VITA

CYNTHIA HUFFMAN

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EDUCATION:

1994 Ph.D. in Mathematics, New Mexico State University, Las Cruces, New Mexico
1987 M.S. in Mathematics, Pittsburg State University, Pittsburg, Kansas (Graduate Dean's Scholastic Honors, 4.00)
1986 B.S.Ed. in Mathematics, Pittsburg State University, Pittsburg, Kansas (Summa cum laude, 4.00)

WORK EXPERIENCE:

2013 – present University Professor (renewable competitive rank for 6 years), Pittsburg State University

2006 – 2013 Professor, Pittsburg State University

2002 – 2008 Assistant Coordinator of the PSU Writing Across the Curriculum Program

1999 – 2006 Associate Professor, Pittsburg State University

1994 – 1999 Assistant Professor, Pittsburg State University

1993 – 1994 Teaching Associate, Cornell University

1988 – 1993 Graduate Assistant, New Mexico State University

1992 – 1993 Senior Support Staff, National Science Foundation Young Scholars Mathematics Workshop in the Rockies

1986 – 1987 Graduate Assistant, Pittsburg State University

RESEARCH INTERESTS:

Mediated and Online Instruction
History of Mathematics
Ethnomathematics
Computational Commutative Algebra
Undergraduate Mathematics Education

MEMBERSHIPS:

American Mathematical Society
Kappa Mu Epsilon (Faculty Advisor 1995-96, 2003 - 2015, Corresponding Secretary 1996-99, Regional Director 2001- 2008, National Treasurer 2007 - 2015, National Historian 2017 - 2021)
Mathematical Association of America
MOKAN Chapter of the National Council of Teachers of Mathematics
Phi Kappa Phi Honor Society (Chapter VP, 1985-87)
Phi Delta Kappa Honor Society

DISTINCTIONS AND HONORS:

Presidential Award for Excellence in Science, Mathematics & Engineering Mentoring Nominee (2021, 2022, 2023)
Kappa Mu Epsilon (National Math Honor Society) George Mach Distinguished Service Award (2023)
Marsh's Library Maddock Research Fellowship, Dublin, Ireland (2023)

Mathematical Association of America (MAA) Deborah and Franklin Haimo Award for Distinguished College or University Teaching of Mathematics Nominee (2016)
KSMAA Award for Distinguished College or University Teaching of Mathematics (2015)
PSU Outstanding Faculty Award (2010, 2014)
PSU Outstanding Faculty Award Nominee (2000, 2007, 2010, 2014)
PSU College of Arts & Sciences Excellence in Research award (2024)
PSU College of Arts & Sciences Excellence in Teaching award (2003, 2016, 2023)
PSU College of Arts & Sciences Excellence in Service award (2019)
PSU Athletic Council Outstanding Faculty Recognition (2017)
Mathematical Association of America (MAA) Certificate of Meritorious Service (2002)
PSU Center for Teaching, Learning, and Technology Faculty Spotlight (2019)
PSU OpenPITT Open Resource Materials Development Grant (2018)
PSU Summer Teaching Innovation Grant (1998, 2003, 2013, 2017)
Linda Hall Library of Science, Technology and Engineering Research Fellowship (2015)
PSU grant for Stipend for Undergraduate Student Research (2019)
PSU Leadership Class (2008)
PSU Outstanding Alumni Award (2002)
American Association for the Advancement of Science (AAAS) Women's International Science Collaboration travel grant (2001)
National Research Council (NRC) Collaboration in Basic Science and Engineering travel grant (2001)
Association for Women in Mathematics (AWM) travel grant (1996, 2000)
National Science Foundation (NSF) Educational Materials Development grant (support personnel 2001-2003, sub-contractor 2004-2007)
PSU Faculty Development Curriculum Grant for Internationalization (2009, 2010)
PSU Research grant (2000, 2001, 2002)
PSU College of Education Enhancement of Multicultural Education minigrant (2000, 2004)
VIP listee with Marquis Who's Who (2019, 2020, 2021)
International Who's Who of Professional and Business Women (2000, 2002, 2003)
Who's Who Among America's Teachers (2000, 2004, 2005)
Who's Who of American Women, 25th Silver Anniversary Edition (2005)
Who's Who of American Women (2007, 2008-2009, 2010-2011)
Who's Who in American Education (2006-2007, 2007-2008)
Who's Who in Science and Engineering (2006-07, 2007-2008)
Who's Who in America (2007, 2013, 2014, 2015, 2016, 2019)
Cambridge Who's Who (2007-2008), Honor Edition (2008)
MAA Project NExT Fellow (1994-95), Consultant (2006 – present)

