

# Michael DiPasquale

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## CONTACT INFORMATION

New Mexico State University  
Department of Mathematical Sciences

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## RESEARCH INTERESTS

Computational commutative algebra and algebraic geometry. Emphasis on pure and applied problems which can be approached with the tools of algebraic geometry and commutative algebra.

## EDUCATION

**University of Illinois Urbana-Champaign** (UIUC), Urbana, IL  
**Ph.D.**, Mathematics, May 2015  
*Advisor:* Professor Hal Schenck  
*Thesis:* Splines on polytopal complexes  
**Wheaton College**, Wheaton, IL  
**B.S.**, Mathematics, May 2009

## ACADEMIC APPOINTMENTS

**New Mexico State University** (NMSU), Las Cruces, NM  
*Assistant Professor* August 2023 -  
**University of South Alabama** (USA), Mobile, AL  
*Assistant Professor* August 2021 - May 2023  
**Colorado State University** (CSU), Fort Collins, CO  
*Postdoctoral Fellow* August 2018 - July 2021  
**Oklahoma State University** (OSU), Stillwater, OK  
*Visiting Assistant Professor* August 2015 - May 2018

## PUBLICATIONS

24. *Duality for asymptotic invariants of graded families* (with T. Nguyen and A. Seceleanu), to appear in *Adv. Math.* [arXiv:2208.11110](https://arxiv.org/abs/2208.11110)
23. *Quasi-polynomial growth of numerical and affine semigroups with constrained gaps* (with B. Gillespie and C. Peterson), to appear in *Semigroup Forum.* [arXiv:2208.09760](https://arxiv.org/abs/2208.09760)
22. *A lower bound for the dimension of tetrahedral splines in large degree* (with N. Villamizar), to appear in *Constr. Approx.* [arXiv:2007.12274](https://arxiv.org/abs/2007.12274)
21. *A homological characterization for freeness of multi-arrangements*, *Math. Ann.* (2022)  
[doi:10.1007/s00208-021-02357-6](https://doi.org/10.1007/s00208-021-02357-6). [arXiv:1806.05295](https://arxiv.org/abs/1806.05295)
20. *On resurgence via asymptotic resurgence* (with B. Drabkin), *J. Algebra.* 587 (2021), 64-84.  
[arXiv:2003.06980](https://arxiv.org/abs/2003.06980)
19. *Koszul multi-Rees algebras of principal  $L$ -Borel Ideals* (with B. Jabbar Nezhad), *J. Algebra.* 581 (2021), 353-385. [arXiv:2008.09565](https://arxiv.org/abs/2008.09565)
18. *A lower bound for splines on tetrahedral vertex stars* (with N. Villamizar), *SIAM J. Appl. Algebra Geom.* 5 (2021), no. 2, 250-277. [arXiv:2005.13043](https://arxiv.org/abs/2005.13043)
17. *Counting the dimension of splines of mixed smoothness: A general recipe, and its application to meshes of arbitrary topologies.* (with D. Toshniwal), *Adv. Comput. Math.* (2021)  
[arXiv:2001.01774](https://arxiv.org/abs/2001.01774)
16. *On the apolar algebra of a product of linear forms* (with Z. Flores and C. Peterson). In *Proceedings of the 45th International Symposium on Symbolic and Algebraic Computation*, IS-SAC '20, pages 130-137, New York, NY, USA, 2020. Association for Computing Machinery, [arXiv:2002.04818](https://arxiv.org/abs/2002.04818)
15. *A Generalization of Wilf's Conjecture for Generalized Numerical Semigroups* (with C. Cisto, G. Failla, Z. Flores, C. Peterson, and R. Utano), *Semigroup Forum* 101 (2020). [arXiv:1909.13120](https://arxiv.org/abs/1909.13120)
14. *Bivariate Semialgebraic Splines* (with F. Sottile), *J. Approx. Theory* 254 (2020), 105392, 19 pp.  
[arXiv:1905.08438](https://arxiv.org/abs/1905.08438)
13. *Free and non-free multiplicities on the  $A_3$  arrangement* (with C. Francisco, J. Mermin, and J. Schweig), *J. Algebra* 544 (2020), 498-532. [arXiv:1609.00337](https://arxiv.org/abs/1609.00337)

