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EDUCATION:

Doctor of Philosophy in Mathematics
December 1997, University of Nebraska-Lincoln
Research Area: Difference Equations (Boundary Value Problems)
Advisor: Professor Allan Peterson

Master of Science in Mathematics
May 1996, University of Nebraska-Lincoln

Master of Arts in Teaching Secondary Education
May 1992, University of New Hampshire

Bachelor of Science in Mathematics Education, Magna Cum Laude
May 1991, University of New Hampshire

TEACHING EXPERIENCE:

Fall 2008 to present
Professor of Mathematics
College of Arts and Sciences, Dakota State University

Fall 2003 to Summer 2008
Associate Professor of Mathematics
College of Arts and Sciences, Dakota State University

Fall 1998 to Summer 2003
Assistant Professor of Mathematics
College of Natural Sciences, Dakota State University

Fall 1997 to Spring 1998
Visiting Assistant Professor of Mathematics
Department of Mathematics and Statistics, Utah State University

Fall 1994 to Summer 1997
Graduate Teaching Assistant
Department of Mathematics and Statistics, University of Nebraska-Lincoln

Fall 1993 to Spring 1994
International Baccalaureate Mathematics Teacher
St. John's School, Tumon Bay, Guam

PUBLISHED RESEARCH PAPERS IN REFEREED JOURNALS:

Functional Expansion - Compression Fixed Point Theorem of Leggett-Williams Type, Electronic Journal of Differential Equations, Volume 2010(2010), Number 63, 1-9, (with D. Anderson and J. Henderson).

Existence of a Positive Solution to a Right Focal Boundary Value Problem, Electronic Journal of Qualitative Theory of Differential Equations, 2010, Number 5, 1-6; http://www.math.u-szeged.hu/ejqtde/ (with D. Anderson and J. Henderson).

A Topological Proof and Extension of the Leggett-Williams Fixed Point Theorem, Communications on Applied Nonlinear Analysis, Volume 16 (2009), Number 4, 39-44, (with D. Anderson and J. Henderson).

Green's Function of a Centered Partial Difference Equation, Electronic Journal of Qualitative Theory of Differential Equations, Special Edition 1 (2009), Number 4, 1-12, http://www.math.u-szeged.hu/ejqtde/, (with D. Anderson).

Three Functionals Fixed Point Theorem, Arabian Journal for Science and Engineering – Mathematics, Volume 1 (2009), Number 1, 25-37 (with D. O'Regan and J. Henderson).

A Note Concerning Discrete Transportation, Advances in Dynamical Systems and Applications, Volume 3 (2008), Number 1, 25-28, ISSN 0973-5321.

Six Functionals Fixed Point Theorem, Communications in Applied Analysis, Volume 12 (2008), Number 1, 69-82, (with D. O'Regan and J. Henderson).

Four Functionals Fixed Point Theorem, Mathematical and Computer Modelling, Volume 48 (2008), 1081-1089, DOI: 10.1016/j.mcm.2007.12.013, (with D. O'Regan and J. Henderson).

Functional Compression-Expansion Fixed Point Theorem, Electronic Journal of Differential Equations, Volume 2008 (2008), Number 22, 1-12, ISSN: 1072-6691, (with D. O'Regan and J. Henderson).

A Combinatorial Approach to Discrete Diffusion on a Segment,

International Journal of Difference Equations, Volume 2 (2007), Number 2, 177-186.

Dual of the Compression-Expansion Fixed Point Theorems, Fixed Point Theory and Applications, Volume 2007 (2007), Article ID 90715, 11 pages, (with D. O'Regan and J. Henderson).

A Closed Form Solution of a Discrete Correlated Random Walk, Journal of Difference Equations, Volume 12 (2006), Number 9, 949-956.

A Fourth-Order Four-Point Right Focal Boundary Value Problem, Rocky Mountain Journal of Mathematics, Volume 36 (2006), Number 2, 367-380 (with D. Anderson).

An Extension of the Fixed Point Theorem of Cone Expansion and Compression of Functional Type, Communications on Applied Nonlinear Analysis, Volume 13 (2006), Number 1, 15-26 (with D. Anderson and R. Krueger).

