Anthony Várilly-Alvarado

Curriculum Vitae
December 2020

Department of Mathematics
Rice University, MS 136
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Employment

2009– **Rice University**, Houston, TX
Professor of Mathematics, 2019–present
Associate Professor of Mathematics, 2016–2019
Assistant Professor of Mathematics, 2012–2016
G. C. Evans Instructor, 2009–2012

2012 (Fall) **École Polytechnique Fédérale de Lausanne (EPFL)**, Lausanne, Switzerland
Postdoctoral Researcher

Visiting Appointments

2019 (Sum.) **Universität Bonn**, Bonn, Germany
Academic Guest (Daniel Huybrechts)

2019 (May) **Institute Henri Poincaré**, Paris, France
Participant in the program *À la Redécouverte des Points Rationnels*

2016 (April) **Pacific Institute for the Mathematical Sciences, SFU**, Burnaby, Canada
Distinguished Visitor

2012 (Sum.) **Centre Interfacultaire Bernoulli, EPFL**, Lausanne, Switzerland
Academic Guest

2007 (Sum.) **IRMAR, Université de Rennes 1**, Rennes, France
Marie Curie Early-stage Researcher

Education

2009 **University of California at Berkeley**, Berkeley, CA
Ph.D. in Mathematics (advisor : Bjorn Poonen)

2004 **University of Cambridge**, Cambridge, UK
Certificate of Advanced Study in Mathematics *with distinction*

2003 **Harvard University**, Cambridge, MA
A.B. Mathematics *magna cum laude*

Grants

2019–2022 NSF grant DMS-1902274 (sole PI, $360,000) : Level structures on K3 surfaces, and constrained rational points on log Fano varieties

2018–2023 NSF grant DMS-1745670 (co-PI, $1,997,027) : RTG Building Communities in the Mathematical Sciences at Rice University

2014–2019 NSF CAREER grant DMS-1352291 (sole PI, $405,090) : Arithmetic of Surfaces

2012–2018 NSF grant DMS-1148609 (co-PI, $1,627,723) : RTG Analysis, Geometry, and Topology at Rice University

2011–2015 NSF grant DMS-1103659 (sole PI, $101,149) : Algebraic surfaces : Rational points and Cox rings

2011–2012 NSF grant DMS-1101618 (PI, $14,700) : Texas Algebraic Geometry Symposium

Honors and Awards

2021 Fellow of the American Mathematical Society

2020 AMS Invited Address, Joint Mathematics Meetings

2020 George R. Brown Award for Superior Teaching, Rice University (2016, 2018, 2020)

2017 Faculty Fellow, Center for Teaching Excellence, Rice University (2017-2023)

2013 Sophia Meyer Farb Prize for Teaching, Phi Beta Kappa, Rice University

2009	Nikki Kose Memorial Teaching Prize, Mathematics Department, UC Berkeley
2007	Outstanding Graduate Student Instructor Award recipient, UC Berkeley
2003–2004	Herchel Smith Fellowship for study at Emmanuel College, Cambridge University
2004	Herman Peries Prize, for excellent performance in Part III of the Mathematical Tripos
2003	Phi Beta Kappa
1999–2003	John Harvard Scholarship
2001–2002	Derek Bok Center Certificate of Distinction in Teaching, Harvard University (awarded 4 times)
2003	Blumberg Creative Science Prize (undergraduate thesis award; Mather House)
2000	The Key Innovator Award for research using The Geometer's Sketchpad.

Publications

Research Articles

1. Campana points of bounded height on vector group compactifications (w/ M. Pieropan, A. Smeets, S. Tanimoto)
   Proceedings of the London Mathematical Society (relaunched), to appear. `arXiv:1908.10263`
2. Odd-torsion obstructions to the Hasse principle on general K3 surfaces (w/ J. Berg)
   Mathematics of Computation, **89** (2020), 1395–1416.
3. Cubic fourfolds fibered in sextic del Pezzo surfaces (w/ N. Addington, B. Hassett, Yu. Tschinkel)
   American Journal of Mathematics, **141** (2019), 1479–1500.
4. Kodaira dimension of moduli of special cubic fourfolds (w/ S. Tanimoto)
   Journal für die reine und angewandte Mathematik (Crelle), **752** (2019), 265–300.
5. Campana points, Vojta's conjecture, and level structures on semistable abelian varieties. (w/ D. Abramovich)
   Journal de Théorie des Nombres de Bordeaux, **30** (2018), 525–532.
6. Level structures on abelian varieties, Kodaira dimensions, and Lang's conjecture (w/ D. Abramovich)
   Advances in Mathematics, **329** (2018), 523–540

