Wenbin Luo

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Research interests

Arakelov geometry, diophantine approximation, unlikely intersection, arithmetic dynamical systems

Working experience

Nov. 2025-Now — Junior Researcher in East China Normal University, Shanghai

Jul. 2023-Oct. 2025 — Postdoc at Beijing International Center for Mathematical Research under the supervision of Prof. Xinyi Yuan.

Education

Apr. 2020 to Mar. 2023 — **Department of Mathematics, Kyoto University, Japan.**

- Ph.D under the supervision of Prof. Atsushi Moriwaki.
- Research Fellowship for Young Scientists(DC1) of Japan Society for the Promotion of Science.

Apr. 2018 to Mar. 2020 — **Department of Mathematics, Kyoto University, Japan.**

- Master under the supervision of Prof. Atsushi Moriwaki.

Sep. 2013 to Jun. 2017 — **Department of Mathematics, Fudan University, China.**

- Bachelor.

Publications

[1] W. Luo, "A relative bigness inequality and equidistribution theorem over function fields," *International Journal of Number Theory*, vol. 21, no. 02, pp. 487–514, 2025.

[2] ——, "Slope boundedness and equidistribution theorem," *Int. Math. Res. Not. IMRN*, no. 12, pp. 9588–9606, 2024.

[4] W. Luo and J. Song, "Arithmetic degrees of dynamical systems over fields of characteristic zero," *International Mathematics Research Notices*, vol. 2025, no. 21, rnaf247, Oct. 2025, ISSN: 1073-7928. DOI: 10.1093/imrn/rnaf247. eprint: https://academic.oup.com/imrn/article-pdf/2025/21/rnaf247/65044143/rnaf247.pdf.

[5] Y. Fan, W. Luo, and B. Qu, "Arakelov geometry on flag varieties over function fields and related topics," *Advances in Mathematics*, vol. 480, p. 110 508, 2025, ISSN: 0001-8708. DOI: https://doi.org/10.1016/j.aim.2025.110508.

[6] W. Luo, "Continuous extension and birational invariance of chi-volume over an adelic curve," *European Journal of Mathematics*, vol. 11, no. 33, 2025. DOI: 10.1007/s40879-025-00826-9.

Preprints

[3] W. Luo and J. Yu, "Geometric bogomolov conjecture for semiabelian varieties," 2025, [Online]. Available: https://arxiv.org/abs/2505.07193.

[7] W. Luo, "The continuity of χ-volume functions over adelic curves," 2020, [Online]. Available: https://arxiv.org/abs/2003.09837.

[8] ——, "Arithmetic over trivially valued field and its applications," 2020, [Online]. Available: https://arxiv.org/abs/2009.08663.

Teaching Experience

Apr. 2020 - Jun. 2020 Teaching assistant in Basics of Modern Mathematics A for Bachelors, 75 hrs

Oct. 2020 - Jan. 2021 Teaching assistant in Algebra II for Bachelors, 75 hrs

Apr. 2021 - Jun. 2021 Teaching assistant in Basics of Modern Mathematics A for Bachelors, 75 hrs

Oct. 2021 - Jan. 2022 Teaching assistant in Algebra II for Bachelors, 75 hrs

Oct. 2022 - Jan. 2023 Teaching assistant in Algebra II for Bachelors, 75 hrs

Feb. 2025 - Apr. 2025 Lectures in Diophantine Geometry, 10 hrs

Talks

Apr. 2025 Geometric Bogomolov conjecture for semiabelian varieties. ZUMA seminar, Zhejiang University, Hangzhou, China.

Mar. 2025 Geometric Bogomolov conjecture for semiabelian varieties. Diophantine Days, Westlake University, Hangzhou, China.

Nov. 2024 Geometric Bogomolov conjecture for semiabelian varieties. Seminar on Nevalinna Theory and Arakelov Geometry, China.

Dec. 2023 Arakelov geometry for flag varieties over function fields. BICMR postdoc Seminar. Peking University, Beijing, China.

Jan. 2023 Arithmetic Hilbert-Samuel and equidistribution theorems. NCTS East Asia Core Doctoral Forum in Mathematics. Online.

Mar. 2022 A relative bigness inequality and equidistribution theorem over function fields. Seminar - New Adic and Algebraic Directions in Motivic Homotopy Theory. Online.

Sep. 2022 A relative bigness inequality and equidistribution theorem over function fields. Intercity Seminar on Arakelov Geometry 2022. ICMAT, Madrid, Spain.

Jul. 2022 A relative bigness inequality over function fields. Kinosaki Symposium on Algebraic Geometry 2022. Kinosaki, Japan.

May 2020 The continuity of χ-volume over adelic curves. 2nd Kyoto-Hefei Workshop on Arithmetic Geometry. Kyoto University, Kyoto Japan.