12. *Asymptotic resurgence via integral closures* (with C. Francisco, J. Mermin, and J. Schweig), Trans. Amer. Math. Soc. 372 (2019), no. 9, 6655-6676. [arXiv:1808.01547](#)
11. *The Rees algebra of a two-Borel ideal is Koszul* (with C. Francisco, J. Mermin, J. Schweig, and G. Sosa), Proc. Amer. Math. Soc. 147 (2019), no. 2, 467-479. [arXiv:1706.07462](#)
10. *Free multiplicities on the moduli of  $X_3$*  (with M. Wakefield), J. Pure Appl. Algebra 222 (2018), no. 11, 3345-3359. [arXiv:1707.03961](#)
9. *Inequalities for free multi-braid arrangements*, Proc. Japan Acad. Ser. A Math. Sci. 94 (2018), no. 4, 36-41. [arXiv:1705.02409](#)
8. *Dimension of mixed splines on polytopal cells*, Math. Comp. 87 (2018), no. 310, 905-939. [arXiv:1411.2176](#)
7. *Semialgebraic splines* (with F. Sottile and L. Sun), Comput. Aided Geom. Design 55 (2017), 26-47. [arXiv:1604.05947](#)
6. *Generalized splines and graphic arrangements*, J. Algebraic Combin. (2016), 1-19. [arXiv:1606.03091](#)
5. *Associated primes of spline complexes*, J. Symb. Comput. (2016), 158-199. [arXiv:1410.6894](#)
4. *Lattice-supported splines on polytopal complexes*, Adv. in Appl. Math. 55 (2014), 1-21. [arXiv:1312.3294](#)
3. *Shellability and freeness of continuous splines*, J. Pure Appl. Algebra. 216 (2012), 2519-2523.
2. *Asymptotic connectivity of hyperbolic planar graphs* (with P. Bahls), Discrete Math. 310 (2010), 3462-3472.
1. *On the order of a group containing nontrivial Gassmann equivalent subgroups*, Rose-Hulman Undergraduate Mathematics Journal 10, Issue 1 (2009).
0. *Splines on polytopal complexes*. Thesis (Ph.D.) University of Illinois at Urbana-Champaign (2015). 148 pp. ISBN: 978-1339-32551-4, ProQuest LLC.

UNDER REVIEW

3. *Geometric aspects of the Jacobian of a hyperplane arrangement* (with J. Sidman and W. Traves), submitted. [arXiv:2209.04929](#)
2. *Restriction and extension for planar splines on triangulations*, submitted.
1. *Planar splines on a triangulation with a single totally interior edge* (with B. Yuan), submitted. [arXiv:2306.16825](#)

EXTERNAL GRANTS

PI, NSF standard grant DMS-2201084 (2022-2025)  
 AMS-Simons travel grant (2015-2018)

INTERNAL AWARDS

USA Support and Development Award (2022)  
 \$1500 for bringing collaborators and speakers to USA  
 USA Faculty Development Council Fellow (2022)  
 \$5000 for research collaboration and development of external grant application

TEACHING  
EXPERIENCE

**Instructor of record**

**Course**

Intro to Abstract Algebra (CSU, USA)  
Intro to Math Reasoning (CSU)  
Linear Algebra (CSU, USA)  
Precalculus Trigonometry (USA)  
Finite Mathematics (USA)  
Intro to Combinatorial Theory (CSU)  
Calculus 2 (CSU, USA)  
Intro to Real Analysis (OSU)  
Calculus 1 (OSU)  
A Mathematical World (UIUC)  
College Algebra (UIUC)

**Description**

group theory and proof writing  
proof writing  
matrix theory  
trigonometric functions and modeling  
probabilities, counting, and logic for non-math majors  
combinatorics and number theory  
sequences, series, and integration techniques  
proof writing and real analysis  
differential and integral calculus  
survey course emphasizing applications of mathematics  
calculus preparation course

- Responsible for lecturing, grading exams and quizzes, writing worksheets and homework
- Wrote exams for most courses
- Often implemented group work at least once per week