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7. Abelian n-division fields of elliptic curves and Brauer groups of product Kummer & abelian surfaces (w/ B. Viray)
   Forum of Mathematics, Sigma, 5, doi:10.1017/fms.2017.16.
8. Locally recoverable codes from algebraic curves and surfaces (w/ A. Barg, K. Haymaker, E. Howe, G. Matthews)
   Algebraic Geometry for Coding Theory and Cryptography (E. Howe, K. Lauter, and J. Walker eds.), *Association for Women in Mathematics* **9**, Springer (2017), 95–127.
9. Level structures on abelian varieties and Vojta's conjecture (w/ D. Abramovich; Appendix by K. Madapusi-Pera)
   Compositio Mathematica, **153** (2017), 373–394.
10. Brauer groups on K3 surfaces and arithmetic applications (w/ K. McKinnie, J. Sawon and S. Tanimoto)
    Brauer groups and obstruction problems: moduli spaces and arithmetic (A. Auel, B. Hassett, A. Várilly-Alvarado, and B. Viray eds.),
    Progress in Mathematics **320**, Birkhäuser (2017), 177–218.
11. Arithmetic of K3 surfaces (Notes for the 2015 Arizona Winter School)
    Geometry over nonclosed Fields, (F. Bogomolov, B. Hassett and Y. Tschinkel eds.),
    Simons Symposia **5**, Springer (2017), 197–248.
12. Kodaira Dimension of certain orthogonal modular varieties
    Oberwolfach Reports **12** (2015), 1835–1837.
13. Smooth compactifications of certain normic bundles (w/ B. Viray)
    European Journal of Mathematics **1** (2015), 250–259.
14. On the unirationality of del Pezzo surfaces of degree two (w/ C. Salgado and D. Testa)
    Journal of the London Mathematical Society **90** (2014), 121–139.

15. Arithmetic of del Pezzo surfaces of degree 4 and vertical Brauer groups (w/ B. Viray)
Advances in Mathematics **255** (2014), 153–181.
16. Cubic fourfolds containing a plane and a quintic del Pezzo surface (w/ A. Auel, M. Bernardara, and M. Bolognesi)
Algebraic Geometry **1** (2014), 181–193.
17. Failure of the Hasse principle on general K3 surfaces (w/ B. Hassett)
Journal de l'Institut de Mathématiques de Jussieu **12** (2013), 853–877.
18. Arithmetic of del Pezzo surfaces
Birational geometry, rational curves, and arithmetic, (F. Bogomolov, B. Hassett and Y. Tschinkel eds.)
Simons Symposia **1**, Springer (2013), 293–319.
19. Higher dimensional analogues of Châtelet surfaces (w/ B. Viray)
Bulletin of the London Mathematical Society **44** (2012), 125–135. Corrigendum: **47** (2015), 217–218.
20. Density of rational points on isotrivial rational elliptic surfaces
Algebra & Number Theory **5** (2011), 659–690.
21. Transcendental obstructions to weak approximation on general $K3$ surfaces (w/ B. Hassett and P. Varilly)
Advances in Mathematics **228** (2011), 1377–1404.
22. Failure of the Hasse principle for Enriques surfaces (w/ B. Viray)
Advances in Mathematics **226** (2011), 4884–4901.
23. Laurent polynomials and Eulerian numbers (w/ D. Erman and G. G. Smith)
Journal of Combinatorial Theory Series A **118** (2011), 396–402.
24. Big rational surfaces (w/ D. Testa and M. Velasco)
Mathematische Annalen **351** (2011), 95–107.
25. Cox rings of degree one del Pezzo surfaces (w/ D. Testa and M. Velasco)
Algebra & Number Theory **3** (2009), 729–761.
26. Arithmetic E_8-lattices with maximal Galois action (w/ D. Zywina)
LMS Journal of Computation and Mathematics **12** (2009), 144–165.
27. Arithmetic of del Pezzo surfaces of degree 1
Ph. D. Thesis, UC Berkeley (2009)
28. Weak approximation on del Pezzo surfaces of degree 1
Advances in Mathematics **219** (2008), no. 6, 2123–2145.
29. Location of incenters and Fermat points in variable triangles
Mathematics Magazine **74** (2001), 123–129.

