

Yukun Du

BIRTH: China | October 11th, 1994
CURRENT CITY: Athens, GA
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LAST UPDATED: November 10, 2025

EMPLOYMENT

AUG 2024 - CURRENT Postdoctoral Research and Teaching Associate
Department of Mathematics, University of Georgia, Athens, GA
Research Mentor: Sa'ar HERSONSKY

EDUCATION

SEP 2019 - JUN 2024 Ph.D. in MATHEMATICS
Department of Mathematics, University of California, Davis, Davis, CA
Advisor: Michael KAPOVICH

SEP 2016 - JUL 2019 M.S. in MATHEMATICS
Department of Mathematical Science, Tsinghua University, Beijing
Advisor: Runliang LIN

SEP 2012 - JUL 2016 B.S. in MATHEMATICS & APPLIED MATHEMATICS
Department of Mathematical Science, Tsinghua University, Beijing
Advisor: Runliang LIN

RESEARCH INTERESTS

Geometric Group Theory
Hyperbolic Geometry
Lie Groups and Symmetric Spaces
Trees and Tits Buildings

PUBLICATIONS

- [1] Y. Du. *Geometry of Selberg's bisectors in Jordan symmetric spaces*. In preparation. 2025.
- [2] Y. Du and S. Hersonsky. *Free and Discrete Generating Pairs of Tree Automorphisms*. In preparation. 2025.
- [3] Y. Du. *Busemann-Selberg Functions and Completeness for Dirichlet-Selberg domains in $\mathrm{SL}(n, \mathbb{R})/\mathrm{SO}(n)$* . Submitted for publication. 2024. arXiv: [2412.06987](https://arxiv.org/abs/2412.06987).
- [4] Y. Du. "Geometry of Selberg's bisectors in the symmetric space $\mathrm{SL}(n, \mathbb{R})/\mathrm{SO}(n, \mathbb{R})$ ". In: *J. Lond. Math. Soc.* 110.4 (Oct. 2024).
- [5] R. Lin and Y. Du. "Generalized Darboux Transformation for the Discrete Kadomtsev-Petviashvili Equation with Self-Consistent Sources". In: *Theoretical and Mathematical Physics* 196 (2018).

CODE REPOSITORIES

- Compute Dirichlet-Selberg Domains from generators in the group $\mathrm{SL}(3, \mathbb{R})$.
- GitHub: <https://github.com/BennieDu/Compute-Dirichlet-Selberg-Domains>

SELECTED CONFERENCES & TALKS

OCT 2025 AMS Sectional Meeting: Special Session on Topology and Group Actions
St. Louis, MO

JUN 2025 Midwest Summer School in Geometry, Topology, and Dynamics
Madison, WI

FEB 2025 Geometry and Topology Seminar at Georgia Institute of Technology
Atlanta, GA

OCT 2023 Geometry and Topology seminar at Yale University

	New Haven, CT
OCT 2023	Number Theory Seminar at Rutgers University Zoom
MAY 2023	Graduate Student Geometry and Topology Conference Philadelphia, PA
OCT 2020	Moduli Spaces Seminar at the University of Melbourne Zoom

HONORS

2018	Excellent Student of Hua Lu-Geng Scholarship
2017	Excellent Student of Second-Class Scholarship
2015	Excellent Student of Science & Technology Innovation Scholarship
2012	Freshmen Scholarship

TEACHING EXPERIENCE

AUG 2024 - CURRENT	Teaching Fellow <i>Department of Mathematics, University of Georgia</i> , Athens, GA Taught Precalculus (MATH 1113, Fall 2024 and Fall 2025), Calculus III (MATH 2270, Spring 2025), and Complex Variables (MATH 4150, Fall 2025).
MAR 2020 - JUN 2024	Teaching Assistant <i>Department of Mathematics, University of California, Davis</i> , Davis, CA TA for courses including Precalculus (MAT 012), Short Calculus (MAT 016 series), Calculus for BioSci (MAT 017 series), and Modern Algebra (MAT 150A).
AUG - SEP 2023	Instructor for Calculus (MAT 021A)
AUG - SEP 2021	Instructor for BioCalculus (MAT 017C)
SEP 2016 - JAN 2019	Teaching Assistant <i>Department of Mathematical Science, Tsinghua University</i> , Beijing TA for courses including Calculus, Linear Algebra, and Complex Functions.

ADVISING

Spring 2025	Directed Reading Group Mentor to Nicolas TRULLOLS SANDINO (Bachelor Candidate, UGA) Topic: Hyperbolic Geometry and the Spacetime
2021 - 2022	Directed Reading Group Mentor to Tiching KAO (Bachelor Candidate, UC Davis) Topic: Groups and Symmetry

SKILLS AND ABILITIES

- **Mathematics:** Mathematica, SageMath, R
- **Programming:** C++, Python
- **Documentation:** L^AT_EX, Microsoft Office

LANGUAGES

ENGLISH	●●●●○	C1
CHINESE (MANDARIN)	●●●●●	NATIVE
JAPANESE	●●○○○	B1

INTERESTS

- Running/Hiking
- Drawing
- Comics/Anime