

Curriculum Vitae

Dr. AYAN GHOSH

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Basic Information :

Father's Name: Mr. Jadab Ghosh

Mother's Name: Mrs. Shubhra Ghosh

Date of Birth: 15/09/1995

Permanent Address :

S/O: Mr. Jadab Ghosh,
39/4 Kinumunsi Lane, Baigachi para,
P.O.+P.S.: Santipur,
Dist.: Nadia,
West Bengal, India, Pin: 741404.

Education :

Certificate/Degree Name	Board/University	Passing year	Number in Mathematics	Overall Percentage
PhD (Mathematics)	Jadavpur University	2023	NA	NA
M.Sc. (Mathematics)	Jadavpur University	2018	817 out of 1000	81.7 %
B.Sc. (Mathematics)	Jadavpur University	2016	994 out of 1200	82.83 %
Higher Secondary (12 th)	W.B.C.H.S.E. (West Bengal)	2013	100 out of 100	85.4 %
Secondary (10 th)	W.B.B.S.E. (West Bengal)	2011	100 out of 100	84.25 %

Certificate	University	Funding Agency	Date of Joining	Date of Leaving
Post-Doc	Jadavpur University	SERB-CRG	17/05/2023	10/09/2025

Teaching Experience :

Certificate	University	Funding Agency	Date of Joining	Date of Leaving
INSPIRE Faculty	IACS	DST	11/09/2025	09/04/2026
Assistant Professor	NIT Durgapur	NA	10/04/2026	Continuing

Title of Ph.D. Thesis :

“A Study of Certain Generalized Kinds of Characterized Subgroups and Their implications”.

Date of Thesis submission : 29/03/2023

Date of getting Ph.D. Degree : 07/11/2023

Additional courses attended during Ph.D. :

- Annual Foundation School - II, IISER KOLKATA, 2022 (20th June to 16th July).

Course work done in Ph.D. :

- Topological Groups.
- Sequence Spaces.
- Modules, Rings, Groups and Categories.
- Lattice Theory.

Research Interests :

- Topological Algebra.
- Characterized Subgroups.
- Generalized Characterized Subgroups.
- Ideal Convergence.
- Trigonometric Thin Sets.

Publications :

- Pratulananda Das, **Ayan Ghosh**, Tamim Aziz, Statistically characterized subgroups related to some non-arithmetic sequence of integers II (characterization for countable subgroups), **Journal of the London Mathematical Society**, 2025.
<https://doi.org/10.1112/jlms.70365>
- **Ayan Ghosh**, Pratulananda Das, Characterizing infinite torsion subgroups of the circle via arithmetic-type sequences, **Bulletin of the London Mathematical Society**, 2025.
<https://doi.org/10.1112/blms.70236>
- Pratulananda Das, **Ayan Ghosh**, Tamim Aziz, Topologically torsion elements of the circle group for arithmetic-type sequences, **Bulletin des Sciences Mathématiques**, 103580 (2025).
<https://doi.org/10.1016/j.bulsci.2025.103580>
- Pratulananda Das, **Ayan Ghosh**, Statistically characterized subgroups related to some non-arithmetic sequence of integers, **Expositiones Mathematicae**, 199 (125653), 2025.
<https://doi.org/10.1016/j.exmath.2025.125653>
- Pratulananda Das, **Ayan Ghosh**, Characterized subgroups related to some non-arithmetic sequence of integers, **Mediterranean Journal of Mathematics**, 164(21) (2024).
<https://doi.org/10.1007/s00009-024-02708-y>

- **Ayan Ghosh**, Topologically $\mathcal{S}$ -torsion elements of the Circle, **Ricerche di Matematica**, 73(2024), 22632281.
<https://doi.org/10.1007/s11587-022-00751-z>
- Pratulananda Das, **Ayan Ghosh**, Eggleston's dichotomy for characterized subgroups and the role of ideals, **Annals of Pure and Applied Logic**, 174(8) (2023).
<https://doi.org/10.1016/j.apal.2023.103289>
- Pratulananda Das, **Ayan Ghosh**, On a new class of trigonometric thin sets extending Arbault sets, **Bulletin des Sciences Mathematiques**, 179 (2022).
<https://doi.org/10.1016/j.bulsci.2022.103157>
- **Ayan Ghosh**, Some further remarks on characterized subgroups generated by modular simple density, **Quaestiones Mathematicae**, (2022).
<https://doi.org/10.2989/16073606.2022.2058436>
- Pratulananda Das, **Ayan Ghosh**, Solution of a general version of Armacost's problem on topologically torsion elements, **Acta Mathematica Hungarica**, 164(1) (2021), 243–264.
<https://doi.org/10.1007/s10474-021-01142-w>
- Pratulananda Das, **Ayan Ghosh**, Generating subgroups of the circle using a generalized class of density functions, **Indagationes Mathematicae**, 32(3) (2021), 598–618.
<https://doi.org/10.1016/j.indag.2020.10.004>
- **Ayan Ghosh**, Pratulananda Das, When ideals properly extend the class of Arbault sets, **communicated**.
<https://doi.org/10.48550/arXiv.2401.02103>
- **Ayan Ghosh**, Pratulananda Das, Characterizing infinite torsion subgroups of the circle via arithmetic-type sequences II, **communicated**.
- Pratulananda Das, Anup Roy Chowdhury, **Ayan Ghosh**, Remarks on a -characterized and a -Factorizable subgroups of the circle, **communicated**.

Worked as referee for International Journals :

- Bull. Sci. Math.,
- Communications in Algebra,
- Archiv der Mathematik,
- Revista de la Real Academia de Ciencias Exactas, Fisicas y Naturales - Serie A: Matematicas,
- Mathematica Slovaca.

