

William Paulsen

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wpaulsen@astate.edu

Current Position

Position Title:

Current Academic Rank: Full Professor

Rank Since: Fall 2002

Degrees

Ph.D.	Mathematics, Washington University, St. Louis, Missouri 1990 Dissertation: Upper and lower bounds for the Hausdorff dimension of self-affine sets
M.S.	Mathematics, Washington University, St. Louis, Missouri 1988
B.S.	Mathematics, Washington University, St. Louis, Missouri 1985

Scholarly Contributions and Creative Productions

Books

Paulsen, W. (2013). Asymptotic Analysis and Perturbation Theory. CRC Press - Taylor/Francis.

Paulsen, W. (2009). Abstract Algebra, An Interactive Approach. Boca Raton, FL: CRC Press/Taylor & Francis Group.

Journal Publications

Paulsen, W. (2006). Best Odds for Finding a Perfect Matching in a Bipartite Graph. *Combinatorics, Probability, & Computing*, 15, 753-763.

Paulsen, W. (2003). Creating Large Life Forms with Interactive Life. *Complex Systems*, 14(3), 275-283.

Paulsen, W. (2002). A Most Localized 3-Coloring of Penrose Tilings. *Geombinatorics*, 12(3), 117-130.

Paulsen, W. (1997). Eigenfrequencies of the Non-collinearly Coupled Euler-Bernoulli Beam System with Dissipative Joints. *Quarterly of Applied Mathematics*, 55(3), 437-457.

Paulsen, W. (1995). Eigenfrequencies of the Three Dimensional Euler-Bernoulli Beam System with Dissipative Joints. *Applied Mathematics and Mechanics*, 16(8), 723-746.

Paulsen, W. (2010). An Alternative Way of Breaking Up Partial Fractions. *The College Mathematics Journal*, 41(3), 221.

Paulsen, W., & Franklin, M. (2010). Calculating In-plane Frequencies of Multispan Cables Using the Exterior-Matrix Method. *Journal of Engineering Mathematics*, 67(4), 289-306.

Paulsen, W. (2007). The Exterior Matrix Method for Sequentially Coupled Fourth Order Equations. *Journal of Sound and Vibration*, 308(2-Jan), 32.

Paulsen, W., & Slayton, G. (2006). Eigenfrequency Analysis of Cable Structures with Inclined Cables. *Applied Mathematics and Mechanics*, 27(1), 37 - 49.

Paulsen, W. (2002). The Behavior of Polylogarithms at $z=1$. *Complex Variables, Theory and Application*, 47(9), 815-819.

Paulsen, W. (2002). The Prime Number Maze. The Fibonacci Quarterly, 40(3), 272-279.

Paulsen, W. (1999). A new way to find the controlling factor of the solution to a difference equation. Journal of the Korean Mathematical Society, 36(5), 833-846.

Paulsen, W. (1999). Computing Galois Groups with Mathematica. Mathematica in Education and Research, 8(1), 11-May.

Paulsen, W. (1995). Eigenfrequencies of Curved Euler-Bernoulli Beam Structures with Dissipative Joints. Quarterly of Applied Mathematics, 53(2), 259-271.

Paulsen, W. (1995). Group Presentations Using Mathematica. Mathematica in Education and Research, 4(4), 21-24.

Paulsen, W. (1995). Lower Bounds for the Hausdorff Dimension of n-Dimensional Self-affine Sets. Chaos, Solitons & Fractals, 5(6), 909-931.

Paulsen, W. (1994). What is the Shape of a Mylar Balloon?. The American Mathematical Monthly, 101(10), 953-958.

Paulsen, W., & Krantz, S. (1991). Asymptotic Eigenfrequency Distribution for the N-Beam Euler-Bernoulli Coupled Beam Equation with Dissipative Joints. Journal of Symbolic Computation, 11, 369-418.

