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 Michigan Tech zanello@mit.edu
 1400 Townsend Drive www.mtu.edu/math/faculty/zanello
 Houghton, MI 49931-1295

PERSONAL INFORMATION

- Born in Genova, Italy
- United States citizen since September 22, 2016 (my 38th birthday)

EDUCATION

- M.S. in Mathematics (Analytic Number Theory), [University of Genova](#), Italy, July 2001. Thesis advisor: [Alberto Perelli](#)
- Ph.D. in Mathematics (Combinatorial Commutative Algebra), [Queen's University at Kingston](#), Canada, October 2004. Thesis advisor: Anthony V. Geramita

MAIN RESEARCH INTERESTS

- Combinatorics, Commutative Algebra, Partition Theory

EMPLOYMENT

- Postdoctoral Fellow, [University of Genova](#), Italy, Spring 2005
- Göran Gustafsson Postdoc, [Royal Institute of Technology \(KTH\)](#), Sweden, 2005-06
- Visiting Assistant Professor, [University of Notre Dame](#), 2006-07
- Assistant Professor, [Michigan Tech](#), 2007-2011
- Visiting Associate Professor, [MIT](#), January to December 2011 (hosted by [Richard P. Stanley](#))
- Associate Professor (with tenure), [Michigan Tech](#), 2011-2016
- Visiting Associate Professor, [MIT](#), January to December 2013 (hosted by [Richard P. Stanley](#))
- Professor, [Michigan Tech](#), 2016 - present
- Visiting Professor, [MIT](#), Fall 2017 (hosted by [Richard P. Stanley](#))

SHORT-TERM APPOINTMENTS (≥ 15 DAYS)

- Visiting Scholar, [University of Notre Dame](#), March 2006 (hosted by [Juan Migliore](#))
- Visiting Professor (ad Honorem), [Universidad Nacional de San Luis](#), Argentina, July 2013

SELECTED HONORS AND AWARDS

- National finalist, Italian Mathematics Olympics, 1995, 1996, and 1997. Ranking first for the Liguria Region in 1996
- Winner of an INdAM (Italian National Institute of Higher Mathematics) Postdoc, 2005-06 (only six Italian mathematicians were selected; declined)
- Outstanding Faculty Research Award (Junior level), Department of Mathematical Sciences, Michigan Tech, 2008
- Outstanding Faculty Research Award (Junior level), Department of Mathematical Sciences, Michigan Tech, 2010
- Outstanding Faculty Research Award (Senior level), Department of Mathematical Sciences, Michigan Tech, 2014
- Outstanding Faculty Research Award (Senior level), Department of Mathematical Sciences, Michigan Tech, 2016
- Outstanding Faculty Research Award (Senior level), Department of Mathematical Sciences, Michigan Tech, 2019

CURRENT GRANT
SUPPORT

- Simons Foundation Grant #630401, “Problems in Combinatorics and Combinatorial Algebra” (2019-2024)

SELECTED GRANTS
AND FELLOWSHIPS

- Three Duncan and Urlla Carmichael Graduate Fellowships, Queen’s University (2001-02, 2002-03, and 2003-04)
- Two Dean’s Travel Grants for Doctoral Field Research, Queen’s University (Spring 2003 and Spring 2004)
- Vetenskåpsradet (Swedish Research Council) Travel Grant (March 2006)
- CIRM (International Center of Mathematical Research, Trento, Italy) Grant for Research in Pairs (with M. Boij, J. Migliore, R. Mirò-Roig, and U. Nagel; two weeks, July 2009)
- CRM (Center of Mathematical Research, Barcelona, Spain) Grant for Research in Pairs (with M. Boij, J. Migliore, R. Mirò-Roig, and U. Nagel; ten days, July 2010)
- Simons Foundation Grant #274577, “Research in Algebra and Combinatorics” (2013-2018)

PUBLICATIONS

Books and monographs

1. M. Boij, J. Migliore, R. Mirò-Roig, U. Nagel, and F. Zanello: “On the shape of a pure O -sequence,” *Mem. Amer. Math. Soc.* **218** (2012), no. 1024, vii + 78 pp.. ISBN-10: 0-8218-6910-8; ISBN-13: 978-0-8218-6910-9