**Recitation instructor**, University of Illinois Urbana-Champaign

- Led bi-weekly 50-minute problem sessions and proctored and graded quizzes and exams for seven semesters of Calculus (1,2, and 3)
- Led student groups through worksheets I had written during bi-weekly two-hour workshops for one semester of Calculus 1 in the Merit program
- Appeared on the 'List of Teachers Ranked as Excellent' by their students in three semesters

**Undergraduate teaching assistant**, Wheaton College

- Led problem sessions once per week at Wheaton College for Analysis I, Algebra I, and Discrete Mathematics

STUDENTS  
SUPERVISED  
MENTORING

Masters thesis advisor for Ryann Firestine (2022-2023)

**Assistant** for a minicourse on [Algebraic Geometry at SMI](#) in Perugia Summer 2019  
*Created problem sets and ran Macaulay2 help sessions twice per week.*

**Honors option** for Intro to Math Reasoning, Linear Algebra, Calculus 2 Fall 2019, 2020, 2022  
*Created additional problem sets and problem sessions for students to receive honors credit.*

**Mentor** in the [Illinois Geometry Lab](#) Spring 2014, Fall 2014  
*Co-led undergraduate research on minimal energy configurations of particles.*

**Teaching mentor** for junior graduate students Fall 2013  
*Mentored several first-year graduate students, visited classes and offered teaching feedback.*

DISSEMINATION  
OF RESEARCH

Lead co-author of the package [AlgebraicSplines](#) for the computer algebra system Macaulay2. This package is currently used by several researchers, including Julianna Tymoczko, who employs this package in research with undergraduates at Smith College.

CONFERENCE  
PRESENTATIONS

1. *Restriction and Extension for Planar Splines* 07/2023  
SIAM Conference on Applied Algebraic Geometry, Eindhoven, Netherlands  
*Minisymposium on Algebraic Spline Geometry*
2. *Dimension of bivariate splines on a partition with one totally interior edge* 05/2023  
International Conference on Approximation Theory and Beyond, Nashville, TN  
*Minisymposium on Multivariate Splines: Theory and applications*
3. *Apolarity for differentially closed filtrations of ideals* 03/2023  
AMS Sectional Meeting, Atlanta, GA  
*Special Session on Recent Developments in Commutative Algebra*

4. *Curves passing through space points and Waring rank* 01/2023  
 Joint Mathematics Meetings, Boston, MA  
*AMS Special Session on Applied Enumerative Geometry*
5. *Singularities of line arrangements and rigidity of planar frameworks* 12/2022  
 Virtual workshop organized by Mustapha Lahyane (University of Michoacán, Mexico)  
*Commutative Algebra, Algebraic Geometry and Related Topics*
6. *Homogeneous trivariate splines on the star of a vertex* 09/2022  
 INdAM Meeting in Cortona, Italy  
*Approximation Theory and Numerical Analysis meet Algebra, Geometry, Topology*
7. *Duality for sequences associated to symbolic powers* 05/2022  
 AMS Sectional Meeting, Denver, CO (virtual due to COVID-19)  
*Special Session on Commutative Algebra*
8. *Saturating the Jacobian ideal of a line arrangement and parallel drawings* 3/2022  
 AMS Sectional Meeting, Purdue, IN (virtual due to COVID-19)  
*Special Session on Combinatorial Techniques in Commutative Algebra*
9. *Rigidity, formality, and syzygies of the module of derivations of a line arrangement* 10/2021  
 AMS Sectional Meeting, Albuquerque, NM (virtual due to COVID-19)  
*Special Session on Hyperplane arrangements in connection with commutative algebra*
10. *Curves passing through points in projective space* 10/2021  
 AMS Sectional Meeting, Omaha, NE (virtual due to COVID-19)  
*Special Session on Commutative Algebra*
11. *Continuous splines on cross-cut cells and rigid planar frameworks* 08/2021  
 SIAM Conference on Applied Algebraic Geometry (virtual due to COVID-19)  
*Minisymposium on Algebraic Methods for Multivariate Splines and Rigidity*
12. *Koszul multi-Rees algebras arising from principal Borel ideals* 03/2021  
 AMS Sectional Meeting, Providence, RI (virtual due to COVID-19)  
*Special Session on Current Trends in Combinatorial Commutative Algebra*
13. *Dual sequences arising from apolarity* 03/2021  
 AMS Sectional Meeting, Atlanta, GA (virtual due to COVID-19)  
*Special Session on Commutative Algebra and its Interaction with Algebraic Geometry and Combinatorics*
14. *Formal line arrangements and rigid planar frameworks* 01/2021  
 Mathematisches Forschungsinstitut Oberwolfach, Germany (virtual due to COVID-19)  
*Workshop on Logarithmic Vector Fields and Freeness of Divisors and Arrangements*
15. *Regularity of uniform power ideals and the Waldschmidt constant* 10/2020  
 AMS Sectional Meeting, University Park, PA (virtual due to COVID-19)  
*Special Session on Commutative Algebra and Connections to Algebraic Geometry and Combinatorics*
16. *On the apolar algebra of a product of linear forms* 07/2020  
 The 45th International Symposium on Symbolic and Algebraic Computation, ISSAC '20  
 (virtual due to COVID-19)
17. **(Cancelled due to COVID-19)** *Generalizing Wilf's conjecture to higher dimensions* 05/2020  
 AMS Sectional Meeting, Fresno, CA  
*Special Session on Numerical Semigroups and Applications*
18. **(Cancelled due to COVID-19)** *A linear bound on the regularity of power ideals* 04/2020  
 AMS Sectional Meeting, West Lafayette, IN  
*Special Session on Combinatorial Techniques in Commutative Algebra*
19. *A generalization of Wilf's Conjecture* 01/2020  
 AMS-MAA Joint Mathematics Meetings, Denver, CO  
*AMS Special Session on Recent Trends in Semigroup Theory*
20. *Apolarity and trivariate piecewise polynomials* 08/2019  
 Algebraic Spline Geometry Meeting, Swansea, United Kingdom