Proceedings Publications

Paulsen, W., & Sherrell, L. (2000). Z Specifications Meet Mathematica for Exploratory Prototyping. Proceedings of the fourth IEEE International Conference on Requirements Engineering,

Paulsen, W. (1992). Eigenfrequencies of Non-collinearly Coupled Beams with Dissipative Joints. Proceedings of the 31st IEEE Conference on Decision and Control, 3, 2986-2991.

Institutional Committees

University

Department Curriculum Committee (University) Fall 1990 - Present

Department Promotion, Retention and Tenure Committee (University) Fall 1996 - Present

Department Library Committee (University) Fall 2003 - Present

Department Scholarship Committee (University) Fall 2005 - Present

Department Strategic Planning Committee (University) Fall 2007 - Present

Other Institutional Service

Best Robotics - Judge for notebooks (University) Fall 2012

Best Robotics - Judge for the booths (University) Fall 2011

Best Robotics - Referee (University) Fall 2010

Student Commencement Marshal (University) Fall 2008 - Summer 2011

(Chair) Search Committee (University) Fall 2007 - Spring 2008

(Committee Member) Strategic Planning Committee (University) Spring 2007 - Fall 2005

Honors and Awards

William Lowell Putnam Mathematical Competition, Mathematical Association of America 1984

Teaching

Fall 2006 Courses:

MATH 2194 001 - Survey of Calculus

MATH 2214 002 - Calculus II

MATH 4513 001 - Applied
Mathematics

Spring 2007 Courses:

MATH 3243 001 - Linear Algebra

MATH 3254 001 - Calculus III

MATH 3323 001 - Mathematical
Modeling

Summer 2007 Courses:

MATH 2214 001 - Calculus II

MATH 3254 001 - Calculus III

Fall 2007 Courses:

MATH 3353 001 - History of
Mathematics

MATH 4533 001 - Numerical Methods

MATH 6603 1 - ABSTRACT ALGEBRA I

MATH 689V 1 - THESIS

Spring 2008 Courses:

MATH 3254 001 - Calculus III

MATH 3323 001 - Mathematical Modeling

MATH 6613 1 - ABSTRACT ALGEBRA II

MATH 689V 1 - THESIS MOBIUS TRANSF ON CIRCLE

Summer 2008 Courses:

MATH 2214 001 - Calculus II

MATH 4403 001 - Differential
Equations

Fall 2008 Courses:

MATH 1033 001 - Plane Trigonometry

MATH 2194 002 - Survey of Calculus

MATH 4403 001 - Differential
Equations

Spring 2009 Courses:

MATH 1033 001 - Plane Trigonometry

MATH 2214 002 - Calculus II

MATH 3323 001 - Mathematical
Modeling

Summer 2009 Courses:

MATH 2214 001 - Calculus II

MATH 3254 001 - Calculus III

Fall 2009 Courses:

MATH 3254 002 - Calculus III

MATH 4403 001 - Differential Equations

MATH 6603 1 - ABSTRACT ALGEBRA I

Spring 2010 Courses:

MATH 3323 001 - Mathematical
Modeling

MATH 4403 001 - Differential Equations

MATH 6613 1 - ABSTRACT ALGEBRA II

Summer 2010 Courses:

MATH 2214 001 - Calculus II

MATH 3254 001 - Calculus III

Fall 2010 Courses:

MATH 4403 001 - Differential
Equations

Spring 2011 Courses:

MATH 3323 001 - Mathematical
Modeling

MATH 4513 001 - Applied Mathematics

Fall 2011 Courses:

MATH 4403 001 - Differential Equations

MATH 6603 1 - ABSTRACT ALGEBRA I

Spring 2012 Courses:

MATH 3323 001 - Mathematical
Modeling

MATH 6613 1 - ABSTRACT ALGEBRA II

Fall 2012 Courses:

MATH 3303 001 - MODERN ALGEBRA I

MATH 4403 001 - DIFFERENTIAL EQUATIONS

MATH 4403 H01 - HNRS DIFFERENTIAL EQUATIONS