Publications in refereed journals

1. F. Zanello: *I numeri di Fermat*, *Periodico di Matematiche*, VII, **5** (1998), no. 2-3, 63–68¹
2. F. Zanello: *Some observations on the statistical independence and the distribution of zeros in the Selberg Class*, *Rend. Circ. Mat. Palermo* (2), **52** (2003), no. 2, 211–223
3. F. Zanello: *Extending the idea of compressed algebra to arbitrary socle-vectors*, *J. Algebra* **270** (2003), no. 1, 181–198
4. F. Zanello: *When are There Infinitely Many Irreducible Elements in a Principal Ideal Domain?*, *Amer. Math. Monthly* **111** (2004), no. 2, 150–152
5. F. Zanello: *Extending the idea of compressed algebra to arbitrary socle-vectors, II: cases of non-existence*, *J. Algebra* **275** (2004), no. 2, 730–748
6. F. Zanello: *Stanley’s theorem on codimension 3 Gorenstein h -vectors*, *Proc. Amer. Math. Soc.* **134** (2006), no. 1, 5–8
7. F. Zanello: *Level algebras of type 2*, *Comm. Algebra* **34** (2006), no. 2, 691–714
8. F. Zanello: *When is there a unique socle-vector associated to a given h -vector?*, *Comm. Algebra* **34** (2006), no. 5, 1847–1860
9. F. Zanello: *A non-unimodal codimension 3 level h -vector*, *J. Algebra* **305** (2006), no. 2, 949–956
10. F. Zanello: *Improving the bounds of the Multiplicity Conjecture: the codimension 3 level case*, *J. Pure Appl. Algebra* **209** (2007), no. 1, 79–89
11. F. Zanello: *Partial derivatives of a generic subspace of a vector space of forms: quotients of level algebras of arbitrary type*, *Trans. Amer. Math. Soc.* **359** (2007), no. 6, 2675–2686
12. J. Migliore and F. Zanello: *The Hilbert functions which force the Weak Lefschetz Property*, *J. Pure Appl. Algebra* **210** (2007), no. 2, 465–471
13. F. Zanello: *The h -vector of a relatively compressed level algebra*, *Comm. Algebra* **35** (2007), no. 4, 1087–1091

¹Written as a senior high school student.

