TÀI HUY HÀ

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Education

- **Queen's University, Kingston, Canada** June 2000
  Ph.D. in Mathematics
  Advisor: Professor A.V. Geramita (deceased)
- **Curtin University of Technology, Perth, Australia** June 1996
  B.Sc. (Hons) in Mathematics
  Advisor: L. Caccetta
- **Curtin University of Technology, Perth, Australia** December 1995
  B.Sc. in Mathematics and Computing Science

Academic Appointments

- **Tulane University, New Orleans, USA** July 2021–present
  Department Chair
  Mathematics Department
- **Tulane University, New Orleans, USA** July 2017–present
  Professor of Mathematics
- **Indian Institute of Technology, Bombay, India** June 2018
  Visiting Professor
- **Tulane University, New Orleans, USA** July 2009–June 2017
  Associate Professor of Mathematics
- **Vietnam Institute for Advanced Study in Mathematics, Hanoi, Vietnam**
  Visiting Professor (several occasions in 2013–2014, 2016, 2018, 2023, 2025)
- **Université Pierre et Marie Curie, Paris, France** April 2011
  Visiting Professor
- **Tulane University, New Orleans, USA** July 2004–June 2009
  Assistant Professor
- **University of Missouri-Columbia, Missouri, USA** September 2001–May 2004
  Postdoctoral Fellow
  Mentor: S.D. Cutkosky
- **Institute of Mathematics, Hanoi, Vietnam** September 2000–August 2001
  Regular Member

Research Interest

- **Subject Areas:** Commutative Algebra, Computational Algebra, Combinatorics and Algebraic Geometry.
- **Research Topics:**
  – Graded families of ideals: algebraic invariant and associated convex bodies

- Polynomial interpolation in several variables: Chudnovsky's, Demailly's and Nagata's conjectures
- Ideal containment problems: Harbourne's, Habourne-Huneke's conjectures, resurgence and asymptotic resurgence numbers.

Research Funding and Grants

- (PI) Simons Foundation Collaboration Grant (#850912), 2021–2026
- (Co-PI) Louisiana Board of Regents Targeted Enhancement Grant, 2021–2023
- (PI) National Science Foundation Conference Grant, 2020
- (PI) Louisiana Board of Regents Enhancement Grant (LEQSF(2017-19)-ENH-TR-25), 2017-2019
- (PI) Simons Foundation Collaboration Grant (#279786), 2013-2018
- (PI) Tulane Bernick Faculty Grant, 2016-2017
- (PI) Vietnam Institute for Advanced Study in Mathematics, grant for research group (special semester), Hanoi, Vietnam, 3/2016-8/2016
- (PI) National Science Foundation Conference Grant, 2012-2013
- (PI) National Security Agency (H98230-11-1-0165), 2010-2012
- (PI) Tulane Research Enhancement Fund, 2008-2009
- (PI) Louisiana Board of Regents Research and Development Grant (LEQSF(2007-10)-RD-A-30), 2007-2010
- (Co-PI) Louisiana Board of Regents Enhancement Grant (LEQSF(2005-07)-ENH-TR-79), 2005-2007
- Tulane Summer Research Fellowship, 2005

Editorial Appointments

- (2015–present) Editorial Board Member for *Journal of Algebra and Its Applications*
- (2020–present) Editorial Board Member for *Journal of Algebraic Combinatorics*
- (2019–2020) Guest Editor (with Takayuki Hibi) for Mathematics.

Publications

- `Papers in peer reviewed journals:`

77. Tài Huy Hà, Takayuki Hibi and Fabrizio Zanello. *A special class of pure O-sequences*. Electron. J. Combinatorics, 32 (2025), no. 1, P1.48.
76. Huy Tài Hà and Thái Thành Nguyễn. *Newton-Okounkov body, Rees algebra, and analytic spread of graded families of monomial ideals*. Trans. Amer. Math. Soc. Ser. B 11 (2024), 1065-1097.
75. Arindam Banerjee and Tài Huy Hà. *Integral closures of powers of sums of ideals*. J. Algebraic Combin. 58 (2023), no. 1, 307-323.
74. Louiza Fouli, Tài Huy Hà and Susan Morey. *Regular sequences on squares of monomial ideals*. São Paulo J. Math. Sci. 17 (2023), no. 1, 122-146.
73. Huy Tài Hà, A.V. Jayanthan, Arvind Kumar and Hop D. Nguyen. *Binomial expansion for saturated and symbolic powers of sums of ideals*. J. Algebra 620 (2023), 690-710.

