ANNE SHIU

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Department of Mathematics
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Texas A&M University
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EMPLOYMENT	**Assistant Professor**, Dept. of Mathematics, Texas A&M University (since Fall 2014).
	L.E. Dickson Instructor/ NSF Postdoctoral Fellow, University of Chicago (2011–2014). Mentors: Mathias Drton and Lek-Heng Lim
	NSF Postdoctoral Fellow, Duke University (2010–2011). Mentor: Ezra Miller

EDUCATION

University of California, Berkeley   **Ph.D.**, May 2010
Mathematics with Designated Emphasis in Genomic and Computational Biology
Advisors: Lior Pachter and Bernd Sturmfels

University of Chicago, Chicago IL   **B.S.**, June 2005
Major: Mathematics

RESEARCH INTERESTS

Algebraic, geometric, and combinatorial approaches to mathematical biology; biochemical dynamical systems; neural coding; algebraic statistics; genomics.

PREPRINTS

In Mathematics, authors are listed alphabetically, with the exception of some applied-math papers. Texas A&M graduate-student co-authors are indicated by "", and postdocs by "**".*

32. *Joining and decomposing reaction networks*, Elizabeth Gross, Heather A. Harrington, Nicolette Meshkat, and Anne Shiu. Available from `arXiv`.

31. *Multistationarity in structured reaction networks*, Alicia Dickenstein, Mercedes Pérez Millán, Anne Shiu, and Xiaoxian Tang**. Submitted. Available from `arXiv`.

30. *Emergence of oscillations in a mixed-mechanism phosphorylation system*, Carsten Conradi, Maya Mincheva, and Anne Shiu. Submitted. Available from `arXiv:1809.02886`.

29. *Linear compartmental models: input-output equations and operations that preserve identifiability*, Elizabeth Gross, Heather A. Harrington, Nicolette Meshkat, and Anne Shiu. Submitted. Available from `arXiv:1808.00335`.

28. *Revisiting a synthetic intracellular regulatory network that exhibits oscillations*, Jonathan Tyler*, Anne Shiu, and Jay Walton. Submitted. Available from `arXiv:1808.00595`.

27. *Algebraic signatures of convex and non-convex codes*, Carina Curto, Elizabeth Gross, Jack Jeffries, Katherine Morrison, Zvi Rosen, Anne Shiu, and Nora Youngs. Submitted. Available from `arXiv:1807.02741`.

26. *Identifiability of linear compartment models: the singular locus*, Elizabeth Gross, Nicolette Meshkat, and Anne Shiu. Submitted. Available from `arXiv:1709.10013`.

PEER-REVIEWED ARTICLES

25. *Neural codes, decidability, and a new local obstruction to convexity*, Aaron Chen, Florian Frick, and Anne Shiu. Accepted to SIAM Journal on Applied Algebra and Geometry. Available from `arXiv:1803.11516`.

24. *Nondegenerate multistationarity in small reaction networks*, Anne Shiu and Timo de Wolff**. Accepted to Discrete Cont. Dyn.-B. Available from `arXiv:1802.00306`.

23. *Gröbner bases of neural ideals*, Rebecca Garcia, Luis García Puente, Ryan Kruse, Jessica Liu, Dane Miyata, Ethan Petersen, Kaitlyn Phillipson*, and Anne Shiu. Int. J. Algebr. Comput., 28:4, pp. 553–571 (2018).

22. *Dynamics of post-translational modification systems: recent progress and future directions*, Carsten Conradi and Anne Shiu. Biophys. J., 114:3, pp. 507–515 (2018).

21. *An all-encompassing global convergence result for processive multisite phosphorylation systems*, Mitchell Eithun and Anne Shiu. Math. Biosci., vol. 291, pp. 1–9 (2017).

20. *Which small reaction networks are multistationary?*, Badal Joshi and Anne Shiu. SIAM J. Appl. Dyn. Syst., vol. 16, pp. 802–833 (2017).

