

Nathaniel K. Strawn

Curriculum Vitae

Department of Mathematics
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University of Maryland
College Park, MD 20742-4015

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Research Interests: Applied Harmonic Analysis and Applied Geometry

Education

University of Maryland
Ph.D. in Mathematics

College Park, MD
9/2007-5/2010 (Expected)

Written Exams: Analysis, Numerical Analysis, Topology
Committee: Dr. J. Benedetto (Chair), Dr. R. Balan (CoChair), Dr. W. Czaja

Texas A&M University
M.S. in Mathematics

College Station, TX
9/2005-5/2007

Thesis: *Geometry and Constructions of Finite Frames*
Committee: Dr. K. Dykema (Chair), Dr. C. Yan, Dr. D. Larson, Dr. N. Amato

Texas A&M University
B.S. in Mathematics with Honors, Physics Minor

College Station, TX
6/2001-5/2005

Publications

Geometry and Constructions of Finite Frames, Master's Thesis, Texas A&M University, 2007.

Manifold Structure of Spaces of Spherical Tight Frames, with K. Dykema,
Int. J. Pure Appl. Math. 28, 217-256, 2006.

Planar Binary Trees with Right Increasing Labels, Preprint

Talks

The Johnson-Lindenstrauss Lemma and Dimension Reduction, Oral Examination, Norbert Wiener Center for Harmonic Analysis and its Applications, 1/2009

A New Technique for Finite Frame Construction, Norbert Wiener Center for Harmonic Analysis and its Applications, 10/2007

Encyclopaedic Constructions of Finite Frames, TAMU Mathematics Graduate Student Organization, 4/2007

Posters

Direct Constructions of FUNTFs, Winning Poster Entry for UMD Spotlight on Graduate Research Competition, 4/2008

Tight Frame and Sampling Theory, with Emily King, Joint Mathematics Meeting of AMS, MAA, and SIAM, Undergraduate Poster Session, 1/2004

Workshops, Fellowships, and Seminars

Random Matrix Theory and Wireless Communications
NSF Sponsored Workshop

University of Colorado
Summer 2008

Sparse Representations and High Dimensional Geometry
IPAM Short Course

UC Los Angeles
Summer 2007

Topology and its Applications
IMA Workshop

Mississippi State University
Summer 2006

New Math. and Alg. for 3-D Image Analysis
IMA Workshop

University of Minnesota
Spring 2006

Matrix Analysis and Wavelets
VIGRE Fellow

Texas A&M University
Summer 2004

Matrix Analysis and Wavelets
VIGRE Fellow

Texas A&M University
Summer 2003

Frames, Group Representations, and Wavelets
VIGRE Seminar

Texas A&M University
Spring 2003

Matrix Analysis and Wavelets
VIGRE Fellow

Texas A&M University
Summer 2002

Assistantships

<i>Grading Assistant for Dr. Radu Balan</i> Transform Methods for Scientists and Engineers	University of Maryland Spring 2009
<i>Research Assistant for the Norbert Wiener Center</i> Frame Theoretic Methodology for Dimension Reduction	University of Maryland Spring 2009
<i>Sole-Contact Teaching Assistant</i> Elementary Statistics and Probability	University of Maryland Fall 2008
<i>Teaching Assistant for Dr. Michael Fitzpatrick</i> Analysis Boot Camp for Incoming Graduate Students	University of Maryland Summer 2008
<i>Teaching Assistant for Dr. Justin Wyss-Gallifent</i> Introduction to Linear Algebra	University of Maryland Spring 2008
<i>Teaching Assistant for Dr. Chris Laskowski</i> Calculus III	University of Maryland Fall 2007
<i>Teaching Assistant for Ms. Amy Austin</i> Calculus II	Texas A&M University Spring 2007
<i>Teaching Assistant for Ms. Amy Austin</i> Calculus I	Texas A&M University Fall 2006
<i>Grading Assistant for Dr. Dan Lewis</i> Differential Equations	Texas A&M University Summer 2006
<i>Grading Assistant for Dr. Guergana Petrova</i> Fourier Series and Wavelets	Texas A&M University Spring 2006
<i>Teaching Assistant for Dr. Sherry Scarborough</i> Functions, Trigonometry and Linear Systems	Texas A&M University Fall 2005
<i>Research Assistant for Dr. Catherine Yan</i> Planar Binary Trees with Right Increasing Labels	Texas A&M University Spring 2005