72. Lawrence Ein, Huy Tài Hà and Robert Lazarsfeld. *Saturation bounds for smooth varieties*. Algebra Number Theory 16 (2022), no. 6, 1531-1546.
71. Sankhaneel Bisui, Eloísa Grifo, Huy Tài Hà and Thái Thành Nguyễn. *Chudnovsky's conjecture and the stable Harbourne-Huneke containment*. Trans. Amer. Math. Soc. Ser. B 9 (2022), 371-394.
70. Huy Tài Hà, Graham Keiper, Hasan Mahmood and Jonathan L. O'Rourke. *Density of f-ideals and f-ideals in mixed small degrees*. Math Scand. 128 (2022), no. 1, 14-34.
69. Sankhaneel Bisui, Eloísa Grifo, Huy Tài Hà and Thái Thành Nguyễn. *Demailly's conjecture and the containment problem*. J. Pure Appl. Algebra 226 (2022), no. 6, Paper No. 106863, 21 pp.
68. Huy Tài Hà and Adam Van Tuyl. *Powers of componentwise linear ideals: the Herzog-Hibi-Ohsugi conjecture and related problems*. Res. Math. Sci. 9 (2022), no. 2. Paper No. 22, 26 pp.
67. Sankhaneel Bisui, Huy Tài Hà, A.V. Jayanthan and Abu Chackalamannil Thomas. *Resurgence numbers of fiber products of projective schemes*. Collect. Math. 72 (2021), no. 3, 605-614.
66. Yan Gu, Huy Tài Hà, Joseph W. Skelton. *Symbolic powers of cover ideals of graphs and Koszul property*. Internat. J. Algebra Comput. 31 (2021), no. 5, 865-881.
65. Huy Tài Hà and Takayuki Hibi. *MAX MIN vertex cover and the size of Betti tables*. Ann. Comb. 25 (2021), no. 1, 115-132.
64. Huy Tài Hà, Hop Dang Nguyen, Ngo Viet Trung and Tran Nam Trung. *Depth functions of powers of homogeneous ideals*. Proc. Amer. Math. Soc. 149 (2021), no. 5, 1837-1844.
63. Arindam Banerjee, Selvi Kara Beyarslan and Huy Tài Hà. *Regularity of powers of edge ideals: from local properties to global bounds*. Algebr. Comb. 3 (2020), no. 4, 839-854.
62. Yan Gu, Huy Tài Hà, Jonathan O'Rourke and Joseph Skelton. *Symbolic powers of edge ideals of graphs*. Comm. Algebra 48 (2020), no. 9, 3743-3760.
61. Louiza Fouli, Huy Tài Hà and Susan Morey. *Depth of powers of squarefree monomial ideals (research)*. In Advances in Mathematical Sciences, 161-171, Assoc. Women Math. Ser., 21, Springer, Cham 2020.
60. Louiza Fouli, Huy Tài Hà and Susan Morey. *Initially regular sequences and depths of ideals*. Journal of Algebra 559 (2020), 33-57.
59. Sankhaneel Bisui, Huy Tài Hà and Abu Thomas. *Fiber invariants of projective morphisms and regularity of powers of ideals*. Acta Math. Vietnam. 45 (2020), no. 1, 183-198.
58. Huy Tài Hà, Hop Dang Nguyen, Ngo Viet Trung and Tran Nam Trung. *Symbolic powers of sums of ideals*. Math. Z. 294 (2020), no. 3-4, 1499-1520.
57. Huy Tài Hà and Susan Morey. *Algebraic algorithms for even circuits in graphs*. Mathematics, 2019, 7, 859; doi.org/10.3390/math7090859.