14. M. Boij and F. Zanello: *Level Algebras with Bad Properties*, Proc. Amer. Math. Soc. **135** (2007), no. 9, 2713–2722
15. J. Migliore, U. Nagel, and F. Zanello: *An improved Multiplicity Conjecture for codimension three Gorenstein algebras*, Comm. Algebra **36** (2008), no. 1, 112–119
16. J. Migliore, U. Nagel, and F. Zanello: *A characterization of Gorenstein Hilbert functions in codimension four with small initial degree*, Math. Res. Lett. **15** (2008), no. 2, 331–349
17. J. Migliore, U. Nagel, and F. Zanello: *On the degree two entry of a Gorenstein h-vector and a conjecture of Stanley*, Proc. Amer. Math. Soc. **136** (2008), no. 8, 2755–2762
18. J. Migliore and F. Zanello: *The strength of the Weak Lefschetz Property*, Illinois J. Math. **52** (2008), no. 4, 1417–1433
19. J. Migliore, U. Nagel, and F. Zanello: *Bounds and asymptotic minimal growth for Gorenstein Hilbert functions*, J. Algebra **321** (2009), no. 5, 1510–1521
20. F. Zanello and J.V. Zylinski: *Forcing the Strong Lefschetz and the Maximal Rank Properties*, J. Pure Appl. Algebra **213** (2009), no. 6, 1026–1030
21. F. Zanello: *Interval Conjectures for level Hilbert functions*, J. Algebra **321** (2009), no. 10, 2705–2715
22. M. Boij and F. Zanello: *Some algebraic consequences of Green’s hyperplane restriction theorems*, J. Pure Appl. Algebra **214** (2010), no. 7, 1263–1270
23. A. Van Tuyl and F. Zanello: *Simplicial complexes and Macaulay’s inverse systems*, Math. Z. **265** (2010), no. 1, 151–160
24. J. Li and F. Zanello: *Monomial Complete Intersections, The Weak Lefschetz Property and Plane Partitions*, Discrete Math. **310** (2010), no. 24, 3558–3570
25. F. Zanello: *The KOH terms and classes of unimodal N -modular diagrams*, J. Combin. Theory Ser. A **118** (2011), no. 8, 2498–2510
26. R.P. Stanley and F. Zanello: *On the rank function of a differential poset*, Electron. J. Combin. **19** (2012), no. 2, P13, 17 pp.
27. C. Sandon and F. Zanello: *Warnaar’s bijection and colored partition identities, I*, J. Combin. Theory Ser. A **120** (2013), no. 1, 28–38²
28. H.T. Hà, E. Stokes, and F. Zanello: *Pure O -sequences and matroid h -vectors*, Ann. Comb. **17** (2013), no. 3, 495–508
29. C. Sandon and F. Zanello: *Warnaar’s bijection and colored partition identities, II*, Ramanujan J. **33** (2014), no. 1, 83–120³
30. M. Boij, J. Migliore, R. Mirò-Roig, U. Nagel, and F. Zanello: *On the Weak Lefschetz Property for artinian Gorenstein algebras of codimension three*, J. Algebra **403** (2014), no. 1, 48–68
31. A. Pastine and F. Zanello: *Two unfortunate properties of pure f -vectors*, Proc. Amer. Math. Soc. **143** (2015), no. 3, 955–964
32. F. Zanello: *On the number of odd values of the Klein j -function and the cubic partition function*, J. Number Theory **151** (2015), 107–115
33. R.P. Stanley and F. Zanello: *The Catalan case of Armstrong’s conjecture on simultaneous core partitions*, SIAM J. Discrete Math. **29** (2015), no. 1, 658–666
34. F. Zanello: *Zeilberger’s KOH theorem and the strict unimodality of q -binomial coefficients*, Proc. Amer. Math. Soc. **143** (2015), no. 7, 2795–2799
35. R.P. Stanley and F. Zanello: *Unimodality of partitions with distinct parts inside Ferrers shapes*, European J. Combin. **49** (2015), 194–202
36. D. Cook II, J. Migliore, U. Nagel, and F. Zanello: *An algebraic approach to finite projective planes*, J. Algebraic Combin. **43** (2016), no. 3, 495–519
37. R.P. Stanley⁴ and F. Zanello: *Some asymptotic results on q -binomial coefficients*, Ann. Comb. **20** (2016), no. 3, 623–634
38. J. Migliore and F. Zanello: *Stanley’s nonunimodal Gorenstein h -vector is optimal*,

²Colin Sandon’s MIT senior research project, part I.

³Colin Sandon’s MIT senior research project, part II.

⁴Since October 2016, according to [MathSciNet](#), I am Richard Stanley’s coauthor with the single highest number of joint papers.

