



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद Indian Institute of Technology (Indian School of Mines), Dhanbad

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PRESS-RELEASE

Prof. Madhulika Gupta Featured in Royal Society of Chemistry's International Women's Day 2026 Special Collection

Prof. Madhulika Gupta, Assistant Professor in the Department of Chemistry and Chemical Biology at IIT (ISM) Dhanbad, has been featured by the Royal Society of Chemistry (RSC) in its *International Women's Day 2026 special collection* of the Materials portfolio of journals. The collection highlights impactful research led by women scientists across the globe and published in 2025.

Prof. Gupta has been recognized for her research paper titled "*In silico design and experimental validation of a high-entropy perovskite oxide for SOFC cathodes*," published in 2025 in the Journal of Materials Chemistry A. The research work was carried out in collaboration with J. Kala, V. Dhongde, S. Ghosh, M. Gupta, S. Basu, B. Kumar and M. A. Haider.

The study focuses on the design and experimental validation of high-entropy perovskite oxide materials for Solid Oxide Fuel Cell (SOFC) cathodes, which are considered crucial for efficient and sustainable energy technologies. The research integrates computational modelling with experimental validation to develop advanced materials with improved electrochemical performance.

Expressing her happiness over the recognition, Prof. Gupta said, "I am honoured to be featured by the Royal Society of Chemistry in the International Women's Day 2026 special collection highlighting impactful research led by women scientists."

Prof. Gupta's research primarily focuses on computational chemistry, biomolecular recognition, protein-protein interactions, plant biomass studies and computer-aided drug discovery. Her work involves advanced computational simulations to understand biomolecular structures, protein folding mechanisms and catalytic processes.

Earlier, she was also nominated by the Anushandhan National Research Foundation (ANRF), under the Ministry of Science and Technology, Government of India, among 20 women scientists to represent India at the ASEAN-India Women Scientists Conclave held in Singapore in April 2024.

The recognition reflects the growing global impact of research being carried out at IIT (ISM) Dhanbad and highlights the institute's commitment to excellence in scientific research and innovation.

Rajni Singh
Dean (Corporate Communications)