Keri A. Kornelson

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Education

Ph.D., Mathematics, University of Colorado at Boulder, 2001

M.S., Mathematics, University of Colorado at Boulder, 1997

B.A., History, University of Maryland University College, England, 1995

B.A., Mathematics *with distinction*, University of Colorado at Boulder, 1989

Academic Positions

Professor, University of Oklahoma, July 2016 – present

Associate Professor, University of Oklahoma, July 2011 – June 2016

Assistant Professor, University of Oklahoma, August 2008 – June 2011

Assistant Professor, Grinnell College, 2004–2008

VIGRE Postdoctoral Fellow, Texas A&M University, 2001 – 2004

Graduate Student Instructor, University of Colorado at Boulder, 1995–2001

Administrative Positions

Chair of the Faculty Senate, Norman Campus, University of Oklahoma, May 2021 – May 2022

Interim Associate Dean for Natural/Physical Sciences, College of Arts & Sciences, University of Oklahoma,
June 2016 – July 2017

Faculty Fellow for STEM Initiatives, Office of the Dean, College of Arts and Sciences, University of Oklahoma, January 2015 – May 2016

Visiting Positions

Researcher, *Mathematics Sabbatical Program*, Mathematical Sciences Program at the National Security Agency, April 2012 – July 2013

Visiting Researcher, Norbert Wiener Center for Harmonic Analysis and Applications, University of Maryland, September 2011 – April 2012

Visiting Researcher, University of Oklahoma, Fall 2007 – Spring 2008

Early-Career Faculty participant in IMMERSE (Intensive Mathematics: a Mentoring, Education, and Research Summer Experience), University of Nebraska, Lincoln, Summer 2005

Visiting Scholar, Georgia Institute of Technology, Spring 2003

External Grants and Awards

The OU PI on a 16-institution consortium Howard Hughes Medical Institute Inclusive Excellence Phase 3 (HHMI-IE3) grant, *LCC4: Meaningful evaluation of effective and inclusive teaching through changes in policy, effective instructor development, and optimal sources of evidence* $493,065, 11/1/2022 – 10/31/2028.

Member of grant team and Lead Associate Director, National Science Foundation ADVANCE Institutional Transformation grant (PI L. Snyder), *OU Elevate: Implementing Equitable Multi-Context Faculty Evaluations and Workload Distribution*, $3,000,000, 8/2022 – 7/2027.

PI on Howard Hughes Medical Institute Inclusive Excellence Phase 3 (HHMI-IE3) award, *University of Oklahoma: Meaningful evaluation of effective and inclusive teaching*, $30,000, 6/2021 – 5/2023.

co-PI on SEMINAL: Student Engagement in Mathematics through an Institutional Network for Active Learning grant sponsored by APLU, funded from National Science Foundation, 6/1/2018 – 5/31/2020.

PI on Collaboration Grant for Mathematicians #244718 from the Simons Foundation, *Fourier Bases on Fractal Hilbert Spaces*, 9/1/2012 – 8/31/2018.

IPA position with the National Security Agency from the Mathematical Sciences Program of the National Security Agency, 4/1/2012 – 7/31/2013.

Co-PI with K. Shuman for grant DMS-0701164 awarded by the National Science Foundation, *RUI: Orthonormal Fourier Bases and Iterated Function Systems*, 8/15/2007 – 7/31/2011.

Co-PI on grant ADVANCE PAID 0620102 from the National Science Foundation, *Promoting Institutional Change at the University of Oklahoma and within the Big XII Conference*, $500,000, 2009-2010. This grant supports activities to promote diversity in STEM academic fields at OU.

Selected as one of twenty nationwide recipients of a Woodrow Wilson/Andrew W. Mellon Foundation Career Enhancement Fellowship, $30,000. February, 2007

Selected to present in the Recent Ph.D. Recipient session as part of the Association for Women in Mathematics Workshop, Baltimore, MD. January, 2003

Internal Grants and Awards

Excellence in Research Grants award from the OU Vice President for Research and Partnerships, 2023.