- Proc. Amer. Math. Soc. **145** (2017), no. 1, 1–9
39. J. Migliore and F. Zanello: *Unimodal Gorenstein h -vectors without the Stanley-Iarrobino property*, Comm. Algebra **46** (2018), no. 5, 2054–2062
 40. F. Zanello: *On Bergeron’s positivity problem for q -binomial coefficients*, Electron. J. Combin. **25** (2018), no. 2, Paper P2.17
 41. S.D. Judge, W.J. Keith, and F. Zanello: *On the density of the odd values of the partition function*, Ann. Comb. **22** (2018), no. 3, 583–600
 42. S.D. Judge and F. Zanello: *On the density of the odd values of the partition function, II: An infinite conjectural framework*, J. Number Theory **188** (2018), 357–370
 43. S.G. Park, R.P. Stanley, and F. Zanello: *Proof of the Gorenstein Interval Conjecture in low socle degree*, J. Algebra **523** (2019), 192–200
 44. R.P. Stanley and F. Zanello: *A note on the asymptotics of the number of O -sequences of given length*, Discrete Math. **342** (2019), no. 7, 2033–2034
 45. R.P. Stanley and F. Zanello: *A generalization of a 1998 unimodality conjecture of Reiner and Stanton*, J. Combinatorics **11** (2020), no. 1, 111–126
 46. F. Zanello: *Deducing the positive odd density of $p(n)$ from that of a multipartition function: An unconditional proof*, J. Number Theory **229** (2021), 277–281
 47. J.A. Sellers and F. Zanello: *On the parity of the number of partitions with odd multiplicities*, Int. J. Number Theory **17** (2021), no. 7, 1717–1728
 48. W.J. Keith and F. Zanello: *Parity of the coefficients of certain eta-quotients*, J. Number Theory **235** (2022), 275–304
 49. W.J. Keith and F. Zanello: *Parity of the coefficients of certain eta-quotients, II: The case of even-regular partitions*, J. Number Theory **251** (2023), 84–101
 50. F. Zanello: *On the number of even values of an eta-quotient*, Int. J. Number Theory **19** (2023), no. 9, 2255–2262
 51. F. Zanello: *Log-concavity of level Hilbert functions and pure O -sequences*, J. Commut. Algebra **16** (2024), no. 2, 245–256

Preprints

1. H.T. Hà, T. Hibi, and F. Zanello: *A special class of pure O -sequences*, preprint. Available on the [arXiv](#)
2. W.J. Keith and F. Zanello: *Parity of the coefficients of certain eta-quotients, III: The case of pure eta-powers*, preprint. Available on the [arXiv](#)

Invited book chapters

1. J. Migliore, U. Nagel, and F. Zanello: *Pure O -sequences: known results, applications, and open problems*, in: “Commutative Algebra. Expository Papers Dedicated to David Eisenbud on the Occasion of His 65th Birthday” (I. Peeva, Ed.), Springer, New York (2013), 527–550

Other publications

1. F. Zanello: “La Classe di Selberg: distribuzione statistica e zeri delle combinazioni lineari,” M.S. Thesis, University of Genova, Italy (2001)
2. F. Zanello: “ H -vectors and socle-vectors of graded artinian algebras,” Ph.D. Thesis, Queen’s University at Kingston, Canada (2004)

INTERNATIONAL
SCHOOLS TAUGHT

- First Combinatorial South School: Modern Methods in Combinatorics (ECOS 2013, funded by CIMPA), San Luis, Argentina, July 2013. Five-lecture, graduate-level course. Title: *Topics in combinatorial algebra*

SELECTED INVITED
AND/OR PLENARY
TALKS (IN
PERSON, NONE
CONTRIBUTED)