Discrete Two Dimensional diffusion problem on a Half Plane, Dynamic Systems and Applications, Volume 15 (2006), 35-42 (with G. Berman).

A Note Concerning a Discrete Two Dimensional Diffusion Problem and Random Walks, International Journal of Pure and Discrete Mathematics, Volume 14 (2004), Number 1, 103-109 (with G. Berman).

Existence of Solutions for a One Dimensional p-Laplacian on Time Scales, Journal of Difference Equations and Applications, Volume 10 (2004), Number 10, 889-896 (with D. Anderson and J. Henderson).

Existence of Three Positive Pseudo-Symmetric Solutions for a One Dimensional Discrete p-Laplacian, Journal of Difference Equations and Applications, Volume 10 (2004), Number 6, 529-539 (with J. Henderson).

An Even-Order Three-Point Boundary Value Problem on Time Scales, Journal of Mathematical Analysis and Applications, Volume 291 (2004), 514-525 (with D. Anderson).

The Five Functionals Fixed Point Theorem Generalized to Multivalued Maps, Journal of Nonlinear and Convex Analysis, Volume 4 (2003), Number 3, 455-462 (with R. Agarwal, J. Henderson and D. O'regan).

Double Solutions of Boundary Value Problems for Ordinary Differential Equations with Impulse, Dynamics of Continuous, Discrete and Impulsive Systems (Series A: Mathematical Analysis), Volume 10 (2003), Number 1, 1-10 (with J. Henderson, M. Benchohra, and S.K. Ntouyas).

Existence and Uniqueness of Solutions to Discrete Diffusion Equations, Advances in Difference Equations IV, Computers & Mathemtics with Applications, Volume 45 (2003), 1075-1085 (with D. Anderson and J. Davis).

Existence of Three Positive Pseudo-Symmetric Solutions for a One Dimensional p-Laplacian, Journal of Mathematical Analysis and Applications, Volume 277 (2003), 395-404 (with J. Henderson).

Fixed Point Theorem of Cone Expansion and Compression of Functional Type, Journal of Difference Equations and Applications, Volume 8 (2002), Number 11, 1073-1083 (with D. Anderson).

Existence of Three Positive Solutions to a Second-Order Boundary Value Problem on a Measure Chain, Dynamic Equations on Time Scales, Journal of Computational and Applied Mathematics, Volume 141 (2002), Number 1-2, 65-73 (with D. Anderson).

Existence and Uniqueness of Solutions to a Discrete Transport Equation, International Journal of Differential Equations and Applications, Volume 4 (2002), Number 2, 117-123 (with E. Rolland and J. Wollman).

Corollary to the Five Functionals Fixed Point Theorem, Nonlinear Studies, Volume 8 (2001), Number 4, 451-464 (with D. Anderson and J. Henderson).

Twin Solutions of Boundary Value Problems for Ordinary Differential Equations and Finite Difference Equations, Advances in Difference Equations III, Computers & Mathematics with Applications, Volume 42 (2001), 695-704 (with C.J. Chyan and J. Henderson).

Multiple Positive Solutions to a Third Order Discrete Focal Boundary Value Problem, Advances in Difference Equations III, Computers & Mathematics with Applications, Volume 42 (2001), 333-340 (with D. Anderson).

Three Positive Fixed Points of Nonlinear Operators on Ordered Banach Spaces, Advances in Difference Equations III, Computers & Mathematics with Applications, Volume 42 (2001), 313-322 (with A. Peterson).

Two Positive Fixed Points of Nonlinear Operators on Ordered Banach Spaces, Communications on Applied Nonlinear Analysis, Volume 8 (2001), Number 1, 27-36 (with J. Henderson).

Three Fixed Points of Ray Avoiding Mappings on a Finite Dimensional Space, Mathematical and Computer Modelling, Volume 32 (2000), 587-598.

An Extension of the Five Functionals Fixed Point Theorem,
International Journal of Differential Equations and Applications, Volume 2 (2000), Number 3, 275-290 (with J. Henderson).

Three Symmetric Positive Solutions for Lidstone Problems by a Generalization of the Leggett-Williams Theorem, Electronic Journal of Differential Equations, Volume 2000 (2000), Number 40, 1-15 (with J. Davis and J. Henderson).

