

DR. INDRAJIT DEBNATH

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Born 31st March 1989



RESEARCH INTERESTS

My research primarily revolves around the interface of Topology, Measure Theory and Analysis. More specifically, I am interested in establishing the connection between density and density type topologies and summability theory over the space of reals.

EDUCATION

2019 – 2025 **Ph.D. in Mathematics**

- Coursework CGPA : 8.66
- Institute : The University of Burdwan, Golapbag, Burdwan, 713104, India.
- Defended thesis on 6th May, 2025 and degree awarded on 17th May, 2025.

2010 – 2012 **M.Sc. in Pure Mathematics**

- Percentage : 71
- Institute : The University of Hyderabad, Gachibowli, Hyderabad, Telangana, 500046, India

2007 – 2010 **B.Sc. Honours in Mathematics**

- CGPA: 7.1
- Institute : **St. Xavier's College**, Kolkata, 700013, West Bengal

2007 **Higher Secondary**

- Percentage: 85.4
- Board : West Bengal Council of Higher Secondary Education

2005 **Secondary**

- Percentage: 87.5
- Board : West Bengal Board of Secondary Education

Ph.D. THESIS

Title: A study on some aspects of ideal convergence in density and sparse set topology.
Ph.D. adviser: Professor Amar Kumar Banerjee, The University of Burdwan, Burdwan.

PUBLISHED PAPERS

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|------|---|
| 2026 | • On a generalized density point defined by families of sequences involving ideals, Mathematica Bohemica 151(1) (2026), 67-88. |
| 2025 | • On sparse set topology using ideals in the space of reals, Real Analysis Exchange 50(2) (2025), 279-300. |
| 2024 | • On some topology generated by $\mathcal{I}$ -density function, Bulletin of Mathematical Analysis and Application 16(3) (2024), 1-12. |
| 2024 | • On density topology using ideals in the space of reals, Filomat 38(2) (2024), 743-768. |

PROFESSIONAL EXPERIENCE

JULY, 2012 – JUNE, 2019	Assistant Professor in Mathematics <ul style="list-style-type: none"> Institute : Rajiv Gandhi University of Knowledge and Technologies, RK Valley, Kadapa-516330, Andhra Pradesh, India
JULY, 2024 – present	Assistant Professor in Mathematics <ul style="list-style-type: none"> Institute : Regent Education & Research Foundation Group of Institutions, Bara kanthalia, Barrackpore, Telini Para, Kolkata - 700121, West Bengal, India.

COURSES TAUGHT

Engineering Mathematics, Discrete Mathematics, Topology of metric spaces, Transform Calculus, Probability theory, Numerical Analysis, Placement skills (Quantitative aptitude, Logical reasoning, Analytical reasoning)

CONFERENCE TALKS

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| 2024 | <ul style="list-style-type: none"> A generalization of density topology using ideals for certain measure spaces. December 16-20, IWATM-2024, Centre for Applied Mathematics, IIIT Naya Raipur, India. |
| 2024 | <ul style="list-style-type: none"> On sparse set topology using ideals in the space of reals. March 05-06, ICMA-2024, Department of Mathematics, The University of Burdwan, Burdwan-713104, India. (Offline mode) |
| 2023 | <ul style="list-style-type: none"> Mathematics A Creative Art. December 22, National Seminar on "Ramanujan and Mathematics", Department of Mathematics, The University of Burdwan, Burdwan-713104, India. (Offline mode) |
| 2023 | <ul style="list-style-type: none"> On a generalized density point defined by families of sequences involving ideals. October 26-28, International Conference on Pure and Applied Mathematics (ICPAM-2023), Department of Mathematics, NIT Jalandhar, Jalandhar-144027, Punjab, India. (Online mode) |
| 2023 | <ul style="list-style-type: none"> On some topology generated by $\mathcal{I}$-density function. March 30-31, International Webinar on Advances in Mathematical Sciences 2023, Department of Mathematics, West Bengal State University, Barasat-700126, India. (Online mode) |
| 2022 | <ul style="list-style-type: none"> On density topology using ideals in the space of reals. June 28-29, ICOMAA-2022, Department of Mathematics, University of Kalyani, India. (Online mode) |

WORKSHOP/ FDP

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| 2026 | <ul style="list-style-type: none"> NATIONAL LEVEL online hands-on workshop on COMPUTATIONAL TOPOLOGY USING MATLAB & SCILAB. July 27-31, Indian Mathematics Professors Association and Infinity Research & Development Institute, Coimbatore, India. |
| 2026 | <ul style="list-style-type: none"> NPTEL-AICTE FDP 12 week course (Jan-April, 2026) on <i>The Joy of Computing using Python</i> with a consolidated score of 94%. |
| 2025 | <ul style="list-style-type: none"> NPTEL-AICTE FDP 12 week course (July-Oct, 2025) on <i>Matrix Computation and its Applications</i> with a consolidated score of 90%. |
| 2025 | <ul style="list-style-type: none"> A two-day online hands-on workshop on mastering sketching science with latex. June 03-04, Indian Mathematics Professors Association and Infinity Research Development Institute, Coimbatore, India. |
| 2022-2023 | <ul style="list-style-type: none"> Annual Foundation School-I. 12th December, 2022 to 7th January, 2023, Department of Mathematics, NIT Durgapur, India. |
| 2022 | <ul style="list-style-type: none"> Trends in Analysis and Topology. September 08-12, TIAT-2022, Department of Mathematics, Malaviya National Institute of Technology Jaipur, India. |

- 2019 • Instructional Design and Delivery System. January 02-07, Conducted by National Institute of Technical Teachers Training & Research at Rajiv Gandhi University of Knowledge and Technologies, RK Valley, Kadapa-516330, Andhra Pradesh, India.

ACADEMIC SERVICE

- 2026 • Member of the Organizing Committee for the International Conference on Advanced Materials, Energy, Structural Engineering and Operations Management (AMESEOM 2026) organized by R&D cell, RERFGI, Barrackpore-700121 held on 5th – 6th June, 2026.
- 2025 • Reviewed articles for Tatra Mountains Mathematical Publications.

SCHOLASTIC ACHIEVEMENT

- 2018 **CSIR JRF in Mathematical Sciences**
 - AIR : 146
- 2016 **NBHM Junior Research Fellowship**
- 2015 **GATE in Mathematical Sciences**
 - AIR : 265
- 2013 **UGC JRF in Mathematical Sciences**
 - AIR : 87
- 2010 **JAM in Mathematics**
 - AIR : 288
- 2008 – 2011 **INSPIRE Scholar**

CO-CURRICULAR ACTIVITIES

- 2017 • Organizer of Quiz Competition on 20th December, 2017 in RGUKT, RK Valley, Kadapa-516330, Andhra Pradesh, India on the occasion of National Mathematics Day.
- 2014 • Organizer of Mathematics Talent Hunt for Mathematics Day, 2014 in RGUKT, RK Valley, Kadapa-516330, Andhra Pradesh, India.
- 2013 • Organizer of Quiz competition on 20th December, 2013 in RGUKT, RK Valley, Kadapa-516330, Andhra Pradesh, India.
- 2009 • Organizer of ANALYTICA 2009 in B.Sc. 2nd year in St. Xavier's College, Kolkata.

SKILLS

- Languages
 - Bengali -Mother Tongue
 - English - Fluent
 - Hindi - Conversational

- Extra-Curricular activities
 - Reading non-fiction, Reflective writing, Playing Chess, Solving Cubes