

Dr. Anupam Sen

Curriculum Vitae



Present Position and Address

Dr. Anupam Sen

Post Doctoral Fellow

NISER Bhubaneswar

Khurda, Pipli, Near Jatni,

Odisha-752050, India

Email: sen.anupam123@gmail.com, anupam21@tifrbng.res.in

Mobile: +91-8617890883, +91-7718763654

Work Experience

♣ Post Doctoral Fellow

NISER Bhubaneswar, Odisha-752050, India

September 2023 - Till date

♣ Post Doctoral Fellow

TIFR Centre for Applicable Mathematics, Bengaluru, Karnataka-560065, India

September 2021- September 2023

Complete Academic Qualifications

2021 **Doctor of Philosophy (Mathematics).**

Institution: Indian Institute of Technology Kharagpur, Kharagpur, India

Title of the Thesis: “**Analytical study of delta shock waves in certain one-dimensional quasilinear hyperbolic system of conservation laws**”

Thesis supervisor : Prof. T. Raja Sekhar

Date of thesis Defense : 20th August, 2021

2014 **Master of Science (Mathematics).**

Institution: Indian Institute of Technology Bombay, Mumbai, India

Marks Obtained : 7.29 (CGPA, Out of 10) (First class)

2012 **Bachelor of Science (Mathematics (Hons), Physics and Chemistry (Minor)).**

Institution: Midnapore College, Vidyasagar University, India

Marks Obtained : 72.625% (Hons)(First class),

Minor in Physics (60% marks) and Chemistry (75% marks)

2009 **Higher Secondary Education** (12th).

Institution: Kharagpur Silver Jubilee High School, West Bengal Council of Higher Secondary Education

Marks Obtained : 84.2% (First division)

2007 **Secondary Education** (10th).

Institution: Mawa I. C. High School, West Bengal Board of Secondary Education

Marks Obtained : 86.88% (First division)

Research Interests

Hyperbolic Conservation Laws

Partial Differential Equations

Nonlinear Waves

List of Publications (in peer reviewed journals)

- 2023 ♣ B. Chhatra, **Anupam Sen** and T. Raja Sekhar, Self-similar viscosity approach to the Riemann problem for a strictly hyperbolic system of conservation laws, **Mathematical Methods in the Applied Sciences** 46 (6) (2023): 7265-7284 (**Wiley**) (**SCI**) (DOI: <https://doi.org/10.1002/mma.8969>)
- 2021 ♣ **Anupam Sen** and T. Raja Sekhar, The limiting behavior of the Riemann solution to the isentropic Euler system for logarithmic equation of state with a source term, **Mathematical Methods in the Applied Sciences** 44 (8) (2021): 7207-7227 (**Wiley**) (**SCI**) (DOI: <https://doi.org/10.1002/mma.7254>)
- 2021 ♣ **Anupam Sen** and T. Raja Sekhar, The multiplication of distributions in the study of delta shock waves for zero-pressure gasdynamics system with energy conservation laws, **Ricerche di Matematica (Springer)**, 2021 (**SCI**) (Article in press) (DOI: <https://doi.org/10.1007/s11587-021-00565-5>)
- 2020 ♣ **Anupam Sen** and T. Raja Sekhar, Delta shock wave and wave interactions in a thin film of a perfectly soluble anti-surfactant solution, **Communications on Pure and Applied Analysis** 19 (5) (2020): 2641-2653 (**American Institute of Mathematical Sciences**) (**SCI**) (DOI: [10.3934/cpaa.2020115](https://doi.org/10.3934/cpaa.2020115))
- 2019 ♣ **Anupam Sen** and T. Raja Sekhar, Delta shock wave as self-similar viscosity limit for a strictly hyperbolic system of conservation laws, **Journal of Mathematical Physics** 60 (5) (2019): 051510 (**American Institute of Physics**) (**SCI**) (DOI: <https://doi.org/10.1063/1.5092668>)
- 2019 ♣ **Anupam Sen** and T. Raja Sekhar, Structural stability of the Riemann solution for a strictly hyperbolic system of conservation laws with flux approximation, **Communications on Pure and Applied Analysis** 18 (2) (2019): 931-942 (**American Institute of Mathematical Sciences**) (**SCI**) (DOI: [10.3934/cpaa.2019045](https://doi.org/10.3934/cpaa.2019045))

- 2019 ♣ **Anupam Sen**, T. Raja Sekhar and D. Zeidan, Stability of the Riemann solution for a 2×2 strictly hyperbolic system of conservation laws, **Sadhana** 44 (11) (2019), Article number: 228 (**Springer**) (**SCI**) (DOI: <https://doi.org/10.1007/s12046-019-1212-z>)
- 2017 ♣ **Anupam Sen**, T. Raja Sekhar and V. D. Sharma, Wave interactions and stability of the Riemann solution for a strictly hyperbolic system of conservation laws, **Quarterly of Applied Mathematics** 75 (3) (2017): 539-554 (**American Mathematical Society**) (**SCI**) (DOI: <https://doi.org/10.1090/qam/1466>)

List of Communicated Papers

- 2023 ♣ S. S. Ghoshal, A. Parmar and **Anupam Sen**, Large data existence for isentropic Euler equations with power law (**preprint**).

