Curriculum Vitae of Sheng MENG

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		Current Status	Young Research Fellow, East China Normal University
Date of Birth	3^{rd} November 1988		
Nationality	People's Republic of China		

Research fields

My primary research interest is in *algebraic geometry*, with a focus on its interaction with dynamical systems.

Appointments

09/2022-Current Young Research Fellow, East China Normal University, China

08/2019-08/2022 Research Fellow, Korea Institute for Advanced Study, Republic of Korea

08/2018-07/2019 Postdoc, Max Planck Institute for Mathematics, Germany

08/2017-07/2018 Research Assistant, National University of Singapore, Singapore

Education

2007-2011 BSc. Department of Mathematics - Nanjing University, China

2011-2013 MSc. Department of Mathematics - Nanjing University, China

2013-2018 PhD. Department of Mathematics - National University of Singapore, Singapore

Awards and Honors

2019 *Louis Chen Hsiao Yun Best Dissertation Prize*
National University of Singapore, Singapore

Publications

1. Ampleness of canonical divisors of hyperbolic normal projective varieties, Math. Z. (2014) **278**:1179 - 1193. (with F. Hu and D.-Q. Zhang)
2. Jordan property for non-linear algebraic groups and projective varieties, Amer. J. Math. **140.4** (2018): 1133-1145. (with D.-Q. Zhang)
3. Building blocks of polarized endomorphisms of normal projective varieties, Adv. Math., vol. **325**, pp. 243-273, 2018. (with D.-Q. Zhang)
4. Characterizations of Toric Varieties via Polarized Endomorphisms, Math. Z. **292** (2019), no. 3-4, 1223-1231. (with D.-Q. Zhang)
5. Polarized endomorphisms of normal projective threefolds in arbitrary characteristic, Math. Ann. **378** (2020), no. 1-2, 637–665. (with P. Cascini and D.-Q. Zhang)

6. Building blocks of amplified endomorphisms of normal projective varieties, Math. Z. **294** (2020), no. 3, 1727-1747.

7. Semi-group structure of all endomorphisms of a projective variety admitting a polarized endomorphism, Math. Res. Lett. **27** (2020), no. 2, 523–550. (with D.-Q. Zhang)

8. Normal projective varieties admitting polarized or int-amplified endomorphisms, Acta Math. Vietnam., (**2019**), 1-16. (with D.-Q. Zhang)

9. Invariant subvarieties with small dynamical degree, Int. Math. Res. Not. IMRN, Vol **2022**, no. 15, 11448-11483,
doi.org/10.1093/imrn/rnab039. (with Y. Matsuzawa, T Shibata, D.-Q. Zhang and G. Zhong)

10. Non-isomorphic endomorphisms of Fano threefolds, Math. Ann. **383**, 1567-1596 (2022). (with D.-Q. Zhang and G. Zhong)

11. Rigidity of rationally connected smooth projective varieties from dynamical viewpoints, Math. Res. Lett. (to appear), arXiv:2005.03983. (with G. Zhong)

12. Jordan property for automorphism groups of compact spaces in Fujiki's class, J. Topol. **15** (2022), no.2, 806-814. (with F. Perroni and D.-Q. Zhang)

Preprints

12. On endomorphisms of projective varieties with numerically trivial canonical divisors, arXiv:1901.07089

13. Kawaguchi-Silverman conjecture for surjective endomorphisms, arXiv:1908.01605 (with D.-Q. Zhang)

14. Non-density of points of small arithmetic degrees, arXiv:2002.10976 (with Y. Matsuzawa, T Shibata and D.-Q. Zhang)

15. Equivariant Kähler model for Fujiki's class, arXiv:2201.06748 (with J. Jia)

16. Log Calabi-Yau structure of projective threefolds admitting polarized endomorphisms, arXiv:2204.11244

17. Moishezon manifolds with no nef and big classes, arXiv:2208.12013 (with J. Jia)

Talks at conferences and seminars

1. "Rigidity of rationally connected smooth projective varieties from dynamical viewpoints", 19 Jun 2020, National Center for Theoretical Sciences, Physics (NCTS), Taipei, organized by Jungkai Chen, NCTS (1h talk).

2. "On non-isomorphic surjective endomorphisms of projective varieties", ZAG Marathon (Zoom), 1 Sep 2020 (1h talk).

3. "Jordan property of automorphism groups", Three W's Seminar, KIAS (Zoom), 12 Oct 2020, organized by Bhamidi Sreedhar (1h talk).

4. "Dynamical equivariant minimal model program", Algebraic Geometry in East Asia (Zoom), 23 Oct 2020 (1h talk).

5. "Jordan property for varieties", Workshop on birational geometry, Moscow (Zoom), 19 Nov 2020, organized by Yuri Prokhorov and Constantin Shramov (1h talk).

6. "Fano threefolds with non-isomorphic endomorphisms", Recent Development in Algebraic Geometry Arithmetic and Dynamics, 10-18 Jun 2021, IMS, National University of Singapore, Singapore (1h talk).

7. "Automorphism group and its Jordan property", Zoom Algebraic Geometry Seminar (ZAG, Online), 1 July 2021 (1h talk).

