmetic Geometry*
  AMS Special Session, Joint Meetings of the AMS and the MAA; Boston, Massachusetts, Jan 2012.

Colloquium and Seminar Lectures since 2012

Dynamics seminar, Stony Brook University, Stony Brook, New York, April 2026.
Department Colloquium, Brown University, Providence, Rhode Island, April 2026.
Algebraic Dynamics Seminar, Harvard University, March 2026.
No Boundaries/Geometry & Topology Seminar, University of Chicago, December 2025.
PIMS Network-wide colloquium, Pacific Institute for the Mathematical Sciences, February 2024.
Department Colloquium, University of Oklahoma, Norman, Oklahoma, November 2023.
Department Colloquium, University of Virginia, Charlottesville, April 2023.
Department Colloquium, The Ohio State University, April 2023.
Department Colloquium, University of Waterloo, Waterloo, April 2023.
Department Colloquium, University of California, Berkeley, April 2022.
Number Theory Seminar, Oklahoma State University, April 2022.
Distinguished Women in Mathematics Colloquium, Oklahoma State University, April 2022.
Department Colloquium, University of San Francisco, San Francisco, March 2022.
Department Colloquium, Cornell University, May 2021 (virtual).
Arithmetic Dynamics International Online Seminar (ADIOS), December 2020 (virtual).
Department Colloquium, Rice University, November 2020 (virtual).
Quasiworld virtual seminar, UCLA, May 2020 (virtual).
Department Colloquium, Duke University, Durham, North Carolina, October 2019.
Department Colloquium, Vanderbilt University, Nashville, Tennessee, October 2019.
Department Colloquium, Northern Illinois University, Dekalb, Illinois, April 2019.
Department Colloquium, Rutgers University, New Brunswick, New Jersey, February 2019.
Department Colloquium, University of Washington, Seattle, Washington, October 2018.
Department Colloquium, Georgia Tech, Atlanta, Georgia, June 2018.
Department Colloquium, University of Michigan-Dearborn, Dearborn, Michigan, March 2018.
Dynamics Seminar, University of Toronto, Toronto, Ontario, February 2018.
Freedman Colloquium, Boston University, Boston, Massachusetts, March 2017.
Department Colloquium, Brown University, Providence, Rhode Island, March 2017.
Geometric Topology Seminar, Columbia University, New York, New York, April 2016.
Department Colloquium, Florida State University, Tallahassee, Florida, Nov 2015.
Topology Seminar, Florida State University, Tallahassee, Florida, Nov 2015.
Geometry Seminar, Brown University, Providence, Rhode Island, April 2015.
Geometric Group Theory Seminar, Tufts University, Medford, Massachusetts, April 2015.
Department Colloquium, University of Notre Dame, South Bend, Indiana, March 2015.
Department Colloquium, University of Tennessee, Knoxville, Tennessee, Jan 2015.
Dynamics Seminar, Northwestern University; Chicago, Illinois, Nov 2014.
Dynamics Seminar, Cornell University; Ithaca, New York, Sept 2014.
Special Lecture, ICERM, Providence, Rhode Island, July 2014.
Dynamics Seminar, University of Chicago; Chicago, Illinois, June 2014.
Dynamics Seminar, Boston University; Boston, Massachusetts, April 2014.
SUMS Colloquium, Brown University; Providence, Rhode Island, April 2014.
MASS Colloquium, Penn State University; State College, Pennsylvania, Nov 2013.
Dynamics and Geometry Seminar, Penn State University; State College, Pennsylvania, Nov 2013.
Dynamics Seminar, SUNY Stony Brook; Stony Brook, New York, Oct 2013.
Complex Analysis Seminar, CUNY; New York, New York, Oct 2013.
Dynamics Seminar, Cornell University; Ithaca, New York, Oct 2013.
Complex Analysis and Dynamics Seminar, University of Michigan; Ann Arbor, Michigan, Sept 2013.
Department Colloquium, Rensselaer Polytechnic Institute; Troy, New York, April 2013.
Dynamics Seminar, SUNY Stony Brook; Stony Brook, New York, April 2013.
Department Colloquium, University of Southern California; Los Angeles, California, March 2013.
Special Dynamics and Geometry Seminar, Harvard University; Cambridge, Massachusetts, March 2013.
Department Colloquium, Rutgers University; Newark, New Jersey, Feb 2013.

