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## CURRICULUM VITAE

### EDUCATION

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

### APPOINTMENTS

- Department Chair, 7/2021-present  
Tulane University, New Orleans, Louisiana, USA.
- Full Professor, 7/2017-present  
Tulane University, New Orleans, Louisiana, USA.
- Visiting Professor, 6/2018  
Indian Institute of Technology, Bombay, India.
- Associate Professor, 7/2009-6/2017  
Tulane University, New Orleans, Louisiana, USA.
- Visiting Professor, 1/2018-3/2018, 5/2016-8/2016 and 12/2013-2/2014  
Vietnam Institute for Advanced Study in Mathematics, Hanoi, Vietnam.
- Visiting Professor, 4/2011  
Université Pierre et Marie Curie, Paris, France.
- Assistant Professor, 7/2004-6/2009  
Tulane University, New Orleans, Louisiana, USA.
- Postdoctoral fellow, 9/2001-5/2004  
University of Missouri-Columbia, Missouri, USA.
- Regular member, 9/2000-8/2001  
Institute of Mathematics, Hanoi, Vietnam.

### RESEARCH INTEREST

- Commutative Algebra, Computational Algebra, Combinatorics and Algebraic Geometry.

### RESEARCH FUNDING AND GRANTS

- (PI) Simons Foundation Collaboration Grant (#850912), 2021-2026.
- (Co-PI) Louisiana Board of Regents Targeted Enhancement Grant, 2021.
- (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 (extended to 2011).
- (Co-PI) Louisiana Board of Regents Enhancement Grant (LEQSF(2005-07)-ENH-TR-79), 2005-2007 (extended to 2008).
- Tulane Summer Research Fellowship, 2005.
- Financial support to attend the workshop on *Combinatorial Commutative Algebra*. MSRI, Berkeley, 2012.
- Financial support to participate in the Joint Summer Research Conference - *Commutative Algebra: Presentations by young researchers*. Utah, 2003.
- Financial support to attend the workshop on *Commutative Algebra: Local and birational theory*. MSRI, Berkeley, 2002.

#### AWARDS AND HONORS

- Queen's Graduate Fellowship, Queen's University, 1998-2000.
- E.G. Bauman Fellowship, Queen's University, 1997.
- R. Samuel McLaughlin Fellowship, Queens University, 1996.
- First Class Honors, Curtin University of Technology, 1996.
- Member of the *Vice-Chancellor's list* - comprises the top 1% of undergraduate students at Curtin University of Technology, 1994.
- Member of the *Golden Key National Honor Society*, Curtin University of Technology chapter, 1994.
- A winning prize in the *Sydney University Mathematical Society Competition*, 1993.
- *AusAid* Scholarship - Full tuition fees and stipends, awarded to outstanding first year university students in Vietnam to carry on undergraduate study in Australia, 1993-1996.
- Silver Medal in the 32th *International Mathematical Olympiad*, 1991.
- First Prize in the *Vietnam National Mathematical Olympiad*, 1991.

#### PUBLICATIONS

- Papers in peer reviewed journals:
  1. Lawrence Ein, Huy Tài Hà and Robert Lazarsfeld. *Saturation bounds for smooth varieties*. To appear in *Algebra and Number Theory*.

2. Sankhaneel Bisui, Eloísa Grifo, Huy Tài Hà and Thái Thành Nguyễn. *Chudnovsky's conjecture and the stable Harbourne-Huneke containment*. To appear in Transactions of Amer. Math. Soc.
3. 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.
4. 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.
5. 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.
6. Huy Tài Hà and Takayuki Hibi. *MAX MIN vertex cover and the size of Betti tables*. Ann. Comb. 25 (2021), no. 1, 115-132.
7. Huy Tài Hà, Hop Dang Nguyen, Ngo Viet Trung and Tran Nam Trung. *Depth functions of powers of homogeneous ideals*. Proceedings of Amer. Math. Soc. 149 (2021), no. 5, 1837-1844.
8. Arindam Banerjee, Selvi Kara Beyarslan and Huy Tài Hà. *Regularity of powers of edge ideals: from local properties to global bounds*. Algebraic Combinatorics, 3 (2020), no. 4, 839-854.
9. Yan Gu, Huy Tài Hà, Jonathan O'Rourke and Joseph Skelton. *Symbolic powers of edge ideals of graphs*. Communications in Algebra, 48 (2020), no. 9, 3743-3760.
10. 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.
11. Louiza Fouli, Huy Tài Hà and Susan Morey. *Initially regular sequences and depths of ideals*. Journal of Algebra, 559 (2020), 33-57.
12. 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.
13. 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.
14. Huy Tài Hà and Susan Morey. *Algebraic algorithms for even circuits in graphs*. Mathematics, 2019, 7, 859; doi.org/10.3390/math7090859.
15. 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.
16. 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.
17. Huy Tài Hà, Selvi Kara Beyarslan and Augustine O'Keefe. *Comm. Algebra* 47 (2019), no. 1, 1-16.