19. *What makes a neural code convex?*, Carina Curto, Elizabeth Gross, Jack Jeffries, Katherine Morrison, Mohamed Omar, Zvi Rosen, Anne Shiu, and Nora Youngs. SIAM Journal on Applied Algebra and Geometry, 1:1, pp. 222–238 (2017).

18. *Obstructions to convexity in neural codes*, Caitlin Lienkaemper, Anne Shiu, and Zev Woodstock. Adv. Appl. Math., vol. 85, pp. 31–59 (2017).

17. *Analyzing multistationarity in chemical reaction networks using the determinant optimization method*, Bryan Félix, Anne Shiu, and Zev Woodstock. Appl. Math. Comput., volumes 287–288, pp. 60–73 (2016).

16. *Sign conditions for injectivity of generalized polynomial maps with applications to chemical reaction networks and real algebraic geometry*, Stefan Muller, Elisenda Feliu, Georg Regensburger, Carsten Conradi, Anne Shiu, and Alicia Dickenstein. Found. Comput. Math., 16:1, pp. 69–97 (2016).

15. *A survey of methods for deciding whether a reaction network is multistationary*, Badal Joshi and Anne Shiu. Math. Model. Nat. Phenom. special issue on "Chemical dynamics", 10:5, pp. 47–67 (2015).

14. *A global convergence result for processive multisite phosphorylation systems*, Carsten Conradi and Anne Shiu. B. Math. Biol., 77:1, pp. 126–155 (2015).

13. *A geometric approach to the global attractor conjecture*, Manoj Gopalkrishnan, Ezra Miller, and Anne Shiu. SIAM J. Appl. Dyn. Syst., 13:2, pp. 758–797 (2014).

12. *A projection argument for differential inclusions, with applications to persistence of mass-action kinetics*, Manoj Gopalkrishnan, Ezra Miller, and Anne Shiu. SIGMA, 9 (2013), 025, 25 pages.

11. *Atoms of multistationarity in chemical reaction networks*, Badal Joshi and Anne Shiu. J. Math. Chem., 51:1, pp. 153–178 (2013).

10. *Simplifying the Jacobian Criterion for precluding multistationarity in chemical reaction networks,* Badal Joshi and Anne Shiu. SIAM J. Appl. Math., 72:3, pp. 857–876 (2012).

9. *Chemical reaction systems with toric steady states,* Mercedes Pérez Millán, Alicia Dickenstein, Anne Shiu, and Carsten Conradi. B. Math. Biol., 74:5, pp. 1027–1065 (2012).

8. *Siphons in chemical reaction networks,* Anne Shiu and Bernd Sturmfels. B. Math. Biol., 72:6, pp. 1448–1463 (2010).

7. *The dynamics of weakly reversible population processes near facets,* David F. Anderson and Anne Shiu. SIAM J. Appl. Math., 68:5, pp. 1464–1476 (2010).

6. *Toric dynamical systems,* Gheorghe Craciun, Alicia Dickenstein, Anne Shiu, and Bernd Sturmfels. J. Symb. Comput., 44, pp. 1551–1565 (2009).

5. *Convex rank tests and semigraphoids,* Jason Morton, Lior Pachter, Anne Shiu, Bernd Sturmfels, and Oliver Wienand. SIAM J. Discrete Math, 23:3, pp. 1117–1134 (2009).

4. *The smallest multistationary chemical reaction network,* Anne Shiu. Lect. Notes Comput. Sc., "Algebraic Biology," K. Hiromoto, G. Regensburger, M. Rosenkranz, H. Yoshida (Eds.), 5147, pp. 172–184 (2008).

3. *Comparing pattern detection methods in microarray time series of the segmentation clock,* M. Dequéant, S. Ahnert, H. Edelsbrunner, T. Fink, E. Glynn, G. Hattem, A. Kudlicki, Y. Mileyko, J. Morton, A. Mushegian, L. Pachter, M. Rowicka, A. Shiu, B. Sturmfels, and O. Pourquié. PLoS ONE, 3:8, e2856 (2008).

