

# Brian Lins

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Department of Math and Computer Science  
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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:

**Visiting Assistant Professor**, Department of Math and Computer Science,  
Dickinson College, *Fall 2007 - present*

**Instructor and Teaching Assistant**, Department of Mathematics,  
Rutgers University, New Brunswick, New Jersey, *Fall 2003 - Spring 2007*

## Teaching Experience:

### 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:

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**, submitted.

Brian Lins and Roger D. Nussbaum, **Denjoy-Wolff theorems, Hilbert metric nonexpansive maps and reproduction-decimation operators**, submitted.

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:

**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