OU Presidential Dream Course *The Mathematics of Data*, awarded in 2020, course held Spring 2022. Joint project with A. Chavez-Dominguez and M. Kramar, $18000.

PI on OU VPRP Grant, *Exploring the intersection of DEI values and faculty research evaluation processes at OU*, with M. Elwood Madden, $20,000, 8/2020.

Faculty Senate Ed Cline Faculty Development Award, $2500, 3/2016.

PI on OU Center for Teaching Excellence Course Innovation Project *Precalculus Redesign*, $150,000, 5/2015 – 5/2017.

PI on OU Center for Teaching Excellence Faculty Fellows project, *Repository of Video Resources for Multivariable and Vector Calculus*, 4/2015.

PI on OU Center for Teaching Excellence Faculty Fellows project, *An Inverted Mathematics Course*, 2/1/2014.

Co-PI on OU Center for Teaching Excellence Faculty Fellows project with L. Lifschitz, S. Stewart, and C. Thompson, *Mapping Expert Mathematicians' Mind*, 2/1/2014.

OU College of Arts and Sciences Faculty Enrichment Grants: 9/2009, 9/2010, 9/2011.

OU College of Arts and Sciences Junior Faculty Summer Fellowship, 2009.

Journal Articles, Chapters, and Books

1. *Predictive Algorithms in Dynamical Sampling for Burst-like Forcing Terms*, with A. Aldroubi, I. Kryshtal, and L. Huang. Applied and Computational Harmonic Analysis, vol. 65, July 2023, 322–347.

2. *Norm Retrieval from Few Spatio-Temporal Samples*, with F. Bozkurt. Journal of Mathematical Analysis and Applications, vol 519 (2), 126804, March, 2023.

3. *The Iteration and Design and Assessment for a Digital Game to Support Reasoning in a College Algebra Course*, with X. Ge, S. Wilson, J. Mania Singer, W. Thompson, J. Lajos, B. Roper, J. Elizondo, S. Reeder, L. Williams, and M. Kleiser. In: Aprea C., Ifenthaler D. (eds) *Game-based Learning Across the Disciplines*. Advances in Game-Based Learning, Springer, Cham., 2021, 273–295.

4. *Considering the evolution of the STEM mathematical pathway at the University of Oklahoma using organizational development and change theory*, with D. Moore-Russo, M. Savic, and C. Andrews. In *Infusing Active Learning in Precalculus and Calculus*, PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, vol. 3 (3-5), 2021, 343–357.

5. *Frame potential for finite-dimensional Banach spaces*, with Alejandro Chàvez Domìnguez and Daniel Freeman, Linear Algebra and its Applications, vol. 578, 2019, 1–26.

6. *Digital Game for Undergraduate Calculus Education: Promoting immersion, calculation, and conceptual understanding through game affordances* with Lee, Y.H., Dunbar, N., Wilson, S., Ralston, R., Savic, M., Stewart, S., Lennox, E., Thompson, W., and Elizondo, J, International Journal of Gaming and Computer-Mediated Simulations, vol. 8 (1), 2016, 13–27.

7. *Additive spectra of the $\frac{1}{4}$ Cantor measure*, with P. Jorgensen and K. Shuman, "Operator Methods in Wavelets, Tilings, and Frames", Contemporary Mathematics, vol. 626, American Mathematical Society, Providence, RI, 2014, 121–128.

8. *Scaling by 5 on the $\frac{1}{4}$ Cantor measure*, with P. Jorgensen and K. Shuman, Rocky Mountain Journal of Mathematics, vol. 44, no. 6, 2014, 1881–1901.

9. *Scalar spectral measures of an operator-fractal*, with P. Jorgensen and K. Shuman, Journal of Mathematical Physics, vol. 55, 022103 (2014).

10. *Necessary and sufficient conditions to perform Spectral Tetris*, with P. Casazza, A. Heinecke, Y. Wang, and Z. Zhou, Linear Algebra and its Applications, vol. 438, no. 5, 2013, 2239–2255.

11. *An operator-fractal*, with P. Jorgensen and K. Shuman, Numerical Functional Analysis and Optimization, vol. 33, no. 7-9, 2012, 1070–1094.

