Department of Mathematics,
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Areas of Specialisation

1. Discrete probability
2. Combinatorics
3. Representation theory of finite groups

Professional experience

01/07/2021 – present	Postdoctoral Fellow	Bar-Ilan University, Ramat Gan, Israel.
07/01/2021 – 30/06/2021	Postdoctoral Fellow	Indian Institute of Technology Bombay, Mumbai, India.
01/09/2020 – 06/01/2021	Research Associate	Indian Institute of Science, Bangalore, India.

Education

01/08/2013 – 30/08/2020 Ph.D thesis -Submission: 30/08/2020 -Defence: 21/12/2020	Integrated Ph.D. (M.S. & Ph.D.)	Mathematics, Indian Institute of Science, Bangalore, India; under the supervision of Arvind Ayyer titled Total variation cutoff for random walks on some finite groups.
23/06/2010 – 05/07/2013	B.Sc. (Honours)	Mathematics, Serampore College, Serampore, India.

Achievements and Awards

1. Secured 11th rank in all India entrance exam JAM, 2013 for Master's education.
2. Qualified "Joint CSIR-UGC Test for Junior Research Fellowship and eligibility for Lectureship (NET)" held in June 2016.
3. Awarded Prof. K. K. Mukherjee Memorial Prize 2014 for securing highest marks in Mathematics Honours of B.Sc Examination 2013 in Serampore College.
4. Holds 1st rank in Calcutta University's B.Sc. Honours (Mathematics) examination held in 2013.

Funding received so far

1. Receiving Bar-Ilan University postdoctoral scholarship, July 01, 2021–present. Invited to be a postdoctoral fellow in the Department of Mathematics at Bar-Ilan University, Israel.
2. Received Institute postdoctoral fellowship of Indian Institute of Technology Bombay, January 07, 2021–June 30, 2021.
3. Received postdoctoral offer (with scholarship) from the Statistics and Mathematics Unit, Indian Statistical Institute Delhi. Did not availed this offer.
4. Received funding from DSTO 1813/SERB Matrix grant of Arvind Ayyer, September 01, 2020–January 06, 2021.
5. Received IISc-GARP fund for attending the 31st international conference on Formal Power Series and Algebraic Combinatorics (FPSAC-2019), University of Ljubljana, Ljubljana, Slovenia, during July 1 - 5, 2019.
6. Received Indian Institute of Science Integrated Ph.D. fellowship, August 01, 2013–August 30, 2021. This includes the Junior Research fellowship and the Senior Research fellowship.

Publications

1. Subhajit Ghosh, *Total variation Cutoff for the transpose top-2 with random shuffle*, Journal of Theoretical Probability, volume 33, issue 4, p. 1832-1854 (2020), https://doi.org/10.1007/s10959-019-00945-6.
2. Subhajit Ghosh, *Total variation Cutoff for the flip-transpose top with random shuffle*, ALEA-Latin American Journal of Probability and Mathematical Statistics, volume 18, article 36, p. 985-1006 (2021), https://doi.org/10.30757/ALEA.v18-36.
3. Subhajit Ghosh, *Cutoff phenomenon for the warp-transpose top with random shuffle*, submitted for review, https://arxiv.org/abs/2101.00533. Extended abstract appeared in the 32nd International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC, 2020), for the conference proceedings visit https://www.mat.univie.ac.at/~slc/wpapers/FPSAC2020/69.html.
4. Hiranya Kishore Dey and Subhajit Ghosh, *Combinatorial proof of the log-convexity for the derangements in the Coxeter groups*, submitted for review, https://arxiv.org/abs/2011.09546.

Ongoing projects

1. An open question on *shuffling by lazy swaps*, jointly with Gidi Amir and Guy Blachar.
2. On the *noise sensitivity of random walks on groups*, jointly with Gidi Amir.
3. Subhajit Ghosh, *Cutoff phenomenon and limit profile for random walks on S_n generated by conjugacy classes comprising of permutations with $o(n)$ support.*

4. On the *Okounkov-Vershik approach to the representation theory of* $G \wr A_n$, jointly with Ashish Mishra and Gobinda Sau.

