

Geoffrey D. Dietz

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Employment: **Assistant Professor**, Gannon University, Erie, Pennsylvania, 8/06 – present.
 Visiting Assistant Professor, University of Oklahoma, Norman, Oklahoma, 8/05 – 5/06.

Education: **Ph.D. in Mathematics**, August 2005, advisor: Melvin Hochster.
 University of Michigan, Ann Arbor, Michigan, 9/00 – 8/05.

 B.S. in Mathematics, May 2000.
 University of Dayton, Dayton, Ohio, 8/96 – 5/00.
 Minors in Computer Science, Economics, and Physics.
 Graduated *summa cum laude*.

Teaching Experience: **Department of Mathematics**, Gannon University, Erie, Pennsylvania
 Instructor for Calculus 1, 2, 3, and 4, Fundamentals of Mathematics 1, Trigonometry, Applied Statistics, Geometry, Linear Algebra, Differential Equations, Abstract Algebra 1, Number Theory, Independent Reading in Financial Mathematics 1 and 2, Independent Reading in Topology, and Undergraduate Research.

 Department of Mathematics, University of Oklahoma, Norman, Oklahoma
 Instructor for Linear Algebra I and Calculus IV.

 Department of Mathematics, University of Michigan, Ann Arbor, Michigan
 Instructor for Pre-calculus and Calculus I and II.

 Department of Mathematics, University of Dayton, Dayton, Ohio
 Teaching Assistant for Calculus I, II, and III.

Research Interests: **Commutative algebra**, specifically tight closure theory, characteristic p methods, and big Cohen-Macaulay algebras and modules.

Publications: **A Characterization of Closure Operations That Induce Big Cohen-Macaulay Modules**, submitted.

 MINITAB Manual for Discovering Statistics: Brief Version by Daniel T. Larose. New York: W.H. Freeman and Company, 2010.

 MINITAB Manual for Discovering Statistics by Daniel T. Larose. New York: W.H. Freeman and Company, 2010.

 Big Cohen-Macaulay Algebras and Seeds, *Transactions of the American Mathematical Society*, 359 (2007), No. 12, 5959–5989.

 Tight Closure of Finite Length Modules in Graded Rings, *Journal of Algebra*, 306 (2006), No. 2, 520–534.

 with Ryan S. Higginbottom and D.R. Stephenson, **Quantum Projective 3-Spaces Which Embed Weighted Quantum Planes**, *Rocky Mountain Journal of Mathematics*, 35 (2005), No. 2, 415–444.

 with D.E. Dobbs, **Limiting Values of the Variance and the Moments of the Dimension of**

a Sum or Intersection of Random Vector Subspaces, *Applied Mathematics Letters*, 15 (2002), 945–953.

Presentations at Meetings: **Successes and Challenges Using WeBWorK In Calculus**, presented at the Allegheny Mountain Section Meeting of the MAA in Wheeling, West Virginia on April 4, 2009.

Solid and Big Cohen-Macaulay Algebras in Positive Characteristic, presented in an AMS Special Session on Commutative Algebra at the Joint Mathematics Meetings of the AMS and the MAA in Atlanta, Georgia on January 5, 2005.

Tight Closure in Coordinate Rings of Elliptic Curves, presented in an AMS Special Session on Local and Homological Algebra at the Southeastern Sectional Meeting of the AMS in Nashville, Tennessee on October 16, 2004.

Limiting Values of the Variance and the Moments of the Dimension of a Sum or Intersection of Random Vector Subspaces, presented in an AMS Session on Linear Algebra at the Joint Mathematics Meetings of the AMS and the MAA in Washington, D.C. on January 21, 2000.

Quantum Projective Three Spaces Which Embed Weighted Quantum Planes, presented (with Ryan S. Higginbottom) in an AMS Session on Associative Algebras at the Joint Mathematics Meetings of the AMS and the MAA in San Antonio, Texas on January 14, 1999.

Other Presentations: **Successes and Challenges Using WeBWorK In Calculus**, presented at Gannon University CETL Reunion in August 2009.