PROFESSIONAL SERVICE:

- MAA Classroom Resource Material Book Series Editorial Board (Associate Editor 2011 – 2019, Editor in Chief 2019 – 2024)
- Secretary/Treasurer, History of Mathematics Special Interest Group of the Mathematical Association of America (2018 – present)
- National Historian, Kappa Mu Epsilon Mathematics Honor Society (2017 – 2021)
- National Treasurer, Kappa Mu Epsilon Mathematics Honor Society (2007 – 2015)
- Regional Director, Kappa Mu Epsilon Mathematics Honor Society (2001 – 2008)

- Mathematical Association of America (MAA) Board of Governors (2012 – 2015)
- Chair-Elect (2008 – 2009), Chair (2009-2010), Kansas Section of the MAA
- Information Coordinator and Webmaster and Newsletter Editor, Kansas Section of the Mathematical Association of America (1996 – 2023)
- PSU eLearning Academy Steering Committee and Course Reviewer (2012 – present)
- Directed over 65 Masters Research Projects
- Numerous (over 350) presentations at local, state, national, and international levels on research, teaching, mediated instruction, mathematics and business, mathematics and music, mathematics and puzzles, …
- Published Open Educational Resource Materials – over 30 learning activities and one course at https://digitalcommons.pittstate.edu/oer-math/ with over 13,600 downloads in over 144 countries, also activities at OER Commons, an international public repository for materials from pre-K through graduate level

COMMUNITY SERVICE:

- Loan Supervisory Committee for the Kansas Teachers Community Credit Union Executive Board (2005 - 2015)
- Habitat for Humanity of Crawford County Executive Board (2008-2012)
- Dozens of programs for civic and social groups on mathematics, handbell solo ringing, and international travel

PUBLICATIONS:

1. *An Algorithmic Proof of Suslin's Stability Theorem for Polynomial Rings*, with H. Park, Journal of Algebra **178**, (1995), p. 277-298.
2. *An Algorithm for the Quillen-Suslin Theorem for Monoid Rings*, with R. Laubenbacher, Journal of Pure and Applied Algebra **117-118**, (1997), p. 395-429.
3. *Review of An Introductory Course in Commutative Algebra. by A. W. Chatters & C. R. Hajarnavis and Introduction to Algebra. by Peter J. Cameron*, The American Mathematical Monthly, **106** No. 5, (May 1999), p. 481-483. (Article DOI: 10.2307/2589171; Stable URL: http://library.pittstate.edu:2091/stable/2589171)
4. *A New Algorithm for the Quillen-Suslin Theorem*, with R. Laubenbacher, Contributions to Algebra and Geometry **41**, (2000), p. 23-32.
5. *Factoring Multivariate Polynomial Matrices*, Proc. Digital Signal Processing & Appl'ns **2**, (2000), p. 291-293.
6. *The Quillen-Suslin Theorem and the Design and Implementation of Multi-Dimensional Filter Banks*, with M. Tchobanou, Proc. Digital Signal Processing and Its Applications **2**, (2000), p. 314-315.
7. *Formulating a Plan for Your Professional Future*, with G. Ashline, J. Case, and K. Pearson, MAA Focus, (May/June 2001), p. 7-9.
8. *Design of M-D Filter Banks by Factorization of M-D Polynomial Matrices*, with M. Tchobanou, Proc. Intl. Conf. on Information, Communications, and Signal Processing, (2001).
9. *Gröbner Bases – A Powerful Tool for Solving DSP Tasks*, Proc. Digital Signal Processing and Its Applications **1**, (2002), p. 163-165.
10. *Factorization of M-D polynomial matrices for design of M-D multirate systems*, with M. Tchobanou, Proc. Intl. Symposium on Mathematical Theory of Networks and Systems, (2002).
11. *Design and Implementation of 2-D and 3-D Multirate Systems*, with O. Bolshakova, V.

Klyushkin, V. Mironov, S. Stephachew, M. Tchobanou, Proc. Intl. TICSP Wkshp on Spectral Methods and Multirate Signal Processing, (2002).