2. *Three counterexamples on semigraphoids,* Raymond Hemmecke, Jason Morton, Anne Shiu, Bernd Sturmfels, and Oliver Wienand. Comb. Probab. Comput., 17:02, pp. 239–257 (2008).

1. *The cyclohedron test for finding periodic genes in time course expression studies,* Jason Morton, Lior Pachter, Anne Shiu, and Bernd Sturmfels. Stat. Appl. Genet. Mo. B., 6:1, Article 21 (2007).

RESEARCH GRANTS

NSF CAREER, 6/2018–5/2023 (DMS-1752672), $415,322.

Simons Foundation Collaboration Grant for Mathematicians, 9/2017–8/2018, $8,400.

AIM SQuaRE (research ensemble), "Ideals in algebraic systems biology", 9/2015–2018 (with Luis Garcia-Puente, Elizabeth Gross, Heather Harrington, and Nicolette Meshkat).

NSF individual grant, 8/2013–7/2017, including one-year no-cost extension (DMS-1312473, transferred to DMS-1513364), $129,690.

NSF Postdoctoral Fellowship, 2010–2013 (DMS-1004380).

OTHER GRANTS

DRP Network mini-grant (in support of the Directed Reading Program in the Texas A&M math department), 2018–2019, $2,500.

Montague-CTE (Center for Teaching Excellence) Scholar grant, 2018–2019, Texas A&M, $6,500 (PI: Anne Shiu).

NSF REU grant, "REU Site Grant: Undergraduate Research in the Mathematical Sciences and their Applications", 6/2018–5/2021 (DMS-1757872), $350,000 (PI: J. Maurice Rojas, co-PI: Anne Shiu).

NSF REU grant, "REU Site Grant: Undergraduate Research in the Mathematical Sciences and their Applications", 6/2015–5/2018 (DMS-1460766), $343,408 (PI: J. Maurice Rojas, co-PI: Anne Shiu).

NSF conference grant, "Texas Algebraic Geometry Seminar (TAGS) 2015", 3/2015-2/2016 (DMS-1450510), $14,960 (PI: Gregory Pearlstein, Co-PIs: Laura Matusevich, Anne Shiu, and Frank Sottile).

AWARDS

Outstanding Teaching Award, Department of Mathematics, Texas A&M University, 2017

Bernard Friedman Memorial Prize, UC Berkeley, top thesis in applied mathematics, 2010

Lucent Technologies Bell Labs Graduate Research Fellowship

University of California, Berkeley Chancellor's Fellowship

POSTDOC MENTORING

Mentor for Xiaoxian Tang (since Jan. 2017)

PH.D. STUDENT ADVISING

Co-advisor (with Jay Walton) of Jonathan Tyler (since 2016)

Co-advisor (with Laura Matusevich) of Alexander Ruys de Perez (since 2017)

Advisor of Nida Obatake (since 2018)

MASTERS STUDENT ADVISING

Co-advisor (with N. Sivakumar) of Jon C. Beseigel (Mathematics, M.S. 2018)

Advisor of Natalie Hemmer (since 2017)

UNDERGRAD ADVISING

Mentor for Angelique Morvant, Texas A&M (2017). Capstone thesis title: *Fixing Broken Relationships between Neural Ideals and Receptive Fields* (Dec. 2017).

REU MENTORING

Mentor for 5 REU students, Dept. of Math, Texas A&M University (Summer 2017). Resulted in 4 papers submitted for publication: (1) Mark Sweeney, *Conditions for solvability in chemical reaction networks at quasi-steady-state*; (2) Hwai-Ray Tung, *Precluding oscillations in Michaelis-Menten approximations of dual-site phosphorylation systems*, In revision; (3) Molly Hoch, Samuel Muthiah, and Nida Obatake, *On the identification of k-inductively pierced codes using toric ideals*; (4) Megan K. Franke and Samuel Muthiah, *Every binary code can be realized by convex sets*, Advances in Applied Mathematics, 99 (2018), pp. 83-93.

