



Thomas Shemanske

Résumé

Education

- 1976–1979 **Ph.D.**, *University of Rochester*, Rochester, NY.
- 1974–1976 **M.A.**, *University of Rochester*, Rochester, NY.
- 1970–1974 **A.B.**, *Cornell University*, Ithaca, NY.

Academic Experience

- 2022– **Professor Emeritus of Mathematics**, *Dartmouth College*, Hanover, NH.
- 2004–2007 **Department Chair**, *Dartmouth College*, Hanover, NH.
- 1993–2022 **Professor of Mathematics**, *Dartmouth College*, Hanover, NH.
- 1987–1993 **Associate Professor of Mathematics**, *Dartmouth College*, Hanover, NH.
- 1981–1987 **Assistant Professor of Mathematics**, *Dartmouth College*, Hanover, NH.
- 1979–1981 **Lawton Lecturer**, *Temple University*, Philadelphia, PA.

Non-academic Experience

- 2022– **Chair**, *Zoning Board of Appeals*, Grantham, NH.
- 2021– **Member**, *Zoning Board of Appeals*, Grantham, NH.
- 2022– **Trustee**, *Trustees of the Trust Funds*, Grantham, NH.

Publications

(See attached list)

Books and Monographs

- [1] (with H. Hijikata and A. Pizer), The Basis Problem for Modular Forms on $\Gamma_0(N)$, *Memoirs of the AMS*, **418** (1989), 159 pages.
- [2] *Modern Cryptography and Elliptic Curves: A Beginner's Guide*, American Mathematical Society, Student Mathematical Library **83**, (2017), 252 pages.

Memorial Articles

- [1] (with J. Jorgenson, L. Smajlovic) Lynne Heather Walling 1958-2021; to appear *Notices of the AMS*

Research Articles

- [1] (with H. Hijikata and A. Pizer), The Basis Problem for Modular Forms on $\Gamma_0(N)$, *Proc. Japan Acad.*, **56** (1980), pp. 280–284.
- [2] Cuspidal Newforms and Character Twists, *J. reine angew. Math.*, **328** (1981), pp. 58–71.
- [3] Primitive Newforms of Weight $3/2$, *Acta Arith.*, **43** (1984), pp. 97–104.
- [4] Ternary Quadratic Forms and the Arithmetic of Quaternion Algebras, preprint.
- [5] Representations of Ternary Quadratic Forms and the Class Number of Imaginary Quadratic Fields, *Pacific J. of Math.*, **122** (1986), pp. 223–250.
- [6] Ternary Quadratic Forms and Quaternion Algebras, *Journal of Number Theory* **23** (1986), pp. 203–209.
- [7] (with H. Hijikata and A. Pizer), Orders in Quaternion Algebras, *J. reine angew. Math.* **394** (1989), pp. 59–106.
- [8] (with H. Hijikata and A. Pizer), Twists of Newforms, *Journal of Number Theory* **35** (1990), pp 287 – 324.
- [9] (with L. Walling) On the Shimura Lift for Hilbert Modular Forms, in *A Tribute to Emil Grosswald: Number Theory and Related Analysis*, Contemporary Mathematics, Volume **143**, Knopp and Sheingorn Editors, American Mathematical Society, March 1993, pp 561 – 569.
- [10] (with L. Walling), Twists of Hilbert Modular Forms, *Transactions of the AMS*, **338**, (1993), 375 – 403.
- [11] (with L. Walling), Determining Multiplicities of Half-Integral Weight Newforms, *Pacific Journal of Math.*, **167**, (1995), 345 – 383.
- [12] (with L. Walling), A Characterization of Simultaneous Hecke Eigenforms, preprint
- [13] (with A. Schwartz), Maximal Orders in Central Simple Algebras and Bruhat–Tits Buildings, *Journal of Number Theory*, **56**, (1996), 115 – 138.

- [14] Newforms of Half-Integral Weight, *Nagoya Math J.* **143**, (1996), 147 – 169.
- [15] (with C. Ballantine) Rolle's Theorem over Local Fields (preprint)
- [16] (with J. Rhodes), Rationality Theorems for Hecke Operators on GL_n , *J. of Number Theory* **102**, (2003), 278 – 297.
- [17] (with C. Ballantine and J. Rhodes), Hecke Operators for GL_n and Buildings, *Acta Arithmetica* **112**, (2004), 131 – 140.
- [18] The Arithmetic and Combinatorics of Buildings for Sp_n , *Transactions of the AMS* **359**, (2007), 3409-3423.
- [19] Hecke Operators, Zeta Functions, and the Satake Map (preprint)
- [20] (with N. Ryan) Inverting the Satake map for Sp_n , and applications to Hecke Operators, *Ramanujan J.*, **17** (2), 2008, 219 – 244.
- [21] (with S. Treneer, L. Walling) Constructing Simultaneous Hecke Eigenforms, *International J. of Number Theory*, **6** (5), 2010, 1117 – 1137.
- [22] Split Orders and Convex Polytopes in Buildings, *Journal of Number Theory*, **130** (1), 2010, 101 – 115.
- [23] (with B. Linowitz) Embedding Orders into Central Simple Algebras, *Journal de théorie des nombres de Bordeaux*, 24 no. 2 (2012), 405 – 424.
- [24] Normalizers of graduated orders; preprint 2016.
- [25] (with B. Linowitz) Local Selectivity of Orders in Central Simple Algebras, *International Journal Number Theory*, **13** (4) (2017), 853–884.