Brian Lins

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Research Interests:

Functional analysis, dynamical systems, nonexpansive maps, positive operators

Education:

- Ph.D. in Mathematics, received October 2007; advisor: Roger D. Nussbaum
 Rutgers University, New Brunswick, New Jersey
 Dissertation title: Asymptotic behavior and Denjoy-Wolff theorems for
 Hilbert metric nonexpansive maps
- B.S. in Mathematics, received May 2001
 College of William & Mary, Williamsburg, Virginia Minor in physics; Graduated with highest honors

Positions Held:

- Assistant Professor, Department of Math and Computer Science, Hampden-Sydney College, *Fall 2008 - present*
- Visiting Assistant Professor, Department of Math and Computer Science, Dickinson College, Fall 2007 - Spring 2008
- Instructor and Teaching Assistant, Department of Mathematics, Rutgers University, New Brunswick, New Jersey, Fall 2003 - Spring 2007

Teaching Experience:

Hampden-Sydney College

Instructor, Algebraic Structures, *Fall 2008* Instructor, Calculus II, *Fall 2008* Instructor, Math and Society, *Fall 2008*

Dickinson College

Instructor, Calculus II, Spring 2008 Instructor, Differential Equations, Spring 2008 Instructor, Calculus I, Fall 2007

Rutgers University, New Brunswick

Instructor, Multivariable Calculus, Summer 2006 Instructor, Calculus I for Biological and Social Sciences, Fall 2005 Instructor, Advanced Calculus for Engineers, Summer 2005 Instructor, Linear Algebra, Summer 2004 Head teaching assistant, Summer 2006 Head teaching assistant, Spring 2005 Head teaching assistant, Fall 2004 Teaching assistant, Calculus I for Physical Sciences, *Fall 2006* Teaching assistant, Calculus II for Physical Sciences, *Spring 2005* Teaching assistant, Calculus I for Biological and Social Sciences, *Fall 2004* Teaching assistant, Differential Equations and Calculus I, *Spring 2004* Teaching assistant, Calculus I for Physical Sciences, *Fall 2003*

Awards and Honors:

Project NExT fellow, Summer 2008
Rutgers Math Department TA teaching excellence award, Spring 2004
VIGRE fellowship, Fall 2001 - Spring 2003
William & Mary prize in mathematics, Spring 2001
James Monroe scholar, awarded \$2000 research grant, Summer 2000

Publications:

- Brian Lins, Asymptotic behavior of nonexpansive maps in finite dimensional normed spaces, to appear in the *Proceedings of the American Mathematical Society*.
- Brian Lins and Roger D. Nussbaum, **Denjoy-Wolff theorems, Hilbert metric non**expansive maps and reproduction-decimation operators, *Journal of Functional Analysis*, 254 (2008), 2365-2386.
- Brian Lins, A Denjoy-Wolff theorem for Hilbert metric nonexpansive maps on a polyhedral cone, *Math. Proc. Camb. Phil. Soc.*, 143 (2007), 157-164.
- Brian Lins and Roger D. Nussbaum, Iterated linear maps on a cone and Denjoy-Wolff theorems, *Linear Algebra and Applications*, 416 (2006), 615-626.
- Jeremy Brandman, James Fowler, Brian Lins, Ilya Spitkovsky and Nahum Zobin, Convex hulls of Coxeter groups, in Function Spaces, Interpolation Theory and Related Topics, Walter de Gruyter, Berlin - New York, 2002, 213-240.
- Brian Lins, Patrick Meade, Christian Mehl and Leiba Rodman, Normal matrices and polar decompositions in indefinite inner products, *Linear and Multilinear Algebra*, 49 (2001), 45-89.

Presentations:

Nonnegative matrices, Longwood University math colloquium, Fall 2008

Checkers and game theory, Dickinson math & computer science chat, Fall 2007

- Denjoy-Wolff theorems for Hilbert metric nonexpansive maps on polyhedral domains, AMS Session on Dynamical Systems, Joint AMS/MAA Meeting, New Orleans, *Winter* 2007
- The history of logarithms and slide rules, Graduate student pizza seminar, Fall 2005
- The Birkhoff-Hopf bifurcation theorem, Graduate student nonlinear analysis seminar, Spring 2005
- A proof of the Brouwer fixed point theorem using differential forms, Graduate student nonlinear analysis seminar, Spring 2005

The Hilbert metric on cones, Graduate student nonlinear analysis seminar, Fall 2004

The fundamental theorem of algebra with linear algebra, Graduate student pizza seminar, Fall 2003 The geometry of Coxeter groups, Graduate student pizza seminar, Fall 2002 Gerschgorin discs, Graduate student pizza seminar, Spring 2002

Service:

Putnam exam coach, Dickinson College, *Fall 2007* Co-organizer, Rutgers graduate student nonlinear analysis seminar, *Fall 2004 - Spring 2005* Mentor, DIMACS Research Experiences for Undergraduates program, *Summer 2002*

Affiliations:

American Mathematical Society (AMS) Mathematical Association of America (MAA)

Citizenship: United States citizen