Mentor for 5 REU students, Dept. of Math, Texas A&M University (Summer 2016). Resulted in papers listed earlier, and the following paper: Luna Bozeman and Adriana Morales, *No oscillations in the Michaelis-Menten approximation of the dual futile cycle under a sequential and distributive mechanism*, SIAM Undergraduate Research Online, 10 (2017), pp. 21–28.

Mentor for 4 REU students and co-mentor (with Jay Walton) for 4 UBM (undergraduate biology and mathematics) students, Dept. of Math, Texas A&M University (Summer 2015).

Mentor and thesis co-supervisor for Daniel Thielman, Program for Research for Undergraduates, Dept. of Math, Duke University (Summer 2011). Thesis title: *Complex-balanced steady states of chemical reaction networks that contain an Eulerian cycle* (Apr. 2012).

CONFERENCES AND SEMINARS ORGANIZED

Co-organizer with JM Landsberg, Paulo Lima-Filho, Laura Matusevich, Gregory Pearlstein, Maurice Rojas, and Frank Sottile, 2018 Texas Algebraic Geometry Symposium, Texas A&M University (Apr. 6–8, 2018).

Co-organizer with Carsten Conradi and Gheorghe Craciun, minisymposium on algebraic methods for analyzing biological interaction networks, SIAM Conference on Applied Algebraic Geometry 2017, Georgia Tech (Jul. 31 to Aug. 4, 2017).

Co-organizer with David F. Anderson, Matthew Johnston, Casian Pantea, and Lea Popovic, workshop on Mathematical Analysis of Biological Interaction Networks at Banff International Research Station, Canada (Jun. 5–9, 2017).

Co-organizer with Paulo Lima-Filho and Jay Walton, workshop on mathematical challenges in the life sciences, Institute for Applied Mathematics and Computation, Texas A&M University (May 16–18, 2016).

Co-organizer with JM Landsberg, Laura Matusevich, Gregory Pearlstein, and Frank Sottile, 2015 Texas Algebraic Geometry Symposium fall workshop, Texas A&M University (Sep. 26 and Oct. 24, 2015).

Co-organizer with Alicia Dickenstein, minisymposium on algebraic structures arising in systems biology, SIAM Conference on Applied Algebraic Geometry 2015, NIMS, Daejeon, South Korea (Aug. 3–7, 2015).

Co-organizer with JM Landsberg, Paulo Lima-Filho, Laura Matusevich, Gregory Pearlstein, Colleen Robles, Maurice Rojas, and Frank Sottile, 2015 Texas Algebraic Geometry Symposium, Texas A&M University (Apr. 10–12, 2015).

Co-organizer with Gilles Gnacadja, minisymposium on algebraic aspects of biochemical reaction networks, SIAM Conference on Applied Algebraic Geometry 2013, Colorado State University (Aug. 1–4, 2013).

Co-organizer with Alicia Dickenstein and Jeremy Gunawardena, workshop on mathematical problems arising from biochemical reaction networks, AIM, Palo Alto (Mar. 25–29, 2013).

Co-organizer with Francois Boulier, Thomas Sturm, and Andreas Weber, seminar on symbolic methods for chemical reaction networks, Castle Dagstuhl, Germany (Nov. 12–16, 2012).

Co-organizer with Manoj Gopalkrishnan and Casian Pantea, mini-symposium on biochemical reaction networks at SIAM Applied Algebraic Geometry conference, North Carolina State University, Raleigh NC (Oct. 6–9, 2011).

Co-organizer with Sonja Mapes, Duke Algebraic Geometry seminar (Spring 2011).

Co-organizer with Valerie Hower, minisymposium on computational biology at SIAM Math for Industry conference, San Francisco CA (Oct. 9–11, 2009).

Co-organizer with Gheorghe Craciun and Manoj Gopalkrishnan, special session on the mathematics of biochemical reaction networks, AMS Spring Southeastern Section Meeting, Raleigh NC (Apr. 4–5, 2009).