Three Symmetric Positive Solutions for a Second Order Boundary Value Problem,
Applied Mathematics Letters, Volume 13 (2000), 1-7 (with J. Henderson).

A Generalization of the Leggett-Williams Fixed Point Theorem,
MSR Hot-Line, Volume 3 (1999), Number 7, 9-14.

Existence of Multiple Positive Solutions to a Conjugate Boundary Problem,
MSR Hot-Line, Volume 2 (1998), Number 1, 1-6.

Multiple Positive Solutions of a Discrete Second Order Conjugate Problem,
PanAmerican Mathematical Journal, Volume 8 (1998), Number 3, 1-12 (with A. Peterson).

Three Positive Solutions to a Discrete Focal Boundary Value Problem,
Positive Solutions of Nonlinear Problems, Journal of Computational and Applied Mathematics, Volume 88 (1998), 103-118 (with D. Anderson and A. Peterson).

Three Positive Solutions of a Discrete Second Order Conjugate Problem,
PanAmerican Mathematical Journal, Volume 8 (1998), Number 2, 79-96.

Multiple Positive Solutions of an nth Order Focal Boundary Value Problem,
PanAmerican Mathematical Journal, Volume 8 (1998), Number 1, 39-55.

PUBLISHED RESEARCH IN CONFERENCE PROCEEDINGS:

Multiple Positive Solutions of a Partial Difference Equation,
Proceedings of Dynamic Systems and Applications Volume III, 49-59, Dynamic Publishers Inc, Atlanta, 2001.

SUBMITTED RESEARCH PAPERS IN REFEREED JOURNALS:

Existence of a Periodic Solution for Continuous and Discrete Periodic Second-Order Equations with Variable Potentials, Journal of Applied Mathematics and Computing, Fall 2009, (with D. Anderson).

Some Fixed Point Theorems of Leggett-Williams Type, Rocky Mountain Journal of Mathematics, Spring 2010, (with D. Anderson and J. Henderson).

Existence of a Positive Solution for a Right Focal Discrete Boundary Value Problem, Journal of Difference Equations and Applications, Fall 2009, (with D. Anderson, J. Henderson, X. Liu and J. W. Lyons).

Operator Type Expansion-Compression Fixed Point Theorem, Journal of Difference Equations and Applications, Fall 2010, (with D. Anderson, J. Henderson, X. Liu).

CHAPTER CO-AUTHOR:

Advances in Dynamic Equations on Time Scales, Birkhauser, Boston, 2003, Chapter 7. Positive Solutions of Boundary Value Problems, 189-250 (with D. Anderson, J. Davis, J. Henderson and W. Yin).

PROFESSIONAL PRESENTATIONS:

1051th American Mathematical Society Meeting,
An Extension of the Leggett-Williams Fixed Point Theorem,
Baylor University, October 17, 2009.

MAA Nebraska/Southeast South Dakota Section Meeting,
Correlated Random Walks,
Dana College, March 31, 2006.

1011th American Mathematical Society Meeting,
An Extension of the Fixed Point Theorem of Cone Expansion and Compression of Functional Type,
University of Nebraska-Lincoln, October 22, 2005.

MAA Nebraska/Southeast South Dakota Section Meeting,
Discrete Diffusion on a Strip,
University of Nebraska – Lincoln, April 2, 2005.

MAA Nebraska/Southeast South Dakota Section Meeting,
Discrete Centered Laplacian,
University of Nebraska – Kearney, April 2, 2004.

Sixth Annual Regional Workshop in the Mathematical Sciences
Partial Difference Equations,
University of Nebraska – Lincoln, November 8, 2003.

MAA Nebraska/Southeast South Dakota Section Meeting,
A Fourth Order Boundary Value Problem,

University of South Dakota, March 28, 2003.

Fifth Annual Regional Workshop in the Mathematical Sciences,
p-Laplacian Boundary Value Problems,
University of Nebraska-Lincoln, October 26, 2002.

Fourth Annual Regional Workshop in the Mathematical Sciences,
Iteration and Partial Difference Equations,
University of Nebraska-Lincoln, November 3, 2001.