- Route 81 Conference on Commutative Algebra and Algebraic Geometry, Kingston, Canada, October 2002. Talk: *Extending the idea of compressed algebra to arbitrary socle-vectors*
- Algebraic Geometry seminar, KTH, Sweden, June 2003. Talk: *Extending the idea of compressed algebra to arbitrary socle-vectors*
- Algebraic Geometry seminar, University of Genova, Italy, July 2003. Talk: *Extending the idea of compressed algebra to arbitrary socle-vectors*
- Route 81 Conference on Commutative Algebra and Algebraic Geometry, Syracuse, NY, October 2003. Talk: *Extending the idea of compressed algebra to arbitrary socle-vectors, II: cases of non-existence*
- Algebraic Geometry seminar, University of Genova, Italy, March 2004. Talk: *Level algebras of type 2*
- Algebraic Geometry seminar, University of Genova, Italy, July 2004. Talk: *Stanley's theorem on codimension 3 Gorenstein h -vectors*
- Algebra and Geometry mini-Conference, Politecnico of Torino, Italy, November 2004. Talk: *Extending the idea of compressed algebra to arbitrary socle-vectors*
- Algebraic Geometry seminar, University of Notre Dame, March 2006. Talk: *Stanley's theorem on codimension 3 Gorenstein h -vectors*
- Algebraic Geometry seminar, University of Notre Dame, April 2006. Talk: *Generic quotients of level algebras of arbitrary type*
- A.M.S. Meeting of Notre Dame, IN (Special Session on Combinatorial Algebraic Geometry), April 2006. Talk: *My viewpoint on a particular case of the Multiplicity Conjecture*
- Algebraic Geometry seminar, KTH, Sweden, May 2007. Talk: *A conjecture of Stanley on socle degree 4 Gorenstein h -vectors*
- Algebra seminar, Tulane University, October 2007. Talk: *Interval Conjectures for level Hilbert functions*
- Algebra seminar, Lakehead University, Canada, February 2008. Talk: *How many partial derivatives does a polynomial have?*
- Algebraic Geometry seminar, University of Notre Dame, March 2008. Talk: *Interval Conjectures for level Hilbert functions*
- A.M.S. Meeting of Bloomington, IN (Special Session on Combinatorial and Geometric Aspects of Commutative Algebra), April 2008. Talk: *Interval Conjectures for level Hilbert functions*
- Algebraic Geometry seminar, KTH, Sweden, June 2008. Talk: *Interval Conjectures for level Hilbert functions*
- C.M.S. Meeting of Ottawa, Canada (Special Session on Commutative Algebra and Algebraic Geometry), December 2008. Talk: *Interval Conjectures for Gorenstein and Level Hilbert Functions*
- Commutative Algebra and Algebraic Geometry seminar, CUNY, March 2009. Talk: *On the structure of pure O -sequences*
- A.M.S. Meeting of Lexington, KY (Special Session on Combinatorial Algebra), March 2010. Talk: *On the structure of pure O -sequences: unimodality, non-unimodality, and an interval conjecture*
- Algebra seminar, Tulane University, April 2010. Talk: *On the structure of a pure O -sequence. An overview*
- Algebraic Geometry seminar, University of Notre Dame, November 2010. Talk: *Some recent developments in the theory of pure O -sequences*
- Combinatorics seminar, MIT, February 2011. Talk: *Some recent developments in the theory of pure O -sequences*
- Combinatorics/Partitions seminar, Pennsylvania State University, March 2011. Talk: *The KOH terms and classes of N -modular diagrams of integer partitions*
- A.M.S. Meeting of Winston-Salem, NC (Special Session on Algebraic and Geometric Aspects of Matroids), September 2011. Talk: *Stanley's matroid h -vector conjecture*

