

Scott F. Beaver

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EDUCATION:

- June 2004 **Doctor of Philosophy in Applied Mathematics**, University of California Davis, Davis, CA.
Advisor: Thomas Strohmer.
Dissertation Title: Banach Algebras of Integral Operators, Off-Diagonal Decay, and Applications to Wireless Communications.
- Aug. 1997 **Master of Science in Mathematics**, University of Arizona, Tucson, AZ.
Advisor: Doug Pickrell
Thesis Title: A Brief Review of Some Knot Invariants
- March 1994 **Bachelor of Science in Mathematics**, Auburn University at Montgomery, Montgomery, AL.
- June 1990 **Bachelor of Science in Engineering Physics**, Lehigh University, Bethlehem, PA.

PROFESSIONAL EMPLOYMENT AND RESEARCH:

- 2015-16 **Professor**, Western Oregon University Mathematics Department, Monmouth, OR.
- 2009-14 **Associate Professor**, Western Oregon University Mathematics Department, Monmouth, OR.
- 2005-2009 **Assistant Professor**, Western Oregon University Mathematics Department, Monmouth, OR.
- AY 2004-05 **Teaching Postdoctoral Fellow**, University of New Mexico Department of Mathematics and Statistics, Albuquerque, NM. Taught Vector Analysis, Linear Algebra, Calculus II, and Elements of Calculus.
- 2000-2004 **Research for Ph.D. in Applied Math**, Albuquerque, NM. Off-diagonal decay of 2n-dimensional integral operator kernels, pulse-shaping & lattice design for OFDM systems, and Gabor Analysis.
- Summer 2003 **Intern, Sandia National Laboratories**, Albuquerque, NM. Organized data on companies doing contemporary research in smart wireless networks.
- Summer 2002 **Assistant Instructor, NSF VIGRE Research Experience for Undergraduates (REU) in Applied and Computational Harmonic Analysis**, University of California Davis, Davis, CA.

PROFESSIONAL EMPLOYMENT AND RESEARCH (Continued):

- 1998-2000 **Graduate Teaching Assistant, Associate Instructor,** University of California Davis, Davis, CA.
- 1995-1997 **Graduate Teaching Assistant,** University of Arizona, Tucson, AZ.

PUBLICATIONS:

- Vol. “Teaching Linear Algebra: How We Can Assess More Efficiently by Staying Comfortably Within \mathbb{Z} ,” in *PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies)*.
25, Issue 7 (Aug. 2015)
- Dec. 2011 “The Effect of Peer-Assessment on the Attitudes of Pre-Service Elementary and Middle School Teachers about Writing and Assessing Mathematics” with Cheryl Beaver, in *Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal*.
- Vol. 21, “A Pre-Bridge Course: The Natural Role of Sequences and Series,” *PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies)*.
No. 6 (Aug.-
 Sep.
 2011)
- Vol “A Weighted Wiener’s Lemma for Integral Operators With Schur-Type or Essential-
36, No. 1, Supremum Kernel Decay Conditions,” *The Houston Journal of Mathematics*.
2010
- Oct. “Advanced Calculus I and II Tailored for Two Ten-Week Terms,” *The Journal of Inquiry-Based Learning in Mathematics*. (Submitted 2nd Edition, June 2010.)
2008 (No. 9)
- July 2003 “Optimal OFDM Design for Time-Frequency Dispersive Channels,” *IEEE Transactions on Communications*, with Thomas Strohmer.
- November “Optimal OFDM Pulse and Lattice Design for Doubly Dispersive Channels,” 35th
2001 Asilomar Conference on Signals, Systems, and Computers, with Thomas Strohmer.
- In prep. “Löwdin Orthogonalization - A Natural Supplement to Gram-Schmidt.”

INVITED PRESENTATIONS:

- October “The Wonderful (But Not Too Mysterious) World of Fourier,” Willamette University
2010 Mathematics Colloquium, Salem, OR.

INVITED PRESENTATIONS (Continued):

- March 2009 “An Optimal, Democratic Method of Orthogonalization from the Singular Value Decomposition,” Humboldt State University Mathematics Colloquium, Arcata, CA.
- November 2006 “The Singular Value Decomposition in Symmetric (Löwdin) Orthogonalization and Data Compression,” Willamette University Mathematics Colloquium, Salem, OR.