56. Huy Tài Hà and Ngo Viet Trung. *Membership criteria and containments of powers of monomial ideals*. Acta Math. Vietnam. 44 (2019), no. 1, 117-139.
55. Huy Tài Hà, Kuei-Nuan Lin, Susan Morey, Enrique Reyes and Rafael H. Villarreal. *Edge ideals of oriented graphs*. Internat. J. Algebra Comput. 29 (2019), no. 3, 535-559.
54. Huy Tài Hà, Selvi Kara Beyarslan and Augustine O'Keefe. Comm. Algebra 47 (2019), no. 1, 1-16.
53. Giulio Caviglia, Huy Tài Hà, Jürgen Herzog, Manoj Kummini, Naoki Terai and Ngo Viet Trung. *Depth and regularity modulo a principal ideal*. J. Algebraic Combin. 49 (2019), no. 1, 1-20.
52. Susan Cooper, Robert Embree, Huy Tài Hà and Andrew Hoefel. *Symbolic powers of monomial ideals*. Proc. Edinb. Math. Soc. (2) 60 (2017), no. 1, 39-55.
51. Huy Tài Hà, Ngo Viet Trung and Tran Nam Trung. *Depth and regularity of powers of sums of ideals*. Math. Z. 282 (2016), no. 3-4, 819-838.
50. Huy Tài Hà and Pham An Vinh. *Growth of graded families of ideals*. J. Algebra 452 (2016), 311-323.
49. Selvi Beyarslan, Huy Tài Hà and Tran Nam Trung. *Regularity of powers of forests and cycles*. J. Algebraic Combin. 42 (2015), no. 4, 1077-1095.
48. Huy Tài Hà and Duc Ho. *Betti numbers of subgraphs*. Australas. J. Combin. 63 (2015), 182-195.
47. Huy Tài Hà and Kuei-Nuan Lin. *Normal 0-1 polytopes*. SIAM J. Discrete Math. 29 (2015), no. 1, 210-223.
46. Jennifer Biermann, Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Partial coloring, vertex decomposability and sequentially Cohen-Macaulay simplicial complexes*. J. Commut. Algebra 7 (2015), no. 3, 337-352.
45. Huy Tài Hà and Mengyao Sun. *Squarefree monomial ideals that fail the persistence property and non-increasing depth*. Acta Math. Vietnam. 40 (2015), no. 1, 125-137.
44. Huy Tài Hà and Russ Woodroofe. *Results on the regularity of squarefree monomial ideals*. Adv. in Appl. Math. 58 (2014), 21-36.
43. Amir Bagheri, Marc Chardin and Huy Tài Hà. *The eventual shape of Betti tables of powers of ideals*. Math. Res. Lett. 20 (2013), no. 6, 1033-1046.
42. Huy Tài Hà, Erik Stokes and Fabrizio Zanello. *Pure O-sequences and matroid h-vectors*. Ann. Comb. 17 (2013), no. 3, 495-508.
41. A.V. Geramita and Huy Tài Hà. *Hilbert functions of double point schemes in $\mathbb{P}^2$*. Vietnam J. Math. 39 (2011), 327-342.
40. Rachelle R. Bouchat, Huy Tài Hà and Augustine O'Keefe. *Path ideals of rooted trees and their graded Betti numbers*. J. Combin. Theory Ser. A 118 (2011), 2411-2425.
39. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Colorings of hypergraphs, perfect graphs, and associated primes of powers of monomial ideals*. J. Algebra 331 (2011), 224-242.

38. Huy Tài Hà. *Asymptotic linearity of regularity and a*-invariant of powers of ideals*. Math. Res. Lett. 18 (2011), no. 1, 1-9.
37. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *A conjecture on critical graphs and connections to the persistence of associated primes*. Discrete Math. 310 (2010), 2176-2182.
36. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Associated primes of monomial ideals and odd holes in graphs*. J. Algebraic Combin. 32 (2010), no. 2, 287-301.
35. Huy Tài Hà and Susan Morey. *Embedded associated primes of powers of square-free monomial ideals*. J. Pure Appl. Algebra 214 (2010), no. 4, 301-308.
34. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Splittings of monomial ideals*. Proc. Amer. Math. Soc. 137 (2009), 3271-3282.
33. Huy Tài Hà, Susan Morey and Rafael H. Villarreal. *Cohen-Macaulay admissible clutters*. J. Commut. Algebra 1 (2009), 463-480.
32. C-Y. Jean Chan, Christine Cumming and Huy Tài Hà. *Cohen-Macaulay multi-graded modules*. Illinois J. Math. 52 (2008), no. 4, 1147-1163.
31. Huy Tài Hà and Adam Van Tuyl. *Monomial ideals, edge ideals of hypergraphs, and their graded Betti numbers*. J. Algebraic Combin. 27 (2008), no. 2, 215-245.
30. Chris A. Francisco and Huy Tài Hà. *Whiskers and sequentially Cohen-Macaulay graphs*. J. Combin. Theory Ser. A 115 (2008), no. 2, 304-316.
29. Huy Tài Hà. *Adjoint line bundles and syzygies of projective schemes*. Vietnam J. Math. 35 (2007), no. 2, 135-151.
28. Huy Tài Hà and Brent Strunk. *Minimal free resolutions and asymptotic behavior of multigraded regularity*. J. Algebra 311 (2007), no. 2, 492-510.
27. Huy Tài Hà. *Multigraded regularity, a*-invariant and the minimal free resolution*. J. Algebra 310 (2007), no. 1, 156-179.
26. Huy Tài Hà and Adam Van Tuyl. *Splittable ideals and the resolution of monomial ideals*. J. Algebra 309 (2007), no. 1, 405-425.
25. Laura Ghezzi, Huy Tài Hà and Olga Kashcheyeva. *Toroidalization of generating sequences in dimension two function fields*. J. Algebra 301 (2006), no. 2, 838-866.
24. Ian M. Aberbach, Laura Ghezzi and Huy Tài Hà. *Homology multipliers and the relation type of parameter ideals*. Pacific J. Math. 226 (2006), no. 1, 1-40.
23. S. Dale Cutkosky, Huy Tài Hà, Hema Srinivasan and Emanoil Theodorescu. *Asymptotic behavior of the length of local cohomology*. Canad. J. Math. 57 (2005), no. 6, 1178-1192.
22. Huy Tài Hà and Ngô Viêt Trung. *Asymptotic behavior of arithmetically Cohen-Macaulay blow-ups*. Trans. Amer. Math. Soc. 357 (2005), no. 9, 3655-3672.
21. S. Dale Cutkosky and Huy Tài Hà. *Arithmetic Macaulayfication of projective schemes*. J. Pure Appl. Algebra 201 (2005), no. 1-3, 49-61.
20. Ian M. Aberbach, Laura Ghezzi and Huy Tài Hà. *The depth of the associated graded ring of ideals with any reduction numbers*. J. Algebra 276 (2004), 168-179.