Books

30. Brauer groups and obstruction problems: moduli spaces and arithmetic (A. Auel, B. Hassett, A. Várilly-Alvarado, B. Viray eds.)
Progress in Mathematics **320**, Birkhäuser, 2017.

Essays

31. Mentoring for tenure-track interviews
Notices of the American Mathematical Society, **67** (2020), 1568–1570.
32. Testimonios: Stories of Latinx and Hispanic Mathematicians
AMS/MAA Classroom Resource Materials, to appear.

Preprints

33. Locally recoverable codes from algebraic surfaces (w/ C. Salgado, F. Voloch)
IEEE Transactions in Information Theory, revised and resubmitted. `arXiv:1910.13472`
34. Explicit quasi-hyperbolicity of nodal surfaces via symmetric differentials (w/ N. Bruin)
Submitted. `arXiv:1912.08908`

35. The Geometric Disposition of Diophantine Equations
    Submitted.

Invited Lecture Series

08.2021	Aritmética, Grupos y Análisis (Cabo Frío, Brazil) *TBD (5 lectures)*
05.2017	Positivity in Arithmetic and Geometry (Orsay, France) *Level structures on K3 surfaces and abelian varieties (3 lectures)*
03.2015	Arizona Winter School (Tucson) *Arithmetic of K3 Surfaces* (4 lectures)
06.2013	Universidad de Costa Rica (San José, Costa Rica) *El Teorema de Hasse-Minkowski* (5 lectures)
07.2012	Centre Interfacultaire Bernoulli (Lausanne, Switzerland) *Arithmetic of del Pezzo and K3 surfaces* (14 lectures)
10.2010	Lorentz Center (Leiden, The Netherlands) *Arithmetic of del Pezzo surfaces* (3 lectures)

Invited Conference Talks

09.2020	II Simposio Interdisciplinario de Ciencias Básicas (online; Costa Rica)
01.2020	Math + X Symposium on Inverse Problems and Deep Learning; Rice University (Guanacaste, Costa Rica)
01.2020	Joint Mathematics Meetings; American Mathematical Society Invited address (Denver)
12.2019	Rational points on higher dimensional varieties (RIMS Kyoto, Japan)
06.2019	Rational points on irrational varieties (Paris, France)
02.2019	Geometry and Arithmetic of Surfaces (Madison)
01.2019	Simons Collaboration on Arithmetic Geometry, Number Theory, and Computation Annual Meeting (Simons Foundation, New York)
11.2018	Blackwell–Tapia Conference (ICERM–Brown University, Providence)
09.2018	Algebraic Geometry Northeastern Series (AGNES–Brown University, Providence)
08.2018	Arithmetic Geometry, Number Theory, and Computation (Massachusetts Institute of Technology, Cambridge)
07.2018	Rational Points on Schiermonnikoog (Schiermonnikoog, The Netherlands)
05.2018	K3 surfaces and Galois Representations (London, United Kingdom)
03.2018	Latinx in the Mathematical Sciences 2018 (IPAM, Los Angeles)
11.2017	Rational Points and Zariski Density (Copenhagen, Denmark)
09.2017	Special Session on Numbers, Functions, Transcendence, and Geometry, AMS Sectional Meeting (Denton)
08.2017	Mini-symposium on Algebraic Coding for Storage Applications, SIAM AG 17 (Atlanta)
07.2017	Special Session on Number Theory and Analysis, Mathematical Congress of the Americas 2017 (Montréal, Canada)
07.2017	Rational Points 2017 (Schney, Germany)
04.2017	Atkin Workshop (UIC, Chicago)
03.2017	New Trends in Arithmetic and Geometry of Algebraic Surfaces (Banff, Canada)
01.2017	K3 Days (Amsterdam, The Netherlands)
11.2016	CA+ (Madison)
09.2016	Arithmetic Algebraic Geometry (Bogomolov 70; NYU, New York)
10.2015	Georgia Algebraic Geometry Symposium (Emory, Atlanta)
10.2015	Explicit methods for modularity of K3 Surfaces and other higher weight motives (ICERM, Providence)
07.2015	AMS Summer Institute in Algebraic Geometry (Salt Lake City)
07.2015	Explicit Methods in Number Theory (Oberwolfach, Germany)
04.2015	Special Session on Arithmetic Geometry, AMS Sectional Meeting (Las Vegas)
04.2015	Texas Algebraic Geometry Symposium (College Station)
03.2015	Simons Symposium "Geometry over non-closed fields" (Puerto Rico)

