

Ben Weinkove

Curriculum Vitae

CONTACT INFORMATION

Harvard University
Mathematics Department
1 Oxford Street
Cambridge, MA 02138, USA

POSITIONS

Harvard University

Benjamin Peirce Assistant Professor July, 2004 - present

Imperial College London

Royal Society Research Assistant July 2005 - July 2006

EDUCATION

Columbia University

Ph.D., Mathematics, May 2004, with distinction

Ph.D. advisor: D.H. Phong

MPhil, Mathematics, May 2004

MA, Mathematics, May 2000

Oxford University

MMath, May 1999, first class honours

PUBLICATIONS

D.H. Phong, J. Song, J. Sturm, B. Weinkove, *The Kähler-Ricci flow with positive bisectional curvature*, arXiv:0706.2852 [math.DG]

D.H. Phong, J. Song, J. Sturm, B. Weinkove, *The Kähler-Ricci flow and the $\bar{\partial}$ operator on vector fields*, arXiv:0705.4048 [math.DG]

J. Song, B. Weinkove, *Constructions of Kähler-Einstein metrics with negative scalar curvature*, arXiv:0704.1005 [math.DG]

V. Tosatti, B. Weinkove, S.-T. Yau, *Taming symplectic forms and the Calabi-Yau equation*, arXiv:0703773 [math.DG]

D.H. Phong, J. Song, J. Sturm, B. Weinkove, *The Moser-Trudinger inequality on Kähler-Einstein manifolds*, to appear in Amer. J. Math.

V. Tosatti, B. Weinkove, *The Calabi flow with small initial energy*, to appear in Math. Res. Lett.

J. Song, B. Weinkove, *On the convergence and singularities of the J-flow with applications to the Mabuchi energy*, to appear in Comm. Pure Appl. Math.

B. Weinkove, *The Calabi-Yau equation on almost-Kähler four-manifolds*, J. Differential Geometry 76 (2007), 317–349

J. Song, B. Weinkove, *Energy functionals and canonical Kähler metrics*, Duke Math. J. 137 (2007), no. 1, 159–184

J. Song, B. Weinkove, *On Donaldson's flow of surfaces in a hyperkähler four-manifold*, Math. Z. 256 (2007), no. 4, 769–787

B. Weinkove, *A complex Frobenius theorem, multiplier ideal sheaves and Hermitian-Einstein metrics on stable bundles*, Trans. Amer. Math. Soc. 359 (2007), no. 4, 1577–1592

B. Weinkove, *On the J-flow in higher dimensions and the lower boundedness of the Mabuchi energy*, J. Differential Geom. 73 (2006), no. 2, 351–358

B. Weinkove, *Convergence of the J-flow on Kähler surfaces*, Comm. Anal. Geom. 12 (2004), no. 4, 949–965

B. Weinkove, *Singularity formation in the Yang-Mills flow*, Calc. Var. Partial Differential Equations 19 (2004), no. 2, 211–220

B. Weinkove, *The J-flow, the Mabuchi energy, the Yang-Mills flow and multiplier ideal sheaves*, PhD thesis, Columbia University 2004

GRANTS AND
AWARDS

National Science Foundation Grant DMS 05-04285, 2005-2008

Teaching award, Harvard University, 2005

Scholarship of Hertford College, University of Oxford, 1996-1999

INVITED TALKS

Workshop on Complex Geometric Analysis, USTC, Hefei, July 2007

UCI-UCSD Joint Geometry Seminar, UC San Diego, June 2007

Symposia on Analysis of Geometric Evolution, UT Austin, May 2007

Geometry/Physics Seminar, Northwestern University, April 2007

Geometry and Analysis Seminar, Columbia University, April 2007

Algebraic geometry seminar, Rice University, April 2007

Workshop on geometric flows, Warwick University, March 2007

Geometric analysis seminar, Purdue University, February 2007

Geometry seminar, MIT, February 2007

Seminar, Geometric evolution equations, MSRI, January 2007

Workshop in Geometry, Chinese University of Hong Kong, January 2007

Differential Geometry Seminar, University of Minnesota, November 2006

Geometry and String Theory Seminar, Imperial College, October 2006

Workshop on Geometric Flows, MSRI, September 2006

Workshop on Extremal metrics and Stability, Edinburgh, July 2006

Complex Geometry Seminar, Johns Hopkins University, April 2006

Analysis Seminar, Warwick University, April 2006

Geometry Seminar, Edinburgh University, October 2005

Workshop on Global Differential Geometry, Oberwolfach, Aug. 2005

Workshop on Geometric Analysis, UC San Diego, July 2005

Topology Seminar, Oxford University, June 2005

Geometry and Topology Seminar, Imperial College, June 2005

Kuranishi Conference, Columbia University, May 2005

Geometry and Analysis Seminar, MIT, April 2005

Geometry Seminar, UC San Diego, February 2005

Geometry and Analysis Seminar, Columbia University, February 2005

Differential Geometry Seminar, Harvard University, October 2004
Conference on Asymptotic and Effective Results in Complex Geometry,
Johns Hopkins University, March 2004
Differential Geometry Symposium, Tsukuba, Japan, December 2003
Analysis Seminar, Johns Hopkins University, November 2003
Geometric Analysis Seminar, Wisconsin, Madison, October 2003
Geometric Analysis Seminar, Princeton University, September 2003
Centre de Recherches Mathématiques, Montreal, August 2003

LECTURE SERIES *Kähler and almost-Kähler geometry*, University of Science and Technol-
ogy of China, July 2007

Yau's Theorem and the complex Monge-Ampère equation, Institute of
Mathematical Sciences, Chinese University of Hong Kong, January 2007

TEACHING

Harvard University

Calculus 21a, Spring 2007

The Magic of Numbers, Fall 2006

Calculus Xb, Spring 2005

Calculus Xa, Fall 2004

Differential Geometry (graduate level), Fall 2004

Columbia University

Calculus IA, Summer 2001, Fall 2001, Spring 2002, Summer 2004

College algebra and analytic geometry, Summer 2000, Summer 2003

Calculus IIA, Fall 2002, Spring 2003

Ordinary differential equations, Summer 2002

SERVICES

National Science Foundation panelist, February 2007

Co-organizer of Colloquium, Harvard University, 2007-2008

Co-organizer for seminar on cscK metrics and stability, Imperial College
2005

Member of Harvard Qualifying Exams Committee, 2006-2007 and Har-
vard Graduate Admissions Committee, 2004-2005

Minor thesis advisor, Harvard University, 2005

Referee for a number of journals, including Journal of Differential Ge-
ometry, Inventiones Mathematicae, American Journal of Mathematics,
Communications in Analysis and Geometry, International Mathematics
Research Notices.