

# Thomas Nevins

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## EDUCATION

**University of Chicago**, Ph.D., Mathematics, June, 2000.

**University of Notre Dame**, B.A. with highest honors, Mathematics and Philosophy,  
May, 1993.

## POSITIONS HELD

**University of Illinois at Urbana-Champaign**, Assistant Professor, Department of  
Mathematics, 2004–present.

**University of Michigan**, Assistant Professor, Department of Mathematics, 2000–2004.

**Mathematical Sciences Research Institute**, Postdoctoral Fellow, Spring 2002.

## HONORS AND AWARDS

**Beckman Fellow**, Center for Advanced Study, UIUC, 2007–2008.

**Plenary Speaker**, *Workshop on “D-Bundles and Integrable Hierarchies,”* University of  
Michigan, May, 2007.

**Dean’s Teaching Fellowship**, College of Liberal Arts and Sciences, University of Illinois  
at Urbana-Champaign, 2006–2007.

**NSF Research Grant** DMS-0500221, 2005–2009.

**Campus Research Board Grant**, University of Illinois, 2005.

**NSF Postdoctoral Research Fellowship**, University of Michigan, 2001–2004.

**Summer Research Fellowship**, Rackham Graduate School (University of Michigan),  
Summer 2001.

**Distinguished Seminar Grant** (jointly with Gilberto Bini and William Fulton) for Mod-  
uli Spaces Seminar, Rackham Graduate School, 2001–2002.

**MSRI Postdoctoral Fellow**, Spring 2002.

**NDSEG Graduate Fellow** (Department of Defense), University of Chicago, 1993–1997.

**Graduate Teaching Award Nominee**, University of Chicago Physical Sciences Division,  
1995–1996 and 1998–1999.

## PUBLICATIONS

- [1] “Degrees of convex dependence in recursively enumerable vector spaces,” *Ann. Pure Appl. Logic* **60** (1993), no. 1, 31–47.
- [2] “Representability for some moduli stacks of framed sheaves,” *Manuscripta Math.* **109** (2002), 85–91.
- [3] “Moduli spaces of framed sheaves on certain ruled surfaces over elliptic curves,” *Internat. J. Math.* **13** (2002), no. 10, 1117–1151.
- [4] “Cusps and  $\mathcal{D}$ -modules,” with D. Ben-Zvi, *J. Amer. Math. Soc.* **17** (2004), 155–179.
- [5] “Geometry of Calogero-Moser systems,” with J. Hurtubise, *Ann. Inst. Fourier* **55** (2005), no. 6, 2091–2116.
- [6] “Stringy Chern classes of singular varieties,” with T. de Fernex, E. Lupercio, and B. Uribe, *Advances in Math.* **208** (2007), no. 2, 597–621.
- [7] “A localization principle for orbifold theories,” with T. de Fernex, E. Lupercio, and B. Uribe, in “Recent Developments in Algebraic Topology,” A. Ádem et al., eds., *AMS Contemp. Math.* **407** (2006), 113–133.
- [8] “Sklyanin algebras and Hilbert schemes of points,” with J.T. Stafford, *Adv. in Math.* **210** (2007), no. 2, 405–478.
- [9] “From solitons to many-body systems,” with D. Ben-Zvi, *Pure Appl. Math. Q.* **4** (2008), no. 2 (F. Bogomolov special issue), 319–361.
- [10] “Flows of Calogero-Moser systems,” with D. Ben-Zvi, *Int. Math. Res. Not.* **2007** (2007), article ID rnm105, 38 pages, doi:10.1093/imrn/rnm105.
- [11] “Perverse bundles and Calogero-Moser spaces,” with D. Ben-Zvi, *Compositio Math.*, accepted for publication (29 pages).
- [12] “Descent of coherent sheaves and complexes to geometric invariant theory quotients,” *J. Algebra*, accepted for publication (13 pages).
- [13] “ $\mathcal{D}$ -bundles and integrable hierarchies,” with D. Ben-Zvi, submitted (56 pages).
- [14] “Mirabolic Langlands duality and the quantum Calogero-Moser system,” submitted (45 pages).