Department Colloquium, University of Michigan; Ann Arbor, Michigan, Jan 2013.
Department Colloquium, Williams College; Williamstown, Massachusetts, Jan 2013.
Department Colloquium, Indiana University; Bloomington, Indiana, Jan 2013.
Department Colloquium, Ohio State University; Columbus, Ohio, Jan 2013.
Department Colloquium, Michigan State University; East Lansing, Michigan, Nov 2012.
Department Colloquium, University of Illinois at Chicago; Chicago, Illinois, Nov 2012.
Geometry/Topology Seminar, University of Chicago; Chicago, Illinois, Oct 2012.
Research Seminar in Mathematics, Northeastern University; Boston, Massachusetts, Sept 2012.
Geometry/Topology Seminar, Yale University; New Haven, Connecticut, May 2012.
Geometry Seminar, Indiana University; Bloomington, Indiana, May 2012.
Complex Analysis Seminar, CUNY; New York, New York, April 2012.
Department Colloquium, Tufts University; Medford, Massachusetts, April 2012.
Research Seminar, ICERM, Providence, Rhode Island, March 2012.
Department Colloquium, Indiana University-Purdue University; Indianapolis, Indiana, Jan 2012.

Mathematical Outreach and Education Presentations

* *Invited Speaker*; Democratizing the Joy of Mathematics; JMM, Washington DC, January 2026.
* *Invited Speaker*; Undergraduate Mathematics Colloquium; Northwestern University, January 2026.
* *Keynote Speaker*; George Kitchen Memorial Lecture; Kalamazoo College, April 2025.
* *Keynote Speaker*; University of Oklahoma Math Day; University of Oklahoma, November 2023.
* *Invited Speaker*; Center for Educational Outreach Meeting; University of Michigan, September 2023.
* *Invited Speaker*; Math Encounters; hosted by MoMath, May 2021 (virtual).
* *Invited Guest*; Meet a Mathematician; hosted by MoMath, December 2020 (virtual).
* *Invited Speaker*; Faculty Forum; hosted by the Center for Educational Outreach
  University of Michigan, October 2020 (virtual).
* *Invited Speaker*; LSA Finance Group Meeting; University of Michigan, October 2020 (virtual).
* *Invited Speaker*; Project NExT special session on outreach
  Joint Math Meetings, Denver, Colorado, January 2020.
* *Keynote Speaker*; Topology Students Workshop
  Georgia Institute of Technology, Atlanta, Georgia, June 2018.
* *Invited Speaker*; AMS Graduate Student Chapter
  Central Michigan University, Mount Pleasant, Michigan, November 2017.
* *Invited Speaker and Panelist*; Graduate Research Opportunities for Women (GROW)
  Northwestern University, Evanston, Illinois, October 2017.
* *Plenary speaker*; Young Mathematicians Conference
  Ohio State University, Columbus, Ohio, August 2017.
* *Invited speaker*; invited to speak in the Guest Lecture Series at Eastern Michigan University
  Ypsilanti, Michigan, November 2016.
* *UMS at UIC Plenary Speaker*; Undergraduate Mathematics Symposium
  University of Illinois at Chicago, Chicago, Illinois, October 2016.
* *Keynote Speaker*, Capstone Event
  FEMMES Capstone, University of Michigan, March 2016.
* *Invited speaker*, European Campus of Excellence Program for undergraduate students
  Jacobs University, Bremen, Germany, July 2015.
* *MathByte speaker*; invited to record short math clip for the ICERM webpage
  ICERM, Providence, Rhode Island, April 2015.
* *Main speaker* at *Who Wants to be a Mathematician?*
  An event for high school students, University of Michigan, Ann Arbor, Michigan, March 2015.
* *Junior Colloquium Speaker*
  University of Tennessee, Knoxville, Tennessee, Jan 2015.
* *Invited speaker*; invited to give a special lecture to the REU
  ICERM, Providence, Rhode Island, July 2014.