12. *Implementation Issues in 2-D Filter Bank Design Based on Matrix Factorization*, with M. Tchobanou, Proc. XI European Signal Processing Conf., (2002).
13. *Effective implementation of M-D multirate systems by factorization of M-D polynomial polyphase matrices*,with M. Tchobanou, Proc. Digital Signal Processing and Its Applications, (2003), p. 156-158.
14. *The Algebra Underlying Account Rules: A Teaching Note*, with R. Casey and D. O'Bryan, Accounting Instructors' Report, (2003).
15. *Writing to Learn for Elementary Statistics*, with A. Jayawardhana, Proc. Joint Statistical Meetings, (2005).*PascGalois Classroom Resources: Mathematics for Elementary Education*, with N. Zumoff, published online in 2007 by the PascGalois Project at http://www.pascgalois.org/.
16. *PascGalois Mathematics for Elementary Education Classroom Resources*, with N. Zumoff, Loci (July 2008), DOI: 10.4169/loci002638.
17. *MAA 2009 Study Tour of Egypt,* with S. McCracken, S. Riehl, P. Schumer, B. Warren, MAA Focus, Vol. 29, No. 6, (Dec. 2009/Jan. 2010), p. 14-15.
18. *Roman Road Trip: Study Tour,* with Jackie Dewar, MAA Focus, Vol 32, No 6, (Dec. 2012/Jan. 2013), p. 29-30.
19. *Maya Geometry in the Classroom*, with J. Diamantopoulos, Loci Convergence (August 2013) - http://www.maa.org/publications/periodicals/convergence/maya-geometry-in-the-classroom (DOI:10.4169/convergence20130801), also published in Spanish https://old.maa.org/press/periodicals/convergence/geometr-a-maya-en-la-sala-de-clases (August 2024)
20. *Inside Passage Alaska,* with Jackie Dewar, MAA Focus, Vol. 33, No. 6, (Dec. 2013/Jan. 2014), p. 20-23.
21. *The Greek Streaker and the Secret of the Prayer Book*, video, (April 2014), more videos added February 2025 http://libguides.pittstate.edu/history-of-math .
22. *Making a Right Angle the Maya Way*, with J. Diamantopoulos, Plus Magazine, (Sept. 2014), http://plus.maths.org/content/making-right-angle-maya-way .
23. *Napoleon and Mathematics: A Case Study of the Interplay between Mathematics and History*, with C. Childers, The Midwest Quarterly, Vol. 56, No. 3 (Spring 2015), p. 209-216.
24. Translation of *A solution of certain Diophantine problems* by Leonhard Euler from Latin to English, *Euler Archive* (peer-reviewed), http://eulerarchive.maa.org/pages/E474.html .
25. *Ancient Indian Rope Geometry in the Classroom*, with S. Thuong, Convergence (October 2015) - http://www.maa.org/press/periodicals/convergence/ancient-indian-rope-geometry-in-the-classroom.
26. *Mathematical Treasures at the Linda Hall Library*, Convergence (January 2017, July 2017, June 2018, September 2019, December 2019, June 2020), DOI:10.4169/convergence20170101, https://www.maa.org/press/periodicals/convergence/mathematical-treasures-at-the-linda-hall-library (introductory article plus 39 Mathematical Treasure articles)
27. *More Classroom Activities Based on Ancient Indian Rope Geometry*, with S. Thuong, Convergence (May 2018) - https://www.maa.org/press/periodicals/convergence/more-classroom-activities-based-on-ancient-indian-rope-geometry.
28. Translation of *A problem of a certain construction of Pappus of Alexandria* by Leonhard Euler from Latin to English, with Cameron Friend, (peer-reviewed),

http://eulerarchive.maa.org/pages/E543.html .