A Quantitative Structure-Activity Relationship Study of the Narcotic Effect of Anilines on Tetrahymena, poster presentation (with Carrie Nolan, Janelle Juda, and Michael Bucholtz) at Gannon University Undergraduate Research, Scholarship, and Creativity Celebration in April 2009.

A Quantitative Structure-Activity Relationship Study of the Narcotic Effect of Phenols on Tetrahymena, poster presentation (with Terrence Nicholson and Michael Bucholtz) at Gannon University Undergraduate Research, Scholarship, and Creativity Celebration in April 2009.

Online Homework and Testing in Calculus Using WeBWorK, presented at Gannon University Technology Buffet in January 2009.

Math in The Simpsons, presented at Penn State – Erie in October 2008.

Math in The Simpsons, presented to the Math Club at Gannon University in April 2008.

Free Resolutions, Betti Numbers, and Macaulay 2, presented in the Combinatorial Commutative Algebra Seminar at the University of Oklahoma in February 2006.

Closure Operations For Positive Characteristic Rings, presented in the Representation Theory Seminar at the University of Oklahoma in October 2005.

Big Cohen-Macaulay Algebras and Seeds, presented in the Commutative Algebra Seminar at the University of Michigan in May 2005.

Tight Closure and Invariants, presented in the Student Commutative Algebra and Algebraic Geometry Seminar at the University of Michigan in October 2004.

Closure Operations in Characteristic p , presented in the Student Commutative Algebra and Algebraic Geometry Seminar at the University of Michigan in April 2004.

Injective Modules and Injective Hulls, presented in the Student Commutative Algebra and Algebraic Geometry Seminar at the University of Michigan in February 2003.

Cohen-Macaulay Rings and Combinatorics, presented in the Student Combinatorics Seminar at the University of Michigan in November 2002.

Regular, Gorenstein, and Cohen-Macaulay Rings, presented in the Student Commutative

Algebra and Algebraic Geometry Seminar at the University of Michigan in November 2002.

Multiplicities of Degree -4 Roots of the Kac-Moody Lie Algebra $HA_N^{(1)}$, presented in the Mathematics Department Colloquium at the University of Dayton in April 2000.

**Mathematical
Reviews
(Abstracts):**

Reviewer for **Kustin, Andrew; Ulrich, Bernd**. *Socle degrees, resolutions, and Frobenius powers*, MR2526373.

Reviewer for **Yao, Yongwei**. *The direct sum decomposability of ${}^e M$ in dimension 2*, MR2492479.

Reviewer for **Epstein, Neil; Vraciu, Adela**. *A length characterization of $*$ -spread*, MR2441949.

Reviewer for **Mäurer, Björn; Stückrad, Jürgen**. *Parts of reducing systems of parameters*, MR2453950.

Reviewer for **Bondarenko, Vitaliy V**. *On classification of CM modules over hypersurface singularities*, MR2367510.

Reviewer for **Kustin, Andrew R.; Vraciu, Adela N**. *Socle degrees of Frobenius powers*, MR2346194.

Reviewer for **Epstein, Neil M**. *Phantom depth and stable phantom exactness*, MR2320653.

Reviewer for **Sharp, Rodney Y**. *Graded annihilators of modules over the Frobenius skew polynomial ring, and tight closure*, MR2309183.

Reviewer for **Khashyarmansh, K**. *On the uniform behaviour of the Frobenius closures of ideals*, MR2308821.

Reviewer for **Baeth, Nicholas R**. *A Krull-Schmidt theorem for one-dimensional rings of finite Cohen-Macaulay type*, MR2283435.

Reviewer for **Sharp, Rodney Y**. *On the Hartshorne-Speiser-Lyubeznik theorem about Artinian modules with a Frobenius action*, MR2262861.

Reviewer for **Sharp, Rodney Y**. *Tight closure test exponents for certain parameter ideals*, MR2252761.

Reviewer for **Baciu, Corina**. *Maximal Cohen-Macaulay modules and stable vector bundles*, MR2179191.

Reviewer for **Epstein, Neil M**. *A tight closure analogue of analytic spread*, MR2168094.