12. *Iterated function systems, moments, and transformations of infinite matrices*, with P. Jorgensen and K. Shuman, Memoirs of the American Mathematical Society, vol. 213 , no. 1003, 2011, 105 pages.

13. *Families of spectral sets for Bernoulli convolutions*, with P. Jorgensen and K. Shuman, Journal of Fourier Analysis and Applications, vol. 17, no. 3, 2011, 431–456.

14. *Invariance of shift-invariant systems*, with A. Aldroubi, C. Cabrelli, C. Heil, and U. Molter, Journal of Fourier Analysis and Applications, vol. 16, no. 1, 2010, 60–75.

15. *Orthogonal Exponentials for Bernoulli Iterated Function Systems*, with P. Jorgensen and K. Shuman. Representations, Wavelets, and Frames: A Celebration of the Mathematical Work of Lawrence W. Baggett, Applied and Numerical Harmonic Analysis, Birkhauser, 2008, 217–237.

16. *Frames for Undergraduates*, with D. Han, D. Larson, and E. Weber. Student Mathematical Library, vol. 40, American Mathematical Society, Providence, RI, Dec. 2007.

17. *Affine Systems: Asymptotics at Infinity for Fractal Measures*, with P. Jorgensen and K. Shuman, Acta Applicandae Mathematicae, vol. 98, no.3, Sept.(II) 2007, 181–222.

18. *Harmonic Analysis of Iterated Function Systems with Overlap*, with P. Jorgensen and K. Shuman, Journal of Mathematical Physics, vol. 48, 2007, 083511: 35 pages.

19. *Convolutional Frames and the Frame Potential*, with M. Fickus, B. Johnson, and K. Okoudjou, Applied and Computational Harmonic Analysis, vol. 19 (1), 2005, 77–91.

20. *Local Solvability of Laplacian Difference Operators Arising from the Discrete Heisenberg Group*, Canadian Journal of Mathematics, vol. 57 (3), 2005, 598–615.

21. *Rank-One Decomposition of Operators and Construction of Frames*, with D. Larson, "Wavelets, Frames, and Operator Theory", Contemporary Mathematics, vol. 345, American Mathematical Society, Providence, RI, 2004, 203–214.

22. *Ellipsoidal Tight Frames and Projection Decomposition of Operators*, with K. Dykema, D. Freeman, D. Larson, M. Ordower, and E. Weber, Illinois Journal of Mathematics, vol. 48 (2), 2004, 477–489.

Refereed Conference Papers

1. *Minding the Gaps: Algebra Skills of University Calculus Students*, with D. Moore-Russo and S. Reeder (2020). Proceedings of the 23rd Annual Conference on Research in Undergraduate Mathematics Education, Boston, MA, 338–347.

2. *Dynamical Sampling with Burst-like Forcing Term*, with A. Aldroubi, L. Huang, and I. Krishtal. IEEE Xplore, Proceedings of Sampling Theory and Applications (SampTA) 2019, Bordeaux, France.

3. *Dynamical Sampling with Additive Forcing Term*, with A. Aldroubi. IEEE Xplore, Proceedings of Sampling Theory and Applications (SampTA) 2015, Washington, DC.

4. *Investigating the Effectiveness of an Instructional Video Game for Calculus: Mission Prime*, with S. Wilson, N. Dunbar, Y.-H. Lee, W. Thompson, R. Ralston, S. Stewart, M. Savic, and E. Lennox. In (Eds.) T. Fukawa-Connelly, N. Infante, K. Keene, and M. Zandieh, Proceedings of the 18th Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, Pennsylvania, 660-6.

5. *Balancing Formal, Symbolic, and Embodied World Thinking in First Year Calculus Lectures*, with S. Stewart, C. Thompson, N. Brady, and L. Lifschitz (2015). In (Eds.) T. Fukawa-Connelly, N. Infante, K. Keene, and M. Zandieh, Proceedings of the 18th Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, Pennsylvania, 970–6.