29. "Euler Archive Spotlight – Popular Downloads," *Euleriana*: 1(1), 2021, p. 141, Article 9. Available at: https://scholarlycommons.pacific.edu/euleriana/vol1/iss1/9
30. *Women in mathematics* (Video), joint with Benjamin Gross, Linda Hall Library. April 2021 *https://catalog.lindahall.org/permalink/01LINDAHALL_INST/19lda7s/alma999324710705961*
31. *Mathematical Mysteries of Rapa Nui with Classroom Activities*, joint with X. Catepillan and S. Thuong, Convergence (March 2021), also published in Spanish (September 2021), https://www.maa.org/press/periodicals/convergence/mathematical-mysteries-of-rapa-nui-with-classroom-activities-mathematical-mystery-1-rongorongo and https://www.maa.org/press/periodicals/convergence/misterios-matem-ticos-de-rapa-nui-con-actividades-para-el-aula-de-clases
32. *Review of Proving It Her Way: Emmy Noether, a Life in Mathematics*, MAA Reviews, July 2021, https://www.maa.org/press/maa-reviews/proving-it-her-way-emmy-noether-a-life-in-mathematics
33. *Review of Emmy Noether – Mathematician Extraordinaire*, MAA Reviews, July 2021, https://www.maa.org/press/maa-reviews/emmy-noether-mathematician-extraordinaire
34. "Euler Archive Spotlight – Tribute to C. Edward Sandifer," *Euleriana*: 1(2), 2021, p. 168, Article 4. Available at: https://scholarlycommons.pacific.edu/euleriana/vol1/iss2/4/ *Women in mathematics* by Benjamin Gross and Cynthia Huffman, Linda Hall Library. April 14, 2021 *https://catalog.lindahall.org/permalink/01LINDAHALL_INST/19lda7s/alma999324710705961*
35. "An Ancient Egyptian Mathematical Photo Album - Hieroglyph Numerals and More," *Convergence* (April 2022) - https://www.maa.org/press/periodicals/convergence/an-ancient-egyptian-mathematical-photo-album-hieroglyph-numerals-and-more
36. *Agnesi vs. Colson: Did Location Matter?,* in Research in History and Philosophy of Mathematics, Zack, M., Waszek, D. (eds), Birkhäuser, p. 103-114. appeared online in Nov. 2022 and hardcover book in 2023 https://doi.org/10.1007/978-3-031-21494-3_6
37. "Euler Archive Spotlight – The Basel Problem," *Euleriana*: 2(1), 2022, p. 56, Article 8. DOI: https://doi.org/10.56031/2693-9908.1024 Available at: https://scholarlycommons.pacific.edu/euleriana/vol2/iss1/8
38. "Euler Archive Spotlight – The Translations of Jordan Bell," *Euleriana*: 2(2), 2022, p. 107, Article 6. DOI: https://doi.org/10.56031/2693-9908.1039 Available at: https://scholarlycommons.pacific.edu/euleriana/vol2/iss2/6/
39. *A Presidential Proof of the Pythagorean Theorem*, special joint issue of the columns "That is So Cool!" and "Mathematics from Another Time and Place", The Prison Mathematics Project Newsletter, Iteration 4, Summer 2022, https://www.prisonmathproject.org/press-media/
40. "Analytical Observations (Translation of E326)," *Euleriana*: 3(1), 2023, pp.3-22. DOI: https://doi.org/10.56031/2693-9908.1048
41. *Marsh's Mathematical Marvels*, Marsh's Library Research News, 2023, https://marshlibrary.ie/marshs-mathematical-marvels/
42. "Emblematics Related to Emilie du Chatelet: Voltaire's Mistress, Muse, and More," *The Midwest Quarterly*, Fall 2023, pp. 34-47.
43. "The History of Mathematics is the History of You," joint with Amy Shell-Gellasch, Ximena Catepillán, Antonia Cardwell, Jemma Lorenat, Spotlight on SIGMAAs, *MAA FOCUS*, October/November 2023, pp. 40-41.
44. *Mathematical and Philosophical Imagery in Original Sources Related to Emilie du Chatelet*, in Research in History and Philosophy of Mathematics, Zack, M., Waszek, D. (eds), Volume 2022,

Birkhäuser, p. 47-64. https://doi.org/10.1007/978-3-031-46193-4_4 , appeared online in October 2023 and hardcover book in 2024

45. "Mathematics in a Faraway and Forgotten Place," joint with Ximena Catepillán, *Math Horizons*, February 2024, 31:3, 8-11, DOI: 10.1080/10724117.2023.2284589
46. *Investigating foundations of ancient Rapa Nui Houses*, joint with Ximena Catepillán, requested for inclusion in Teaching Mathematics Through Cross-Curricular Projects, Donovan, E., Hoots, L., Wiglesworth, L. (eds), 2024, MAA Press, pp. 1-10. https://bookstore.ams.org/view?ProductCode=CLRM/72
47. *Two Examples of Ethnomathematics: The Intersection of Culture, History, and Mathematics*. joint with Ximena Catepillán, In: Zack, M., Waszek, D. (eds) Research in History and Philosophy of Mathematics. Annals of the Canadian Society for History and Philosophy of Mathematics/ Société canadienne d'histoire et de philosophie des mathématiques. Birkhäuser, Cham. https://doi.org/10.1007/978-3-031-72936-2_7 , appeared online in September 2024, print book in 2025
48. "Developing a Written Numbering System in Iñupiaq: A Beautiful Ethnomathematics Example," joint with Ximena Catepillán, *MAA FOCUS*, February/March 2025, 45:1, 22-24, http://digitaleditions.walsworthprintgroup.com/publication/?i=840016&p=22&view=issueViewer
49. "Mathematical Marvels in a Midwestern Library," The Midwest Quarterly; Vol. 66, Iss. 3, (Spring 2025): 22-36
50. "An Ethnomathematics Adventure in Rapa Nui," joint with Ximena Catepillán, CMS (Canadian Mathematical Society) Notes, Vol. 57, No. 3 (June 2025): https://notes.math.ca/en/article/an-ethnomathematics-adventure-in-rapa-nui/
51.