Articles under preparation

1. Subhajit Ghosh and Murali K. Srinivasan *q-Analogs of the Kac matrix and the adjacency matrix of the n-cube.*

Presentation given in conferences/workshops

1. Presented poster on "Cutoff for the warp-transpose top with random shuffle" at the 32nd international conference on Formal Power Series and Algebraic Combinatorics (FPSAC-2020), held online, Monday-Wednesday-Friday, during July 6 - 24, 2020.
2. Presented poster on "Total variation cutoff for the flip-transpose top with random shuffle" at Discussion Meeting on Stochastic Analysis, Geometry and Random Fields held at Indian Statistical Institute, Bangalore, India, during Jan 06 - 10, 2020.
3. Presented poster on "Total variation cutoff for the flip-transpose top with random shuffle" at Group Algebras, Representations and Computation, held at International Centre for Theoretical Sciences, Bangalore, India, during October 14 - 23, 2019.
4. Presented poster on "Total variation cutoff for the transpose top-2 with random shuffle" at Lectures in Probability and Stochastic Processes XIII held at Indian Statistical Institute, Bangalore, India, during Dec 07 - 11, 2018.

Invited talks given in seminars

1. Bar-Ilan Combinatorics Seminar (online) on December 19, 2021 (upcoming tomorrow). Title: Total variation cutoff for the transpose top-2 with random shuffle.
2. Bar-Ilan Probability Seminar at Bar-Ilan University on October 20, 2021. Title: Cutoff phenomenon for the warp-transpose top with random shuffle.
3. Bangalore Probability Seminar (online) on February 15, 2021. Title: Total variation cutoff for the flip-transpose top with random shuffle.
4. IMSc Algebraic Combinatorics Seminar (online) on August 27, 2020. Title: Total variation cutoff for random walks on some finite groups.
5. Combinatorics seminar at Indian Institute of Technology Bombay on March 04, 2020. Title: Total variation cutoff for the flip-transpose top with random shuffle.
6. Algebra & Combinatorics Seminar at Indian Institute of Science, Bangalore, India on February 15, 2019. Title: Total variation cutoff for the transpose top-2 with random shuffle.

Voluntary service

1. Refereeing for the journal Resonance: Journal of Science Education.
2. Refereed for the journal Applied Probability Trust.

Teaching experience

1. Teaching assistant for MA261 (Probability Models) course at Indian Institute of Science, Bangalore, India (August–December 2015 & August–December 2016).
2. Teaching assistant for UM201 (Probability and Statistics) course at Indian Institute of Science, Bangalore, India (August–December 2017).
3. Teaching assistant for MA219 (Linear Algebra) course at Indian Institute of Science, Bangalore, India, August–December 2018.
4. Teaching assistant for Measure Theory course at Instructional Schools for Teachers on Analysis and PDE, held at Indian Institute of Science, Bangalore, India, in May 2019.
5. Teaching assistant for Linear Algebra course at the M.Sc teachers training program held at Talent Development Centre, IISc Challakere campus in June 2019.
6. Teaching assistant for MA216 (Introduction to Graph Theory) course at Indian Institute of Science, Bangalore, India (August–December 2019).
7. Teaching assistant for the course Linear Algebra at the B.Sc teachers training programme held at Talent Development Centre, IISc Challakere campus in November 2019.

Research visit

1. Visited Prof. Murali K. Srinivasan at Indian Institute of Technology, Bombay during January-March, 2020.

Personal Information

1. Date of Birth: July XX, 1993.
2. Citizen of India.
3. Human Languages: English, Hindi, Bengali.
4. Computer languages: LaTeX, C, Sage, Mathematica.