6. *Digital game based learning for undergraduate calculus education: Immersion, calculation, and conceptual understanding* with Lee, Y.-H., Dunbar, N., Wilson, S., Ralston, R., Savic, M., Stewart, S., Lennox, E., Thompson, W., & Elizondo, J. (2014). Paper was one of five Top Paper Award recipients and was presented at Meaningful Play 2014, East Lansing, MI. USA.

7. *A comparison of Fisher vectors and Gaussian supervectors for document versus non-document image classification*, with D. Smith. Proceedings of SPIE 8856, Applications of Digital Image Processing XXXVI, 88560N (September 26, 2013);

Co-Edited Special Issues and Proceedings

1. Co-editor of peer-reviewed conference proceeding *Operator Methods in Wavelets, Tilings, and Frames*, Contemporary Mathematics, vol. 626, 2014.

2. Co-editor of Special Issue *Operator algebras and representation theory: frames, wavelets, and fractals* of Numerical Functional Analysis and Optimization, vol. 33 (7), 2012.

Invited Conference and Colloquium Presentations

1. *International Conference on Approximation Theory and Beyond*, Vanderbilt University, Nashville, TN, 5/2023.

2. Special Session *Harmonic Analysis: Geometry, Frames, and Sampling*, Fall Western Sectional Meeting of the AMS, New Mexico State University (Virtual Conference), 10/2021.

3. *Research in Undergraduate Mathematics Education (RUME) 2020 Conference*, Boston, MA, 2/2020.

4. *International Conference on Computational Harmonic Analysis 7*, Vanderbilt University, Nashville, TN, 5/2018.

5. Special Session *Wavelets, Frames, and Related Expansions*, Spring Western Sectional Meeting of the AMS, Portland State University, Portland, OR, 4/2018.

6. *Sampling Theory and Applications (SampTA) 2015* conference, Washington, DC, 5/2015.

7. Colloquium, Florida International University, Miami, FL, 11/2014.

8. *International Conference on Computational Harmonic Analysis 5*, Vanderbilt University, Nashville, TN, 4/2014.

9. Colloquium, Central Michigan University, Mt. Pleasant, MI, 11/2013

10. Seminar, University of St. Thomas, St. Paul, MN, 9/2013

11. Analysis Seminar, Vanderbilt University, Nashville, TN, 4/2013

12. Colloquium, University of Nebraska, Lincoln, NE. 2/2013

13. Invited Speaker, *February Fourier Talks*, Norbert Wiener Center for Harmonic Analysis and Applications, University of Maryland, College Park, MD, 2/2013.

14. Colloquium, United States Naval Academy, Annapolis, MD, 10/2012.

15. Concentration Week in the *Workshop in Analysis and Probability*, Texas A&M University, College Station, TX, 7/2012.

16. Colloquium, University of South Florida, Tampa, FL, 2/2012.

17. Analysis Seminar, George Washington University, Washington, DC, 2/2012.

18. Norbert Wiener Center Seminar, University of Maryland, College Park, MD, 9/2011.

19. Special Session *Fractals and Tilings*, Spring Southeastern Section Meeting of the AMS, Statesboro, GA.3/2011

20. Special Session *Wavelets, Tilings, and Iterated Function Systems*, Joint Meetings of the AMS/MAA, New Orleans, LA, 1/2011.

21. *Operator Algebras and Representation Theory: Frames, Wavelets and Fractals*, Banff International Research Station, Banff, Alberta, Canada, 10/2010

22. Special Session *Optimal Frames and Operator Algebras*, Joint Meetings of the AMS/MAA, San Francisco, CA, 1/2010.

23. *Workshop on Fractals and Tilings*, Strobl, Austria, 7/2009.

24. Colloquium, University of Colorado, Boulder, CO, 4/2009.

25. Special Session *Wavelets, Fractals, Tilings, and Spectral Measures*, Fall Western Section Meeting of the AMS, Vancouver, Canada, 10/2008.

26. *Fractal Connections* Conference, University of Iowa, Iowa City, IA, 6/2008.

