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|  | William Paulsen(870)972-8158wpaulsen@astate.edu |  |

### Current Position

Position Title:

Current Academic Rank: Full Professor

Rank Since: Fall 2002

### Degrees

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| --- | --- |
| 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 Disapative 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:

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| --- |
| MATH 3243 001 - Linear Algebra |
| MATH 3254 001 - Calculus III |
| MATH 3323 001 - Mathematical Modeling |

Summer 2007 Courses:

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| --- |
| 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:

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| --- |
| 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:

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| --- |
| MATH 1033 001 - Plane Trigonometry |
| MATH 2194 002 - Survey of Calculus |
| MATH 4403 001 - Differential Equations |

Spring 2009 Courses:

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| --- |
| MATH 1033 001 - Plane Trigonometry |
| MATH 2214 002 - Calculus II |
| MATH 3323 001 - Mathematical Modeling |

Summer 2009 Courses:

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| --- |
| 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:

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| --- |
| MATH 3323 001 - Mathematical Modeling |
| MATH 4403 001 - Differential Equations |
| MATH 6613 1 - ABSTRACT ALGEBRA II |

Summer 2010 Courses:

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| --- |
| MATH 2214 001 - Calculus II |
| MATH 3254 001 - Calculus III |

Fall 2010 Courses:

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| --- |
| MATH 4403 001 - Differential Equations |

Spring 2011 Courses:

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| --- |
| MATH 3323 001 - Mathematical Modeling |
| MATH 4513 001 - Applied Mathematics |

Fall 2011 Courses:

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| MATH 4403 001 - Differential Equations |
| MATH 6603 1 - ABSTRACT ALGEBRA I |

Spring 2012 Courses:

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| --- |
| MATH 3323 001 - Mathematical Modeling |
| MATH 6613 1 - ABSTRACT ALGEBRA II |

Fall 2012 Courses:

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| --- |
| MATH 3303 001 - MODERN ALGEBRA I |
| MATH 4403 001 - DIFFERENTIAL EQUATIONS |
| MATH 4403 H01 - HNRS DIFFERENTIAL EQUATIONS |