18. 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.
19. Susan Cooper, Robert Embree, Huy Tài Hà and Andrew Hoefel. *Symbolic powers of monomial ideals*. Proceedings of Edinburgh Mathematical Society, 60 (2017), no. 1, 39-55.
20. Huy Tài Hà, Ngo Viet Trung and Tran Nam Trung. *Depth and regularity of powers of sums of ideals*. Mathematische Zeitschrift, 282 (2016), no. 3-4, 819-838.
21. Huy Tài Hà and Pham An Vinh. *Growth of graded families of ideals*. Journal of Algebra, 452 (2016), 311-323.
22. Selvi Beyarslan, Huy Tài Hà and Tran Nam Trung. *Regularity of powers of forests and cycles*. Journal of Algebraic Combinatorics, 42 (2015), no. 4, 1077-1095.
23. Huy Tài Hà and Duc Ho. *Betti numbers of subgraphs*. Australasian Journal of Combinatorics, 63 (2015), 182-195.
24. Huy Tài Hà and Kuei-Nuan Lin. *Normal 0-1 polytopes*. SIAM Journal of Discrete Mathematics, 29 (2015), no. 1, 210-223.
25. Jennifer Biermann, Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Partial coloring, vertex decomposability and sequentially Cohen-Macaulay simplicial complexes*. Journal of Commutative Algebra, 7 (2015), no. 3, 337-352.
26. Huy Tài Hà and Mengyao Sun. *Squarefree monomial ideals that fail the persistence property and non-increasing depth*. Acta Mathematica Vietnamica, 40 (2015), no. 1, 125-137.
27. Huy Tài Hà and Russ Woodroffe. *Results on the regularity of squarefree monomial ideals*. Advances in Applied Mathematics, 58 (2014), 21-36.
28. Amir Bagheri, Marc Chardin and Huy Tài Hà. *The eventual shape of Betti tables of powers of ideals*. Mathematical Research Letters, 20 (2013), no. 6, 1033-1046.
29. Huy Tài Hà, Erik Stokes and Fabrizio Zanello. *Pure  $O$ -sequences and matroid  $h$ -vectors*. Annals of Combinatorics, 17 (2013), no. 3, 495-508.
30. A.V. Geramita and Huy Tài Hà. *Hilbert functions of double point schemes in  $\mathbb{P}^2$* . Vietnam Journal of Mathematics, 39 (2011), 327-342.
31. Rachele R. Bouchat, Huy Tài Hà and Augustine O'Keefe. *Path ideals of rooted trees and their graded Betti numbers*. Journal of Combinatorial Theory, Series A, 118 (2011), 2411-2425.
32. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Colorings of hypergraphs, perfect graphs, and associated primes of powers of monomial ideals*. Journal of Algebra, 331 (2011), 224-242.
33. Huy Tài Hà. *Asymptotic linearity of regularity and  $a^*$ -invariant of powers of ideals*. Mathematical Research Letters, 18 (2011), no. 1, 1-9.