19. Huy Tài Hà and Adam Van Tuyl. *The regularity of points in multi-projective spaces*. J. Pure Appl. Algebra 187 (2004), no. 1-3, 153-167.
18. Huy Tài Hà. *Projective embeddings of projective schemes blown up at subschemes*. Math. Z. 246 (2004), no. 1-2, 111-124.
17. Hà Huy Tài. *On the Rees algebra of certain codimension two perfect ideals*. Manuscripta Math. 107 (2002), 479-501.
16. Huy Tài Hà. *Box-shaped matrices and the defining ideal of certain blown up surfaces*. J. Pure Appl. Algebra 167 (2002), no. 2-3, 203-224.
15. Enrico Carlini, Huy Tài Hà and Adam Van Tuyl. *Computing the Spreading and Covering numbers*. Comm. Algebra 29 (2001), no. 12, 5687-5699.

- `Books:`

14. Enrico Carlini, Huy Tài Hà, Brian Harbourne and Adam Van Tuyl. *Ideal of powers and powers of ideals. Intersecting algebra, geometry, and combinatorics. With a foreword by Alfio Ragusa.* Lecture Notes of the Unione Mathematica Italiana, 27. Springer, Cham, 2020. xix+159 pp. ISBN: 978-3-030-45246-9; 978-3-030-45247-6.

- `Book chapters, contributions to conferences and schools:`

13. Huy Tài Hà and Ngo Viet Trung. *Depth functions and symbolic depth functions of homogeneous ideals*. Commutative Algebra, 429-443, Springer, Cham, 2021.
12. Huy Tài Hà and Paolo Mantero. *The Alexander-Hirschowitz theorem and related problems*. Commutative Algebra, 373-427, Springer, Cham, 2021.
11. Arindam Banerjee, Selvi Beyarslan and Huy Tài Hà. *Regularity of edge ideals and their powers*. Advances in algebra, 17-52, Springer Proc. Math. Stat., 277, Springer, Cham, 2019.
10. Huy Tài Hà. *Regularity of squarefree monomial ideals*. In S. Cooper and S. Sather-Wagstaff (Ed.) Connections between Algebra, Geometry and Combinatorics, 251-276. Springer Proceedings in Mathematics and Statistics, Vol. 56, 2014.
9. Chris A. Francisco, Huy Tài Hà and Jeffrey Mermin. *Powers of squarefree monomial ideals and combinatorics.* In I. Peeva (Ed.) Commutative Algebra, 373-392. Springer, 2013.
8. Huy Tài Hà and Adam Van Tuyl. *Resolution of square-free monomial ideals via facet ideals: a survey*. Algebra, geometry and their interactions, 91-117, Contemporary Math., 448, Amer. Math. Soc., Providence, RI, 2007.
7. E. Carlini, Huy Tài Hà and A. Van Tuyl. *Tutorial 2: A Chess Puzzle*. In COCOA VI, Proceedings of the International School, Queen's Papers in Pure and Appl. Math. 120 (2001), 215-221.
6. E. Carlini, Huy Tài Hà and A. Van Tuyl. *Tutorial 3: Hilbert Function of Points*. In COCOA VI, Proceedings of the International School, Queen's Papers in Pure and Appl. Math. 120 (2001), 227-237.