Co-organizer with Raman Sanyal, UC Berkeley Discrete Math seminar (Spring 2009).

Co-organizer with Sourav Chatterji, Berkeley–Davis Mathematical Genomics Meeting, UC Davis Genome Center (Sept. 15, 2006).

TEACHING AT TEXAS A&M

Modern Algebra II (Math 416), Texas A&M (Spring 2017).

Discrete Mathematics (Math 302), Texas A&M (Fall 2016).

Introduction to Mathematical Biology (Math 469), Texas A&M (Spring 2016).

Modern Algebra I (Math 415), Texas A&M (Fall 2015).

Calculus I for Biological Sciences (Math 147), Texas A&M (Fall 2014, Spring 2015, Fall 2017).

PRIOR TEACHING

Honors Basic Algebra-2-3 (Math 25800-25900, Introduction to Abstract Algebra), University of Chicago (2014).

Basic Algebra-1-2-3 (Math 25400-25500-25600, Introduction to Abstract Algebra), University of Chicago (2011–2013).

Introduction to Algebraic Statistics, 5 lectures for University of Chicago REU (Summer 2012).

REVIEW ACTIVITIES	Reviewed articles for AMS Mathematical Reviews, since 2011.
	Refereed articles for Advances in Applied Mathematics, Applied Mathematics Letters, Ars Combinatoria, Biophysical Journal, Bulletin of Mathematical Biology, Collectanea Mathematica, Discrete and Continuous Dynamical Systems–Series B, International Journal of Computer Mathematics, Mathematics in Computer Science, PLOS ONE, SIAM Journal on Applied Dynamical Systems, SIAM Journal on Applied Mathematics, SIAM Journal on Applied Algebra and Geometry.
SERVICE ACTIVITIES	*(Ongoing)* Search committee for Dean of College of Science, Texas A&M, 2018–2019.
	Ad-hoc reviewer for 1 grant proposal, NSF Division of Mathematical Sciences and Directorate for Computer & Information Science & Engineering, 2018.
	Panelist, Symposium for Faculty, Staff, Graduate Students and PostDocs in the Sciences: Insight and Strategies for Professional Success, Personal Well Being and Getting Along with Others, College of Science, Texas A&M University (Feb. 24, 2017).
	Speaker, Applied Mathematics Undergraduate Seminar (AMUSE), Texas A&M University (Nov. 4, 2015).
	Panelist for evaluating grant proposals, NSF Division of Mathematical Sciences, 2015.
	Panelist/speaker, SIAM/AWM Career Panel, SIAM Annual Meeting, Chicago (Jul. 7, 2014).
	Member, Association of Women in Mathematics chapter at University of Chicago, 2011–2014.
	Mentor for eighth grade girls, Women and Mathematics Mentoring Program, Durham County NC, 2010–2011.
	Member, Noetherian Ring (organization of women mathematicians at Duke), 2010–2011.
	Co-organizer with Trevor Potter, Betsy Stovall, and Cynthia Vinzant, UC Berkeley Mathematics Career Talks seminar, 2008–2010.
	Co-founder and co-organizer, Unbounded Representation (UC Berkeley graduate group focused on issues of diversity in mathematics), 2008–2010.
	Member, Noetherian Ring (organization of women mathematicians at UC Berkeley), 2005–2010.
	Math aide, Julia Robinson Mathematics Festival (problem-solving day for students in grades 6-12), 2008–2010.
PROFESSIONAL MEMBERSHIPS	American Mathematical Society (AMS)
	Association for Women in Mathematics (AWM)
	Society for Industrial and Applied Mathematics (SIAM), member of activity group on algebraic geometry
INVITED VISITS	Visiting Scholar in Mathematical Biology, University of Pennsylvania, April 2016 (one week)
INVITED TALKS: CONFERENCES	Minisymposium on Dynamics and Oscillations of Reaction Networks, European Conference on Mathematical and Theoretical Biology, University of Lisbon, Portugal (Jul. 23, 2018).
	Kinetic and Related Models with Applications in the Natural Sciences conference, University of Wisconsin (May 1, 2018).
	Special Session on Applicable and Computational Algebraic Geometry, AMS Fall Central Sectional Meeting, University of North Texas (Sept. 9, 2017).
	Minisymposium on Algebraic and Topological Biology, SIAM Conference on Applied Algebraic Geometry, Georgia Tech (Aug. 4, 2017).