21. *Algebraic Approaches to Spline Theory* 07/2019  
 SIAM Conference on Applied Algebraic Geometry, Bern, Switzerland  
*Minisymposium on Multivariate Spline Approximation and Algebraic Geometry*
22. *Asymptotic Resurgence via Integral Closure and Linear Programs* 02/2019  
 Southwest Local Algebra Meeting, El Paso, TX
23. *Asymptotic Resurgence and Integral Closures* 11/2018  
 AMS Sectional Meeting, Fayetteville, AR  
*Special Session on Interactions Between Combinatorics and Commutative Algebra*
24. *Freeness of Multi-arrangements via Acyclicity* 06/2018  
 Research Institute for Mathematical Sciences (RIMS), Kyoto, Japan  
*Matroids, reflection groups, and free hyperplane arrangements*
25. *A Homological Approach to Freeness of Multi-arrangements* 04/2018  
 AMS Sectional Meeting, Boston, MA  
*Special Session on Arrangements of Hypersurfaces*
26. *The Toric Ring of a Two-Borel ideal is Koszul* 01/2018  
 AMS-MAA Joint Mathematics Meetings, San Diego, CA  
*AMS Special Session on Combinatorial Commutative Algebra and Polytopes*
27. *Freeness of Multi-Coxeter Arrangements of type A* 09/2017  
 AMS Sectional Meeting, Denton, TX  
*Special Session on Algebraic Combinatorics of Flag Varieties*
28. *Splines on planar semi-algebraic partitions* 09/2017  
 AMS Sectional Meeting, Denton, TX  
*Special Session on Applicable and Computational Algebraic Geometry*
29. *Algebraic Methods in Spline Theory* 08/2017  
 SIAM Conference on Applied Algebraic Geometry, Atlanta, GA  
*Minisymposium on Multivariate Splines and Algebraic Geometry*
30. *Multi-derivations on the moduli of the  $X_3$  arrangement* 04/2017  
 AMS Sectional Meeting, Pullman, WA  
*Special Session on Combinatorial and Computational Commutative Algebra and Algebraic Geometry*
31. *Splines on Tetrahedral Decompositions* 05/2016  
 15th International Conference on Approximation Theory, San Antonio, TX  
*Minisymposium on Approximation Theory and Algebraic Geometry*
32. *Generalized Splines and Graphic Multi-Arrangements* 10/2015  
 AMS Sectional Meeting, Chicago, IL  
*Special Session on Combinatorial and Computational Algebra*
33. *Piecewise Polynomials and Regularity* 04/2015  
 Mathematisches Forschungsinstitut Oberwolfach, Germany  
*Workshop on Multivariate Splines and Algebraic Geometry*
34. *Castelnuovo-Mumford Regularity of Mixed Spline Spaces* 01/2015  
 AMS-MAA Joint Mathematics Meetings, San Antonio, TX  
*Session on Commutative Algebra*
35. *Regularity of Planar Splines* 04/2014  
 AMS Sectional Meeting, Lubbock, TX  
*Special Session on Commutative Algebra and Algebraic Geometry*
36. *Regularity and Piecewise Polynomial Functions* 04/2014  
 KUMUNU jr, Lincoln, NE
37. *Local Properties of Splines* 03/2014  
 Southwest Local Algebra Meeting, College Station, TX  
*Graduate Student Poster Session*
38. *Lattice-Supported Splines on Polytopal Complexes* 01/2014  
 AMS-MAA Joint Mathematics Meetings, Baltimore, MD  
*AMS Special Session on Hyperplane Arrangements and Applications*