5. E. Carlini, Huy Tài Hà and A. Van Tuyl. *Tutorial 5: The Ideal Generation Conjecture*. In COCOA VI, Proceedings of the International School, Queen's Papers in Pure and Appl Math. 120 (2001), 245-262.
4. E. Carlini, Huy Tài Hà and A. Van Tuyl. *Tutorial 6: The Minimal Resolution Conjecture*. In COCOA VI, Proceedings of the International School, Queen's Papers in Pure and Appl. Math. 120 (2001), 263-273.
3. H. Tài Hà and Adam Van Tuyl. *The graph and the image of a rational map from $\mathbb{P}^n$ to $\mathbb{P}^m$*. The Curves Seminar at Queen's, Vol. XII, 141-162, Queen's Papers in Pure and Applied Mathematics, 114 (1998), Queen's University.

- `Thesis and Dissertation:`

2. *Rational surfaces from an algebraic perspective*. **PhD Thesis**. Queen's University (Canada). 2000. 91 pp. ISBN: 978-0612-54415-4, ProQuest LLC.
1. *Cycles in graphs*. **Honours Dissertation**. Curtin University of Technology, Perth, Australia, 1996.

Invited Talks

- *Asymptotic Regularity of graded families of ideals*. International Conference on Commutative Algebra to the Memory of Jürgen Herzog. Hanoi, Vietnam, July 2025.
- *Multiplicity = Volume formula and Newton non-degenerate ideals in regular local rings*. American Mathematical Society Spring Eastern sectional meeting, April 2025.
- *Resurgence of pairs of graded families of ideals*. International Conference on Commutative Algebra and Related Topics. Tianjin, China, September 2024.
- *Binomial expansion and rational powers of sums of ideals*. Conference on Commutative Algebra and its Interaction with Algebraic Geometry and Algebraic Combinatorics. University of Notre Dame, August 2024.
- *Binomial expansion of powers of sums of ideals*. Lecture series in "Recent Trends in Commutative Algebra" summer school. Indian Institute of Technology, Bombay, June 2024.
- *Convex bodies and algebraic properties of graded families of ideals*. International Conference on Local Rings and Singularities. Indian Institute of Technology, Bombay, June 2024.
- *Binomial expansion for rational powers and integral closures of sums of ideals*. "Combinatorial Commutative Algebra in Canada" virtual seminar series. January 2024.
- *Scarf complexes of graphs and their powers*. SIAM Texas-Louisiana sectional meeting. Lafayette, November 2023.
- *Polynomial interpolation and ideal containment problems*. Vietnam Institute for Advanced Study in Mathematics, July 2023.
- *When commutative algebra, graph theory and linear programming meet*. Mathematics summer school, Institute of Mathematics, Hanoi, June 2023.
- *Regularity of graded families of homogeneous ideals*. International Conference in Commutative Algebra and Its Interaction with Algebraic Geometry & Combinatorics. Hanoi, Vietnam, June 2023.

- *Newton-Okounkov body, algebraic properties and invariant of graded families of monomial ideals.* "Commutative Algebra in the South" conference, Tuscaloosa, April 2023.
- *Asymptotic regularity and Newton-Okounkov body of graded families of ideals.* American Mathematical Society Spring Southeastern sectional meeting, March 2023.
- *Asymptotic regularity and Newton-Okounkov body of graded families of ideals.* American Mathematical Society Annual Joint Meeting, January 2023.
- *Integral closures of sums of ideals.* American Mathematical Society Fall Central sectional meeting, September 2022.
- *Binomial expansion for saturated and symbolic powers of sums of ideals.* American Mathematical Society Spring Central sectional meeting, March 2022.
- *Saturation bounds for smooth varieties.* American Mathematical Society Fall Southeastern sectional meeting, November 2021.
- *Newton-Okounkov body, Rees algebra and analytic spread of graded families of monomial ideals.* American Mathematical Society Fall Western sectional meeting, October 2021.
- *Fiber invariants of projective morphisms and regularity of powers of ideals.* American Mathematical Society Spring Eastern sectional meeting, March 2021.
- *Max Min vertex covers and the size of Betti tables.* American Mathematical Society Fall Central sectional meeting, September 2020.
- *Chudnovsky's conjecture and resurgence numbers of fiber product of projective schemes.* American Mathematical Society sectional meeting, Auburn, Alabama, March 2019.
- *Containments between powers of monomial ideals and optimal solutions to linear programming problems.* American Mathematical Society sectional meeting. Arkansas, November 2018.
- *Depth and regularity modulo a hypersurface.* Canadian Mathematical Society annual meeting. Waterloo, Canada, December 2017.
- *Depth function of ideals in polynomial rings.* American Mathematical Society sectional meeting. New York, May 2017.
- *Powers of sums of ideals.* International Conference in Computational Commutative Algebra and Convex Polytopes. Kyoto, Japan, August 2016.
- *Powers of sums of ideals.* International Conference and the 8th Japan-Vietnam joint Seminar in Commutative Algebra, Ha Long, Vietnam, March 2016.
- *Growth of multiplicities of graded families of ideals.* American Mathematical Society sectional meeting. North Dakota, April 2016.
- *Symbolic powers of sums of ideals.* American Mathematical Society sectional meeting. North Dakota, April 2016.
- *Algebraic invariants of fiber products.* Canadian Mathematical Society annual meeting. Hamilton, Canada, December 2014.
- *Algebraic invariants of fiber products.* American Mathematical Society sectional meeting. San Francisco, October 2014.
- *Regularity of powers of edge ideals.* American Mathematical Society sectional meeting. Halifax, Canada, October 2014.