27. Norbert Wiener Center Seminar, University of Maryland, College Park, MD, 4/2008.

28. Special session *Wavelet Sets and Tilings*, Joint Meetings of the AMS/MAA, San Diego, CA, 1/2008.

29. Woodrow Wilson Foundation Career Enhancement Fellows Retreat, Princeton, NJ, 10/2007.

30. Colloquium, University of Oklahoma, Norman, OK, 2/2007.

31. *Workshop in Harmonic Analysis and Applications*, Louisiana State University, Baton Rouge, LA, 1/2007.

32. Current Trends in Harmonic Analysis and Its Applicatons: Wavelets and Frames, University of Colorado, Boulder, CO, 5/2006.

33. Great Plains Operator Theory Symposium (GPOTS-2004), College Station, TX, 5/2004.

34. International Conference on Computational Harmonic Analysis (CHA-2004), Vanderbilt University, Nashville, TN, 5/2004.

35. Special Session *Designing Frames and Wavelets: From Theory to Digitization*, Joint Meeting of the AMS and the Sociedad Matematica Mexicana (SMM), Houston TX, 5/2004.

36. Analysis Seminar, St. Louis University, St. Louis, MO, 3/2004.

37. Colloquium, Grinnell College, Grinnell, IA, 1/2004.

38. Colloquium, Clemson University, Clemson, SC, 1/2004

39. Linear Analysis Seminar, Texas A&M University, College Station, TX, 10/2003.

40. Linear Analysis and Probability Workshop (LAP-2003), Texas A&M University, College Station, TX, 9/2003.

41. Special Session *Wavelets, Frames, and Tomography*, American Mathematical Society Southeastern Section Spring Meeting, Louisiana State University, Baton Rouge, LA, 3/2003.

42. Analysis Seminar, Georgia Institute of Technology, Atlanta, GA, 2/2003.

43. Special Session *Wavelets, Frames, and Operator Theory*, Joint Meetings of the American Mathematical Society and the Mathematical Association of America, Baltimore, MD, 1/2003.

44. Association for Women in Mathematics Workshop, Recent Ph.D. Recipient Presentations, Baltimore, MD, 1/2003.

45. Special Session *Functional and Harmonic Analysis of Wavelets, Frames, and their Applications* American Mathematical Society Southeastern Section Fall Meeting, University of Central Florida, Orlando, FL, 11/2002.

46. Conference in Applied Mathematics (CAM-2002), University of Central Oklahoma, Edmond, OK, 10/2002.

47. Karcher Colloquium, University of Oklahoma Department of Mathematics, Norman, OK, 9/2002.

48. International Workshop on Operator Theory and Applications (IWOTA-2002), Virginia Polytechnic Institute and State University, Blacksburg, VA, 8/2002.

49. Concentration Week on Wavelets and Frames, Texas A&M University, College Station, TX, 7/2002.

50. Great Plains Operator Theory Symposium (GPOTS-2002), University of North Carolina, Charlotte, NC, 5/2002.

51. Southeastern Analysis Meeting (SEAM-2002), University of North Carolina, Chapel Hill, NC, 3/2002.

52. Linear Analysis Seminar, Texas A&M University, College Station, TX, 10/2001.

53. Colloquium, Emporia State College, Emporia, KS, 2/2001.

Postdoctoral Advisees

Victor Bailey, 2023 - present.

Erin Pearse, 2010 – 2012.

Doctoral Advisee

Fatma Bozkurt, graduated 12/2018.

Doctoral Committees

Jeremiah Isu, Mathematics.

Caleb Judkins, Mathematics.

Shayan Shafaei, Computer Science.

Amanda Stephens, Psychology.

Thomas Gehrman, Physics and Astronomy.

Ryan Guelli, Mathematics.

Burhani Saifuddin, Physics and Astronomy.

Katie Holloway, Psychology, graduated 5/2023.

Maria Schutte, Physics and Astronomy, graduated 5/2023.

Kristin Sperzel, Electrical and Computer Engineering.

Hong Jiang, Electrical and Computer Engineering.

Hyunseop (Joseph) Choi, Physics and Astronomy, graduated 12/2022.

Joseph Muse, Physics and Astronomy, graduated 5/2022.