39. *Lattice-Supported Bases for Polyhedral Splines* 08/2013  
 SIAM Conference on Applied Algebraic Geometry, Fort Collins, CO  
*Session on Approximation Theory, Geometric Modeling, and Algebraic Geometry*
40. *Bivariate Continuous Splines on Polyhedral Complexes* 04/2013  
 14th International Conference on Approximation Theory, San Antonio, TX  
*Minisymposium on Multivariate Splines*
41. *Shellability and Freeness of Continuous Splines* 10/2012  
 AMS Sectional Meeting, Tulane, LA  
*Special Session on Approximation Theory, Geometric Modelling, and Algebraic Geometry*
42. *Exploring Gassmann Triples* 01/2009  
 AMS-MAA Joint Mathematics Meetings  
*Undergraduate Student Poster Session (\$100 prize)*

SEMINAR &  
 COLLOQUIUM  
 TALKS

1. *Saturating the Jacobian ideal of a line arrangement via rigidity theory* 03/2023  
 Algebra Seminar, Georgia Institute of Technology, Atlanta, GA
2. *Exploring affine semigroups* 04/2022  
 Colloquium, University of Texas at Tyler, Tyler, TX (virtual due to COVID-19)
3. *A duality for sequences and its manifestation for symbolic powers* 03/2022  
 Algebraic Geometry and Geometric Topology Seminar, Tulane University, New Orleans, LA
4. *Homogeneous trivariate splines on vertex stars* 05/2021  
 Online workshop *Dimension of Multivariate Splines*, University of Rome "Tor Vergata"
5. *Wilf's conjecture and its extensions* 11/2020  
 Graduate Seminar, Towson University, Towson, MD (virtual due to COVID-19)
6. *Resurgence via Asymptotic Resurgence* 08/2020  
 Algebra and Geometry Seminar, Iowa State University, Ames, IA (virtual due to COVID-19)
7. *Extending Wilf's Conjecture* 10/2019  
 Colloquium, University of North Carolina-Charlotte, Charlotte, NC
8. *Multi-derivations of hyperplane arrangements* 06/2019  
 Mediterranea University of Reggio Calabria, Italy
9. *Combinatorics, topology, and algebra of hyperplane arrangements* 06/2019  
 University of Messina, Italy
10. *Commutative Algebra and Piecewise Polynomials* 02/2018  
 Colloquium, Marquette University, Milwaukee, WI
11. *Commutative Algebra and Approximation Theory* 01/2018  
 Colloquium, University of Nebraska-Lincoln, Lincoln, NE
12. *Homological Obstructions to Freeness of Multi-Arrangements* 10/2017  
 Geometry Seminar, Texas A&M University, College Station, TX
13. *Free Multi-Braid Arrangements and Resolutions* 03/2017  
 Algebra Seminar, University of Arkansas, Fayetteville, AK
14. *Dimensions of Spline Spaces and Commutative Algebra* 11/2016  
 Colloquium, Towson University, Towson, MD
15. *Two Tales of Freeness* 11/2016  
 Colloquium, US Naval Academy, Annapolis, MD
16. *Multi-Derivations of Braid Arrangements* 09/2016  
 Combinatorics Seminar, University of Kansas, Lawrence, KS
17. *Piecewise Polynomials and Algebraic Geometry* 04/2016  
 Colloquium, University of Idaho, Moscow, ID
18. *Semialgebraic Splines* 03/2016  
 Valley Geometry Seminar, University of Massachusetts, Amherst, MA
19. *Commutative Algebra meets Approximation Theory* 11/2015  
 Numerical Analysis Seminar, Oklahoma State University, Stillwater, OK
20. *Commutative Algebra and Approximation Theory* 09/2015  
 Colloquium, Oklahoma State University, Stillwater, OK

