

## Zheng Hua

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Department of Mathematics *Home page:* www.http://hkumath.hku.hk/ huazheng/  
University of Hong Kong  
Pokfulam, Hong Kong

RESEARCH INTERESTS **Algebraic Geometry**  
Calabi-Yau manifolds, derived category, Donaldson-Thomas theory.

CURRENT POSITION **University of Hong Kong**, Hong Kong, China  
*Assistant professor*

PREVIOUS POSITIONS **Kansas State University**, Manhattan, KS, U.S.  
*Visiting assistant professor* **Sep, 2011 - May 2012**  
Sponsors: Ricardo Castano Bernard & Yan Soibelman.  
**University of British Columbia**, Vancouver, BC, Canada  
*Postdoctoral fellow* **August, 2009 - August, 2011**  
Sponsors: Kai Behrend & Jim Bryan.

VISITING POSITIONS **University of Oxford**, U.K.  
Oct - Nov, 2012

**Chinese University of Hong Kong**, Hong Kong  
Sep 2012 - Aug 2013

**Imperial college London**, London, UK  
Feb - April, 2011

**Max-Planck-Institute fur Mathematik**, Bonn, Germany  
May - Aug, 2010 May - Aug, 2012

EDUCATION **University of Wisconsin-Madison**, Madison, Wisconsin, USA  
Ph.D. in Mathematics, May 2009  
• Dissertation: "Derived categories of toric stacks and Calabi-Yau varieties"  
• Advisor: Lev A. Borisov  
**Zhejiang University**, Hangzhou, China  
B.S., Mathematics at Zhu Ke-zhen Honor College, June, 2004  
**Middle school affiliated to Nanjing Normal University**, Nanjing, China  
Sep 1994 - June 2000

HONORS AND  
AWARDS

AMS-Simons Travel Grant 2012-2014

INFORMS Outstanding Prize in the Mathematical Contest in Modeling  
The Institute for Operations Research and the Management Sciences, 2002

PUBLICATIONS

1. L. Borisov, Z. Hua  
*Calabi-Yau threefolds with nonabelian fundamental groups.*  
Proc. Amer. Math. Soc. 136 (2008), 1549-1551.
2. Z. Hua  
*Classification of free actions on complete intersections of four quadrics.*  
Adv. Theor. Math. Phys. 15 (2011) 118
3. L. Borisov, Z. Hua  
*On the conjecture of King for smooth toric Deligne-Mumford stacks.*  
Advances in Mathematics Volume 221, Issue 1, 1 May 2009, Pages 277-301.
4. Z. Hua  
*On the Grothendieck groups of toric stacks.*  
Preprint arXiv:0904.2824.
5. Z. Hua  
*Chern-Simons functions on toric Calabi-Yau threefolds and Donaldson-Thomas theory.* preprint arXiv:1103.1921. Submitted
6. D.-E. Diaconescu, Z. Hua, Y. Soibelman  
*HOMFLY polynomials, stable pairs and motivic Donaldson-Thomas invariants.* Communication of Number theory and Physics, Volume 6, Number 3, 517600, 2012
7. Z. Hua *Spin structure on moduli space of sheaves on Calabi-Yau threefold.*  
preprint arXiv:1212.3790. Submitted

RECENT RESEARCH  
INTERESTS

- *Quantization of Donaldson-Thomas theory.* Joint with Kai Behrend
- *Bridgeland stability conditions on Calabi-Yau manifolds*

TALKS

- *Triangulated categories of singularities.* Zhejiang University; December 2006.
- Algebraic Geometry Seminar, University of Wisconsin-Madison; 2007.
- Geometry and Physics Seminar, University of Michigan, Ann Arbor; September, 2008.
- Algebraic Geometry Seminar, University of British Columbia; 2009.
- Algebraic Group Seminar, University of British Columbia; 2009.
- Algebraic Geometry Seminar, Rutgers University; Feb 2010.
- Algebraic Geometry Seminar, University of British Columbia; Sep 2010.
- Algebraic Geometry Seminar, Nagoya University; Jan 2011.
- Algebraic Geometry Seminar, RIMS, Kyoto University; Jan 2011.
- Algebraic Geometry Seminar, Imperial college London; Feb 2011.
- Mirror symmetry Seminar, Kansas State University; Sep 2011.
- Geometry Seminar Chinese Univ. of Hong Kong; Dec 2011.
- Algebraic Geometry Seminar University of Wisconsin-Madison, March 2012
- String theory Seminar Rutgers University, Apr 2012
- Geometry and Topology Seminar University of Missouri-Columbia, May 2012
- Conference on Mirror symmetry and related topics Kunming, China, Aug 2012
- Hong Kong geometry colloquium Hong Kong, Sep 2012
- Geometry seminar University of Oxford, Oct 2012

- Geometry and topology seminar Imperial college on London, Oct 2012

SERVICES

- Referee for *Glasgow Mathematical Journal*, *Advances in Mathematics*, *Compositio Mathematica*, *Journal of Differential geometry*, *Geometry and Topology*
- Reviewer of Math reviews of American Math Society.
- Reviewer of Zentralblatt MATH.
- Co-organizer of Algebraic Geometry seminar in University of British Columbia, Sep 2009- Aug 2011.
- Co-organizer of Mirror Symmetry seminar in Kansas State University, Sep 2011-Present.
- Co-organizer of AMS workshop on Mirror symmetry and algebraic geometry, March 2012.