- *Combinatorial structures through algebraic lenses.* Southwest Local Algebra Meeting. College Station, March 2014.
- *Combinatorial structures through algebraic lenses.* International Conference on Commutative Algebra and Its Interactions with Algebraic Geometry and Combinatorics. Hanoi, Vietnam, December 2013.
- *Symbolic powers of monomial ideals.* American Mathematical Society sectional meeting. Riverside, November 2013.
- *Regularity of squarefree monomial ideals.* American Mathematical Society sectional meeting. Boulder, April 2013.
- *Powers of ideals in combinatorics.* Interactions between Commutative Algebra and Algebraic Geometry. Fargo, February 2013.
- *Powers of ideals in combinatorics.* Bluegrass Algebra Conference. Lexington, June 2012.
- *Stabilization of multigraded Betti numbers.* American Mathematical Society sectional meeting. Lawrence, March 2012.
- *Stabilization of multigraded Betti numbers.* American Mathematical Society sectional meeting. Lincoln, October 2011.
- *Asymptotic linearity of regularity and a^*-invariant of powers of ideals.* American Mathematical Society national meeting. New Orleans, January 2011.
- *Path ideals and their free resolutions.* American Mathematical Society sectional meeting. Lexington, March 2010.
- *Asymptotic linearity of regularity and a*-invariant of powers of an ideal.* $\mathrm{GS^2C^2F}$ meeting. Orlando, January 2010.
- *Regularity of powers of ideals: Revisited.* American Mathematical Society sectional meeting. Boca Raton, November 2009.
- *Associated primes of powers of square-free monomial ideals.* American Mathematical Society sectional meeting. Waco, October 2009.
- *An algebraic approach to Conforti-Cornuéjols conjecture.* Canadian Mathematical Society national meeting. Ottawa, December 2008.
- *Detecting odd holes in a graph.* Commutative Algebra and its interactions with Algebraic Geometry. Luminy, France, September 2008.
- *Algebra, combinatorics and edge ideals of hypergraphs.* GSU-USC meeting. Atlanta, April 2008.
- *Cohen-Macaulay multigraded modules.* American Mathematical Society sectional meeting. Baton Rouge, March 2008.
- *Edge ideals and odd cycles in a graph.* American Mathematical Society sectional meeting. Chicago, October 2007.
- *Resolutions of square-free monomial ideals.* American Mathematical Society national meeting. New Orleans, January 2007.
- *Whiskers and sequentially Cohen-Macaulay graphs.* Summer school in "Minimal free resolutions". Ithaca, May 2006.

- *Whiskers and sequentially Cohen-Macaulay graphs.* American Mathematical Society sectional meeting. San Francisco, April 2006.
- *Toroidalization of generating sequences in dimension two function fields.* American Mathematical Society sectional meeting. South Bend, April 2006.
- *On resolution of square-free monomial ideals.* International Conference in Commutative Algebra. Hanoi, Vietnam, January 2006.
- *Splittable ideals and the resolution of monomial ideals.* MAGIC05 Conference. South Bend, October 2005.
- *Asymptotic behaviour of arithmetically Cohen-Macaulay blow-ups.* American Mathematical Society sectional meeting. Nashville, October 2004.
- *Asymptotic behaviour of local cohomology.* American Mathematical Society sectional meeting. Tallahassee, March 2004.
- *Asymptotic behaviour of the length of local cohomology.* Route 81 conference. Syracuse, October 2003.
- *Arithmetic Cohen-Macaulayness of blow-ups.* Joint Summer Research Conference. Utah 2003.
- *Projective embeddings of blown up varieties.* American Mathematical Society sectional meeting. Orlando, November 2002.
- *Arithmetic Macaulayfication of projective schemes.* American Mathematical Society sectional meeting. Montreal, May 2002.
- *On the Rees algebra of certain codimension two perfect ideals.* American Mathematical Society national meeting. Washington DC, January 2000.
- *Box-shaped matrices and their ideals of* 2×2 *minors.* Canadian Mathematical Society national meeting. Montreal, December 1999.