in low rank

- A.M.S. Meeting of Lincoln, NE (Special Session on Algebraic Geometry and Graded Commutative Algebra), October 2011. Talk: *On the Interval Property in algebra and combinatorics*
- Geometry-Algebra-Singularities-Combinatorics (GASC) seminar, Northeastern University, October 2011. Talk: *Zeilberger's KOH theorem and unimodal N -modular diagrams of integer partitions*
- C.M.S. Meeting of Toronto, Canada (Special Session on Algebraic Geometry and Commutative Algebra), December 2011. Talk: *On Stanley's matroid h -vector conjecture*
- Algebra seminar, Tulane University, March 2012. Talk: *Zeilberger's KOH theorem and unimodal N -modular diagrams of integer partitions*
- A.M.S. Meeting of Lawrence, KS (Special Session on Combinatorial Commutative Algebra), March 2012. Talk: *On Stanley's matroid h -vector conjecture*
- A.M.S. Meeting of New Orleans, LA (Special Session on Combinatorial Commutative Algebra), October 2012. Talk: *Some old and new (non)unimodality results*
- Route 81 special Conference (TonyFest), in honor of Tony Geramita on the occasion of his seventieth birthday, Kingston, Canada, October 2012. Talk: *On the Hilbert function of a level algebra*
- Michigan Computational Algebraic Geometry Conference, Western Michigan University, May 2013. Talk: *Hilbert functions of level and Gorenstein algebras*
- A.M.S. Meeting of Louisville, KY (Special Session on Combinatorial Commutative Algebra), October 2013. Talk: *Some recent developments on the Interval Property*
- Combinatorics seminar, UCLA, October 2013. Talk: *Pure O -sequences, f -vectors of pure simplicial complexes, and other level h -vectors*
- Combinatorics seminar, MIT, November 2013. Talk: *Pure O -sequences, f -vectors of pure simplicial complexes, and other level h -vectors*
- Algebra and Combinatorics seminar, Tulane University, March 2014. Talk: *Pure O -sequences, f -vectors of pure simplicial complexes, and other level h -vectors*
- Workshop on Lefschetz Properties, Mathematical Institute, Göttingen, Germany, March 2015. (Talk and invitation canceled due to travel issues)
- Mathematics Department Graduate Colloquium, University of Minnesota Duluth, April 2015. Talk: *Some interactions between combinatorics and algebra: pure O -sequences, pure f -vectors, and level Hilbert functions*
- The 2015 Midwest Combinatorics Conference, University of Minnesota Twin Cities, May 2015. Talk: *Partitions with distinct parts and unimodality*
- Conference on Algebraic Combinatorics and Applications, Michigan Tech, August 2015. Talk: *Partitions with distinct parts and unimodality*
- Midwest Commutative Algebra and Algebraic Geometry Conference: A Meeting in Honor of Juan Migliore, University of Notre Dame, May 2016. Talk: *Some of the combinatorial commutative algebra changed by Juan's work: An overview of pure O -sequences and other level Hilbert functions*
- Workshop on Computational Commutative Algebra and Convex Polytopes, RIMS, Kyoto University, Japan, August 2016. Talk: *Some recent interactions between commutative algebra and combinatorics*
- Combinatorics seminar, University of Miami, March 2017. Talk: *Partitions into distinct parts and unimodality*
- Algebra and Combinatorics seminar, Tulane University, April 2017. Talk: *Partitions into distinct parts and unimodality*
- Combinatorics seminar, MIT, September 2017. Talk: *Partitions into distinct parts and unimodality*
- A.M.S. Meeting of Columbus, OH (Special Session on Lefschetz Properties), March 2018. Talk: *The Gorenstein Interval Conjecture in low socle degree*
- Combinatorics seminar, University of Wisconsin-Madison, October 2018. Talk: *Unimodality of distinct-part partitions, and some related matters*
- Combinatorics seminar, University of Miami, March 2019. Talk: *On the parity of the partition function*

- Algebra and Combinatorics seminar, Tulane University, March 2022. Talk: *Proof of the Gorenstein Interval Conjecture in low socle degree*
- Mathematics Department Colloquium, Tulane University, March 2022. Talk: *On the parity of the partition function: Overview and recent developments*
- Combinatorics seminar, University of Miami, February 2024. Talk: *A broad conjectural framework for the parity of eta-quotients*
- Mathematics Department Colloquium, Tulane University, February 2024. Talk: *A broad conjectural framework for the parity of eta-quotients*
- Algebraic Geometry seminar, KAIST, South Korea, April 2024. Talk: *On the parity of the partition function: Recent results and conjectures*

COLLABORATORS

- **Mats Boij** (KTH, Sweden)
- David Cook II (Google)
- **Tai Hà** (Tulane University)
- Takayuki Hibi (Osaka University)
- **Samuel D. Judge** (Northeastern University, then private sector; when he was my Ph.D. student at Michigan Tech)
- **William J. Keith** (Michigan Tech)
- **Jizhou Li** (Rice University, then ExxonMobil; when he was my undergraduate student at Michigan Tech)
- **Juan Migliore** (University of Notre Dame)
- **Rosa M. Mirò-Roig** (University of Barcelona, Spain)
- **Uwe Nagel** (University of Kentucky)
- **Sung Gi Park** (Harvard University; when he was my undergraduate student at MIT)
- **Adrián Pastine** (Universidad Nacional de San Luis, Argentina; when he was a graduate student at Michigan Tech)
- **Colin Sandon** (Princeton University; when he was my undergraduate student at MIT)
- **James A. Sellers** (University of Minnesota Duluth)
- **Richard P. Stanley** (MIT)
- Erik Stokes (NSA; when he was my postdoc at Michigan Tech)
- **Adam Van Tuyl** (McMaster University, Canada)
- **Jeffery V. Zylinski** (Purdue University; when he was my undergraduate student at Michigan Tech)

RESEARCH MENTORING AND SUPERVISION

Postdocs

- Erik Stokes (Visiting Assistant Professor, Michigan Tech, 2008-2010)