12.2014 Palmetto Number Theory Series XXIII; Plenary Speaker (PANTS–Columbia, South Carolina)
11.2014 K3, Enriques surfaces, and related topics (Nagoya, Japan)
07.2014 Frontiers of Rationality (Spitsbergen, Norway)
05.2014 Rational and integral points on higher-dimensional varieties (AIM, Palo Alto)
03.2014 Special Session on Galois cohomology and the Brauer group, AMS Sectional Meeting (Knoxville)
08.2013 SIAM Conference on Applied Algebraic Geometry (Fort Collins)
03.2013 New Trends in arithmetic and geometry of algebraic surfaces (CIRM Luminy, France)
09.2012 Rational and integral points, with special reference to homogeneous spaces (Beijing, China)
07.2012 Summer Workshop in Algebraic and Arithmetic Geometry, (Münich, Germany)
02.2012 Simons Symposium "Geometry over non-closed fields" (U. S. Virgin Islands)
01.2012 Special Session on Rational Points on Varieties, Joint Mathematical Meetings of the AMS (Boston)
05.2011 Ramification in Algebra and Geometry (Atlanta)
04.2011 Western Algebraic Geometry Symposium (WAGS–Stanford, Palo Alto)
07.2010 Rational Points 3 (Thurnau, Germany)
05.2010 Rational Points: Theory & Experiment (Zürich, Switzerland)
01.2010 Special Session on Arithmetic Geometry, Joint Mathematical Meetings of the AMS (San Francisco)
10.2009 Special Session on Arithmetic Geometry, AMS Sectional Meeting (Boca Raton)
04.2009 Counting points on varieties (Leiden, The Netherlands)
06.2008 Rational points on curves and higher dimensional varieties (Warwick, UK)

Seminar and Colloquium Talks

05.2021 Worldwide, Zoom Algebraic Geometry Seminar (online)
05.2021 Carleton University, Department Colloquium
03.2021 University of Texas at Austin, Geometry Seminar
03.2021 University of Texas at Austin, Distinguished Mathematicians of Color Colloquium Series
03.2021 Shanghai Center for Mathematical Science, Algebraic Geometry Seminar (online)
03.2021 VaNTAGe–virtual seminar on open conjectures in number theory and arithmetic geometr (online)
03.2021 Seminario Latinoamericano de Teoría de Números (online–in Spanish)
01.2021 University of Washington, Number Theory Seminar (online)
12.2020 Cornell University, Algebraic Geometry and Representation Theory Seminar (online)
10.2020 Webinario FUNDAPROMAT (online–in Spanish)
08.2020 Cibercoloquio Latinoamericano de Matemáticas (online–in Spanish)
06.2020 Simon Fraser University, Quarantined Number Theory and Algebraic Geometry Seminar (online)
05.2020 University of Warwick, Algebraic Geometry Seminar (online)
04.2020 University of South Carolina, Department Colloquium (Cancelled due to COVID-19)
03.2020 University of California at Berkeley, Arithmetic Geometry and Number Theory Seminar
02.2020 University of Georgia, Algebraic Geometry Seminar
04.2018 University of Chicago, Number Theory Seminar
04.2018 Northwestern University, Number Theory Seminar
04.2018 Amherst College, Department Math Talk
03.2018 Bowdoin College, Math Student Seminar
03.2018 Bates College, Department Math Talk
02.2018 New York University, Algebraic Geometry Seminar
02.2018 Dartmouth College, Department Colloquium
02.2018 Max Planck Institute for Mathematics, Seminar Algebraic Geometry (SAG)
03.2017 Yale University, Algebraic and Tropical Geometry Seminar
11.2016 University of Houston, Complex Geometry Seminar
04.2016 University of Washington, UW-PIMS Colloquium
04.2016 University of Washington, Number Theory Seminar
04.2016 Simon Fraser University, CRG Abelian Varieties Multi-site Seminar
04.2016 Simon Fraser University, PIMS-SFU Colloquium
03.2016 Brown University, Algebra Seminar
03.2016 University of Virginia, Department Colloquium
03.2016 University of Utah, Algebraic Geometry Seminar

