

Kelly Ann Jabbusch

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EDUCATION

Ph.D. in Mathematics UNIVERSITY OF WASHINGTON, Seattle, WA June 2007
Thesis: *Notions of Positivity for Vector Bundles*, Advisor: Sándor Kovács.
B.A. in Mathematics and German WILLAMETTE UNIVERSITY, Salem, OR May 2000

EMPLOYMENT

Associate Professor - Dept of Mathematics & Statistics, University of Michigan - Dearborn May 2018 - Present
Assistant Professor - Dept of Mathematics & Statistics, University of Michigan - Dearborn September 2012 - May 2018
Visiting Assistant Professor - Dept of Mathematics & Computer Science, Valparaiso University August 2011 - May 2012
Göran Gustafsson Postdoctoral Fellow - Dept of Mathematics, KTH, Stockholm June 2010 - May 2011
Post-doctoral Researcher in Algebra and Geometry - Dept of Mathematics, KTH, Stockholm October 2009 - May 2010
Post-Doctoral Researcher in the DFG Research Group *Classification of Algebraic Surfaces and Compact Complex Manifolds*
Mathematics Institute, University of Freiburg November 2008 - September 2009
Mathematics Institute, University of Cologne June 2007 - October 2008

HONORS AND AWARDS

Provost Faculty Fellow, UM-Dearborn Fall 2021 - Winter 2022
NSF ASCEND Faculty Fellow Fall 2020 - 2024

PUBLICATIONS

1. C. ARAUJO, R. BEHESHTI, A. CASTRAVET, K. JABBUSCH, S. MAKAROVA, E. MAZZON, N. VISWANATHAN: *The minimal projective bundle dimension and toric 2-Fano manifolds*. To appear in Trans. Amer. Math. Soc.
2. M. DOLORFINO, C. HORCH, K. JABBUSCH, R. MARTINEZ; *On good infinite families of toric codes or the lack thereof*. To appear in Involve, a Journal of Mathematics.
3. R. GRAFF, K. JABBUSCH, D. JAMES: *Intuitive Interpretations of SVD Vectors*. College Math Journal Vol. 54 (3), 2023, pp 200-211.
4. D. CHAN, K. CHAN, L. DE THANHOFFER DE VÖLCSEY, C. INGALLS, K. JABBUSCH, S. KOVÁCS, R. KULKARNI, B. LERNER, B. NANAYAKKARA, S. OKAWA, M. VAN DEN BERGH: *The minimal model program for b -log canonical divisors and applications*. Mathematische Zeitschrift, Vol 303, 87 (2023).
5. C. ARAUJO, R. BEHESHTI, A. CASTRAVET, K. JABBUSCH, S. MAKAROVA, E. MAZZON, N. VISWANATHAN, L. TAYLOR: *Higher Fano Manifolds*. Revista de la Unión Matemática Argentina (The Proceedings of the Mathematical Congress of the Americas 2021), Vol 64(1), 2022, pp 103-125.
6. E. CAIRNCROSS, S. FORD, E. GARCIA, K. JABBUSCH: *Classifying toric surface codes of dimension 7*. Involve, a Journal of Mathematics, 14-4 (2021), 605–616.
7. J. CLIFFORD, K. JABBUSCH, M. LACHANCE *Preimages of the Numerical Range*. The American Mathematical Monthly, Vol. 125(1), 2018, pp 69-74.
8. S. DI ROCCO, K. JABBUSCH, G. SMITH: *Toric vector bundles and parliaments of polytopes*. Trans. Amer. Math. Soc, Vol. 370(11), 2018, pp 7715-7741.
9. S. DI ROCCO, K. JABBUSCH, A. LUNDMAN: *A note on higher order Gauss maps*. Michigan Math. J., Vol. 66(1), 2017, pp 21-35.
10. TH. BAUER, C. BOCCI, S. COOPER, S. DI ROCCO, M. DUMNICKI, B. HARBOURNE, K. JABBUSCH, A. KNUTSET, A. KÜRONYA, R. MIRANDA, J. ROE, H. SCHENCK, T. SZEMBERG, Z. TEITLER: *Recent developments and open problems in linear series*. Contributions to algebraic geometry, EMS Series of Congress Reports, Eur. Math. Soc., Zürich, 2012 pp 93–140.

