

Curriculum Vitae

Wanmin Liu

Address: IBS Center for Geometry and Physics Phone: +82-54-279-9179
Math Sci Bldg Rm 108, POSTECH Email: wanminliu@gmail.com
Pohang 37673, Republic of Korea Skype: wanminliu
Website: <https://sites.google.com/site/wanminliu/>

Employment

2015/12 – current: Research Fellow (Postdoc)
IBS Center for Geometry and Physics
Pohang, Republic of Korea

2014/09 – 2015/06: Research Assistant on a part-time basis
Department of Mathematics
Hong Kong University of Science and Technology (HKUST)

Education

2007/09 – 2015/06: Ph.D., Hong Kong University of Science and Technology, Hong Kong
Major in Algebraic Geometry, Mathematics
Thesis: Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces
Advisor: Wei-Ping Li

2004/09 – 2007/07: M.S., Lanzhou University, China
Major in Partial Differential Equations, Mathematics
Thesis: Infinitely many solutions for two noncooperative $p(x)$ -Laplacian elliptic systems.
Advisor: Xian-Ling Fan

2000/09 – 2004/07: B.S., Lanzhou University, China
Major in Mathematics
Thesis: An exact inequality involving Luxemburg norm and conjugate-Orlicz norm in $L^{p(x)}(\Omega)$

Research Interests

Algebraic Geometry: Bridgeland stability conditions, moduli space, derived category, birational geometry, counting invariants and wall-crossing.

Publications and Pre-prints

2015 *Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces*, Ph.D. Thesis, HKUST.
2015 *Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces*, arXiv:1501.06397.
2006 (with Xian-Ling Fan) *An exact inequality involving Luxemburg norm and conjugate-Orlicz norm in $L^{p(x)}(\Omega)$* , Chinese Ann. Math. Ser. A, 27 (2006), no. 2, 177–188; English translation in *Chinese J. Contemp. Math.* 27 (2006), no. 2, 147158.

Scientific/Academic Honours and Grants

2016 IBS-CGP Research Grant.
2015 UGC Research Travel Grant, RTG14/15.SC049, HKUST.
2011 The Din-Yu Hsieh Teaching Award (Best TA) of the Department of Mathematics of HKUST.
2007 – 2011 Postgraduate Studentships, HKUST, - Doctorate.
2004 – 2007 Postgraduate Scholarship, Lanzhou University, - Masters.

Selected Seminars and Presentations

- 2015 Nov. HKUST, Hong Kong. HKUST Seminar on Geometry: *Lectures on Bayer-Macri's Nef Line Bundle Theory* (Two lectures).
- Mar. Chinese University of Hong Kong, Hong Kong. CUHK/UM Joint International Workshop in Geometry: *Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces*.
- Mar. IBS Center for Geometry and Physics, Pohang, Republic of Korea. *Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces*.
- Feb. University of Stavanger, Stavanger, Norway. The Stavanger Algebraic Geometry Seminar: *Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces*.
- Feb. KTH Royal Institute of Technology, Stockholm, Sweden. KTH & SU Algebra and Geometry Seminar: *Bayer-Macri decomposition on Bridgeland moduli spaces over surfaces*.
- 2014 Nov. The University of Hong Kong, Hong Kong. Geometry Seminar: *Perverse coherent sheaves on blow-ups*.
- 2014 Mar. HKUST, Hong Kong. HKUST PhD Student Seminar: *Some Bridgeland stability conditions on an elliptic K3 surface with a section*.
- 2013 Apr. HKUST, Hong Kong. HKUST Department Seminar on Pure Mathematics: *Perverse coherent sheaves on blow-ups* (Three lectures).
- 2013 Feb. HKUST, Hong Kong. HKUST PhD Student Seminar: *Bridgeland moduli space on \mathbb{P}^2 and wall-crossing*.
- 2012 Apr. HKUST, Hong Kong. HKUST PhD Student Seminar: *Wall-chamber structures on the Bridgeland stability conditions on surfaces*.
- 2011 Sept. HKUST, Hong Kong. HKUST PhD Student Seminar: *Notes on Bridgeland stability conditions on surfaces*.
- 2010 May. HKUST, Hong Kong. HKUST PhD Student Seminar: *Moduli spaces of framed sheaves*.
- 2009 June. HKUST, Hong Kong. HKUST PhD Student Seminar: *Grothendieck's Quot-scheme*.

Selected Conferences Attended

- 2016 Jan. **Winter School "Rational Curves on Algebraic Varieties"**, Organized by Korea Institute for Advanced Study, Busan, Republic of Korea.
- 2016 Jan. **String Field Theory of the B-Model**, IBS Center for Geometry and Physics, Pohang, Republic of Korea.
- 2015 July **2015 Summer Research Institute on Algebraic Geometry**, University of Utah, Salt Lake City, USA.
- Feb. **Workshop "Geometry from stability conditions"**, University of Warwick, Coventry, United Kingdom.
- 2014 Dec. **Advanced Seminar on Symplectic Geometry and Topological Field Theory**, Beijing International Center for Mathematical Research, Peking University, Beijing, China.
- 2013 July **Gromov-Witten Theory and Quantization**, HKUST, Hong Kong, 2013/07.
- Mar. **Graduate Student Workshop on Moduli Spaces and Bridgeland Stability**, University of Illinois at Chicago, Chicago, USA.
- 2010 Aug. **Categorical Methods in Geometry and Gauge Theory**, Chern Institute, Nankai University, Tianjin, China.
- 2008-2015 **Hong Kong Geometry Colloquium**, Joint by the Chinese University of Hong Kong (CUHK), the University of Hong Kong (HKU) and the Hong Kong University of Science and Technology (HKUST), Hong Kong, regularly.

Invited Academic Visits

- 2015 Dec. Prof. Wei-Ping Li at HKUST (Hong Kong) during 17-Dec-2015 – 23-Dec-2015.

- June Dr. Kiryong Chung at Korea Institute for Advanced Study (KIAS) at Seoul (Republic of Korea) (Canceled).
- Mar. IBS Center for Geometry and Physics at Pohang (Republic of Korea) during 2-Mar-2015 – 5-Mar-2015.
- Feb. Prof. Martin G. Gulbrandsen at University of Stavanger (Norway) during 24-Feb-2015 – 26-Feb-2015.
- Feb. University of Warwick (United Kingdom) during 14-Feb-2015 – 21-Feb-2015.
- 2013 Oct. Dr. Changzheng Li at the Kavli Institute for the Physics and Mathematics of the Universe (IPMU) at Tokyo (Japan) during 20-Oct-2013 – 27-Oct-2013.

Teaching Activities

Teaching assistant at Hong Kong University of Science and Technology

- 2011 Spring Ordinary Differential Equation
- 2010 Fall Differential Geometry
- 2009 Fall Concept in Math
- 2009 Fall Linear Algebra
- 2009 Spring Analysis
- 2008 Fall Differential Geometry
- 2008 Spring Complex Analysis

Teaching assistant at Lanzhou University

- 2004 Fall Functional Analysis
- 2004 Spring Differential Geometry

Updated: January 16, 2016