

Zhiwei Zheng | Curriculum Vitae

Yau Mathematical Sciences Center, Tsinghua, Beijing
Personal Homepage: <https://zhengzhiweimath.github.io/homepage/>
✉ zhengzw11@163.com, zhengzhiwei@mail.tsinghua.edu.cn

Experience

09/2022–: Assistant Professor, Yau Mathematical Sciences Center, Tsinghua University
09/2021–08/2022: Assistant Research Fellow, Yanqi Lake Beijing Institute of Mathematical Sciences and Applications
10/2019–07/2021: Postdoc, Max Planck Institute at Bonn, Germany. Mentor: Daniel Huybrechts
08/2014–07/2019: Ph.D in Pure Mathematics, Tsinghua University, China. Advisor: Eduard Looijenga
01/2018–07/2018: Visiting Scholar, Math Department, Stony Brook University, USA. Mentor: Radu Laza
08/2010–07/2014: Bachelor of Science, Tsinghua University, China
02/2013–07/2013: Exchange Student at École Normale Supérieure, France

Honors and Awards

2022: Doctoral thesis gold prize, ICCM
2017: Excellent Postgraduate Award, Yau Mathematical Sciences Center
08/2014–07/2019: Tsinghua Future Scholar Scholarship
07/2014: Bachelor with distinction
10/2013: National Scholarship
10/2012: Academic Outstanding Award
08/2010–07/2014: Member of Xuetang Program of Tsinghua University
07/2009: Gold Medal of 50th International Mathematical Olympic, Germany
01/2009: Gold Medal at National Math Olympic, China

Publications and Preprints

[11]: with Chenglong Yu, Commensurability Among Deligne-Mostow Monodromy Groups, arXiv: 2411.09682
[10]: with Bin Wang, Finite Groups of Symplectic Automorphisms of Supersingular K3 surfaces in Odd Characteristics, arXiv: 2406.14499
[9]: with Chenglong Yu, Calabi-Yau Varieties via Cyclic Covers, and Complex Hyperbolic Structures for their Moduli Spaces, arXiv: 2401.04006
[8]: with Renjie Lyu, Degenerations to secant cubic hypersurfaces and limiting Hodge structure, arXiv: 2206.12670
[7]: with Y. Zhong, The Complex Ball-quotient Structure of the Moduli Space of Certain Sextic Curves, Journal of the Mathematical Society of Japan, Vol. 76, No. 1 (23-50), 2024
[6]: with T. Peng, Abelian Automorphism Groups of Cubic Fourfolds and Quartic Surfaces, arXiv: 2106.14214
[5]: On Abelian Automorphism Groups of Hypersurfaces, Israel J. Math., Vol. 247 (479-498), 2022
[4]: with R. Laza, Automorphisms and Periods of Cubic Fourfolds, Math. Zeitschrift, Vol. 300 (1455-1507), 2022
[3]: with C. Yu, Moduli of Nodal Sextic Curves via Periods of K3 surfaces, Advances in Mathematics, Vol. 430, Paper No. 109219, 2023
[2]: with C. Yu, On Moduli Spaces of Symmetric Cubic Fourfolds and Locally Symmetric Varieties, Algebra & Number Theory, Vol. 14, No. 10 (2647–2683), 2020
[1]: Orbifold Aspects of Certain Occult Period Maps, Nagoya Math. J., Vol. 243 (137-156), 2021

Funds

2024-2026: NSFC Qingnian. Hyper-Kähler Geometry and Conway Group

Invited Talks

06/12/2024: *Commensurability among Deligne–Mostow Monodromy Groups*, BIMS

04/07/2024: *Recent Progresses on Locally Symmetric Varieties with Moduli Meaning*, Zhejiang University, Geometry and Moduli Conference

25/03/2024: *Calabi-Yau Manifolds via Cyclic Covers, and Complex Hyperbolic Structures of their Moduli Spaces*, Morningside Center of Mathematics, Wuhan University

12/03/2024: *Calabi-Yau Manifolds via Cyclic Covers, and Complex Hyperbolic Structures of their Moduli Spaces*, Morningside Center of Mathematics, CAS seminar

26/02/2024: *Calabi-Yau Manifolds via Cyclic Covers, and Complex Hyperbolic Structures of their Moduli Spaces*, Xiamen University

05/11/2023: *Calabi-Yau Manifolds via Cyclic Covers, and Complex Hyperbolic Structures of their Moduli Spaces*, 2023 Autumn Algebraic Geometry Communication Conference, University of Science and Technology of China

