



**INDIAN INSTITUTE
OF TECHNOLOGY**
(INDIAN SCHOOL OF MINES)
DHANBAD

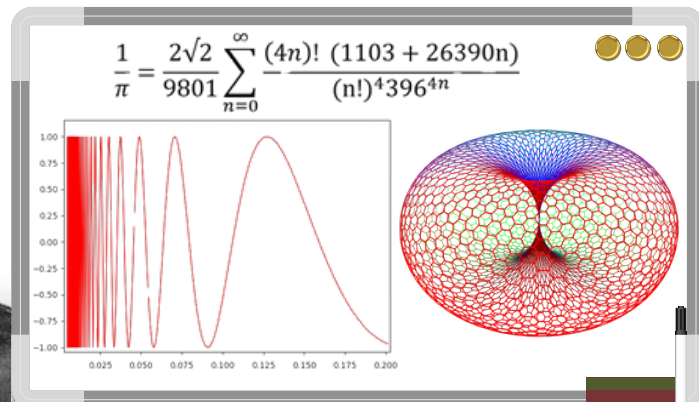
Legacy that inspires the future

AUGUST 2025
VOL. 2 | ISSUE 8



GANANAM

*A Monthly Newsletter of
Department of Mathematics and Computing*



WELCOME



Prof. Ajit Singh joined the Department of Mathematics and Computing, IIT (ISM) Dhanbad in August 2025. Prior to this, he was a Fulbright Nehru Postdoctoral Fellow at the University of Virginia, USA under the mentorship of Prof. Ken Ono. He has also served as a Research Associate in the department of Mathematics at the Indian Institute of Technology Guwahati. He completed his PhD in Mathematics from the Department of Mathematics & Computing at the Indian Institute of Technology Guwahati, Assam, India under the guidance of Prof. Rupam Barman.

He has been awarded prestigious fellowships, including the Fulbright Nehru Postdoctoral Fellowship, NBHM Postdoctoral Fellowship, and INSPIRE Faculty Fellowship. His research interests lie primarily at the interface of Number Theory and Combinatorics. In particular, he focuses on the Theory of Integer Partition, q -series and Modular Forms as well as applications of these topics to other areas of mathematics.

Website: <https://sites.google.com/view/ajitsingh04/home>

PUBLICATIONS

- **H. K. Mishra**, Equality in symplectic eigenvalue inequalities, Linear Algebra and its Applications, 728(2026) 141-160.
- T. De, A. Dan, R. Ramachandran, **A. Das**, An adaptive and bi-directional PBM-DEM framework for multi-component wet granulation: Bridging the gap between computational efficiency and High-fidelity model physics, Powder Technology, 467(2026), 121507.
- U. Goswami, **S. Mondal**, Inequality restricted minimum density power divergence estimation in panel count data, Applied Mathematical Modelling, 150(2026), 116371.
- **G. K. Vishwakarma**, H. P. Singh, H. Joshi, and N. Kumar, Interval shrinkage estimators of scale parameter of gamma density in presence of guessed values, Journal of Computational and Applied Mathematics, 475(2026), 117027.

PUBLICATIONS

- N. Kumar, T. Majumdar, **G. K. Vishwakarma**, and A. Bhattacharjee, Bayesian estimation of parametric AFT models for high-dimensional survival data, International Journal of Biomathematics, 2025, <https://doi.org/10.1142/S1793524525500974>.
- **P. K. Kewat**, V. Tiwari, Applications of order six cyclotomy to construct CSS quantum codes and quantum synchronizable codes, Quantum Information Processing, 24(2025), <https://doi.org/10.1007/s11128-025-04883-7>.

SPONSORED PROJECTS

- Received a sponsored Project entitled: "Mineral Prospectivity Mapping of Critical Minerals (Li & REE) in Pegmatite of Koderma Mica Belt using Hybrid CNN Approach", PI: **Prof. Sanjeev Anand Sahu** (Department of Mathematics and Computing), Co-PI: **Prof. Scindhiya Laxmi** (Department of Mathematics and Computing) and Prof. Prabodh Ranjan Sahu (Department of Applied Geology), Amount: 18.50 lakhs. September, 2025–August 2027, from TEXMin.

FACULTY ACHIEVEMENT

- **Prof. Gajendra K. Vishwakarma** appointed as an Associate Editor of "Journal of Statistical Theory and Practice (JSTP)".

INVITED TALKS

- **Prof. Tamoghna Ojha** delivered an online Guest lecture at IEEE TETC Student Branch on "The Next Evolution in IoT Networks". [22nd August]

CONVOCATION 2025

- In the 45th Convocation concluded in August 2025, E C Bhaavan Sai (Int. M. Tech), Ananya Karmakar (M. Sc), and J Job (M. Tech) received the Gold medal, while Aneesha Das (Int. M. Tech) and Apurva (M. Sc.) received the Silver Medal.
- Smt. Renuka Rajhans Memorial Gold Medal for Best Girl Student of 5 Year Integrated Programme was awarded to Aneesha Das (Int. M. Tech).



E C Bhaavan Sai
20JE0353



J Job
23MT0172



Ananya Karmakar
23MS0016



Aneesha Das
20JE0127



Apurva
23MS0026

CONVOCATION 2025



Dr. Mohd Sadab (Admission No. 21DR0106), who was recently awarded the Ph.D. under the supervision of **Prof. Santimoy Kundu**, has now been honored with the **Best Thesis Award**.

MATHEMATICS AND COMPUTING NEWS

- **Google's quantum computer just simulated the hidden strings of the Universe :** Scientists using Google's quantum processor have taken a major step toward unraveling the deepest mysteries of the universe. This breakthrough opens the door to probing particle physics, exotic quantum materials, and perhaps even the structure of space and time itself. [[Read More](#)]
- **Light-powered chip makes AI 100 times more efficient :** Artificial intelligence is consuming enormous amounts of energy, but researchers at the University of Florida have built a chip that could change everything by using light instead of electricity for a core AI function. [[Read More](#)]
- **Hexagons for data protection: Proof of location without disclosing personal data :** Location data is considered particularly sensitive -- its misuse can have serious consequences. Researchers have now developed a method that allows individuals to cryptographically prove their location -- without revealing it. [[Read More](#)]

EDITORIAL TEAM

Prof. S P Tiwari (HOD), Prof. Atul Kumar Verma, Prof. Tamoghna Ojha, Tarun Kr Das.
Contact : gananam@iitism.ac.in