Akshay Hegde

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RESEARCH INTERESTS Probability theory, Gaussian fields, statistical mechanics models.

EMPLOYMENT

National University of Singapore (NUS)

Peng Tsu Ann assistant professor (Visiting fellow)

Aug 2025

EDUCATION

University of Oxford

Doctor of Philosophy (DPhil/PhD) in Mathematics

Oct 2021- Jul 2025

• Project: Geometry of Smooth Gaussian Fields

• Advisor: Prof. Dmitry Belyaev

Indian Statistical Institute, Bangalore

Masters of mathematics [M.Math]

July 2019 - May 2021

Bachelors of Mathematics (Honours) $[\mathrm{B.Math}(\mathrm{Hons.})]$

July 2016 - May 2019

• First class with distinction (highest honours)

PREPRINTS / PUBLICATIONS

Beliaev, D. and Hegde, A. On Convergence of Volume of Level Sets of Stationary Smooth Gaussian Fields, Electron. Commun. Probab. vol. 28, 1-9, 2023. DOI: 10.1214/23-ECP543

Beliaev, D. and Hegde, A. Limit theorems for high critical points of smooth Gaussian fields (in preparation)

Talks / Short talks NUS-Bangalore workshop, IISc Bangalore, August 2025

School on disordered media, Budapest, January 2025

Maths department seminar, IIT Dharward, India, January 2025

Durham Symposium 2024, Durham, UK, August 2024

4th Italian meeting on Probability and Mathematical Statistics, Rome, Italy, June 2024

Trinity Talks: Beyond classroom (high-school outreach), March 2024

Trinity College MCR research showcase talk, November 2023

Stochastic Analysis seminar, Oxford, June 2023

Bangalore probability seminar, April 2023

Conferences / Seminars

Data Science: Probability and Optimisation II, ICTS-TIFR, Bangalore, August 2025

Statistical mechanics of spin glasses, neural networks and learning, Hausdorff School of Mathematics, Bonn, Germany, June 2025

Lean for the curious mathematician, ICTS-TIFR, Bangalore, May 2025

International colloquium on randomness, geometry and dynamics, IISER, Pune, January 2024

Quantum Chaos and Nodal Sets of Random Waves, Kings College London, July 2022

Probability and Mathematical Physics 2022, Helsinki, Finland, July 2022

St. Petersburg Youth Conference in Probability and Mathematical Physics, December 2021

Honours / Awards

Trinity College- Maths Institute Scholarship (2021-2025)

2nd rank in B.Math(Hons.)

VSRP Scholar-2019, by TIFR, Mumbai

TEACHING EXPERIENCE

National University of Singapore, Lecturer

• MA4262: Measure and integration, 4th year

University of Oxford (includes college tutorials)

- Tutor
 - 1. Fourier analysis and PDE, I year
 - 2. Topology, II year
 - 3. Probability, measures and martinagles, III year
 - 4. Continuous martingales and stochastic calculus, III year
 - 5. Functional analysis, III year
- Teaching assistant
 - 1. Integration, II year
 - 2. Random matrix theory, IV year /master's

Non university teaching

- 1. Oxford Summer Courses (Fractals in probability and analysis)
- 2. Instructor, Monsoon Math Camp July 2021

Services

Peer review in journals:

Transactions of the American Mathematical Society

EXTRA CURRICULAR President, Oxford Hindu Society (2023-24)

Webmaster & archivist, Oxford University walking club (2022-24)

Demonstrator, Oxford Maths Fest 2024

Full name: Akshay Sateesh Hegde Citizenship: India Miscellaneous