8. "Jordan property for automorphism groups", Università Degli Studi Di Trieste, Dipartimento Di Matematica E Geoscienze, Iitaly, 1 Dec 2021, organised by Fabio Perroni (1h talk).

9. "Equivariant Kähler Model for Fujiki's Class", Algebraic Geometry Seminar, center for complex geometry, Institute for Basic Science, Daejeon, 31 May 2022, organised by Yongnam Lee (1h talk).
10. "Equivariant Kähler Model for Fujiki's Class", Dynamical systems and systems of equations, 23 June 2022, Centro De Giorgi, Pisa, Italy, organised by Barth-Hu-Troung (1h talk).
11. "Equivariant Kähler Model for Fujiki's Class", Algebraic Geometry Seminar, Osaka University, Osaka, 4 July 2022, invited by Takahiro Shibata (1h talk).

Before 2020

- "Jordan Property for Groups of Birational Automorphisms and Automorphisms", Topology & Geometry Seminar, National University of Singapore, Singapore, 15 Apr, 2015, organised by Wilkin, Graeme (1h talk).
- "Jordan property for nonlinear algebraic groups and projective varieties", Topology & Geometry Seminar, National University of Singapore, Singapore, 19 Aug, 2015, organised by Wilkin, Graeme (1h talk).
- "Jordan property for nonlinear algebraic groups and projective varieties", IMH - VIASM Workshop on Algebraic Geometry, Ha Long, Vietnam, 13 Mar, 2016, organised by Doan Trung Cuong, Phung Ho Hai and Nguyen Chu Gia Vuong (1h talk).
- "Fixed Point Problem in Algebraic Geometry, 4th NUS Graduate Symposium in Mathematics", National University of Singapore, Singapore, 18 Apr, 2017 (20min talk).
- "Building blocks of polarized endomorphisms of normal projective varieties", 5th NUS Graduate Symposium in Mathematics, National University of Singapore, Singapore, Apr 17, 2017 (20min talk).
- "Building blocks of polarized endomorphisms of normal projective varieties", Complex Geometry, Dynamical Systems and Foliation Theory, Institute for Mathematical Sciences, Singapore, 3 May, 2017, organised by Tien Cuong Dinh, Xiaonan Ma, George Marinescu and De-Qi Zhang (30min talk).
- "On recent results of polarized endomorphisms", Nanjing University, Nanjing, 5 Mar 2018, organised by Hourong Qin (1h talk).
- "Jordan property for nonlinear algebraic groups and projective varieties", East China Normal University, Shanghai, 6 Mar 2018, organised by Shengli Tan(1h talk).
- "Building blocks of amplified endomorphisms of normal projective varieties", Fudan University, Shanghai, 7 Mar 2018, organised by Meng Chen (1h talk).
- "On equivariant minimal model program of projective varieties admitting polarized endomorphisms", Chinese Academy of Sciences, Beijing, 25 Jul 2018, organised by Baohua Fu (1h talk).
- "On the equivariant minimal model program of projective varieties admitting polarized endomorphisms". London Geometry and Topology Seminar, Imperial College London, London, 26 Oct 2018, organised by Paolo Cascini (1h talk).
- "On equivariant minimal model program of projective varieties admitting polarized endomorphisms". Max Planck Institute for Mathematics, Bonn, 13 Sep 2018, organised by Peter Teichner (20min talk).
- "On endomorphisms of Calabi-Yau varieties". Workshop on Complex Geometry and related topics, National University of Singapore, Singapore, 15 Feb 2019, organised by Tien-Cuong Dinh (1h talk).
- "Minimal model program on algebraic dynamics", KIAS, 10 Oct 2019, organized by Jun-Muk Hwang (1h talk).

Conferences attended

- Complex Geometry Conference 22 July - 9 August 2013, Institute for Mathematical Sciences, NUS (Workshop: Thursday 25 July - Monday 5 September 2013)
- Algebraic Geometry, Holomorphic Dynamics, and Their Interactions 3-28 January 2017, Institute for Mathematical Sciences, NUS (Workshop: Tuesday 10 - Friday 13 January, and Monday 16 - Thursday 19 January 2017)

- Modern Algebraic Geometry, 23 - 26 July 2018, Beijing International Center for Mathematical Research, PKU, Beijing.
- Algebraic Geometry International Conference, 3-7 Jun 2019, Korea Institute for Advanced Study, Seoul.
- Workshop on the Standard Conjectures, (Weil's) Riemann Hypothesis, and Relations to Dynamical Systems, University of Oslo, Norway, Jun 2021.
- Recent Development in Algebraic Geometry Arithmetic and Dynamics, 10-18 Jun 2021, IMS, National University of Singapore, Singapore.
- Dynamical systems and systems of equations, Poster, 20-24 June 2022, Centro De Giorgi, Pisa, Italy.

Academic Services

- Referee for Advance in Mathematics, International Mathematics Research Notices, etc.
- Reviewer for Mathematical Reviews (Since 2018).
- Organizer of Seminar on Algebraic Dynamics at KIAS.

Teaching experience

Fall 2014	Calculus (Tutor)
Fall 2015	Introductory Mathematics (Tutor)
Spring 2016	Calculus for Computing (Tutor)
Fall 2016	Introductory Mathematics (Tutor)
Spring 2017	Calculus for Computing (Tutor)

References

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