02.2016 Sam Houston State University, Department Colloquium
02.2016 Stony Brook University, Algebraic Geometry Seminar
02.2016 University of Oregon, Number Theory Seminar
02.2016 University of Oregon, Department Colloquium
12.2015 Wesleyan University, Department Colloquium
10.2015 University of Texas at Austin, Number Theory Seminar
09.2015 Rice University, Department Colloquium
05.2015 Universidade Federal do Rio de Janeiro, Algebra Seminar
04.2015 Stanford University, Number Theory Seminar
02.2015 Boston College, Number Theory & Algebraic Geometry Seminar
01.2015 Queen's University, Algebraic Geometry Seminar
09.2014 University of Texas at Austin, Number Theory Seminar
04.2014 Joint IMPA/UFRJ/UFF Colóquio de Geometria e Aritmética, Rio de Janeiro
04.2014 Texas A & M University, Algebraic Geometry Seminar
02.2014 Universidad de los Andes, Department Colloquium
10.2013 University of North Carolina at Chapel Hill, Arithmetic Geometry Seminar
10.2013 University of Wisconsin, Number Theory Seminar
05.2013 University of Washington, Algebraic Geometry Seminar
04.2013 University of Houston, Complex Geometry Seminar
01.2013 Texas Christian University, Department Colloquium
01.2013 Rice University, Department Colloquium
12.2012 Humboldt Universität zu Berlin, Forschungsseminar Arithmetische Geometrie
12.2012 Leibnitz Universität Hannover, Algebraic and Arithmetic Geometry Seminar
12.2012 University of Warwick, Algebraic Geometry Seminar
11.2012 University of Bristol and Heilbronn Institute, Number Theory Seminar
10.2012 Centre Interfacultaire Bernoulli (École Polytechnique Fédéral de Lausanne), RatPAC Seminar
06.2012 Universidad de Costa Rica, Department Colloquium
05.2012 University of Texas at Austin, Number Theory Seminar
04.2012 Texas A & M University, Number Theory Seminar
04.2012 Joint Columbia/CUNY/NYU Number Theory Seminar
02.2012 Michigan State University, Department Colloquium
01.2012 University of Alberta, Department Colloquium
01.2012 Colorado State University, Department Colloquium
01.2012 University of North Carolina at Chapel Hill, Department Colloquium
01.2012 University of Illinois at Urbana-Champaign, Department Colloquium
01.2012 University of Notre Dame, Department Colloquium
11.2011 Rice University, Department Colloquium
10.2011 California Institute of Technology, Algebraic Geometry Seminar
05.2011 Brown University, Algebra Seminar
02.2011 University of Wisconsin Madison, Number Theory Seminar
02.2011 University of Wisconsin Madison, Algebraic Geometry Seminar
09.2010 Rice University, Algebraic Geometry Seminar
09.2009 Rice University, Algebraic Geometry Seminar
09.2009 Texas A&M University, Algebraic Geometry Seminar
08.2009 Rice University, Department Colloquium
02.2009 Emory University, Algebra Seminar
11.2008 Massachusetts Institute of Technology, Number Theory Seminar
06.2008 École Normale Supérieur, Séminaire variétés rationnelles
11.2007 Brown University, Algebraic Geometry Seminar
10.2007 Boston University, Algebra Seminar
06.2007 Université de Rennes 1 (IRMAR), Séminaire de géométrie algébrique
04.2007 UC Berkeley, Number Theory Seminar
11.2006 UC Berkeley, Number Theory Seminar