MAA Nebraska/Southeast South Dakota Section Meeting,
Finding the Green's Function for a Discrete Diffusion Equation,
Doane College, March 30, 2001.

Third Annual Regional Workshop in the Mathematical Sciences,
Fixed Points and Solutions of Boundary Value Problems,
University of Nebraska-Lincoln, October 28, 2000.

Midwest Differential Equations Conference,
Twin Positive Fixed Points of Nonlinear Operators on Ordered Banach Spaces,
Concordia College (Moorhead, Minnesota), October 20, 2000.

MAA Nebraska/Southeast South Dakota Sectional Meeting,
An Extension of the Five Functionals Fixed Point Theorem,
Nebraska Wesleyan University, April 28, 2000.

953rd American Mathematical Society Meeting,
Improvements to the Leggett-Williams Fixed Point Theorem,
University of Notre Dame, April 8, 2000.

Second Annual Regional Workshop in the Mathematical Sciences,
Existence of Solutions to a Discrete Lidstone BVP,
University of Nebraska-Lincoln, November 20, 1999.

Third International Conference on Dynamic Systems and Applications,
Multiple Positive Solutions of a Partial Difference Equations,
Morehouse College, May 26, 1999.

Regional Workshop in the Mathematical Sciences,
The Green's Function for a Partial Difference Equation,
University of Nebraska-Lincoln, February 27, 1999.

Mathematical Sciences Colloquium,
Existence of Solutions to Discrete Boundary Value Problems,
University of South Dakota, October 21, 1998.

Third Midwest-Southeastern Atlantic Joint Regional Conference on Differential Equations,

Multiple Positive Solutions to a Discrete Second Order Conjugate BVP,
Vanderbilt University, November 8, 1997.

Rocky Mountain Mathematics Consortium,
Three Positive Solutions to a Discrete Second Order Conjugate BVP,
University of Wyoming, July 16, 1997

Conference on Applied Mathematics,
Multiple Positive Solutions of an nth Order Focal BVP,
University of Central Oklahoma, February 22, 1997.

PAPER REVIEWER FOR RESEARCH JOURNALS:

PanAmerican Mathematical Journal

Journal of Difference Equations and Applications

Applied Mathematics Letters

Computers & Mathematics with Applications

Journal of Mathematical Analysis and Applications

Electronic Journal of Differential Equations

International Journal of Mathematics and Mathematical Sciences

Taiwanese Journal of Mathematics

Mathematical and Computer Modelling

Acta Applicandae Mathematicae

Journal of Computational and Applied Mathematics

Nonlinear Analysis Series A: Theory, Methods & Applications

Proceedings of the Edinburgh Mathematical Society

JP Journal of Fixed Point Theory and Applications

Portugaliae Mathematica

Indian Journal of Pure and Applied Mathematics

Journal of Applied Mathematics & Computing

Applied Mathematical Modelling

Positivity

Discrete Dynamics in Nature and Society

Advances in Difference Equations

GRANTS FUNDED:

Alternative Delivery (Internet) of Math Concepts I,
DSU Distance Education/Alternative Delivery Summer Grant for 1999

Redesign of the Internet Delivery of Math 341: Math Concepts I,
Summer 2000 Governor Janklow Faculty Award for Teaching with Technology

Internet Delivery of Math Concepts II for Teachers,
Summer 2001 Governor Janklow Advanced Faculty Award for Teaching with Technology

Redesign of Math 102: College Algebra to utilize Tablet PC Technology,
Summer 2004 Governor Rounds Grant.

Mathematics and Technology,
Title II Part-A No Child Left Behind Improving Teacher Quality Program (2004).

Math and Science Inquiry Based Labs,
Title II Part-A No Child Left Behind Improving Teacher Quality Program (2005).

DSU R2R of Math 101,
DSU Title III Re-design of Developmental Courses (2005).

Assessing Basic Skills in Math 341,
DSU Technology Effectiviness Assessment Grants (2005).

Computer Assisted Mathematics Instruction,
Title II Part-A No Child Left Behind Improving Teacher Quality Program (2006).

Interdisciplinary Approaches to Teaching Inquiry Based Science,
Title II Part-A No Child Left Behind Improving Teacher Quality Program (2007).