Postdocs and Visiting Scholars Sponsored

- Hop D. Nguyen (Assistant Professor, Institute of Mathematics, Vietnam), 2022 and 2024
- Hasan Mahmood (Assistant Professor, GC University Lahore, Pakistan), 2019-2020
- A.V. Jayanthan (Associate Professor, Indian Institute of Technology, Madras), 2018
- Ha Minh Lam (Assistant Professor, Institute of Mathematics, Vietnam), 2018
- Yan Gu (Associate Professor, Soochow University), 2017-2018
- Steven Sinnott (PhD, Cornell, 2006), 2007-2009
- Rebecca Lehman (PhD, MIT, 2007), 2007-2008
- Christine Cumming (PhD, Purdue University, 2005), 2005
- Brent Strunk (PhD, Purdue University, 2005), 2005.

Ph.D. Students

- Aniketh Sivakumar
  Expected graduation: May 2029
- Haoxi Hu
  Expected graduation: May 2026

- Dipendranath Mahato
  Expected graduation: May 2026
- Vinh Pham
  Expected graduation: May 2025
- Thai Nguyen, Ph.D. in 2022
  Current position: Assistant Professor in Mathematics, Dayton University, Ohio, USA
- Joseph Skelton, Ph.D. in 2021
  Current position: Assistant Teaching Professor in Mathematics, The College of William & Mary, Virginia, USA
- Sankhaneel Bisui, Ph.D. in 2021
  Current position: Postdoctoral Fellow, Arizona State University, Arizona, USA
- Abu Thomas, Ph.D. in 2021
  Current position: Assistant Professor in Mathematics, Georgia State University, Perimeter College, Georgia, USA
- Jonathan O'Rourke, Ph.D. in 2020
  Current position: College Assistant Professor in Mathematics, New Mexico State University, New Mexico, USA
- Selvi Beyarslan, Ph.D. in 2017
  Current position: Assistant Professor in Mathematics, Bryn Mawr College, Pennsylvania, USA
- Mengyao Sun, Ph.D. in 2016
  Current position: N/A
- Augustine O'Keefe, Ph.D. in 2012
  Current position: Associate Professor in Mathematics, Connecticut College, Connecticut, USA.

Undergraduate Theses and Senior Papers Supervised

- Grace Graves, senior paper, 2024
- Ngo T. Dung, senior paper, 2022
- E.M. Hoeller, senior paper, 2020
- D. Fernandez, senior paper, 2015
- E. Didier, senior paper, 2013
- Duc Ho, summer research, 2013
- Xinghao Gong, honors thesis, 2013
- L. Piazza, senior paper, 2012
- Xinghao Gong, summer research, 2012
- G. Strother, senior paper, 2010
- Robin Tucker-Drob, honors thesis, 2008.

Teaching Experience

- `Courses in regular curriculum:`
  - Long Calculus
  - Calculus (1, 2 and 3)

  - Consolidated Calculus
  - Linear Algebra
  - Abstract Algebra
  - Real Analysis
  - Combinatorics
  - Graduate Algebra (1 and 2)
- `Research topic courses:`
  - Algebraic Geometry
  - Introduction to Computational Algebra
  - Computational Algebra and Convex Geometry.