Graduate Students and Post-doctoral faculty

Postdocs, career mentor

2019–2022 Sarah Frei (RTG Instructor)
2018–2019 Daniel Hast (G. C. Evans Instructor)
2016–2019 Jennifer Berg (RTG Instructor)
2016–2019 Anastassia Etropolski (RTG Instructor)
2015–2018 John Calabrese (NSF Post-doctoral Fellow and G. C. Evans Instructor)
2015–2017 Ye Luo (G. C. Evans Instructor)
2014–2017 Richard Shadrach (G. C. Evans Instructor)
2012–2015 Sho Tanimoto (G. C. Evans Instructor)

Postdocs, teaching mentor

2014–2015 Ye Luo (G. C. Evans Instructor)

Tenure-track Faculty, teaching mentor

2017– Greg Chambers

Graduate students, primary advisor

2019– Zachary Spaulding
2019– Kenneth Zheng
2018– Austen James
2015–2021 Stephen Wolff (Ph.D. expected 2021; first position : TBD)
2019–2020 Chloe Zhang (M.A. 2020; first position : TBD)
2016–2020 Jack Petok (Ph.D. expected 2020; first position : Dartmouth College)
2014–2019 Alexis Johnson (Ph.D. 2019; first position : University of Minnesota Twin Cities)
2013–2018 Masahiro Nakahara (Ph.D. 2018; first position : EPSRC postdoc, University of Manchester)

Ph. D. Thesis committees

2020 Rosa Winter (Universiteit Leiden; advised by Ronald van Luijk)
2018 Javier Carvajal-Rojas (University of Utah; advised by Karl Schwede)
2018 Tschijnmo Tschau (Rice Chemistry; advised by Gustavo Scuseria)
2016 Dino Festi (Leiden / Milano; advised by Ronald van Luijk / Bert van Geemen)
2016 Derek Allums (Rice; advised by Brendan Hassett)
2016 Jennifer Berg (UT Austin; advised by Felipe Voloch)
2015 Natalie Durgin (Rice; advised by Brendan Hassett)
2015 Nikita Kozin (Rice; advised by Brendan Hassett)
2013 René Pannekoek (Universiteit Leiden; advised by Ronald van Luijk)

Master's Thesis committees

2019 Yang Zhang (Rice Computer Science; advised by Ron Goldman)
2014 José Dario Bastidas Olaya (Universidad de los Andes; advised by Mauricio Velasco)

Advanced Exam Committee

2019 Nicholas Rouse
2016 Javier Carvajal-Rojas (University of Utah)
2014 Kuan-Wen Lai
2013 Derek Allums
2010 Letao Zhang

Service to the Rice University Mathematics Department

2020– Evans post-doctoral hiring commitee (chair)
2020– Graduate Ombudsperson
2013– Algebra qualifying exam.
2019–2020 Graduate commitee.
2015–2020 Appointments commitee (chair 2019–2020).
2016–2020 Graduate admissions commitee (chair).
2018–2020 Committee on Diversity

2015–2016 Evans post-doctoral hiring commitee
2014 (Fall) Calculus Coordinator
2012–2015 Graduate admissions commitee (co-chair 2012–2013; chair 2013–2015).
2012–2013 Evans post-doctoral hiring commitee.
2010–2012 Colloquium commitee (chair 2011–2012).
2009–2012 Computer committee.