Paul Winniford, Electrical and Computer Engineering, graduated 12/2021.

Ashley Cardwell, Mathematics, graduated 8/2021.

Jessi Lajos, Mathematics, graduated 8/2021.

Ian Long, Mathematics, University of Colorado, Boulder, graduated 12/2017.

Brent McCoy, Physics and Astronomy, graduated 7/2017

James Coker, Physics and Astronomy, graduated 5/2015.

Keshav Acharya, Mathematics, graduated 5/2013.

Andre Lessa, Physics and Astronomy, graduated 5/2011.

Undergraduate/Early Graduate Student Research Projects

Guided undergraduate research, 1 participant, Summer and Fall 2024.

Guided research projects, 3 participants, Spring 2021 - Spring 2022.

Guided graduate student reading course, 2 participants, Fall 2020.

Guided undergraduate research projects for 2 students, Fall 2020.

Guided graduate student reading course in frame theory, Spring 2020.

Guided undergraduate research project, Spring 2020.

Guided 2 undergraduate Honors Research projects, Fall 2017.

Guided graduate student reading course in frames and sampling theory, Fall 2016.

Guided 4 undergraduate students in independent study, Fall 2015.

Guided undergraduate Honors Research project, Spring 2015.

Graduate student 1-credit Reading Course, Spring 2015.

Guided OU undergraduate Honors Research Assistantship Project (HRAP), Spring 2011.

Guided OU undergraduate Reading Course, Spring 2011.

Guided OU undergraduate Honors Research project, Spring 2010.

Guided 3 OU students (undergraduates and first-year graduate students) in a research project, Spring, 2010, Fall, 2010, and Spring, 2011.

Graduate student 3-credit Reading Course, Fall 2008.

Leadership Training

Appreciative Inquiry Facilitator Training (virtual), Center for Appreciative Inquiry, November, 2022. Facilitator Certification effective January 2024.

College Mathematics Instructor Development Source (CoMInDS), University of Maine, 2017. This 3-day meeting is a resource-sharing and planning event for people involved with GTA training in mathematics.

Women in Higher Education Leadership Summit, University of San Diego, 2017. This is a 4-day workshop focused on a 360 assessment and individual coaching.

Higher Education Resource Services (HERS) Leadership Institute, University of Denver, 2016. This is a nationally-recognized 2-week institute for women in higher education.

Educators Leadership Academy (ELA) Outstanding Professors Academy, 2014-15 (participant), 2015-16 (mentor). University of Central Oklahoma.

Professional Service

Membership Chair and Member of the Steering Group, Mathematics Section (Section A), American Association for the Advancement of Science (AAAS), January 2024 – present

Member of the Leadership Team, Howard Hughes Medical Institute - Inclusive Excellence 3 Learning Community Cluster (LCC4), a 16-institution collaboration funded by HHMI. September 2023 – present.

Member of the Association for Women in Mathematics (AWM) Scientific Advisory Board, 2024 – present.

Association for Women in Mathematics (AWM) Mentor Network, 2021 – present.

Series Editor for Springer Undergraduate Texts in Mathematics and Technology (SUMAT) book series, March 2018 – present.

Served on proposal evaluation panels for the National Science Foundation, 2013, 2014, 2018, 2019, 2024.

Nominations and Leadership Development Chair and Member of the Steering Group, Mathematics Section (Section A), American Association for the Advancement of Science (AAAS), January 2023 – December 2023.

Steering Group Member, Mathematics Section (Section A), American Association for the Advancement of Science (AAAS), January 2022 – December 2022.

Co-organizer for AMS special session *Group Actions in Harmonic Analysis* at the Joint Meetings of the AMS/MAA conference, Denver Co. January 2020.

Member of the Electorate Nominating Committee, Mathematics Section (Section A), American Association for the Advancement of Science (AAAS), January 2020 – December 2021.

Co-organized a statewide meeting about mathematics placement in Oklahoma, together with the OK State Regents for Higher Education and the Department Head of Mathematics at Oklahoma State University, 11/30/2018.

External reviewer for program review, New Mexico State University Department of Mathematical Sciences, Fall 2017.