34. 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.
35. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Associated primes of monomial ideals and odd holes in graphs*. Journal of Algebraic Combinatorics, 32 (2010), no. 2, 287-301.
36. Huy Tài Hà and Susan Morey. *Embedded associated primes of powers of square-free monomial ideals*. Journal of Pure Applied Algebra, 214 (2010), no. 4, 301-308.
37. Chris A. Francisco, Huy Tài Hà and Adam Van Tuyl. *Splittings of monomial ideals*. Proc. Amer. Math. Soc. 137 (2009), 3271-3282.
38. Huy Tài Hà, Susan Morey and Rafael H. Villarreal. *Cohen-Macaulay admissible clutters*. Journal of Commutative Algebra, 1 (2009), 463-480.
39. C-Y. Jean Chan, Christine Cumming and Huy Tài Hà. *Cohen-Macaulay multigraded modules*. Illinois Journal of Math. 52 (2008), no. 4, 1147-1163.
40. Huy Tài Hà and Adam Van Tuyl. *Monomial ideals, edge ideals of hypergraphs, and their graded Betti numbers*. Journal of Algebraic Combinatorics, 27 (2008), no. 2, 215-245.
41. Chris A. Francisco and Huy Tài Hà. *Whiskers and sequentially Cohen-Macaulay graphs*. Journal of Combinatorial Theory Series A, 115 (2008), no. 2, 304-316.
42. Huy Tài Hà. *Adjoint line bundles and syzygies of projective schemes*. Vietnam Journal of Mathematics, 35 (2007), no. 2, 135-151.
43. Huy Tài Hà and Brent Strunk. *Minimal free resolutions and asymptotic behavior of multigraded regularity*. Journal of Algebra, 311 (2007), no. 2, 492-510.
44. Huy Tài Hà. *Multigraded regularity,  $a^*$ -invariant and the minimal free resolution*. Journal of Algebra, 310 (2007), no. 1, 156-179.
45. Huy Tài Hà and Adam Van Tuyl. *Splittable ideals and the resolution of monomial ideals*. Journal of Algebra, 309 (2007), no. 1, 405-425.
46. Laura Ghezzi, Huy Tài Hà and Olga Kashcheyeva. *Toroidalization of generating sequences in dimension two function fields*. Journal of Algebra, 301 (2006), no. 2, 838-866.
47. Ian M. Aberbach, Laura Ghezzi and Huy Tài Hà. *Homology multipliers and the relation type of parameter ideals*. Pacific Journal of Mathematics, 226 (2006), no. 1, 1-40.
48. S. Dale Cutkosky, Huy Tài Hà, Hema Srinivasan and Emanoil Theodorescu. *Asymptotic behavior of the length of local cohomology*. Canadian Journal of Mathematics, 57 (2005), no. 6, 1178-1192.
49. Huy Tài Hà and Ngô Việt Trung. *Asymptotic behavior of arithmetically Cohen-Macaulay blow-ups*. Transactions of American Mathematical Society, 357 (2005), no. 9, 3655-3672.
50. S. Dale Cutkosky and Huy Tài Hà. *Arithmetic Macaulayfication of projective schemes*. Journal of Pure and Applied Algebra, 201 (2005), no. 1-3, 49-61.

51. Ian M. Aberbach, Laura Ghezzi and Huy Tài Hà. *The depth of the associated graded ring of ideals with any reduction numbers*. Journal of Algebra, 276 (2004), 168-179.
  52. Huy Tài Hà and Adam Van Tuyl. *The regularity of points in multi-projective spaces*. Journal of Pure and Applied Algebra, 187 (2004), no. 1-3, 153-167.
  53. Huy Tài Hà. *Projective embeddings of projective schemes blown up at subschemes*. Mathematische Zeitschrift, 246 (2004), no. 1-2, 111-124.
  54. Hà Huy Tài. *On the Rees algebra of certain codimension two perfect ideals*. Manuscripta Mathematica, 107 (2002), 479-501.
  55. Huy Tài Hà. *Box-shaped matrices and the defining ideal of certain blown up surfaces*. Journal of Pure and Applied Algebra, 167 (2002), no. 2-3, 203-224.
  56. Enrico Carlini, Huy Tài Hà and Adam Van Tuyl. *Computing the Spreading and Covering numbers*. Communications in Algebra, 29 (2001), no. 12, 5687-5699.
- Book, book chapters, contributions to conferences and schools:
    57. 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 Matematica Italiana, 27. Springer, Cham, 2020. xix+159 pp. ISBN: 978-3-030-45246-9; 978-3-030-45247-6.
    58. 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.
    59. 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.
    60. 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.
    61. 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.
    62. 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.
    63. 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.
    64. 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.

- 65. 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.
- 66. 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.
- Thesis and Dissertation:
  - 67. *Rational surfaces from an algebraic perspective*. **PhD Thesis**. Queen's University (Canada). 2000. 91 pp. ISBN: 978-0612-54415-4, ProQuest LLC.
  - 68. *Cycles in graphs*. **Honours Dissertation**. Curtin University of Technology, Perth, Australia, 1996.

#### INVITED TALKS

- *Saturation bounds for smooth varieties*. American Mathematical Society Fall South-eastern 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.* 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.* GS<sup>2</sup>C<sup>2</sup>F 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  $2 \times 2$  minors*. Canadian Mathematical Society national meeting. Montreal, December 1999.

#### PHD STUDENTS

- Vinh Pham, 2020 - present.
- Thai Nguyen, 2017 - present.
- Joseph Skelton, PhD, 2021  
(Thesis: *Symbolic powers of squarefree monomial ideals associated to graphs*).
- Sankhaneel Bisui, PhD, 2021  
(Thesis: *Stable Harbourne-Huneke containment and lower bounds on Waldschmidt constant*).
- Abu Thomas, PhD, 2021  
(Thesis: *Regularity and resurgence number of homogeneous ideals*).
- Jonathan O’Rourke, PhD, 2020  
(Thesis: *Local cohomology and regularity of powers of monomial ideals*).
- Selvi Beyarslan, PhD, 2017  
(Thesis: *Regularity of powers of edge ideals*).