Service to Rice University

2020– University Promotion & Tenure Committee
2020– Office of Undergraduate Research and Inquiry Faculty Advisory Committee
2019– Faculty Advisory Board for the Doerr Institute for New Leaders
2016– Faculty Advisory Board for the Program for Writing & Communication (chair 2019–2022)
2020–2021 Search Committee for the Dean of Natural Sciences
2017–2018 Search Committee for the Dean of Undergraduates
2015–2016 University Committee on Examinations and Standing
2014–2015 University Committee for Faculty & Staff Benefits
2013–2014 President's Lecture Series Committee
2013–2014 First Year Mentor for an O-week group, McMurtry College
2010– Faculty Associate, McMurtry College

Service to the Community

2015–2022 Founder and Director, Patterns, Math & You (program for middle school students)
2013 Lecture to Math Club at Lanier Middle School, Houston.
2019 Enhancement Panel member at the 2019 Tapia Camps
2017 Presented two enhancement lectures to high-school students in the Tapia Computer Science Camp
2016 Presentation aimed at the Houston community at the Rice Science Café
2015 Presented enhancement lecture to high-school students in the Tapia Math–Science Scholars Program
2013 Presented lecture to mathematics high-school students and teachers at the Rice University Mathematics Tournament
2012 Presented lecture to mathematics high-school students at the British School of Costa Rica
2010 Presented lecture to mathematics high-school teachers at the Mathematics Leadership Institute

Service to the Profession

Professional Committees

2020 NSF DMS Committee of Visitors Review
2019– Advisory Board, Arizona Winter School
2019– Mathematical Sciences Institutes Diversity Initiatives, Leadership Team
2019–2021 AMS Council representative to the Board of Directors of the Canadian Mathematical Society
2018–2021 Committee on Science Policy, American Mathematical Society.
2018–2021 Council of the American Mathematical Society; member at large.
2017–2020 Human Resources Advisory Committee, Mathematical Sciences Research Institute (MSRI).

Editorial Work

2020– Communications in Algebra, editor.

Conference Organizer

03.2022 Latinx in the Mathematical Sciences; IPAM (co-organizers: R. Bañuelos, S. Bañuelos, P. Harris, A. Salerno, M. Vázquez)
04.2020 Texas Algebraic Geometry Symposium 2020 (co-organizers: S. Frei—Cancelled due to COVID-19)
01.2020 JMM 2020 Special Session : Rational Points on Algebraic Verieties: Theory and Computation (co-organizers: B. Hassett and A. Sutherland)
11.2019 Gulf Coast Undergraduate Research Symposium: Math Section; Rice University
05.2018 Birational Geometry and Arithmetic; ICERM (co-organizers: A. Auel, M. Pieropan, S. Tanimoto, Y. Tschinkel)

10.2017 Open source computation and algebraic surfaces; Banff International Research Station Workshop 17w2677 (co-organizers: S. Brandhorst and U. Whitcher)
08.2017 SIAM AG 17 Mini-symposium: Algebraic coding for storage applications (co-organizer: A. Barg)
04.2017 Texas Algebraic Geometry Symposium 2017 (co-organizer: J. Calabrese)
02.2017 RTG meeting: Lectures in Arithmetic Geometry at Rice (co-organizers: J. Berg, A. Etropolski)
05.2015 Rational Points / Pontos Racionais; IMPA, Rio de Janerio (co-organizers: A. Auel, O. Lorscheid, C. Salgado)
04.2014 Texas Algebraic Geometry Symposium 2014 (co-organizer: B. Hassett)
02.2013 Brauer groups and obstruction problems: moduli spaces and arithmetic; AIM (co-organizers: A. Auel, B. Hassett, B. Viray)
04.2011 Texas Algebraic Geometry Symposium 2011 (co-organizers: E. Bullock, B. Hassett)

Panels

2020 Panelist for AMS Committee on Science Policy (Joint Math Meetings; Moderator: F. Su)
2019 Panelist for the National Science Foundation
2018 Panel on Careers in Academia at the Latinx in the Mathematical Sciences Conference (IPAM; Organizers: E. Goins and W. Velez)
2018 Panels on Fields of Research at Field of Dreams 2017 Conference (Math Alliance; Moderators: P. Kutzko and S. Hofmann)
2016 Panelist for the National Science Foundation
2015 Panelist for the National Science Foundation
03.2014 Association for Women in Mathematics panel: negotiating a salary (organizer: K. Vance)