Member of Board of Governors for the Astrophysical Research Consortium, which oversees the Apache Point Observatory. June 2016 – July 2017.

Member (Chair in 2013) of the Alice T. Schafer Prize Committee of the Association for Women in Mathematics, 2011, 2012, 2013.

Invited participant at INGenIOuS workshop to develop strategies for advancing the mathematics and statistics workforce, co-sponsored by the NSF, MAA, ASA, SIAM, and AMS. Alexandria, VA. July, 2013.

Co-organizer for special session *Harmonic Analysis of Frames, Wavelets, and Tilings* at the AMS Spring Western Sectional Conference, Boulder, CO. April, 2013.

Co-organizer for the Concentration Week *Frame Theory and Maps Between Operator Algebras*, followed by *Operator Algebras, Frames, and Undergraduate Research: a conference in honor of David R. Larson*, Texas A&M University, College Station, TX. July, 2012.

Served as a panelist at the Higher Education Dual-Career Network (HEDCN) Conference at The College of the Holy Cross, Worcester, MA. June, 2012.

Co-organizer for special session *Analysis on Wavelets, Frames, and Fractals* at the AMS Spring Eastern Section Conference, Washington DC. March, 2012.

Served as a panelist at FoRWARD to Professorship workshops funded by the NSF for the program Focus on Reaching Women for Academics, Research and Development (FoRWARD) in Science, Engineering and Mathematics (SEM), Gallaudet University, Washington, DC. May, 2008, May, 2010, and May, 2011.

Co-organizer for special session *Fractals, Convolution Measures, and Frames* at the AMS Spring Central Section Conference, St. Paul, MN. April, 2010.

Referee for articles submitted to the following mathematical journals: Annals of Functional Analysis, Applied and Computational Harmonic Analysis, Constructive Approximation, Contemporary Mathematics, Linear Algebra and its Applications, Proceedings of the American Mathematical Society, Science in China, and Analysis and Mathematical Physics.

Referee for two articles submitted to the book *A Celebration of the EDGE Program's Impact on the Mathematics Community and Beyond*, published in Springer's Association for Women in Mathematics Series.

Author of article summaries for the Mathematical Reviews database.

University/College Service

Chair, Teaching Evaluation Working Group, Fall 2019 - Fall 2022, Spring 2024 – present; Founding Member: Spring 2019.

Member of Budget Council. Fall 2023 - Spring 2024; Chair Fall 2024 - Spring 2025.

Member of Retirement Plans Committee. August 2023 – August 2024.

Member of Dodge Family College of Arts & Sciences Executive Committee. August 2023 – present.

OU Faculty Senate. Chair May 2021 – May 2022; Chair-Elect May 2020 – May 2021; Past Chair May 2022 – present.

Faculty Senate Faculty Welfare committee. Member: Fall 2016, Spring 2017, Fall 2018 – Spring 2019, Fall 2020 – present; Chair: Fall 2017, Fall 2019 – Spring 2020.

Member of Faculty Senate Executive Committee, Fall 2017, Fall 2019 – Spring 2021, Chair May 2021-May 2022, Ex-officio member May 2022 – present.

Member of Faculty Senate, Fall 2019 – Spring 2021.

Member of Faculty Appeals Board, Fall 2020 – Spring 2021.

Mentor for the Institutional Faculty Mentoring Program, mentor for 4 early-career faculty members, Spring 2017 – Spring 2022.

Member of the College of Arts and Sciences Data and Statistics Working Group, Fall 2016 – Spring 2022.

Member of Graduate Council, member of the Course and Program Changes Subcommittee, Fall 2018 – Spring 2021.

Provost's Advisory Committee on Women's Issues (PAC-WI). Member of Executive Committee: Fall 2015 – Spring 2017; Chair-elect: Fall 2017; Chair: Fall 2018 – Spring 2019.

Member of Search Committee for College of Arts and Sciences Dean, Spring 2018.

Member of Advisory Committee for the OU Vice President for Research (AC/VPR), Fall 2017 – Spring 2018.

Member of OU Postdoc Advisory Committee, 2015 – 2018.