Invited Lecture given :

- 91st Annual Conference of the Indian Mathematical Society - An International Meet, 26-29 December 2025.
- 4th International Conference on Algebra Topology and their Interactions, Italy, 22-24 July 2026.

Worked as Tutor :

- Mathematics Training and Talent Search Programme (MTTS), Online, 11th June - 5th July 2021.

- Annual Foundation School - I (AFS-I), NIT Durgapur, 12th December 2022 - 7th January 2023.
- Teacher's Enrichment Workshop on Analysis and Topology (TEW on Analysis and Topology), Ramakrishna Mission V. C. College, 6-11 March 2023.
- Teacher's Enrichment Workshop on Topology (TEW on Topology), Ramakrishna Mission V. C. College, 5-10 February 2024.

Extramural Research Grants : DST-INSPIRE research grant; 7 lakhs per annum for five years (from 2025).

Research Lab Visited :

- Visited the research group of Dr. Sandipan Dutta and Dr. Tanay Saha at Mizoram University, 27th October - 3rd November 2025.
- Visited the research group of Prof. Tirthankar Bhattacharyya at IISc Bangalore, 1 - 24 June 2026.

Members of professional bodies :

- Life member of Calcutta Mathematical Society from February 2024.
- Life member of Indian Mathematical Society from November 2025.

Achievements/Scholarships/Awards :

- Received **Satya Deo Award 2025** from Indian Mathematical Society.
- Awarded **Inspire Faculty Fellowship 2024** (DST/INSPIRE/04/2024/004079) in Mathematical Sciences.
- **"Best Presenter Award"** at the International Conference **"ICMSE-2025"**, organized by Department of Mathematics and Computer Science, Mizoram University.
- **"Best Presenter Award"** at the International Conference **"ICRAAPAM-2025"**, jointly organized by Calcutta Mathematical Society (CMS).
- Qualified **CSIR-NET JRF** December, 2017 (Mathematical Sciences).

Conference attended for presentation :

- International Seminar on Physical and Mathematical Sciences, 2023 (February 24-25).
Place: Calcutta Mathematical Society, W.B., India.
Title of the talk: An Uncountable Tower of Characterized Subgroups Generated by Modular Simple Density.
- National Conference on Mathematics : Various Aspects in Society, 2023 (March 13-14).
Place: Jadavpur University, W.B., India.
Title of the talk: Characterized Subgroups of the Circle Generated by Modular Simple Density.
- National Seminar on : Recent Advances in Mathematics and Its Applications, 2023 (March 17).
Place: Calcutta University, W.B., India.
Title of the talk: A Counterpart of Armacost's Quest of Topologically Torsion Elements.
- Algebra, Topology and Their Interactions-2023, July 25.
Place: Universit degli Studi di Udine, Italy.
Title of the talk: Eggleston's dichotomy for characterized subgroups and the role of ideals.
- 2nd International conference on Mathematical Analysis and Applications in Modeling, 2023 (October 9-11).
Place: Department of Mathematics and CMBE, Jadavpur University, W.B., India.
Title of the talk: Eggleston's quest for characterized subgroups and the role of snt-ideals.
- 3rd international Conference on Nonlinear Applied Analysis and Optimization, 2023 (December 8-10).
Place: Department of Mathematics, National Institute of Technology Durgapur.
Title of the talk: Eggleston's dichotomy for characterized subgroups and the role of snt-ideals.

- Annual Conference of Calcutta Mathematical Society, 2023 (December 9-11).
Place: Calcutta Mathematical Society, W.B., India.
Title of the talk: Topologically $\mathcal{S}$ -torsion elements of the Circle.
- 38th Annual Conference of The Ramanujan Mathematical Society, 2023 (December 22-24).
Place: Department of Mathematics, Indian Institute of Technology Guwahati.
Title of the talk: Trigonometric thin sets vs characterized subgroups.
- International Conference On Emerging Frontiers in Mathematical and Computational Sciences, 2024 (October 24-26).
Place: Department of Mathematics, North Eastern Hill University (NEHU), Shillong.
Title of the talk: Existence of an uncountable tower of Borel subgroups between the characterized subgroup and its statistical variant corresponding to Fibonacci sequence.
- International Conference On Recent Advances and Applications in Pure and Applied Mathematics, 2025 (April 25-26).
Place: Department of Mathematics, Khalisani Mahavidyalaya, W.B., India.
Title of the talk: Exploring topologically torsion elements through the lens of arithmetic-type sequences.
- International Conference on Mathematical Sciences and Engineering, 2025 (June 9-11).
Place: Department of Mathematics and Computer Science, Mizoram University, India.
Title of the talk: An Overview of Characterized Subgroups Related to Arithmetic-Type Sequences.
- International Conference on Algebra, Topology and Dynamical Systems, 2025 (July 28-30).
Place: Department of Mathematics and Computer Science, University of Udine, Italy.
Title of the talk: On topologically torsion elements and their subgroups corresponding to arithmetic-type sequences.
- International Conference on New Age Mathematical Sciences, 2025 (December 11-13).
Place: Calcutta Mathematical Society, Kolkata-700064, India.
Title of the talk: Torsion Subgroups of the Circle and their Characterizing Sequences.

Teaching Interest :

- **Bachelor's Level:** Basic courses in Pure Mathematics (e.g. Linear Algebra, Abstract Algebra, Real Analysis, Topology, Calculus, etc.).
- **Higher Level:** General Topology, Algebraic Topology, Topological Groups, Commutative Algebra.

Career Objective : To achieve professional excellence using my research and teaching skills through continuous learning and teaching.