

Scott F. Beaver

beavers@wou.edu

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.
- August 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:

- 2009-
Present **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.
- 1998-2000 **Graduate Teaching Assistant, Associate Instructor**, University of California Davis, Davis, CA.
- 1995-1997 **Graduate Teaching Assistant**, University of Arizona, Tucson, AZ.

PUBLICATIONS:

- Accepted
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, to *Issues in the Undergraduate Mathematics Preparation of School Teachers: The Journal*.
- Vol. 21, No.
6 (Aug.-Sep.
2011) “A Pre-Bridge Course: The Natural Role of Sequences and Series,” *PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies)*.

PUBLICATIONS (Continued):

- Vol 36, No. 1, 2010 “A Weighted Wiener’s Lemma for Integral Operators With Schur-Type or Essential-Supremum Kernel Decay Conditions,” *The Houston Journal of Mathematics*.
- Oct. 2008 (No. 9) “Advanced Calculus I and II Tailored for Two Ten-Week Terms,” *The Journal of Inquiry-Based Learning in Mathematics*. (Submitted 2nd Edition, June 2010.)
- July 2003 “Optimal OFDM Design for Time-Frequency Dispersive Channels,” *IEEE Transactions on Communications*, with Thomas Strohmer.
- November 2001 “Optimal OFDM Pulse and Lattice Design for Doubly Dispersive Channels,” 35th Asilomar Conference on Signals, Systems, and Computers, with Thomas Strohmer.
- In prep. “Löwdin Orthogonalization - A Natural Supplement to Gram-Schmidt.”

INVITED PRESENTATIONS:

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

- 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:

- 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.
- Spring 2012 WOU Faculty Development Category IV Grant, to research off-diagonal decay inheritance of factors of bi-infinite matrices.
- 2010-11 WOU Faculty Development Category I Travel Grant, to attend and present a talk at the 14th 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 Fransisco, 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 and Statistics for Middle School Teachers	Su 2009
MTH 441	Linear Algebra II	Sp 2011
MTH 416	Complex Analysis	Sp 2006, Sp 2008, Sp 2010
MTH 410	Fourier Analysis & Applications (Special Topics)	W 2007
MTH 403/4	Senior Project I & II	W-Sp 2010, W-Sp 2011
MTH 393	Probability and Statistics for Elementary Teachers	F 2005-2008, 2011
MTH 354	Discrete Mathematics for Computer Science	Sp 2006, W 2008
MTH 341	Linear Algebra	Fall 2005, F 2010-11
MTH 314	Differential Equations	Sp 2006
MTH 311, 312, 313	Advanced Calculus I-III	2005-2011
MTH 254	Multivariate Calculus	Sp 2007-09, F 2009
MTH 253	Calculus III: Sequences and Series	W 2006, Sp 2006, W 2008, Sp 2008-10
MTH 251	Calculus I	W 2011
MTH 243	Introduction to Probability and Statistics	F 2008
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 111	College Algebra	F 2009, W 2010, F 2010

SERVICE:

2011-12	Faculty Adviser to Dr. Lin Lin, Visiting Scholar from Shenyang, China
2011-12	Western Oregon University PURE Executive Committee Memeber
2010-11	Western Oregon University Federation of Teachers Chief Negotiator and Bargaining Team Chair

SERVICE (Continued):

2010	Northwest Undergraduate Symposium Student Presentation Judge, at Oregon State University
2010, 2011	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
2008-09	At-Large Member, WOU Faculty Senate Executive Committee
2008-11	Treasurer, Western Oregon University Federation of Teachers
2008-09	Member, Western Oregon University Federation of Teachers Collective Bargaining Team
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
2005-11	Technology Liaison, Mathematics Department
2006-10	Math Club Advisor, Mathematics Department
2005-07, 2011-12	Library Liaison, Mathematics Department

PROFESSIONAL ORGANIZATION MEMBERSHIPS:

MAA	(Mathematical Association of America)
AMS	(American Mathematical Society)
SIAM	(Society for Industrial and Applied Mathematics)
NCTM	(National Council of Teachers of Mathematics)