Saranya Biswas

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Education

IIT Madras   2016-2024
MS-PhD, Applied Mechanics
CGPA: 9.13/10.0
Thesis: *Characterization of Noisy Dynamical Systems*
Supervisor: Prof. Sayan Gupta

Jadavpur University   2012-2016
B.E. Mechanical Engineering, First Class with Honours
CGPA: 8.90/10.0

Experiences

Visiting Assistant Professor, Techno India University, Kolkata   Aug 2025-Nov 2025
Postdoctoral Research Fellow (Project Engineer), IIT Kanpur   Apr 2024-Mar 2025
Worked with Prof. Anindya Chatterjee on nonlinear dynamics, impact modelling, and analytical mechanics.

Publications (Selected)

Journal Articles

- S. Biswas, A. Rounak, P. Perlikowski, S. Gupta, "Characterising stochastic fixed points and limit cycles for dynamical systems with additive noise", *Commun. Nonlinear Sci. Numer. Simulat.*, 101 (2021).
- S. Biswas, S. Gupta, "Localized differential stability of stochastic attractors", (Communicated, 2023).

Manuscripts in Preparation

- S. Biswas, A. Chatterjee, "Short-time transverse impact response of a Hertzian body with a Rayleigh beam", 2025.
- S. Biswas, S. Gupta, "Relative global stability of stochastic attractors", 2024.
- S. Biswas, S. Gupta, "Identification of multiplicative-noise-induced intermittency using stochastic basin stability", 2024.

Conferences

- S. Biswas, S. Gupta, "Basin stability and P-bifurcations in stochastic dynamical systems", PNLD 2023, IIT Madras.
- A. Rounak, S. Biswas, S. Gupta, "Tracking survivability of solutions", ICoEV 2020, Aberdeen.
- S. Biswas, A. Rounak, S. Gupta, "Stability of stochastic attractors", CNSD 2019, IIT Kanpur.

Teaching

Course Assistantships
AM5600 Computational Methods in Mechanics (IITM)
AM5400 Experimental Stress Analysis Lab (IITM)
AM2540 Applied Mechanics Lab (IITM)
ME454 Numerical Solutions in Engineering Mechanics (IITK)
ME850 Basic Control Systems (IITK)

Other Works

- Jointly preparing a postgraduate dynamics textbook manuscript (with Prof. A. Chatterjee, IIT Kanpur).
- Developed randomized question-paper generator for technical subjects (QP, v:2025, web link).

Skills

MATLAB, Python, Mathematica, Octave, Inkscape, LaTeX, Blender, MS Office.

Languages

English, Bengali, Hindi.