## INVITED LECTURES

### **2008:**

University of Manchester, *Geometry Seminar*, May.

University of Edinburgh, *Algebra Seminar*, May.

University of Oxford, *Algebraic and Symplectic Geometry Seminar*, May.

Imperial College, London, *London Topology and Geometry Seminar*, May.

AMS Special Session on  *$\mathcal{D}$ -Modules*, Indiana University, April.

### **2007:**

CRM Montréal, *Workshop on Nonlinear Integral Transforms*, August.

University of Michigan, *Workshop on  $F$ -Singularities and  $\mathcal{D}$ -Modules*, August.

Northwestern University, *Trends in Noncommutative Geometry*, May.

Ohio State University, *Algebraic Geometry Seminar*, May.

University of Michigan, *Workshop on “ $\mathcal{D}$ -Bundles and Integrable Hierarchies,”*, May.

University of Wisconsin-Madison, *Algebraic Geometry Seminar*, April.

University of Texas-Austin, *Geometry Seminar*, March.

### **2006:**

AMS Special Session on *Birational Geometry*, University of Cincinnati, October.

Boston University, *Geometry Seminar*, October.

Ohio State University, *Algebraic Geometry Seminar*, May.

### **2005:**

Western Algebraic Geometry Seminar, Salt Lake City, December.

Cornell University, *Oliver Club (Colloquium)* and *Lie Groups Seminar*, November.

Northwestern University, *Geometry/Physics Seminar*, November.

Northern Illinois University, *Colloquium*, November.

AMS Special Session on Noncommutative Algebra and Geometry, Santa Barbara, April.

### **2004:**

Columbia University, *Algebraic Geometry Seminar*, April.

Princeton University, *Geometry, Representation Theory, and Moduli Seminar*, March.

University of Oregon, *Colloquium*, February.

Michigan State University, *Colloquium*, January.

University of Kansas, *Colloquium* and *Algebra Seminar*, January.

University of Illinois at Urbana-Champaign, *Colloquium*, January.

University of Notre Dame, *Colloquium* and *Algebra Seminar*, January.

University of Utah, *Colloquium* and *Algebraic Geometry Seminar*, January.

Ohio State University, *Algebraic Geometry Seminar*, January.

**2003:**

SUNY Buffalo, *Colloquium*, December.

Kansas State University, *Colloquium*, December.

University of Massachusetts–Amherst, *Colloquium*, December.

Johns Hopkins University, *Algebraic and Complex Geometry Seminar*, December.

Ohio State University/Univ. of Michigan Algebraic Geometry Workshop, November.

Cornell University, *Oliver Club (Colloquium)* and *Lie Groups Seminar*, November.

CRM, Montréal, *Mathematical Physics Seminar*, November.

University of Illinois at Urbana-Champaign, *Algebraic Geometry Seminar*, September.

Michigan State University, *Symplectic Geometry Seminar*, April.

AMS Session on Algebraic Geometry and Integrable Systems, NYU, April.

**2002:**

Rice University, *Algebraic Geometry Seminar*, November.

University of Pennsylvania, *Algebra Seminar*, September.

MSRI, *Workshop on Non-Abelian Hodge Theory*, April.

UC Berkeley/Stanford University, *Joint “Compactifications” Seminar*, March.

**2000–2001:**

University of Wisconsin–Madison, *Topology/Geometry Seminar*, February 2001.

University of Illinois at Urbana–Champaign, *Differential Geometry Seminar*, October 2000.

University of Notre Dame, *PDE, Complex Analysis, and Differential Geometry Seminar*, May 2000.

University of Pennsylvania, *Math/Physics Seminar*, April 2000.

University of Michigan, *Algebraic Geometry Seminar*, January 2000.