Workshop on Mathematical Analysis of Biological Interaction Networks, Banff International Research Station, Canada (Jun. 5, 2017).

Special session on Applied Algebraic Geometry, AMS Fall Southeastern Sectional Meeting, North Carolina State University (Nov. 12, 2016).

Thematic session on Computational Algebra and Applications of Algebra, XXI Coloquio Latinoamericano de Àlgebra, Universidad de Buenos Aires, Buenos Aires, Argentina (Jul. 29, 2016)

Special session on Algebraic Approaches for Investigating Biological Systems, SIAM Annual Meeting (AN16), Boston (July 15, 2016)

CombinaTexas, Texas A&M University (May 8, 2016)

Special Session on Algebraic and Combinatorial Methods in Mathematical Biology, AMS Spring Southeastern Sectional Meeting, University of Georgia (Mar. 5, 2016)

Workshop on Dynamics in Networks with Special Properties, MBI (Jan. 26, 2016).

Special session on Nonlinear Algebra, Joint Math Meetings, Seattle (Jan. 9, 2016).

Minisymposium on Real Algebraic Geometry and Optimization, SIAM Conference on Applied Algebraic Geometry, Daejeon, South Korea (Aug. 5, 2015).

Texas Algebraic Geometry Symposium, Texas A&M University (Apr. 11, 2015).

Workshop on Solving Polynomial Equations (Program: Algorithms and Complexity in Algebraic Geometry), Simons Institute for the Theory of Computing (Oct. 13, 2014).

Minisymposium on Algebraic Aspects of Biochemical Reaction Networks, SIAM Conference on the Life Sciences, Charlotte NC (Aug. 4, 2014).

Workshop on Combinatorial Commutative Algebra and Applications, MSRI, Berkeley CA (Dec. 3, 2012).

Minisymposium on Understanding Multistationarity in Biochemical Reaction Networks, SIAM Conference on the Life Sciences, San Diego CA (Aug. 7, 2012).

Workshop on Algebraic Methods in Systems and Evolutionary Biology, MBI, Columbus OH (May 11, 2012).

Minisymposium on Applications in Mathematical Biology, SIAM Conference on Applied Algebraic Geometry, NC State, Raleigh NC (Oct. 7, 2011).

Workshop on Applications of Algebraic Geometry to Other Sciences, ELGA (Latin American School of Algebraic Geometry and Applications), Cordoba, Argentina (Aug. 9, 2011).

Workshop on Algebraic geometry in the Sciences, CMA, University of Oslo, Norway (Jan. 13, 2011).

Triangle Lectures in Combinatorics, Duke University (Sept. 25, 2010).

AMS-SIAM Special Session on Applications of Algebraic Geometry, Joint Mathematics Meetings, San Francisco CA (Jan. 16, 2010).

Connections for Women workshop: Tropical Geometry, MSRI, Berkeley CA (Aug. 23, 2009).

Transition Workshop (Algebraic Methods in Systems Biology and Statistics program), SAMSI, Durham NC (Jun. 19, 2009).

Workshop on Discrete Models in Systems Biology, SAMSI, Durham NC (Dec. 3, 2008).

Special Session on Applications of Algebraic Geometry, 2008 Fall Western AMS Section Meeting, Vancouver, Canada (Oct. 4, 2008).

Workshop on Arrangements and Configuration Spaces, MSRI, Berkeley CA (Aug. 11, 2006).