- Mengyao Sun, PhD, 2016  
(Thesis: *Algebraic properties of squarefree monomial ideals*).
- Augustine O’Keefe, PhD, 2012  
(Thesis : *Cohen-Macaulay toric rings arising from finite graphs*).

#### UNDERGRADUATE STUDENTS SUPERVISED

- Duc Ho, summer research, 2013 (funded by Tulane Honors Program).
- Xinghao Gong, summer research, 2012 (funded by Tulane Honors Program).
- Xinghao Gong, undergraduate honors thesis, 2013  
(Thesis title: *Critical graphs*).
- Robin Tucker-Drob, undergraduate honors thesis, 2008  
(Thesis title: *Cohen-Macaulay toric rings*).
- E.M. Hoeller, undergraduate senior paper, 2020 (Title: *A history of unexpected appearances of the twisted cubic curve and an introduction to projective geometry*).
- D. Fernandez, undergraduate senior paper, 2015 (Title: *Packing regular tetrahedra: a basic analysis*).
- E. Didier, undergraduate senior paper, 2013 (Title: *Riemann Hypothesis*).
- L. Piazza, undergraduate senior paper, 2012 (Title: *Cubic puzzle*).
- G. Strother, undergraduate senior paper, 2010 (Title: *Chromatic number of graphs*).

#### POSTDOCS AND VISITING SCHOLARS MENTORED

- Hasan Mahmood (Assistant Professor, GC University Lahore), Visiting scholar, 2019-2020.
- A.V. Jayanthan (Associate Professor, Indian Institute of Technology, Madras), Visiting scholar, 2018.
- Ha Minh Lam (Assistant Professor, Institute of Mathematics, Vietnam), Visiting scholar, 2018.
- Yan Gu (Associate Professor, Soochow University), Visiting scholar, 2017-2018.
- Steven Sinnott (PhD, Cornell, 2006), Visiting scholar, 2007-2009.
- Rebecca Lehman (PhD, MIT, 2007), Postdoctoral fellow at Tulane, 2007-2008.
- Christine Cumming (PhD, Purdue University, 2005), University of Louisiana at Monroe (Visiting-scholar at Tulane, 2005).
- Brent Strunk (PhD, Purdue University, 2005), University of Louisiana at Monroe (Postdoctoral fellow at Tulane, 2005).

#### UNIVERSITY AND DEPARTMENT COMMITTEES

- Department Chair, 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 ACTIVITIES

- Journal Editorial Board and Reviews:
  1. *Editorial Board* for Journal of Algebra and Its Applications.
  2. *Editorial Board* for Journal of Algebraic Combinatorics.
  3. *Guest Editor* for Mathematics, 2020.
  4. *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.
  5. *Review* for Mathematical Reviews and Zentralblatt Math.
- Mathematical Semesters and Conferences:
  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 L. Fouli, L. Christensen and D. Jorgensen) the Southwest Local Algebra Meeting (SLAM 2020), New Orleans, March 2020.
  3. 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.
  4. Co-organize (with Mahir Can) an international conference on “Commutative Algebra and Representation Theory”, Tulane University, New Orleans, November 2018.
  5. 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.
  6. Co-organize (with Chris A. Francisco and Adam Van Tuyl) an international workshop on “Ordinary and symbolic powers of ideals”, Casa Matemática Oaxaca, Mexico, May 2017.
  7. 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.
  8. 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.

9. Co-organize (with Fabrizio Zanello) a special session in “Combinatorial Commutative Algebra”, American Mathematical Society sectional meeting, Philadelphia, October 2013.
10. Co-organize (with Brian Harbourne and Adam Van Tuyl) a conference entitled “Interactions between Commutative Algebra and Algebraic Geometry II”, New Orleans, September 2013.
11. Co-organize (with Kuei-Nuan Lin) a special session in “Commutative Algebra and Algebraic Geometry”, American Mathematical Society national meeting, San Diego, January 2013.
12. Organize/Participate a SQuaREs program on “Symbolic and Ordinary Powers of Ideals”, American Institute of Mathematics, 2011-2014.
13. 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.
14. 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.
15. Organize a lecture series on “From Sums of Squares To Secant Varieties: Evolution of an Idea”, Tulane University, November 2009.
16. Organize a lecture series on “Homological Questions over Commutative Algebras”, Tulane University, April 2009.
17. Organize the Clifford Lecture Series (and an international conference on *tropical geometry*), New Orleans, November 2008.
18. Co-organize/attend a research team workshop, Banff, May 2008.
19. Serve in the Coordination group at the 48th International Mathematical Olympiad, Vietnam, July 2007.
20. Coach Tulane’s Putnam Competition Team, 2006-2010.
21. Co-organize (with Laura Ghezzi) a special session in “Commutative Algebra and Algebraic Geometry”, American Mathematical Society sectional meeting, Miami, April 2006.