- *SUMS Colloquium Speaker* at SUMS Program
  Brown University, Providence, Rhode Island, April 2014.
- *MASS Colloquium Speaker* at MASS Program
  Penn State University, State College, Pennsylvania, November 2013.
- *Instructor*: REU at ICERM invited to teach a minicourse in Complex Dynamics
  ICERM, Providence, Rhode Island, July 2012 and July 2013.

Teaching Experience

- *Instructor; University of Michigan, Winter 2023*
  Math 297, Intro to Analysis
- *Instructor; University of Michigan, Fall 2022*
  Math 596, Complex Analysis
- *Instructor; University of Michigan, Fall 2018, Fall 2019, Fall 2020, Fall 2023, Fall 2024, Fall 2026*
  Math 295, Honors Mathematics I
- *Instructor; University of Michigan, Winter 2018, Fall 2025*
  Math 636, The topology and dynamics of rational maps
- *Instructor; University of Michigan, Winter 2016, Winter 2019, Winter 2020, Winter 2021, Winter 2024, Winter 2025, Winter 2027*
  Math 296, Honors Mathematics II
- *Instructor; University of Michigan, Fall 2015*
  Math 591, General and Differential Topology
- *Instructor; University of Michigan, Fall 2014, Fall 2017, Fall 2018*
  Math 312, Applied Modern Algebra
- *Instructor; University of Michigan, Winter 2014*
  Math 636, Riemann Surfaces and Complex Dynamics
- *Instructor; University of Michigan, Fall 2013, Fall 2014, Fall 2017, Fall 2021*
  Math 490, Introduction to Topology
- *Instructor; Harvard University, Fall 2012 & Spring 2013*
  Math 23a & Math 23b, Linear Algebra and Real Analysis
- *Instructor; Harvard University, Fall 2011, Spring 2012 & Spring 2026 (Math 25b)*
  Math 25a & Math 25b, Honors Linear Algebra and Real Analysis
- *Instructor; Harvard University, Spring 2011*
  Math 296, Complex Dynamics and Fractal Groups
- *Instructor; Harvard University, Fall 2010*
  Math 130, Classical Geometries
- *Instructor; Harvard University, Fall 2009*
  Math 121, Linear Algebra and Applications
- *Instructor; Cornell University, Fall 2007*
  Math 111, Calculus I

Conferences Organized

- Organizer of *Follow the rabbit: a conference on the dynamics of rational maps*
  University of Michigan, Ann Arbor, Michigan, June 2027.
- Organizer of *The Topology and Dynamics of Rational Maps: a companion workshop to Math 636*
  Boston College, Boston, Massachusetts, December 2025.
- Organizer of *Dynamical Developments: Degenerations of Flat Surfaces and Rational Maps*
  Toulouse, France, Summer 2025.
- Organizer of the *The little dynamics workshop*
  University of Michigan, Ann Arbor, Michigan, Spring 2024.
- Organizer of the *Connections Workshop*
  MSRI, Berkeley, California, Spring 2022.