21. *Splines, Syzygies, and Freeness* 09/2015  
Algebra Seminar, Oklahoma State University, Stillwater, OK
22. *Regularity of Planar Splines* 09/2015  
Geometry Seminar, Texas A&M University, College Station, TX
23. *Algebraic Geometry and Approximation Theory* 02/2015  
Colloquium, University of South Florida, Tampa, FL
24. *Associated Primes of Complexes Arising in Approximation Theory* 11/2014  
Commutative Algebra Seminar, UIUC
25. *Castelnuovo-Mumford Regularity in Approximation Theory* 11/2014  
Algebraic Geometry Seminar, UIUC
26. *Lehmer's Picturesque Exponential Sums with a Twist (with Daniel Schultz)* 02/2010  
Number Theory Seminar, UIUC

TALKS FOR  
UNDERGRADUATE  
OR HIGH SCHOOL  
AUDIENCES

1. *Cutting up a pizza and related topics* 10/2021  
Colloquium, University of South Alabama, Mobile, AL
2. *Piecewise Linear Functions, Projecting Polytopes, and Equilibrium Stresses* 11/2018  
Symposium of Physics and Mathematics FCFM-IFM, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Michoacán, Mexico
3. *Explorations in Rigidity* 04/2018  
OSU Math Club, Oklahoma State University, Stillwater OK
4. *The Best Way to Divide up a Cheese* 10/2017  
High School Math Day, Oklahoma State University, Stillwater OK
5. *The Pizza Cutting Problem* 02/2017  
Stillwater High School Math Seminar, Stillwater High School, Stillwater, OK
6. *Counting Piecewise Linear Functions* 03/2016  
Center for Women in Mathematics, Smith College, Northampton, MA
7. *Jumping Dimensions and Projecting Polytopes* 12/2014  
Colloquium, Bradley University, Peoria, IL
8. *Continuous Piecewise Polynomials and Static Equilibrium* 10/2014  
Rose-Hulman Mathematics Seminar, Terra-Haute, IN

PROFESSIONAL  
SERVICE

**Organizer**

Virtual informal seminar on topics related to splines, Fall 2020-

**Co-organizer** (with Hendrik Speleers and Deepesh Toshniwal)

Minisymposium on Multivariate Splines: Theory and applications at the International Conference on Approximation Theory and Beyond, Nashville, TN, May 2023.

**Co-organizer** (with Selvi Kara)

AMS Special Session on Current Trends in Combinatorial and Homological Commutative Algebra, Mobile, AL, November 2021.

**Organizer**

Postdoc Seminar at CSU, Fall 2020, Spring 2021

**Co-organizer** (with Nelly Villamizar)

Minisymposium on Algebraic Methods for Multivariate Splines and Rigidity at the SIAM conference on Applied Algebraic Geometry in College Station, Texas, August 2021. (**Virtual due to COVID-19**)

**Co-organizer** (with Nelly Villamizar)

Minisymposium on Multivariate Spline Approximation and Algebraic Geometry at the SIAM conference on Applied Algebraic Geometry in Bern, Switzerland, July 2019.

**Co-organizer** (with Frank Sottile)

Minisymposium on Multivariate Splines and Algebraic Geometry at the SIAM conference on Applied Algebraic Geometry in Atlanta, GA, August 2017.

**Co-organizer** (with Tatyana Sorokina)

Minisymposium on Approximation Theory and Algebraic Geometry at the 15th International Conference on Approximation Theory in San Antonio, TX, May 2016.