University and Department Committees

- Department Chair (Departmental), 2021–present
- Executive Committee (School of Science and Engineering), 2021–present
- Graduate Studies Committee (Departmental), 2013-2021
- Chair of Graduate Studies Committee (Departmental), 2013-2015
- Executive Committee (Departmental), 2013-2014, 2018-2020
- Hiring Committee (Departmental), 2007-2008, 2011-2012, 2019-2020
- Grievance Committee (School of Science and Engineering), 2011
- Newcomb-Tulane College Honor Board (University), 2009-2012
- Colloquium Chair (Departmental), 2009-2010
- Undergraduate Studies (Departmental), 2006-2012
- Putnam Exam and Competitions (Departmental), 2006-2010
- Computing (Department), 2004-2005

Other Professional Service and Activities

- Journal Refereeing and Reviews:
  1. *Referee* for Acta Math. Hungarica, Acta Math. Vietnamica, Algebra and Number Theory, Bulletin of LMS, Communications in Algebra, Discrete Mathematics, Journal of Algebra, Journal of Combinatorial Theory (Series A), Journal of Commutative Algebra, Journal of Pure and Applied Algebra, Math. Research Letters, Periodica Math. Hungarica, Proceedings of AMS, Proceedings of LMS, and Contemporary Mathematics.
  2. *Review* for Mathematical Reviews and Zentralblatt Math.
- Mathematical Semesters and Conferences Organized:
  1. Co-organize (with Selvi Kara) a special session in "Commutative Algebra", American Mathematical Society Spring Western sectional meeting, May 2022.
  2. Co-organize (with Alessandra Costantini) a special session in "Homological methods in Commutative Algebra and Algebraic Geometry", American Mathematical Society Fall Southeastern sectional meeting, October 2025.
  3. Co-organize (with Kuei-Nuan Lin) a special session in "Commutative Algebra", American Mathematical Society Fall Southeastern sectional meeting.

4. Co-organize (with L. Fouli, L. Christensen and D. Jorgensen) the Southwest Local Algebra Meeting (SLAM 2020), New Orleans, March 2020.
5. Co-organize (with Le Tuan Hoa) a special session on "Commutative Algebra and Its Interactions to Combinatorics", Vietnam-USA Joint Mathematical Meeting, Quy Nhon, Vietnam, June 2019.
6. Co-organize (with Mahir Can) an international conference on "Commutative Algebra and Representation Theory", Tulane University, New Orleans, November 2018.
7. Co-lecture (with Enrico Carlini, Brian Harbourne and Adam Van Tuyl) at *Promotion of Research in Algebraic Geometry for MAThematicians in Isolated Centres* (PRAGMATIC) research school on "Powers of ideals and ideals of powers", Catania, Italy, June 2017.
8. Co-organize (with Chris A. Francisco and Adam Van Tuyl) an international workshop on "Ordinary and symbolic powers of ideals", Casa Mathemática Oaxaca, Mexico, May 2017.
9. Co-organize (with Hai Long Dao and Ngo Viet Trung) a special semester in "Homological methods in algebra, geometry and combinatorics", Vietnam Institute for Advanced Study in Mathematics", Hanoi, March-August 2016.
10. Co-organize (with Kuei-Nuan Lin and Augustine O'Keefe) a special session in "Combinatorial Commutative Algebra", American Mathematical Society sectional meeting, Athens, March 2016.
11. Co-organize (with Fabrizio Zanello) a special session in "Combinatorial Commutative Algebra", American Mathematical Society sectional meeting, Philadelphia, October 2013.
12. Co-organize (with Brian Harbourne and Adam Van Tuyl) a conference entitled "Interactions between Commutative Algebra and Algebraic Geometry II", New Orleans, September 2013.
13. Co-organize (with Kuei-Nuan Lin) a special session in "Commutative Algebra and Algebraic Geometry", American Mathematical Society national meeting, San Diego, January 2013.
14. Organize/Participate a SQuaREs program on "Symbolic and Ordinary Powers of Ideals", American Institute of Mathematics, 2011-2014.
15. Co-organize (with Brian Harbourne, Greg S. Smith and Adam Van Tuyl) an international conference entitled "Interactions between Commutative Algebra and Algebraic Geometry", Kingston, October 2012.
16. Co-organize (with Chris Francisco and Adam Van Tuyl) a special session in "Combinatorial Commutative Algebra", American Mathematical Society sectional meeting, New Orleans, October 2012.
17. Organize a lecture series on "From Sums of Squares To Secant Varieties: Evolution of an Idea", Tulane University, November 2009.
18. Organize a lecture series on "Homological Questions over Commutative Algebras", Tulane University, April 2009.

19. Organize the Clifford Lecture Series (and an international conference on *tropical geometry*), New Orleans, November 2008.
20. Co-organize/attend a research team workshop, Banff, May 2008.
21. Serve in the Coordination group at the 48th International Mathematical Olympiad, Vietnam, July 2007.
22. Coach Tulane's Putnam Competition Team, 2006-2010.
23. Co-organize (with Laura Ghezzi) a special session in "Commutative Algebra and Algebraic Geometry", American Mathematical Society sectional meeting, Miami, April 2006.