- Lead organizer of the *Semester in Complex Dynamics*
  MSRI, Berkeley, California, Spring 2022.
- Lead organizer of the *Illustrating dynamics and probability workshop*
  Illustrating Mathematics Semester; ICERM, Providence, Rhode Island, Fall 2019.
- Organizer of the *Graduate Research Opportunities for Women Conference* (GROW)
  University of Michigan, Ann Arbor, Michigan, October 2018.
  GROW is part of a conference series that received the
  2020 AMS Award for Mathematics Programs That Make a Difference.
- Organizer of the *The topology and dynamics of rational maps*, a companion workshop to Math 636
  University of Michigan, Ann Arbor, Michigan, April 2018.
- Organizer of *Rational maps and braids: an informal gathering*
  Harvard University, Cambridge, Massachusetts, August 2017.
- Organizer of the *Small arithmetic dynamics workshop*
  University of Michigan, Ann Arbor, Michigan, May 2017.
- Organizer of the *Mentoring Workshop on Graduate Advising*
  University of Michigan, Ann Arbor, Michigan, May 2017.
- Organizer of the *Discrete Structures in Conformal Dynamics and Geometry Special Session*
  Indiana University, Bloomington, Indiana, April 2017.
- Organizer, *Public Lecture Series*
  University of Michigan, Fall 2016–present.
- Organizer of the *Workshop in Arithmetic Dynamics*
  University of Michigan, Ann Arbor, Michigan, December 2015.
- Organizer of *Dynamical Developments: a conference in Complex Dynamics and Teichmüller theory*
  Jacobs University Bremen, Germany, August 2015.
- Organizer of the *Midwest Dynamical Systems Meeting*
  University of Michigan, Ann Arbor, Michigan, November 2014.
- Organizer of the *Complex Dynamics Special Session*
  Sixth Iberoamerican Congress on Geometry, CUNY; New York, New York, May 2014.
- Organizer of the *Postcritically Finite Rational Maps Workshop*
  American Institute of Mathematics, Palo Alto, California, March 2014.
- Organizer of the *AMS Mathematics Research Community in Complex Dynamics*
  Snowbird, Utah, June 2013.
- Organizer of the very first *PechaKucha: Mathematics* 20×20
  Harvard University, March 2013.
- Organizer of the conference *Moduli Spaces Associated to Dynamical Systems*
  ICERM, April 2012.
- Organizer of the conference *Trends in Complex Dynamics*
  Clay Math Institute, May 2011.

Service: Mathematics Community

- *Member, Editorial Board, La Matematica*, Oct 2020–present.
- *Member, Editorial Board, Experimental Mathematics*, Jan 2020–Dec 2022.
- *Member, Editorial Board, Journal of Conformal Geometry and Dynamics*, Feb 2020–Jan 2024.
- *Member, Editorial Board, Journal of Fractal Geometry*, Jan 2018–present.
- *Member, AMS Invited Address Committee for National Meetings*, July 2024–June 2027.
- *Member, AMS Central Section Program Committee*, Feb 2018– Jan 2020.
- *Member, AMS Committee on Committees*, Feb 2017– Jan 2019, and Feb 2025 – Jan 2027.
- *Reviewer, AMS Simons Travel Grants Committee*, 2015–2018.
- *Panelist, National Science Foundation*
  Spring 2010, Spring 2011, Spring 2014, Spring 2016, Spring 2018, Fall 2018, Fall 2020, Fall 2023, Spring 2025.
- *Referee* for countably many journals.

Service: University of Michigan

- *Member; Thurnau Advisory Council* , 2024–2026.
- *Member; Thurnau Selection Committee* , 2022–2023.
- *Member; Math Department Personnel Committee* , 2019–2022, 2023–2024.
- *Chair; Outreach K-12 Committee*, 2019–present.
- *Member; Math Department Climate Committee*, 2019–2021.
- *Faculty Advisor; Undergraduate Math Club*, 2013–2014, Fall 2016, Fall 2018–present.
- *Member; Goldwater Nomination Selection Committee*, Fall 2016–Fall 2025.
- *Member; Math Department Executive Committee*, 2015–2016, 2017–2019.
- *Member; Launch Committee for new faculty*, 2018–2019.
- *Member; REU Committee*, 2017–2019.
- *Faculty Advisor* to FEMMES: Females Excelling More in Math, Engineering, and the Sciences Winter 2016–present.
- *Faculty Mentor* for $\mathrm{LoG}(\mathrm{M})$; together with J. Powell, mentored three undergraduates in the semester-long project *Exploring the Combinatorics of the Mandelbrot set* University of Michigan, Fall 2017.

