

## CURRICULUM VITAE

DENNIS S. KEELER

### OFFICE

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### WORK

Miami University – Assistant Professor – 2003-present  
Massachusetts Institute of Technology – Moore Instructor – 2000-2003  
NSF Postdoctoral Fellow – 2000-2003

### EDUCATION

University of Michigan – PhD in Mathematics – August 2000  
Advisor: J.T. Stafford  
Miami University – MA in Mathematics – August 1995  
Miami University – BS in Math and Physics – Summa Cum Laude – May 1995

### AWARDS AND GRANTS

National Security Agency Young Investigator’s Grant – 2005-06  
Dean’s Summer Grant – Summer 2004  
Rackham Distinguished Dissertation Award – 2000  
Sumner Myers Dissertation Prize – 2000  
Wirt and Mary Cornwall Prize – 2000  
Rackham Predoctoral Fellowship – 1999-2000

### PUBLICATIONS

*Ample filters and Frobenius amplitude*, submitted, [arXiv:math.AG/0603388](https://arxiv.org/abs/math/0603388), 2006.  
with D. Rogalski and J.T. Stafford, *Naïve noncommutative blowing up*, *Duke Math J.*, **126** (2005), no. 3, 491–546. MR 2120116  
Appendix for: D. Arapura, *Frobenius amplitude and strong vanishing theorems for vector bundles*, *Duke Math. J.*, **121** (2004), no. 2, 231–267. MR 2005d:14025  
*Noncommutative ampleness for multiple divisors*, *J. Algebra* **265** (2003), no. 1, 299–311. MR 2004f:16045  
*The rings of noncommutative projective geometry*, *Advances in Algebra and Geometry* (Hyderabad, 2001), Hindustan Book Agency, 2003, pp. 195–207, [arXiv:math.RA/0205005](https://arxiv.org/abs/math/0205005), MR 2005a:16040  
*Ample filters of invertible sheaves*, *J. Algebra* **259** (2003), no. 1, 243–283. MR 2003m:14026  
*Noncommutative ample divisors*, Ph.D. thesis, University of Michigan, 2000.  
*Criteria for  $\sigma$ -ampleness*, *J. Amer. Math. Soc.* **13** (2000), no. 3, 517–532. MR 2001d:14003  
*Noncommutative algebraic geometry*, *Mathematics from a Christian Perspective* (Grand Rapids, 1999), pp. 111–114, available on my home page.

with L. Rodman and I. M. Spitkovsky, *The numerical range of  $3 \times 3$  matrices*, Linear Algebra Appl. **252** (1997), 115–139. MR 97k:15062

SELECTED PRESENTATIONS (• = invited)

- “Vanishing theorems in noncommutative geometry” - AMS Special Session, Eugene, Nov. 2005
- “Computation in noncommutative algebraic geometry” - AMS Special Session, Santa Barbara, Apr. 2005
- “Noncommutative algebra” – short course, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy – Aug. 2004
- “Naïve noncommutative blowing-up” – AMS Regional Meeting, Athens, OH – Mar. 2004
- “Naïve noncommutative blowing up” – Mittag-Leffler Institute, Sweden – Jan. 2004
- “Ample filters and Frobenius amplitude” - Joint Meetings – Jan. 2004
- “Noncommutative projective geometry” – U of Dayton – Nov. 2003
- “Naïve noncommutative blowing up” – Purdue U – Mar. 2003
- “Generalizations of Serre Vanishing” – U of Michigan – Mar. 2003
- “Exotic noncommutative surfaces, II” – “Algebras, Actions, and Algorithms” special session, Joint Meetings – Jan. 2003
- “Exotic noncommutative surfaces” – UW-Milwaukee Colloquium – Dec. 2002
- “Twisted homogeneous coordinate rings over comm. rings” – Interactions between Alg. Geom. and Noncomm. Alg., Oberwolfach – April 2002
- “Noncommutative curves and noncommutative surfaces” – Int’l Conference on Alg. and Geom., U of Hyderabad, India – Dec 2001
- “Ample filters of invertible sheaves” – U of Washington – Nov 2001
- “Finiteness conditions via intersections and linear algebra” and “Ample filters of invertible sheaves” – Baylor U – Oct 2001
- “Ample filters of invertible sheaves” – Noncomm. geom. summer school, Antwerp – Sept 2001
- “Finiteness conditions via intersections and linear algebra” – Sumner Myers Lecture, U of Michigan – April 2001
- “Noncommutative ample divisors” – thesis defense – May 10, 2000
- “A noncommutative analogue of ampleness” – UC-Berkeley Algebra Seminar – March 2000
- “ $\sigma$ -ample divisors” – Interactions between Alg. Geom. and Noncomm. Alg. Workshop at MSRI – Feb 2000
- “The  $\sigma$ -ample condition” – AMS von Neumann symposium at MSRI – Aug 1999

TEACHING

Linear Algebra - MTH 422 – Spring 2005  
 Calculus I - MTH 153 – Fall 2004, 2005  
 Abstract Algebra - MTH 621 – Fall 2004  
 Noncommutative Algebra - Advanced Summer School – Trieste, Italy – Aug 2004  
 Calculus II - MTH 251 – Spring 2004, 2006, Fall 2005  
 Intro to Abstract Algebra - MTH 421 – Spring 2004, 2006  
 Calculus I - MTH 151 – Fall 2003  
 Foundations of Geometry - MTH 411 – Fall 2003

Commutative Algebra II – independent study – Spring 2003  
 Commutative Algebra – graduate class – Fall 2002  
 Noncommutative Algebra – graduate class – Spring 2002  
 Honors Multivariable Calculus Recitations – 2 sections – Fall 2000  
 Calculus III Discussion – 4 sections – Fall 1998  
 Calculus I – Fall 1997 – full teaching responsibility, uniform exams  
 – Spring 1998 – full teaching responsibility, wrote exams  
 Precalculus – Fall 1996 – full teaching responsibility, uniform exams

## ASSOCIATIONS

American Mathematical Society  
 Mathematical Association of America  
 Association of Christians in the Mathematical Sciences

## SERVICE

Faculty adviser for International Justice Mission – Spring 2005  
 Algebra Comprehensive Examiner – Jan. 2005, 2006  
 Chair of Computer Committee (2004–06)  
 Computer Committee (2003–04)  
 Oral qualifying examiner in commutative algebra at MIT  
 Aided in publication of “Advances in algebra and geometry (Hyderabad, 2001)”  
 Referee for *Amer. Math. Monthly*, *Trans. Amer. Math. Soc.*, *J. Algebra*, and *Adv. Math*  
 Helped port *Macaulay2* to Mac OS X  
 Co-directed Christmas pageant at Oxford Bible Fellowship – 2003  
 Led Bible studies – 7 semesters in 2000–2004  
 Coleader in a preschool children’s program for church – 2000–2002  
 Tutored high school geometry – 2000–2001