Curriculum Vitae
Wanmin Liu

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Employment

2019/01 – current: Researcher
Department of Mathematics
Uppsala University, Sweden
https://www.math.uu.se/

2015/12 – 2018/11: Research Fellow (Postdoc)
IBS Center for Geometry and Physics
Pohang, Republic of Korea
https://cgp.ibs.re.kr

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

Education

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

2007: 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

2004: 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 spaces, birational geometry,
derived and triangulated categories, counting invariants and wall-crossing.

Publications

2019 ——, Song Yang, Xun Yu, *Classification of full exceptional collections of line bundles on three blow-ups of* $\mathbb{P}^3$, Journal of the Korean Mathematical Society, Vol. 56, No. 2 (2019), 387-419. (See also arXiv:1810.06367, and a previous version, titled by *On exceptional collections of line bundles of maximal length on the blow-ups of* $\mathbb{P}^3$, at CGP17025.)

2018 ——, *Bayer-Macrì decomposition on Bridgeland moduli spaces over surfaces*, Kyoto Journal of Mathematics, Vol. 58, No. 3 (2018), 595-621. (See also arXiv:1501.06397).

2015 ——, *Bayer-Macrì decomposition on Bridgeland moduli spaces over surfaces*, Ph.D. Thesis, HKUST.

Preprints

2019 Mu-Lin Li, ——, *A note on limits of Kähler manifolds under deformation*, submitted, 2019 Apr.

2018 ——, Jason Lo, *Fourier-Mukai transforms of stable torsion-free sheaves on Weierstrass elliptic surfaces*, preprint, CGP18043.

Selected Seminars and Presentations

2019 May Stockholm University, Stockholm, Sweden. KTH & SU Algebra and Geometry Seminar: *Fourier-Mukai transforms of slope stable torsion-free sheaves on Weierstrass elliptic surfaces.*

—— Jan Uppsala University, Uppsala, Sweden. Geometry and Topology Seminar: *Bridgeland stability conditions and applications, I, II.*

2018 Oct University of Science and Technology of China, Hefei, China. Geometry and Mathematical Physics Seminar: *How to use Bridgeland stability wall-crosssings to study birational geometry of moduli spaces?.*

—— Sept Hunan University, Changsha, China. Algebraic Seminar: *Classification of full exceptional collections of line bundles on some Fano 3folds and on some projective bundles.*

—— May IBS Center for Geometry and Physics, Pohang, South Korea. CGP Seminar: *Classification of full exceptional collections of line bundles on some Fano 3folds and on some projective bundles.*

—— Apr KTH Royal Institute of Technology, Stockholm, Sweden. KTH & SU Derived Algebraic Geometry Seminar: *Bridgeland stability conditions.*

—— Apr. Uppsala University, Uppsala, Sweden. Geometry and Topology Seminar: *Classification of full exceptional collections of line bundles on three blow-ups of $\mathbb{P}^3$ and on some projective bundles.*

—— Apr. Chalmers University of Technology, Gothenburg, Sweden. Seminar in Algebraic Geometry and Number Theory: *Classification of full exceptional collections of line bundles on three blow-ups of $\mathbb{P}^3$.*

—— Apr. KAIST, Daejeon, South Korea. Algebraic Geometry Seminar: *On exceptional collections of line bundles of maximal length on the blow-ups of $\mathbb{P}^3$.*

—— Feb. IBS Center for Geometry and Physics, Pohang, South Korea. Frontiers of algebraic surfaces: *Walls for Bridgeland stability on fibered surface with a section.*

2017 Oct. Stockholm University, Stockholm, Sweden. KTH & SU Algebra and Geometry Seminar: *On exceptional collections of line bundles of maximal length on the blow-ups of $\mathbb{P}^3$.*

—— Aug. Hunan University, Changsha, China. Algebraic Seminar: *How to use Bridgeland stability wall-crosssings to study birational geometry of moduli spaces?.*

—— July Yonsei University, Seoul, South Korea. Yonsei Algebraic Seminars: *How to use Bridgeland stability wall-crosssings to study birational geometry of moduli spaces?.*

—— July IBS Center for Geometry and Physics, Pohang, South Korea. IBS-CGP Derived Seminar: *Maps in the Homotopy Category of dg-Categories*, notes.

—— June Seoul National University, Seoul, South Korea. Workshop on Moduli theory and Derived category: *On exceptional collections of line bundles of maximal length on the blow-ups of $\mathbb{P}^3$.*

—— Feb. CUHK, Hong Kong. Lecture Series in Algebraic Geometry: *Bridgeland Stability Conditions (I), (II), (III)* (6 hours mini-course).

2016 Sep. Korea Institute for Advanced Study, Seoul, South Korea. I-Seminar: *Bridgeland stability conditions and wall-crossing.*

—— Aug. Yau Mathematical Sciences Center, Tsinghua University, Beijing, China. Algebraic Geometry Seminar: *On Bayer-Macrì's line bundle theory over Bridgeland moduli space.*

—— May Korea Institute for Advanced Study, Damyang Resort, South Korea. Workshop on rational curves and moduli: *Two facets of birational geometries of moduli space of sheaves over surface* (Two talks).

—— Apr. POSTECH, Pohang, South Korea. T-Seminar: *Two facets of birational geometries of moduli space of sheaves over surface.*

—— Mar. KIAS, Seoul, South Korea. Algebraic Geometry Seminar: *Two facets of birational geometries of moduli space of sheaves over surface I and II* (Two talks).

2015 Nov. Hong Kong University of Science and Technology, Hong Kong. HKUST Seminar on Geometry: *Lectures on Bayer-Macrì's Nef Line Bundle Theory* (Two lectures).

—— Mar. Chinese University of Hong Kong, Hong Kong. CUHK/UM Joint International Workshop in Geometry: *Bayer-Macrì decomposition on Bridgeland moduli spaces over surfaces.*

—— Mar. IBS Center for Geometry and Physics, Pohang, South Korea. *Bayer-Macrì decomposition on Bridgeland moduli spaces over surfaces.*

—— Feb. University of Stavanger, Stavanger, Norway. The Stavanger Algebraic Geometry Seminar: *Bayer-Macrì decomposition on Bridgeland moduli spaces over surfaces.*

—— Feb. KTH Royal Institute of Technology, Stockholm, Sweden. KTH & SU Algebra and Geometry Seminar: *Bayer-Macrì decomposition on Bridgeland moduli spaces over surfaces.*

2014 Nov. The University of Hong Kong, Hong Kong. Geometry Seminar: *Perverse coherent sheaves on blow-ups.*

—— 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).

—— 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.*

Organizer

2018 Nov **Workshop on Moduli theory & Derived category**, IBS-CGP, Pohang , South Korea. https://cgp.ibs.re.kr/conferences/Workshop_on_Moduli_theory_and_Derived_category/

Services

Reviewer of *Zentralblatt MATH*

Updated: May 20, 2019