Math Outreach: University of Michigan

- *Director*; Math Corps at U(M); started a summer camp for middle school and high school students from Southeast Michigan that closely follows the educational and mentoring practices of the Math Corps Program based at Wayne State University, Summer 2019–present.
- *Michigan Math Circle Organizer*; organizing weekly math circles for high school and middle school students, Fall 2022–present.
- *Washtenaw and Wayne Counties Math Circle Organizer*; organizing monthly math circles for teachers from Southeast Michigan, Fall 2022–present.
- *Activity Leader* for Wolverine Pathways; regularly led math circle sessions on Saturdays for middle school and high school students from Ypsilanti, Southfield, and Detroit, Fall 2016, Fall 2017, Fall 2018.
- *Organizer* for Math Mondays in Ypsilanti; organized bi-weekly visits to Ypsilanti Middle School to do math with 6th, 7th, and 8th graders; Fall 2018–Spring 2020.
- *Organizer* for Super Saturdays (virtual); organize online math sessions on Saturday mornings where members from the Michigan Math Department do math with 6th, 7th, and 8th graders; Fall 2020–present.
- *Organizer* for Math Mondays and Wednesdays in Ypsilanti; organized weekly visits to Ypsilanti Middle School to do math with 7th graders; Fall 2025–present.

Postdocs mentored

Matthieu Astorg, University of Michigan, 2015–2016
Jonguk Yang, University of Michigan, 2018–2019
Becca Winarski, University of Michigan, 2018–2020
Yusheng Luo, University of Michigan, 2020–2021
Khashayar Filom, University of Michigan, 2020–2023
Roberta Shapiro, University of Michigan, 2024–present
Darragh Glynn, University of Michigan, 2026–present

Graduate students mentored

Rohini Ramadas, co-advised with D. Speyer; (Sumner B. Myers Prize winner),
University of Michigan, PhD 2017
Jasmine Powell, University of Michigan, PhD 2020
Alex Kapiamba; (Sumner B. Myers Prize winner),
University of Michigan, PhD 2023

Malavika Mukundan, University of Michigan, PhD 2024
Danny Stoll, University of Michigan, PhD 2024
Schinella D'Souza, University of Michigan, PhD 2025
Emilee Cardin, University of Michigan MLB program
Nick Freeman, University of Michigan MLB program

Graduate PhD thesis committees

Giulio Tiozzo, Harvard University, PhD 2013
Paul Reschke, University of Illinois at Chicago, PhD 2013
Holly Krieger, University of Illinois at Chicago, PhD 2013
Brandon Seward, University of Michigan, PhD 2015
David Renardy, University of Michigan, PhD 2016
Gene Kopp, University of Michigan, PhD 2017
Corey Everlove, University of Michigan, PhD 2018
Robert Walker, University of Michigan, PhD 2019
Samantha Pinella, University of Michigan, PhD 2020
Salman Siddiqi, University of Michigan, PhD 2020
Feng Zhu, University of Michigan, PhD 2020
Konstantin Bogdanov, Aix-Marseille Université, PhD 2020
Van Tu Le, Université Paul Sabatier, PhD 2020
Valentin Huguin, Université Paul Sabatier, PhD 2021
Mark Greenfield, University of Michigan, PhD 2021
Roberta Shapiro, Georgia Institute of Technology
Sergey Shemyakov, Aix-Marseille Université PhD 2022
Robert Cochrane, University of Michigan, PhD 2022
Minsik Han, Brown University, PhD 2022
Mariam Al-Hawaj, University of Toronto, PhD 2024
Nikolai Prochorov, Aix-Marseille Université, PhD 2025
Caroline Davis, Indiana University, PhD 2025

Undergraduate theses advised

Benjamin Dozier, Harvard University, 2011–2012
Adrian Sanborn; (Hoopes Prize winner), Harvard University, 2010–2011