PRESENTATIONS:

- January 2014 “An IBL Approach to Advanced Calculus that Incorporates Proficiency,” AMS-MAA Joint Mathematical Meetings, Baltimore, MD.
- January 2013 “The Flip Side of Linear Algebra,” AMS-MAA Joint Mathematical Meetings, San Diego, CA.
- June 2012 “Reflections on a Self-Paced Complex Analysis Course,” 15th Annual Legacy of RL Moore Conference, Austin, TX.
- June 2011 “A Modified Moore Method for Small Advanced Calculus Classes of Predominantly Future High School Teachers,” 14th Annual Legacy of RL Moore Conference, Washington, DC.
- April 2010 “The Fourier Transform, $L^2(\mathbb{R})$, and the Riemann-Lebesgue Lemma,” at the MAA PNW Regional Meeting, Seattle, WA.
- January 2010 “Does Peer Assessment Help Improve Mathematical Writing for Pre-Service Elementary and Middle School Teachers?,” with Cheryl Beaver, at the AMS-MAA Joint Mathematical Meetings, San Francisco, CA.
- August 2009 “The Natural Role of the Sequences and Series Calculus Course,” at the MAA MathFest, Portland, OR.
- July 2008 “Self-Reliant Students in WOU Advanced Calculus 2007-08,” at the 11th Annual Legacy of R.L. Moore Conference, Austin, TX.
- June 2008 “Invertible Integral Operators and Subexponential Kernel Decay,” at the MAA PNW Regional Meeting, Helena, MT.
- August 2007 “Seeing the Forest Through the Trees: How to Stop Students from Memorizing Proofs in Advanced Calculus,” at the MAA MathFest, San Jose, CA.

PRESENTATIONS (Continued):

- August 2007 “Assessing Student Presentations of New Material in Advanced Calculus,” at the MAA MathFest, San Jose, CA.
- August 2007 “Probability and Statistics for Elementary Teachers at Western Oregon University,” at the MAA MathFest, San Jose, CA.
- April 2007 “Strategies for Proof Compression in Advanced Calculus,” at the MAA PNW Regional Meeting, McMinnville, OR.
- January 2007 “Löwdin Orthogonalization - A Natural Supplement to Gram-Schmidt,” at the AMS-MAA Joint Mathematics Meetings, New Orleans, LA.
- February 2004 “Symmetry and Inverse-Closedness of Banach Algebras of Integral Operators Defined by Off-Diagonal Decay of the Kernels,” at the Combined Pure and Applied Mathematics Student Seminar, Department of Mathematics, University of California Davis, Davis, CA.
- November 2001 “Optimal OFDM Pulse and Lattice Design for Doubly Dispersive Channels,” at the 35th Asilomar Conference on Signals, Systems, and Computers; poster session.

AWARDS, GRANTS, AND RECOGNITION:

- May 2013 Attended Emerging Leaders Day (invite-only) at the State Capitol; nominated by AFT-Oregon.
- April 2011 Received Treasurer’s Award for 2010-11 by AFT-Oregon.
- April 2010 Received Treasurer’s Award for 2009-10 by AFT-Oregon.
- May 2008 Selected as a Pacific Northwest NExT Fellow.
- May 2007 Inducted into Pi Mu Epsilon, National Mathematics Honor Society.
- 2015-16 WOU Faculty Development Category I Travel Grant, to attend the AMS-MAA Joint Mathematical Meetings for CTUM committee meeting, Seattle, WA.
- 2014-15 Two WOU Faculty Development Category I Travel Grants, to attend MAA MathFest, and to attend the AMS-MAA Joint Mathematical Meetings for CTUM committee meeting, San Antonio, TX.
- 2013-14 WOU Faculty Development Category I Travel Grant, to attend and present a talk at the AMS-MAA Joint Mathematical Meetings, Baltimore, MD.
- 2012-13 WOU Faculty Development Category I Travel Grant, to attend and present a talk, and moderate a session at the AMS-MAA Joint Mathematical Meetings, San Diego, CA.

AWARDS, GRANTS, AND RECOGNITION (Continued):

Spring 2012	WOU Faculty Development Category IV Grant, to research off-diagonal decay inheritance of factors of bi-infinite matrices.
2011-12	WOU Faculty Development Category I Travel Grant, to attend and present a talk at the 15 th Annual Legacy of RL Moore Conference in Austin, TX.
2010-11	WOU Faculty Development Category I Travel Grant, to attend and present a talk at the 14 th Annual Legacy of RL Moore Conference in Washington, DC.
2009-10	WOU Faculty Development Category I Travel Grant, to attend and present a talk at the Joint AMS/MAA Meetings in San Francisco, CA.
2008-09	WOU Faculty Development Category I Travel Grant, to attend and present a talk at the Joint AMS/MAA Meetings in Washington, DC. (declined)
2007-08	WOU Faculty Development Category I Travel Grant, to attend and present a talk at the PNW Section Meeting of the MAA in Helena.
2006-07	WOU Faculty Development Category I Travel Grant, to attend and present three talks at the MAA MathFest in San Jose.
2006-07	WOU Division of Natural Sciences and Mathematics Travel Grant, to attend and present a talk at the Joint AMS/MAA Meetings in New Orleans.
2006-07	WOU Faculty Development Category II Travel Grant, to attend the MAA MathFest in Knoxville.