**Organizer**

reading seminar on *The Geometry of Syzygies* in Fall 2011, Spring 2012

**Referee**

I have served as a referee for articles submitted to the following journals: *Mathematische Annalen*, *Journal of Pure and Applied Algebra*, *International Journal of Algebra and Computation*, *Pacific Journal of Mathematics*, *Constructive Approximation*, *Computer-Aided Geometric Design*, *Journal of Algebraic Combinatorics*, *Graphs and Combinatorics*, *Proceedings of 15th International Conference on Approximation Theory*, *SIGMA*, *Journal of Computational and Applied Mathematics*, *Canadian Mathematical Bulletin*, *Communications in Algebra*, *Épíjournal de Géométrie Algébrique*, *Advances in Applied Mathematics*, *Innovations in Incidence Geometry*, *Discrete and Computational Geometry*, *Arkiv för Matematik*, *Collectanea Mathematica*, *Hokkaido Mathematical Journal*, *Journal of Algebra and its Applications*, *ISSAC*

**Reviewer**

Zentralblatt MATH, Mathematical Reviews

OTHER AWARDS	<b>Bourgain Fellowship</b> , UIUC	Spring 2013
	<b>REGS Summer Fellowships</b> , UIUC	Summer 2009-2013
	<b>REU Summer Fellowships</b> , UNC Asheville & LSU	Summer 2008-2009
CONFERENCE-SPECIFIC GRANTS	<b>US Junior Oberwolfach Fellows grant</b>	01/2020
	to attend MFO workshop in Oberwolfach, Germany (not used since the conference was virtual)	
	<b>SIAM Early Career Travel Award</b>	07/2019
	to attend SIAM Conference on Applied Algebraic Geometry in Bern, Switzerland	
	<b>Supported Participant</b>	05/2017
	at CMO Workshop on Symbolic and Ordinary Powers in Oaxaca, Mexico	
	<b>Oberwolfach Leibniz Graduate Students grant</b>	04/2015
	to present at MFO workshop in Oberwolfach, Germany	
	<b>AMS Student Travel Grant</b>	04/2014
	for presentation at AMS Sectional Meeting at Texas Tech	
	<b>AMS Student Travel Grant</b>	01/2014
	for presentation at AMS-MAA Joint Mathematics Meetings	
	<b>Student Travel Award</b>	08/2013
	to attend SIAM Conference on Applied Algebraic Geometry in Fort Collins, CO	
	<b>Travel Award</b>	04/2013
	for presentation at 14th International Conference on Approximation Theory	
	<b>Supported Participant</b>	12/2012
	at MSRI Workshop on Combinatorial Commutative Algebra	
	<b>AMS Student Travel Grant</b>	10/2012
	for presentation at the AMS Sectional Meeting at Tulane	
	<b>Supported Participant</b>	06-07/2012
	at IMA summer school in Applied Algebraic Geometry at Georgia Tech	
SELECTED WORKSHOPS ATTENDED	<b>INDAM Meeting:</b> Approximation Theory and Numerical Analysis	09/2022
	meet Algebra, Geometry, Topology	
	Cortona, Italy	
	<b>MFO workshop</b> on Logarithmic Vector Fields and Freeness of Divisors	01/2021
	and Arrangements: New perspectives and applications	
	Oberwolfach, Germany	
	<b>Macaulay 2 workshop</b> on coding in the computer algebra system Macaulay2	07/2017
	Berkeley, CA	



<b>CMO workshop</b> on Ordinary and Symbolic Powers of Ideals Oaxaca, Mexico	05/2017
<b>Macaulay2 workshop</b> on coding in the computer algebra system Macaulay2 Boise, ID	05/2015
<b>MFO workshop</b> on Multivariate Splines and Algebraic Geometry Oberwolfach, Germany	04/2015
<b>MSRI workshop</b> on Combinatorial Commutative Algebra San Francisco, CA	12/2012
<b>IMA summer school</b> in Applied Algebraic Geometry at Georgia Tech Atlanta, GA	06-07/2012

PROFESSIONAL  
MEMBERSHIPS

American Mathematical Society  
Society for Industrial and Applied Mathematics  
Member of activity group on applied algebraic geometry

REFERENCES

Hal Schenck  
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