Reviewer for **Leuschke, Graham J.; Wiegand, Roger**. *Local rings of bounded Cohen-Macaulay type*, MR2162283.

Reviewer for **Leuschke, Graham J.; Wiegand, Roger**. *Hypersurfaces of bounded Cohen-Macaulay type*, MR2158755.

Reviewer for **Nguyen Thai Hoa; Nguyen Duc Minh**. *System of parameters for pseudo Cohen-Macaulay modules*, MR2179534.

**Conferences
and Workshops
Attended:**

Allegheny Mountain Section NExT Workshop on Financial Mathematics, University of Pittsburgh, September 2009.

Allegheny Mountain Section MAA Meeting, Wheeling Jesuit University, April 2009.

Commutative Algebra and Its Interactions. A Conference on Honor of Mel Hochster, University of Michigan, August 2008.

Conference on Undergraduate Research in Mathematics, Penn State University, November 2007.

MAA Mathfest, San Jose, California, August 2007.

Allegheny Mountain Section MAA Meeting, Mercyhurst College, April 2007.
Allegheny Mountain Section NExT Workshop on Math Modeling, Mercyhurst College, April 2007.
Joint Mathematics Meetings of the AMS and MAA, New Orleans, Louisiana, January 2007.
Allegheny Mountain Section NExT Workshop on History of Mathematics, University of Pittsburgh, September 2006.
Project NExT Workshop, Knoxville, Tennessee, August 2006.
MAA Mathfest, Knoxville, Tennessee, August 2006.
Joint Mathematics Meetings of the AMS and MAA, Atlanta, Georgia, January 2005.
Southeastern Sectional Meeting of the AMS, Vanderbilt University, October 2004.
Bluegrass Algebra Conference, University of Kentucky, April 2003.
Joint Mathematics Meetings of the AMS and MAA, Washington, D.C., January 2000.
Joint Mathematics Meetings of the AMS and MAA, San Antonio, Texas, January 1999.
Ohio MAA Section Meeting, University of Dayton, March 1999.
Ohio MAA Section Meeting, John Carroll University, April 1998.
Pi Mu Epsilon Student Conference, Miami University, September 1998.
MAA Mathfest, Toronto, Ontario, July 1998.
Pi Mu Epsilon Student Conference, Miami University, September 1997.

Awards and Honors:

Faculty Development Grant in Instructional Innovation with Technology, Gannon University, 2008 – 2009.
Faculty Development Grants, Gannon University, 10/06 (two), 2/07, 4/08.
National Project NExT Fellow, Mathematical Association of America, 2006 – 2007 (Sepia dot).
NSF VIGRE Fellowship, University of Michigan, Department of Mathematics, 9/00 – 12/04.
NSF Graduate Research Fellowship Honorable Mention, 3/00.
Faculty Award for Excellence in Mathematics, University of Dayton, Department of Mathematics, 5/00.
National Merit Finalist, 1996.

Service:

Hiring Committee, Department of Mathematics, Gannon University, 2009 – 2010.
Hiring Committee, Department of Physics, Gannon University, 2009 – 2010.
Faculty Senate, Gannon University, 2009 – present.
MCHPS College Academic Affairs Committee, Gannon University, 2008 – present.
Student Conduct Committee, Gannon University, 2007 – present.
Hiring Committee, Department of Mathematics, Gannon University, 2006 – 2007.
Grader, Math Counts Competition, Gannon University, 2/07, 2/08.
Referee for Journal of Algebra, 4/06.
Reviewer for Mathematical Reviews, 11/05 – present.
College of Arts and Sciences Academic Affairs Committee, University of Dayton,

8/99 – 5/00.

Contest Co-organizer for the University of Dayton Mathematics Contest, 2000.

Technology Skills: Maple, Mathematica, Geometer's Sketchpad, MINITAB, L^AT_EX, TI-calculators, WeBWorK, and C++.

Affiliations: **American Mathematical Society**

Mathematical Association of America

Secretary of University of Dayton Student Chapter, 8/98 – 5/99.

Pi Mu Epsilon Honorary Math Society

President of University of Dayton Chapter, 8/99 – 5/00.