Dr. Gaurav Sundaram

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Education

Indian Institute of Technology Patna — Patna, Bihar, India
PhD in department of Electrical Engineering; — *2023*
Coursework completed; ***GPA: 8.23/10***

National Institute of Technology Patna — Patna, Bihar, India
MTech ; ***GPA: 8.19/10*** — *Jun 2012 – May 2014*

Institute of Technology and Management, Gurgaon — MDU, Rohtak, India
BTech in Electronics and Instrumentation Engineering; ***Percentage: 72% with Hons.*** — *2010*

Patna Science College — Patna, Bihar, India
I.Sc. ; Percentage: 66% — *2003 – 2005*

B.D Public School — Patna, Bihar, India
10th. ; Percentage: 84% — *2003*

Skills

Programming: Python, MATLAB, R, MS Office

Languages: English (Professional), Hindi (Professional), Sanskrit, Bengali, Maithili, Bhojpuri

Publications (Journals and Conferences)

- Ayoub Irfan, Umer Mushtaq, Govind B. Nair, **Gaurav Sundaram**, Hendrik C. Swart, and Vijay Kumar. "Exploring the Sr2Ga2GeO7: Tb3+ Long Persistent Luminescence Phosphor for Cutting-Edge Forensic Solutions in Latent Fingerprint Detection and Anticounterfeiting Applications." Small: 2500285.
- **Gaurav Sundaram**, Snehan Shourya, Ayush Kumar, Rajib Kumar Jha, Rashmi Ranjan Maharana, and Sumit Kumar. "Medical Image Encryption with Fractional Discrete Cosine Transform, Arnold Transform and AES." In TENCON 2024-2024 IEEE Region 10 Conference (TENCON), pp. 830-833. IEEE, 2024.
- **Gaurav Sundaram**, Shourya, S., Jha, R. K., Maharana, R. R., Banda, L, Kumar, S. (2023, March). A Novel Encryption Approach with Fractional Discrete Cosine Transform and Cascading Discrete Orthonormal Stockwell Transform. In 2023 International Conference on Fractional Differentiation and Its Applications (ICFDA), (pp. 1-5). IEEE
- **Gaurav Sundaram**, Panna, B., Jha, R. K., Kumar, S. (2023). Image encryption based on fractional discrete cosine transform and DWT with interplane arrangements in dost domain. IET Image Processing, 17(4), 1195-1207.
- **Gaurav Sundaram**, Jha, R. K., Rahman, M. A., Meena, R., Kumar, S., Kumar, P. (2022). Biomedical Watermaking Using Arnold Transformation. In Recent Trends in Electronics and Communication: Select Proceedings of VCAS 2020 (pp. 761-774). Springer Singapore.
- Kumar, S., **Gaurav Sundaram**, Shourya, S., Jha, R. K., Maharana, R. R., Saini, G. (2023, March). A Novel Signal Detector based on Approximated Fractional Integrator in Frequency Domain. In 2023 International Conference on Fractional Differentiation and Its Applications (ICFDA) (pp. 1-5). IEEE.
- Bhandari Chitra, Sumit Kumar, Sudha Chauhan, M. A. Rahman, **Gaurav Sundaram**, Rajib Kumar Jha, Shyam Sundar, A. R. Verma, and Yashvir Singh. "Biomedical image encryption based on fractional discrete cosine transform with singular value decomposition and chaotic system." In 2019 International Conference on Computing, Power and Communication Technologies (GUCON), pp. 520-523. IEEE, 2019.
- Kumar, Sumit, Sudha Chauhan, **Gaurav Sundaram**, Mausam Chouksey, and Rajib Kumar Jha. "An FPGA based practical implementation of stochastic resonance for image enhancement." In 25th international conference on noise and fluctuations (ICNF 2019), no. CONF. ICLAB, 2019.

Awards & Achievements

Visit to Singapore in December, 2024 to present a paper selected in IEEE sponsored international conference IEEE TENCON 2024

Visit to UAE to present selected two papers in IEEE sponsored international conference, ICFDA in March, 2023

Selected by Government of India in Youth Delegation to visit South Korea under International Youth Exchange Program (IYEP) for more than two weeks in May, 2016

Visvesvaraya fellowship grant from MeitY, Govt. of India

Qualified Graduate Aptitude Test in Engineering (GATE)

College topper of the branch and one amongst the university toppers and honored to be felicitated by Dr. A.P.J Abdul Kalam

Best Paper Award in Bhartiya Vigyan Sammelan, 2007 given by then ISRO Chairman Dr. G. Madhavan Nair held in 23-25 Nov, 2007 in MANIT Bhopal

FDPs Attended

Attended Faculty Development Program on Deep Learning and Optimisation for Healthcare at NIT Patna from 24 Feb-4 March 2025.

Attended Academy Faculty Development Program on Power-Efficient VLSI-Based Hardware Accelerators in High-Performance Computing (HPC) at BIRLA INSTITUTE OF TECHNOLOGY AND SCIENCE, PILANI from 20-25 January 2025.

Attended Faculty Development Programme on "Recent Advances in Business Analytics and Management Research" organised by IIIT Ranchi from 8-12 January, 2025

Participated in AICTE Sponsored Faculty Development Program on "AI and ML for Sustainable Development: From Fundamentals to Advanced Applications" Organised by IIIT Ranchi, held on December 19-23, 2024 in IIIT Ranchi

Participated in five-day (STC) course on "Introduction to Quantum Communication and Machine Learning" organised by I-DAPT HUB FOUNDATION, Indian Institute of Technology (BHU) Varanasi held on January 8-12, 2024 in IIT BHU

Attended Faculty Development Programme on "Entrepreneurship Skill Development" organised by IIT Patna from 10-22 May, 2023

Relevant Coursework

Major coursework: Statistical Signal Processing, Statistics, Computer Fundamentals.

Minor coursework: Artificial Intelligence, Image and Video Processing, Computer Vision, Operating Systems.

Administrative responsibilites :

Member of ERP Team of the institute for SAMARTH Portal

Member of the committee of Faculty members to conduct Techno-Cultural Fest Celestio 2025

Faculty Advisor (1st year), B.Tech, ECE (ES & IoT)