Curriculum Vitae

Aug 2025

Personal Info

Name:	Boyuan Zhao
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Education

10/2021- 09/2025	PhD in Mathematics, University of St Andrews, Supervised by Mike Todd and Kenneth Falconer Dissertation: Exponential mixing and limit theorems in dynamical systems.
09/2020–08/2021 Distinction (GPA 17.3/20)	MSc Mathematics University of St Andrews Dissertation: On rotation number and unique minimal sets of circle homeomorphisms. Advisor: Mike Todd
09/2017–08/2020 First Class Honours	BSc Mathematics with Modern Languages University College London

Research Interests

I am interested in multiple topics in ergodic theory and dynamical systems, more precisely,

- Countable Markov shifts and Strongly positive recurrence

- Dynamical Borel-Cantelli lemmas and one-dimensional dynamics

- Extreme Value Theory, Recurrence events, Waiting time distributions

Research Output

- *Convergence of the Birkhoff spectrum for nonintegrable observables*, (2025) preprint, ARXIV.

- *Almost sure convergence of cover times for ψ-mixing systems*, accepted by Ergodic Theory Dynam. Systems. (2025) ARXIV.

- (with M. Todd) *Countable Markov Chain with Exponential Mixing.* (2024) preprint, ARXIV.

- *Closest distance between iterates of typical points* . Discrete Contin. Dyn. Syst. 44(8), (2024) 2252-2279. PDF

Scholarship and Fundings

10/2021-10/2025 China Scholarship Council Programme

Conferences Attended and Talks

June 2025	Beyond Uniform Hyperbolicity II, ICTP
Mar 2025	Scottish Dynamics Network meeting talk title: Almost sure cover times in dynamical systems. Herriot-Watt University
Jul 2024	Workshop on Dynamical Systems: Geometric and Statistical Properties University of Warwick
Jun 2024	British Mathematical Colloquium talk title: Countable Markov shifts with exponential mixing. University of Manchester
Dec/2023	Workshop on Probabilistic Methods in Dynamics talk title: Maximal length of subsequence matching and Renyi entropy. Universidade do Porto
May/2023	Thermodynamic Formalism: Non-additive Aspects and Related Topics IMPAN, Bedlewo.
Sep/2022	Ergodic Theory and Fractal Geometry Conference University of Birmingham

OTHER INTERESTS AND SKILLS

Spanish at B2 level and Portuguese at B1.
Irish & Scottish folk musician. Video.