Award & Honours

- ♣ Institute Post Doctoral Fellowship at TIFR Centre for Applicable Mathematics, September 2021.
- ♣ **SRF** (Senior Research Fellow) of CSIR-UGC, India
- ♣ **JRF** (Junior Research Fellow) of CSIR-UGC, India
- ♣ Awarded **JRF** project (SERB, DST, Government of India (Ref No: SB/FTP/MS-047/2013)) entitled “Delta shock waves and wave inactions in hyperbolic system of conservation laws” at IIT Kharagpur (October 2015-December 2016)
- ♣ Qualified **Joint CSIR-UGC NET (December 2015)** with UGC research fellowship, **Rank-49**
- ♣ Qualified **Graduate Aptitude Test in Engineering (GATE) 2015**, **AIR-192**
- ♣ Qualified **Joint CSIR-UGC NET (June 2014)** with lecturership, **Rank-29**
- ♣ Received **Merit cum Means** scholarship (July 2012-May 2014) during M.Sc. from IIT Bombay.
- ♣ Qualified **Joint Admission Test for M.Sc. (JAM) 2012**, **AIR-26**

Conferences Participated in Abroad/ India

- 2019 ♣ Participated and given a poster presentation on Wave interactions and stability of the Riemann solution for a strictly hyperbolic system of conservation laws” in **ICIAM-2019** at **Valencia, Spain**, July 15-19, 2019
- 2018 ♣ Participated and given a poster presentation on “Wave interactions in a thin film of a perfectly soluble anti-surfactant solution” in **ICM-2018** at **Rio de Janeiro, Brazil**, August 1-9, 2018

- 2018 ♣ Participated and given a conference talk on “Stability of the Riemann solution for a strictly hyperbolic system of conservation laws with flux approximation” in **ISTAM-2018** at Dayanand Sagar University, Bangalore, India, December 20-23, 2018

Workshops Participation

- 2017 ♣ Workshop on **AIS Linear Partial Differential Equations** at TIFR-CAM, June 19- July 8, 2017
- 2018 ♣ Workshop on **AIS Differential Equations** at University of Hyderabad, June 4-23, 2018
- 2019 ♣ Workshop on **AIS System of Conservation Laws: Theory and Numerics** at TIFR-CAM, August 5-17, 2019

Teaching Experience

Teaching Assistant at Indian Institute of Technology Kharagpur for the courses

- ♣ Mathematics I (MA 10001 : Calculus and Differential Equations), Autumn 2018-2019, 2019-2020.
- ♣ Mathematics II (MA 10002: Linear Algebra and Numerical Analysis), Spring 2017-2018, 2018-2019, 2019-2020.
- ♣ PDE (MA 20103), Autumn 2020-2021.
- ♣ Analytical Mechanics (MA51005), Autumn 2020-2021.
- ♣ Integral Equations and Variational Methods (MA51004/ MA40002/ MA61052), Spring 2020-2021.
- ♣ Teaching assistant, NPTEL course on “Laplace Transform” hosted on Swayam Portal. Instructor Prof. Indrava Roy, July- October 2021.
- ♣ Teaching assistant, NPTEL course on “An Invitation to Topology” hosted on Swayam Portal. Instructor Prof. Indrava Roy, January- April 2022.

Professional Membership

- ♣ Life Membership for Indian Mathematical Society (L/2019/155)

Computer Skills

Operating Systems: Windows

Programming Languages: C

Mathematical Software: MATLAB, Mathematica

For Documentation: TeXstudio, Texmaker, WinEdt, Microsoft Office (Word, Power Point, Excel)

Personal Details

Father's Name : Ashok Kumar Sen

Date of Birth: 21th November, 1991

Sex : Male

Citizenship : Indian

Place of Birth : Chakmakrampur, Kharagpur, West Bengal, India

Permanent Address

Vill+P.O.- Chakmakrampur

P.S.- Kharagpur (Local), Dist.- Paschim Medinipur, Pin code- 721149

West Bengal, India

Name of the Referees

♣ **Prof. T. Raja Sekhar**

Associate Professor

Department of Mathematics,

Indian Institute of Technology Kharagpur

Kharagpur-721302, West Bengal, India

Email: trajasekhar@maths.iitkgp.ac.in

Phone:+91-3222-282602

♣ **Prof. Shyam Sundar Ghoshal**

Associate Professor

Centre for Applicable Mathematics (CAM),

Tata Institute of Fundamental Research (TIFR),

Sharada Nagar, Chikkabommsandra,

Bangalore 560065, Karnataka, India

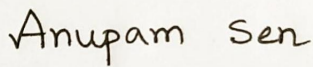
Email: ghoshal@tifrbng.res.in

Phone: +91 80 6695-3745

Declaration

I hereby declare that all the above information is correct to the best of my knowledge and belief.

Signature



Place : Bengaluru

Date : September 09, 2023