11. K. JABBUSCH AND S. KEBEKUS: *Families over special base manifolds and a conjecture of Campana*. *Mathematische Zeitschrift*: Volume 269, Issue 3 (2011), pp 847-878.
12. K. JABBUSCH AND S. KEBEKUS: *Positive sheaves of differentials coming from coarse moduli spaces*. *Annales de l'institut Fourier*, 61 no. 6 (2011), pp 2277-2290.
13. K. JABBUSCH: *Positivity of cotangent bundles*. *Michigan Math. J.*, Vol. 58(3), 2009, pp 723-744.
14. C. CADMAN, I. COSKUN, K. JABBUSCH, M. JOYCE, S. KOVÁCS, M. LIEBLICH, F. SATO, M. SZCZENSNY, AND J. ZHANG: *A first glimpse at the minimal model program*. *Snowbird Lectures in Algebraic Geometry, Contemporary Mathematics*, Vol. 388, AMS, 2005, pp 17-42.

EXPOSITORY ARTICLES AND EDITORIAL COLLECTIONS

15. Co-Editor of *Advances in the Mathematical Sciences: Proceedings of the AWM Research Symposium, Minneapolis, MN, June 2022*. Editors: Megan Breit-Goodwin, Mee Seong Im, Kelly Jabbusch and Kuei-Nuan Lin
16. K. JABBUSCH: *Writing for Mathematical Reviews*. *Notices of the American Mathematical Society*, Feb 2019, Vol. 66, Issue 2.

GRANTS AND FUNDED RESEARCH COLLABORATION

1. **2023 Summer Research in Mathematics (SRiM) at SLMath, Berkeley, California: Higher Fano Manifolds** with C. Araujo, R. Beheshti, A. Castravet, S. Makarova, E. Mazzon, and N. Viswanathan.
2. **REU Site in Mathematical Analysis and Applications, UM - Dearborn**
 - NSF Grant for 2023 - 2026, Co-Pi with Yunus Zeytuncu (\$259,200)
 - NSA Grant for 2023 (\$59,963)
3. **Collaborate@ICERM: Higher Fano Manifolds, May 2022** with C. Araujo, R. Beheshti, A. Castravet, S. Makarova, E. Mazzon, and N. Viswanathan.
4. **AIM SQuaRE: Ramifications of decorated minimal model program in arbitrary dimensions**
Two meetings in Nov 2016 and Sept 2018 with D. Chan, C. Ingalls, S. Okawa, S. Sierra, and M. Van den Bergh.

TEACHING AT UM-DEARBORN

COURSES TAUGHT: Math 113, Math 115, Math 116, Math 227, Math 300, Math 331, Math 395, Math 412/512

GRADUATE/UNDERGRADUATE STUDENT SUPERVISION

REU Site in Mathematical Analysis and Applications, UM - Dearborn

- 2021: Mentored three students; we investigated infinite families of toric codes.
- 2020: Mentored three students; we investigated error correcting codes given by toric 3-folds of dimension 4 and 5.
- 2019: Mentored three students; we classified error correcting codes given by toric surfaces of dimension 7.

Graduate Student Supervision: Rosenthal, Chase "Waring's Problem," for M.S. in ACM, Fall 2018.

SERVICE ACTIVITIES

Major UM-Dearborn Service Activities:

Search Committee member for CASL Dean Search (Winter 2023)
 CASL Executive Committee (Fall 2021 -)
 University Curriculum and Degree Committee (Fall 2020 - Winter 2022)
 Department of Mathematics & Statistics Executive Committee (Fall 2020 -)
 CASL Curriculum Committee (Fall 2017 - Winter 2020)
 Mathematics Search Committee (Fall 2017 - Winter 2018)

Select Professional Activities:

Honors Examiner in Geometry for the Department of Mathematics & Statistics at Swarthmore College (May 2022)
 Review Panel for Division of Mathematical Sciences at NSF
 Referee: *The Journal of the London Mathematical Society*, *European Journal of Mathematics*, *International Mathematics Research Notices*, *Involve, a Journal of Mathematics*, *Annali dell'Università di Ferrara*, *Journal of Algebra*, *Proceedings of the American Mathematical Society*
 Reviewer for MathSciNet Reviews