Ph.D. students

- Samuel D. Judge (Ph.D., Michigan Tech, 2018). Dissertation title: “On the density of the odd values of the partition function.” Samuel’s following position: Assistant Teaching Professor at Northeastern University
- Timothy J. Wagner (Ph.D., Michigan Tech, 2021). Dissertation title: “Integer partitions under certain finiteness conditions.” Tim’s following position: Instructor at Michigan Tech

Master’s students

- Alex Schaefer (M.S., Michigan Tech, 2008). Alex’s following position: Ph.D. student at the University of Kansas
- Kaixian Yu (M.S., Michigan Tech, 2012)

- Amer Tahat (M.S., Michigan Tech, 2012)

Undergraduate students

- Jeffery V. Zylinski (two Senior research projects, 2008 and 2009; Summer research Fellowship project, 2008; Michigan Tech). Jeffery's following position: Graduate student at Purdue
- Jizhou Li (Senior research project, Michigan Tech, 2009). Jizhou won an Honorable Mention at the 2009 Putnam. His following position: Ph.D. student at Rice
- Ping Ngai (Brian) Chung (UROP funded project, MIT, 2011). Brian has been a Medalist at three different editions of the IMO
- Benjamin Lerner (UROP funded project, MIT, 2011)
- Colin Sandon (two UROP funded projects, MIT, 2011). Colin is, among his many achievements, a 2010 Putnam Fellow. His following position: Ph.D. student at Princeton
- TaoRan Chen (UROP funded project, MIT, 2011). TaoRan's following position: Ph.D. student at Cornell
- Hyun Sub Hwang (UROP funded project, MIT, 2013). Hyun has been a gold Medalist at the IMO
- Praveen Venkataramana (co-advised with Richard P. Stanley; UROP funded project, MIT, 2013). Praveen was a 2013 Astronaut Scholar. His following position: Ph.D. student at Caltech
- Sung Gi Park (UROP funded project, MIT, 2017). Sung Gi has, among his many achievements, been a gold Medalist at the IMO. His following position: Ph.D. student at Harvard
- Alan Bouwman (Senior research project, Michigan Tech, 2021)

TEACHING EXPERIENCE

- University of Notre Dame, 2006-07. Courses taught:
 - Calculus II for Business
 - Calculus I for Business
 - Calculus I for Life Sciences
- Michigan Tech, since Fall 2007 (except for various leaves at MIT). Courses taught:
 - Graduate Topics in Combinatorial Commutative Algebra
 - Graduate Topics in Commutative Algebra
 - Graduate Algebra II
 - Graduate Algebra I
 - Senior Abstract Algebra
 - Introduction to Abstract Algebra
 - Calculus I
- MIT, 2011 and 2013. Courses taught:
 - 18.304, the Undergraduate Seminar in Discrete Mathematics (in both Spring and Fall 2011, and Spring 2013)

SERVICE AT MICHIGAN TECH

- Member of the Recruitment Committee for faculty positions, Department of Mathematical Sciences, 2008-09
- University Senator, 2009-2012
- Chair of the Senate Research Policy Committee and member of the University Research Advisory Council, 2009-10
- Member of the Graduate Committee, Department of Mathematical Sciences, 2009-10
- Member of the Recruitment Committee for faculty positions, Department of Mathematical Sciences, 2010-11
- Putnam Competition supervisor, 2012 (I registered 31 students for the Exam — a 3,000% increase with respect to the previous year at Michigan Tech)