INVITED TALKS: DEPARTMENT COLLOQUIA	Wesleyan University (Feb. 22, 2018)
	Texas State University (Feb. 17, 2017)
	Sam Houston State University (Apr. 29, 2015)
	Southern Methodist University (Jan. 21, 2015)
	Rice University (Sept. 25, 2014)
	Illinois Institute of Technology, (Oct. 28, 2013)
	Washington University in St. Louis (Feb. 11, 2013)
	Dartmouth College (Jan. 24, 2013)
	University of Illinois Chicago (Jan. 22, 2013)
	Texas A&M University (Jan. 17, 2013)
	Vanderbilt University (Jan. 10, 2013)
	University of Minnesota (Dec. 13, 2012)
	Northern Illinois University (Sept. 9, 2011).
	Wake Forest University (Jan. 20, 2010).

INVITED TALKS: DEPARTMENT SEMINARS	Nonlinear dynamics seminar, Free University, Berlin, Germany (Jul. 16, 2018)
	Nonlinear algebra seminar, Max Planck Institute for Mathematics in the Sciences, Leipzig, Germany (Jul. 18, 2018)
	Applied algebra and topology seminar, University of Oxford, England (May 18, 2018)
	Kolchin seminar in differential algebra, CUNY (Mar. 2, 2018)
	Center for Quantitative Medicine, University of Connecticut Health Center (Feb. 21, 2018)
	Postdoc colloquium series, Texas A&M University (Nov. 29, 2017)
	Junior algebra and geometry seminar, Texas A&M University (Jan. 31, 2017)
	AWM student chapter seminar, Texas A&M University (Dec. 6, 2016)
	Networks seminar, University of Houston (Sept. 2, 2016)
	Mathematical biology seminar, University of Pennsylvania (Apr. 4, 2016)
	Junior algebra and geometry seminar, Texas A&M University (Feb. 9, 2016)
	Random structures seminar, University of Texas (Apr. 24, 2015).
	Numerical analysis seminar, Texas A&M University (Mar. 11, 2015).
	Analysis, dynamics, and applications seminar, University of Arizona (Jan. 29, 2013).
	MPI fur Dynamik komplexer technischer Systeme, Magdeburg, Germany (Nov. 20, 2012).
	Mathematical biology seminar, University of Iowa (Oct. 1, 2012).
	Computer science seminar, University of Chicago (May 30, 2012).
	Computational algebra seminar, University of California Berkeley (Mar. 14, 2012).
	Mathematical biology and ecology seminar, Georgia Tech (Jan. 25, 2012)
	Applied and computational math seminar, University of Wisconsin (Nov. 15, 2011).
	Graduate/faculty seminar, Duke University (Mar. 18, 2011).
	Algebra and discrete mathematics seminar, Clemson University (Nov. 4, 2010).
	Symbolic computation seminar, North Carolina State University (Sept. 15, 2010).
	Theorems on Biological Circuits Day, Harvard Medical School (Jul. 14, 2010).
	Statistics seminar, University of Sydney, Australia (May 24, 2010).
	BioMod Club seminar, Stanford University (Jan. 12, 2010).

Mathematical and computational biology seminar, University of California Berkeley (Nov. 26, 2009).

Discrete math seminar, University of California Berkeley (Oct. 7, 2009).

Institute Henri Poincaré, Paris, France (Jul. 2, 2009).

Duke University (Apr. 3, 2009).

Symbolic computation seminar, North Carolina State University (Apr. 1, 2009).

University of California San Diego (Aug. 26, 2008).

Stanford University (Feb. 12, 2008).

Pure and applied algebra seminar, TU Berlin (Dec. 4, 2007).

Dynamics seminar, University of California Berkeley (Oct. 16, 2007).

Algebraic statistics/Genomics seminar, University of California Berkeley (Sept. 18, 2007).

Commutative algebra and algebraic geometry seminar, University of California Berkeley (Sept. 11, 2007).

University of Wisconsin, Madison (May 24, 2007).

Combinatorics seminar, University of California Davis (Feb. 15, 2007).

Combinatorics seminar, University of Kansas (Jan. 31, 2007).