SELECTED INVITED TALKS:

10/25 *Ellipses in Rapa Nui: An Example of Ethnomathematics for the Classroom* (invited video), Indigenous Pedagogy Virtual Academy, https://youtu.be/vYliaOaGli8?si=Y355O5PBvG7Pihu-

6/24 *Influential Books in the Development of Arithmetic and Algebra*, Ramus Symposium 2024, Herzog August Bibliothek, Wolfenbüttel, Germany

12/23 *Bell-y Mathematics: Math & Music Intertwined*, invited Zoom presentation sponsored by The Panamanian Foundation for the Promotion of Mathematics (FUNDAPROMAT) and the Mathematical Association of America (MAA), with attendees from Europe, South America and North America.

3/22 *Ringing Math*, South-Central Kappa Mu Epsilon (national mathematics honor society) Regional Convention, virtual, https://www.youtube.com/watch?v=RKeZIvXErEM

12/21 *Cosets in the Belfry*, invited presentation for the History of Math Special Interest Group of the Mathematical Association of America's First Wednesday Virtual Speaker Series, https://youtu.be/JnaHuG_2q_s

4/21 *Emilie du Chatelet and Original Sources at the Linda Hall Library*, invited presentation for the Linda Hall Library President's Circle, https://vimeo.com/643587407

4/18 *A Mathematical Treasure Trove in Our Own Backyard (A Look at Primary Sources in Mathematics at the Linda Hall Library),* invited keynote address, Kappa Mu Epsilon (Mathematics Honor Society) North Central/South Central Regional Convention, Emporia, KS

3/17 *Bell-y Math: Connections between Mathematics and Change Ringing*, faculty-led workshop, Kappa Mu Epsilon (Mathematics Honor Society) National Convention, Springfield, MO

10/15 *Influential Books in the Development of Arithmetic and Algebra in the 15th and 16th Centuries*, Linda Hall Library Research Fellow Lecture, Linda Hall Library, Kansas City, MO, https://vimeo.com/142256343

1/13 *Geometry and Baroque Architecture in Turin, Italy*, special presentation, History of Math Special Interest Group of the MAA annual meeting, San Diego, CA

10/08 *Mathematical Rhythms: the nature of rhythm and pattern from a mathematical perspective*, invited lecture for the opening reception of the exhibit "The Art of Rhythm" at the Little Room Gallery in Pittsburg, Kansas

2/02 *Gröbner Bases – A Powerful Tool for Solving DSP Tasks*, plenary talk, Fourth International Conference and Exhibition, Digital Signal Processing and Its Applications, Moscow, Russia

11/00 *Factoring Polynomial Matrices*, Third International Conference and Exhibition, Digital Signal Processing and Its Applications, Moscow, Russia

10/99 *Computational Methods in Commutative Algebra*, Colloquium, University of Missouri-Rolla

9/98 *A Computational Proof of Gubeladze's Theorem*, Colloquium, University of Kansas

1/97 *Trivializing Vector Bundles Over Affine Toric Varieties*, AMS Special Session on Computational Algebraic Geometry, Joint Mathematics Meetings, San Diego

10/96 *An Algorithm for the Quillen-Suslin Theorem for Monoid Rings*, AMS Special Session on Commutative Algebra, Lawrenceville, NJ

For more information, including a complete list of professional presentations (over 360), Master's Research Problems supervised (over 70), Courses Taught (over 40), and Open Educational Resource Materials (over 30 + 1 course), see https://www.pittstate.edu/math/faculty-pages/cynthia-huffman.html .