- Member of the Promotion, Tenure and Reappointment Committee, Department of Mathematical Sciences, 2012-13
- Member of the Recruitment Committee for faculty positions, Department of Mathematical Sciences, 2012-13
- Advisor for the Math majors of the General Mathematics concentration, Department of Mathematical Sciences, 2014-2017
- Faculty advisor, Undergraduate Math Society, 2014-2018
- Member of the Promotion, Tenure and Reappointment Committee, Department of Mathematical Sciences, 2014-15
- Member of the Recruitment Committee for faculty positions, Department of Mathematical Sciences, 2014-15
- Member of the M.S. Committee of J.T. Davies, who graduated in Spring 2017 (Thesis advisor Prof. W.J. Keith)
- Member of the Ph.D. Committee of Mustafa Gezek, who graduated in Spring 2017 (Thesis advisor Prof. V. Tonchev)
- Member of the Promotion and Tenure Committee, College of Sciences and Arts, 2017-2020
- Member of the M.S. Committee of Dale Bigler, who graduated in Spring 2019 (Thesis advisor Prof. J. Sun)
- Member of the Promotion, Tenure and Reappointment Committee, Department of Mathematical Sciences, 2020-21
- Member of the M.S. Committee of Emily Anible, who graduated in Summer 2021 (Thesis advisor Prof. W.J. Keith)
- Chair of the Promotion, Tenure and Reappointment Committee, Department of Mathematical Sciences, 2021-22
- Member of the Promotion, Tenure and Reappointment Committee, Department of Mathematical Sciences, 2022-23
- Member of the Ph.D. Committee of Zazil Santizo Huerta, who graduated in Spring 2024 (Thesis advisor Prof. M. Keranen)

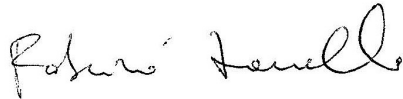
OTHER SELECTED
PROFESSIONAL
ACTIVITIES

- Referee for the following 26 journals (with multiplicity ≥ 1): Adv. Math.; Amer. Math. Monthly; Ann. Comb.; Bull. Lond. Math. Soc.; Canad. J. Math.; Comm. Algebra; Discrete Math.; Electron. J. Combin.; European J. Combin.; Expo. Math.; Forum Math.; Illinois J. Math.; J. Algebra; J. Algebra Appl.; J. Algebraic Combin.; J. Combin. Theory Ser. A; J. Commut. Algebra; J. Korean Math. Soc.; J. Lond. Math. Soc.; J. Number Theory; J. Pure Appl. Algebra; J. Symbolic Comput.; Math. Inequal. Appl.; Proc. Amer. Math. Soc.; SIAM J. Discrete Math.; Turkish J. Math.. During the last several years, I have also been offering a large number of quick opinions to journals or book series
- Organizer (with J. Migliore and U. Nagel) of a Special Session on Hilbert Functions in Commutative Algebra and Algebraic Combinatorics, A.M.S. Meeting of Notre Dame, IN, November 2010
- Organizer (with H.T. Hà) of a Special Session on Combinatorial Commutative Algebra, A.M.S. Meeting of Philadelphia, PA, October 2013
- Co-organizer (Committee chair V. Tonchev) of Conference on Algebraic Combinatorics and Applications, Michigan Tech, August 2015
- 2018 International Congress of Mathematicians Travel Grants Selection Committee (A.M.S. Representative), 2017-18
- Member of the of Board of Examiners of the Ph.D. Thesis of Bidyut Boruah (Thesis advisor Prof. N.D. Baruah), Tezpur University, India, 2014
- Reviewer for [MathSciNet](#) (2003-2011)
- Proposal/Grant reviewer (with or without honorarium) for the following institutions: Eastern Illinois University, 2014; Austrian Science Fund (FWF), 2014 and 2015; NSA, 2016; Simons Foundation, 2020 and 2021; University of Napoli Federico II, Italy, 2022
- External reviewer (with or without honorarium) for several tenure and/or promotion

cases at other institutions

NEWSPAPER
INTERVIEWS,
GIFTED CHILDREN
OUTREACH

During the last many years, I have been giving a number of interviews to Italian newspapers, both about myself and my professional activities in the United States, and more importantly, the education of gifted children and young adults. These interviews were released to, among others, “Corriere della Sera” and “La Repubblica” (the two main Italian newspapers), “Focus,” and “Alice & Bob” (a journal of Bocconi University, a leading European Business School). From 2011-2020, I served as a member of the Scientific Committee of AISTAP (the Italian Association for the Development of Talent and High Ability). I have been a member of Mensa Italia, where I served for two terms as Secretary of the Liguria Region, since 1997.



Fabrizio Zanello
May 17, 2024