04/12/2021: *Ball quotients in algebraic geometry*, Workshop on Algebraic and Analytic Geometry, Chinese Academy of Sciences

27/04/2021: *Ball Quotients from Deligne–Mostow Theory and Periods of K3 Surfaces*, Joint Harvard-CUHK-YMSC Differential Geometry Seminar, CMSA, Harvard, online

15/02/2021: *Some New Results on Automorphisms of Hypersurfaces*, Math Physics Seminar, CMSA, Harvard, online

23/01/2020: *Automorphism Groups of Cubic Fourfolds*, Math Physics Joint Seminar, University of Pennsylvania

24/10/2019: *Automorphism and Periods of Cubic Fourfolds*, Algebraic Geometry Seminar, Max Planck Institute for Mathematics, Bonn

16/09/2019: *Automorphism and Periods of Cubic Fourfolds*, Sun Yat-sen University, Guangzhou

03/07/2019: *Classification of Symplectic Automorphism Groups of Smooth Cubic Fourfolds*, Ph.D. Session, The Second National Algebraic Geometry Conference

13/06/2019: *Classification of Symplectic Automorphism Groups of Smooth Cubic Fourfolds*, Contributed Talk, International Congress for Chinese Mathematicians

07/01/2019: *Automorphism groups of cubic fourfolds*, Algebraic Geometry seminar, Beijing International Center for Mathematical Research

28/11/2018: *Geometry of cubic fourfolds and hyper-Kähler manifolds*, Geometry and Physics Seminar, Tsinghua University

26/10/2018: *Compactifications of moduli spaces*, Program of Moduli Spaces and Varieties, Shanghai Center for Mathematical Sciences

22/10/2018: *Introduction to GIT*, Program of Moduli Spaces and Varieties, Shanghai Center for Mathematical Sciences

20/06/2018: *Geometry of Symmetric Cubic Fourfolds*, Algebra Seminar, Indiana University at Bloomington

09/04/2018: *Moduli of Symmetric Cubic Fourfolds*, Geometry Seminar, Texas A&M University

30/03/2018: *Moduli Spaces of Cubic Fourfolds with Automorphisms*, Geometry Seminar, Harvard University

22/03/2018: *Moduli Spaces of Cubic Fourfolds with Specified Prime-order Automorphism, and their compactification*, University of Chicago

25/12/2017: *Orbifold Aspect of Certain Occult Period Maps*, Colloquium & Seminars, Chinese Academic Institute

Seminars and Workshops (Co)Organized

2023- now: *Moduli Spaces and Related Topics*, Shuangqing Complex Building, Tsinghua University

Nov 2023: *Workshop on multi-zeta values and iterated integrals*, Tsinghua University
Fall 2021-Spring 2022: *Tsinghua-BIMSA Learning Seminar on Multiple Zeta Values*, Tsinghua University
Fall 2018: *Student Seminar On Higgs Bundles and Hitchin Systems*, Tsinghua University
Fall 2017: *Ubiquity of Root Systems*, Tsinghua University
Spring 2017: *Student Seminar on Hodge Theory*, Tsinghua University
Spring 2016: *Moduli of Curves*, Tsinghua University
Fall 2015: *Complex Algebraic Surfaces*, Tsinghua University
Fall 2014: *Topics on Translation Surfaces*, Tsinghua University

Teaching Experience

Fall 2024: Lie groups and Lie algebras, Qiuzhen college, Tsinghua
Spring 2024: Lie groups and Lie algebras, Qiuzhen college, Tsinghua
Fall 2023: Abstract algebra II, Tsinghua
Spring 2023: Complex analysis, Qiuzhen college, Tsinghua
Fall 2022: Linear Algebra, Tsinghua
Spring 2022: Calabi Yau Manifolds in Algebraic Geometry, BIMSA
Fall 2021: Introduction to Lattice theory and its applications, BIMSA
October 2018: K3 surface and cubic fourfold, Short Course, Tsinghua University
Fall 2015: Teaching Assistant, Algebraic Geometry 1 given by Prof. Eduard Looijenga, Tsinghua University
Spring 2015: Teaching Assistant, Basics of Advanced Algebra given by Prof. Bangming Deng, Tsinghua University
Fall 2014: Teaching Assistant, Algebraic Geometry 1 given by Prof. Eduard Looijenga, Tsinghua University
Summer 2014: Teaching Assistant, Number theory given by Prof. Michael Zieve, Tsinghua Summer Mathcamp for High School Students