COURSES TAUGHT AT WOU:

MTH 496/596	Problem Solving for Middle School Teachers	Su 2007
MTH 493/593	Experimental Probability & Statistics for Middle School Teachers	Su 2009
MTH 441	Linear Algebra II	Sp 2011
MTH 416	Complex Analysis	Sp 2006, 2008, 2010, 2012
MTH 410	Fourier Analysis & Applications (Special Topics)	W 2007
MTH 403/4	Senior Project I & II	W-Sp 2010, 2011, 2012

COURSES TAUGHT AT WOU (Continued):

MTH 402	Topology Independent Study	Sp 2015
MTH 393	Probability and Statistics for Elementary Teachers	F 2005-2008, 2011, 2015
MTH 354	Discrete Mathematics for Computer Science	Sp 2006, W 2008, 2009, 2014
MTH 341	Linear Algebra	F 2005, 2010-15, Sp 2015-16
MTH 314	Differential Equations	Sp 2006, W 2014
MTH 313	Advanced Calculus III	Sp 2007, Sp 2009
MTH 311, 312	Advanced Calculus I-II	F-W 2005-2015
MTH 280	Introduction to Proof	Sp 2014, F 2015, Sp 2016
MTH 254	Multivariate Calculus	Sp 2007-09, F 2009
MTH 253	Calculus III: Sequences and Series	W 2006, Sp 2006, W 2008, 2015, 2016, Sp 2008-10, 2015
MTH 252	Calculus II	W 2012, Sp 2014, W 2015
MTH 251	Calculus I	W 2011
MTH 243	Introduction to Probability and Statistics	F 2008, Sp 2016
MTH 231	Elements of Discrete Mathematics	W 2006, F 2007
MTH 211, 212, 213	Foundations of Elementary Mathematics I-III	F 2006-Sp 2007
MTH 112	Elementary Functions	F 2012, W 2013
MTH 111	College Algebra	F 2009, W 2010, F 2010

SERVICE:

1/2015- 1/2018	Member, Mathematical Association of America Committee on the Teaching of Undergraduate Mathematics
2015-16	Member, NSM Division PRC
2013-15	Chair, WOU Mathematics Department
2014-16	WOU Mathematics Department Representative to Willamette Promise; MTH 111 Proficiency and Assessment Development Team
2014	Judge, Student Poster Session, AMS-MAA Joint Mathematics Meetings, Baltimore, MD
2013	Moderator, General Contributed Paper Session on Interdisciplinary Topics, AMS-MAA Joint Mathematics Meetings, San Diego, CA
2012	Invited Paid Reviewer, John Wiley & Sons, "The Elements of Cantor Sets," by Robert Vallin
2013-14, 2011-12	Western Oregon University Federation of Teachers Chief Negotiator and Bargaining Team Chair
2008-09, 2014-16	Member, Western Oregon University Federation of Teachers Collective Bargaining Team
2012	Committee Member, Statewide Oregon SB 242 Optional Retirement Plan Committee
2011-12	Faculty Adviser to Dr. Lin Lin, Visiting Scholar from Shenyang, China
2011-16	Western Oregon University PURE Executive Committee Member
2010	Northwest Undergraduate Mathematics Symposium Student Presentation Judge, at Oregon State University
2010-12	Session Chair (Mathematics Senior Project Presentations), WOU Academic Excellence Showcase
2009-10	Chair, WOUFT-Faculty Senate Joint Committee on Evaluations
2009-10	WOU Faculty Senate Vice-President
2007-11	WOU Math Softball Team (ϵ -Ballers) Coach and Player
2009-10	Member, WOU Faculty Senate Committee on Committees

SERVICE (Continued):

- 2008-09 At-Large Member, WOU Faculty Senate Executive Committee
- 2008-11 Treasurer, Western Oregon University Federation of Teachers
- 2008-11 Faculty Advisor, William Lowell Putnam Math Competition Team
- 2008 Member, WOU First-Year Experience Committee
- 2007-08 Secretary, WOU Faculty Senate
- 2007-08 Secretary, Western Oregon University Federation of Teachers
- 2007-08 Member, WOU Finance and Budget Advisory Committee
- 2007-08,
2011 WOU Prof Chat
- 2006-10 NSM Representative, WOU Faculty Senate
- 2006-10 Member, NSM Technology Committee
- 2005-13 Technology Liaison, Mathematics Department
- 2006-10 Math Club Advisor, Mathematics Department
- 2005-07,
2011-13,
2015-16 Library Liaison, Mathematics Department

COMMUNITY:

- 2016 Head Coach, Central Youth Sports Minors Baseball, Monmouth, OR
- 2013-15 Assistant Coach, Central Youth Sports Rookies and Minors Baseball, Monmouth, OR
- 2011-16 Set construction, sound tech, and voice coaching volunteer, Applebox (formerly Mid-Valley Community) Children's Theater, Monmouth, OR

PROFESSIONAL ORGANIZATION MEMBERSHIPS:

- MAA (Mathematical Association of America)
- NCTM (National Council of Teachers of Mathematics)