Member of ALEKS-PPL (Math Placement) Task Force, Fall 2016 – Fall 2018.

Member of Provost's Elite Retention Squad (for student retention), 2015 – 2018.

Member of Search Committee for endowed position in High Energy Physics, Spring 2017.

Member of Selection Committee for OU Dependent Care Travel Grants, Spring 2017 – Fall 2017.

Member of Search Committee for the Faculty Fellows for the Center for Applied Research and Development (CARD), 2016.

Member of Associate Deans' Council, Fall 2016 – Spring 2017.

Member of Faculty Senate, 2013-2016.

Co-Chair, Undergraduate subcommittee of the Provost's Advisory Committee for STEM, 2015 – 2016.

Affiliate Faculty, OU Women's and Gender Studies Program, 2014 – present. Member of WGS committee on Women in STEM, 2015.

Member of Graduate Appeals Board, 2013-4.

Co-Chair of the College of Arts and Sciences Dean's Advisory Committee on Women's Issues (DACWI), 2009-10, 2010-11.

Co-organizer for the 2nd Big 12 Workshop to Promote Faculty Diversity as part of the OU ADVANCE-PAID grant, Lawrence, KS, April, 2010.

Member of the Provost's Advisory Committee for General Education Oversight (PACGEO), 2009-10, 2010-11.

Member of the College of Arts and Sciences Scholarship and Awards Committee (elected position), 2009-10, 2010-11.

Departmental Committees/Activities

Member, Department of Mathematics Evaluation Criteria Committee, Fall 2024 – present.

Co-Organizer, Frame Theory Seminar, Fall 2023 – present.

Chair, Department of Mathematics Social Media Committee, Fall 2023 – Spring 2024.

Member, Interdisciplinary Committee, Fall 2023 – Spring 2024.

Member, Department of Mathematics Outreach Committee, Fall 2020 – Spring 2023.

Member, Department of Mathematics Development Committee, Fall 2020 – Spring 2023.

Chair, Department of Mathematics Development Committee, Fall 2019 – Spring 2021.

Member of Leadership Team, First Year Math Program, Fall 2019 – Spring 2022.

Member, Mathematics Department First Year Task Force and GTA training team, Summer 2016 – Spring 2018.

Member, Mathematics Department Academic Program Review Committee, Fall 2017 – Fall 2018.

Liaison to CAS data specialist; collaborate annually to create the Math Factbook data report, Spring 2017 – present.

Chair, Mathematics Department Precalculus Re-design team, Fall 2015 – Spring 2016.

OU representative on OSRHE Math Pathways Working Group, Spring 2016 – Spring 2017.

Mathematics Department Undergraduate Assessment Liaison and Coordinator, Fall 2010 – Spring 2017.

Chair, Mathematics Department Undergraduate Committee, 2014-5. Member of the committee 2009-11, 2013-14.

Founder, RAMP UP - the departmental seminar on teaching and learning, 2014. Organizer of RAMP UP 2014-2019.

Member of the OU Math Club Committee 2009-10, 2010-11.

Organized a Recruitment and Retention workshop for the department, held in December, 2009. Visitors William Yslas Velez from University of Arizona and David Larson from Texas A&M University spoke about ways to recruit more math majors and minors.

Member of the math department team attending *Finding and keeping graduate students in the mathematical sciences, II*, Gemstones workshop at the American Institute of Mathematics, Palo Alto, CA. August 3-6, 2009.

Founder of the Women in Math group (Committee W) in the University of Oklahoma Mathematics Department, 2009-2011, 2013.

Accompanied undergraduate students attending the Nebraska Conference for Undergraduate Women in Mathematics in 2009 and 2011, using Faculty Enrichment Grants from the College of Arts and Sciences.

Professional Affiliations

American Mathematical Society

Association for Women in Mathematics

Mathematical Association of America

American Association for the Advancement of Science

Previous Positions

Technical Staff Engineer for Lockheed Missiles and Space Company, England, 1992–1995.

Member of the Technical Staff for Hughes Aircraft Company, Aurora, CO 1989–1992.