Referee

Acta Arithmetica, Advances in Mathematics, Algebra and Number Theory, Algebraic Geometry, Bulletin of the London Mathematical Society, Canadian Mathematical Bulletin, Central European Journal of Mathematics, Compositio Mathematica, Duke Mathematical Journal, European Journal of Mathematics, International Journal of Number Theory, International Math Research Notices, Inventiones Mathematicae, Journal für die reine und angewandte Mathematik (Crelle), Journal of the American Mathematical Society, Journal of the London Mathematical Society, Journal de Théorie de Nombres de Bordeaux, Journal of Pure and Applied Algebra, LMS Journal of Computation and Mathematics, manuscripta mathematica, Mathematische Annalen, Monatshefte für Mathematik, New York Journal of Mathematics, Notices of the American Mathematical Society, Pacific Journal of Mathematics, Proceedings of the American Mathematical Society, Proceedings of the London Mathematical Society, Transactions of the American Mathematical Society.

Mentor

2018 Faculty mentor at the 'Communicating Mathematics Effectively' workshop.
2009 Post-doctoral assistant for VIGRE-funded Research Experience for Undergraduates on singularities of plane curves, Rice University

Teaching

Rice University

	Average teaching evaluation score: 1.193/5 (1 = "Outstanding"; 993 students)
2021, Spring	Math 464/564 : Advanced Algebra II
2020, Fall	Math 567 : Topics in Algebraic Geometry : Rational Points on Varieties
2020, Fall	Math 102 : Single Variable Calculus II
2019, Fall	Math 354 : Honors Linear Algebra
2019, Fall	Math 463/563 : Rings, Modules, and Galois Theory
2019, Spring	Math 464/564 : Commutative and homological algebra
2017, Fall	Math 376 : Algebraic Geometry
2017, Fall	Math 354 : Honors Linear Algebra
2016, Fall	Math 463/563 : Rings, Modules, and Galois Theory
2016, Fall	Math 354 : Honors Linear Algebra
2015, Fall	Math 354 : Honors Linear Algebra
2014, Fall	Math 567 : Topics in Algebraic Geometry : Arithmetic of Elliptic Curves
2014, Fall	Math 101 : Single Variable Calculus I
2014, Spring	Math 466/566 : Algebraic Number Theory
2013, Fall	Math 463/563 : Rings, Modules, and Galois Theory
2013, Spring	Math 464/564 : Commutative and homological algebra
2012, Spring	Math 102 : Single Variable Calculus II
2011, Fall	Math 101 : Single Variable Calculus I
2011, Fall	Math 365 : Number Theory
2011, Spring	Math 567 : Topics in Algebraic Geometry: Algebraic Surfaces
2011, Spring	Math 102 : Single Variable Calculus II
2010, Fall	Math 373 : Elliptic Curves
2010, Spring	Math 112 : Calculus and its applications
2010, Spring	Math 464 : Commutative and homological algebra
2009, Fall	Math 101 : Single Variable Calculus I

University of California at Berkeley

	Average teaching evaluation score: 6.8/7 (7 = "Excellent"; 221 students)
2009, Spring	Math 300 : Teaching Workshop for graduate student instructors (Lecturer)
2008, Fall	Math 300 : Teaching Workshop for graduate student instructors (Assistant)
2008, Summer	Math 115 : Introduction to Number Theory (Lecturer)
2008, Spring	Math 74 : Transition to Upper Division Mathematics (Lecturer)
2007, Spring	Math 1b : Calculus in One Variable II (Professional Development Program)
2006, Fall	Math 1a : Calculus in One Variable I (Professional Development Program)
2005, Fall	Math 53 : Multivariable Calculus (Graduate Student Instructor)
2005, Spring	Math 1b : Calculus in One Variable II (Graduate Student Instructor)
2004, Fall	Math 1a : Calculus in One Variable I (Graduate Student Instructor)

Harvard University

2003, Spring	Math 123 : Abstract Algebra II (Course Assistant)
2002, Fall	Math 113 : Complex Analysis (Course Assistant)
2002, Spring	Math 112 : Real Analysis (Course Assistant)
2001, Fall	Math 25a : Honors Advanced Multivariable Calculus (Course Assistant)
2001, Spring	Math 21a : Multivariable Calculus (Course Assistant)
2000, Fall	Math 21a : Multivariable Calculus (Course Assistant)