

COURANT INSTITUTE OF MATHEMATICAL SCIENCES

Benjamin Bakker
New York University
251 Mercer Street
New York, N.Y. 10012-1185

October 1, 2011

Contact information

Courant Institute of Mathematical Sciences
New York University
New York, NY 10012-1185
Telephone: 774-722-2614
e-mail: bakker@cims.nyu.edu
web-page: <http://math.nyu.edu/~bakker>

Personal information

Born March 5, 1985 in Hyannis, Massachusetts, USA
U.S. Citizen

Education

Ph.D. in Mathematics, Princeton University, Princeton, 2010
Advisor: Rahul Pandharipande
Thesis title: *Hodge polynomials of moduli spaces of stable pairs on K3 surfaces*
A.B. in Mathematics and Physics, Harvard University, Cambridge, 2005
Advisor: Shing-Tung Yau
Thesis title: *Toric varieties and mirror symmetry*

Positions

Courant Institute, New York, New York
NSF Postdoctoral Fellow, 2011-2014
Courant Instructor, 2010-2014

Honors

National Science Foundation Postdoctoral Fellowship, 2011-2014
Elected to Phi Beta Kappa as a Junior at Harvard University, 2004

Teaching experience

Graduate Algebra I (MATH-GA 2130.001), New York University, Fall 2011
Graduate Algebraic Topology II (G63.2320), New York University, Spring 2011
Calculus (V63.0121), New York University, Fall 2010
Calculus (Math 103), Princeton University, Fall 2007
Teaching Assistant at Princeton University:
Linear Algebra (Math 202): Fall 2006
Multivariable Calculus (Math 201): Spring 2007
Calculus (Math 104): Spring 2008

Ordinary Differential Equations (Math 303): Fall 2008
Analysis in Several Variables (Math 218): Spring 2009
Advanced Multivariable Calculus (Math 203): Fall 2009
Numbers, Equations, and Proofs (Math): Spring 2010
Course Assistant at Harvard University:
Multivariable Calculus (Math 21a/b): 2002, 2004, 2005
Honors Multivariable Calculus and Linear Algebra (Math 25a): 2003
Awarded Derek Bok Certificate for Distinction in Teaching, Harvard University, 2003

Research interests

Algebraic Geometry, Geometry, Representation Theory, Category Theory and Homological Algebra

Papers

Monodromy invariants of hilbert schemes of points on K3 surfaces, with A. Jorza, *in preparation*
Lagrangian hyperplanes in holomorphic symplectic varieties, with A. Jorza, *in preparation*
Lagrangian hyperplanes in holomorphic symplectic varieties: computational appendix, with A. Jorza, *in preparation*
Higher rank stable pairs on K3 surfaces, with A. Jorza, *submitted*

Selected talks

Monodromy orbits of Lagrangian hyperplanes
New York University, Courant Institute, October 13, 2011
Lagrangian hyperplanes in holomorphic symplectic varieties
Harvard/MIT Algebraic Geometry Seminar, October 4, 2011
Higher stable pair invariants on K3 surfaces
Courant Institute, Holomorphic Symplectic Varieties, June 5, 2011
Moduli spaces of stable pairs on K3 surfaces
Courant Institute, Algebraic Geometry Seminar, November 8, 2010
Through the Looking-Glass: Homological Mirror Symmetry of Elliptic Curves
Princeton University, Graduate Student Seminar, October 26, 2010
Gromov-Witten theory and sheaf-counting invariants of K3 surfaces
New York University, Courant Institute, October 8, 2010
Higher Donaldson-Thomas invariants of K3 surfaces
Columbia University, Algebraic Geometry Seminar, September 24, 2010
Hodge polynomials of moduli spaces of coherent systems on K3 surfaces
Princeton University, Geometry, representation theory, and moduli seminar, March 1, 2010

Conferences attended

Algebraic Geometry Northeastern Series
Stony Brook University, Stony Brook, 2011
A Celebration of Algebraic Geometry
Harvard University, Cambridge, 2011
Holomorphic Symplectic Varieties

Courant Institute, New York, 2011

Moduli Spaces and Moduli Stacks

Columbia University, New York, 2011

Workshop on Sheaf-Theoretic Methods in Symplectic Topology

Institute for Advanced Study, Princeton, 2011

Algebraic Geometry Northeastern Series

MIT, Cambridge, 2011

Algebraic Geometry Northeastern Series

University of Massachusetts, Amherst, 2010

Geometry Summer School

Instituto Superior Técnico, Lisbon, 2009

Aspects of Moduli Theory

Scuola Normale Superiore di Pisa, Pisa, 2008

Algebraic and Symplectic Geometry of Uniruled and Rationally Connected Manifolds

Stony Brook University, Stony Brook, 2008

Homological Mirror Symmetry and Applications

Institute for Advanced Study, Princeton, 2007

Clay Summer School on Arithmetic Geometry

Georg-August Universität, Göttingen, 2007

The Geometry and Physics of Gromov-Witten Theory

Mathematical Sciences Research Institute, Berkeley, 2006

Geometry and Arithmetic

Institute for Advanced Study, Princeton, 2005

Laguanges

Fluent: English

Familiar: Spanish, Arabic, Classical Greek

References

Rahul Pandharipande, Princeton University, rahulp@math.princeton.edu

Andrei Okounkov, Princeton University, okounkov@math.princeton.edu

Michael Thaddeus, Columbia University, thaddeus@cpw.math.columbia.edu

Yuri Tschinkel, New York University, tschinkel@cims.nyu.edu

Alexei Oblomkov, UMass Amherst, oblomkov@math.umass.edu

Robert Gunning (teaching reference), Princeton University, gunning@math.princeton.edu