## TEACHING EXPERIENCE

**University of Illinois at Urbana-Champaign**

Calculus III (Mathematics 241), Spring 2008. A large lecture course in multivariable calculus.

Calculus III (Mathematics 241), Spring 2007. A large lecture course in multivariable calculus.

Honors Algebraic Geometry (Mathematics 428), Autumn 2006. A first course in algebraic geometry for undergraduates, focusing on the geometry of algebraic curves. *Named to “Incomplete List.”*

Honors Algebra I (Mathematics 427), Spring 2006. An introductory, example-oriented course on groups, rings, and fields for Honors Mathematics undergraduates.

Algebraic Geometry II (Mathematics 595), Autumn 2005. A course on cohomology of varieties with applications to the geometry of curves and surfaces for second-year graduate students.

Algebraic Geometry I (Mathematics 511), Spring 2005. A course in schemes and their cohomology for second-year graduate students.

Fundamental Mathematics (Mathematics 347), Autumn 2004. A first course in reading and writing proofs for undergraduates.

Abstract Algebra I (Mathematics 500), Autumn 2004. A first-semester graduate course in groups, rings, and fields for mathematics graduate students.

### **University of Michigan**

Introduction to Linear Algebra (Mathematics 513), Winter 2003. Taught a course in abstract linear algebra for graduate students in engineering and talented undergraduates.

Honors Calculus I (Mathematics 185), Autumn 2001. Taught a rigorous one-variable calculus course for talented undergraduates.

Multivariable Calculus (Mathematics 215), Winter 2001. Taught a multivariable calculus course (including managing a graduate student assistant).

Calculus I (Mathematics 115), Autumn 2000. Taught a discussion- and group-work based calculus course (three sections).

### **University of Chicago**

Calculus 131-132-133, 1995–1996, 1998–1999, and 1999–2000. Taught an introductory-level calculus course with responsibility for all aspects of the course. *Nominated for Physical Sciences Division graduate teaching prize in 1995–1996 and 1998–1999.*

Calculus 151-152-153, 1997–1998. Taught a rigorous one-variable calculus course with responsibility for all aspects of the course.

College Fellow, Honors Calculus, 1994–1995. Conducted problem sessions; helped write and grade tests; lectured twice per term.

## **PROFESSIONAL SERVICE**

Organizer, AMS Special Session on “Topological field theories, representation theory, and algebraic geometry,” AMS Sectional Meeting, Urbana-Champaign, March 2009.

Organizer, Algebraic Geometry Seminar, University of Illinois at Urbana-Champaign, 2004–2005.

Co-organizer (with grad student B. Snapp), Graduate Student Summer Algebraic Geometry Seminar, 2005.

Graduate student mentor, VIGRE Teaching Apprenticeship Program, University of Michigan, Winter 2003.

Organizer (with G. Bini, G. Farkas, and A. Gibney) of *Conference on Curves and Their Moduli* (AMS Special Session), Ann Arbor, March 2002.

Referee/reviewer for *Advances in Mathematics*, AMS *Mathematical Surveys and Monographs* series, Birkhäuser *Progress in Mathematics* series, *Duke Mathematical Journal*, *Journal of Algebra*, *Journal of Algebraic Geometry*, *Journal of the American Mathematical Society*, *Journal of Pure and Applied Algebra*, *Mathematical Research Letters*, *Topology*.

Reviewer for Math Reviews.

Reviewer for National Security Agency.

## DEPARTMENTAL SERVICE

Committee to design new Math 241 curriculum, Spring 2008.

Algebraic Geometry Area Chair, 2006–2007.

Honors Committee, 2006–2007.

Postdoc Hiring Committee, 2004–2006 (chair, 2005–2006).

Algebra Comprehensive Exam Committee, 2005–2006.

Graduate Teaching Awards Committee, Spring 2006.

Department of Mathematics Chair Search Committee, 2006.

Peer reviewer for Campus Research Board.