

# IISER KOLKATA Newsletter



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September, 2024

PhD Admissions Open for Spring 2025

Indian Institute of Science Education and Research Kolkata (IISERK) is an Institute of National Importance established as an autonomous institute for higher education by the then Ministry of Human Resource Development (now Ministry of Education), Government of India, to promote high-quality education and research in basic sciences. It is one of the seven Indian Institutes of Science Education and Research and is one of the first IISERs to be established along with IISER Pune. In terms of research output, it is considered to be one of the leading institutes in India.

## INYAS meets at IISER Kolkata



The Indian National Young Academy of Sciences (INYAS) convened at IISER Kolkata during 26th-28th September for its mid-year meeting entitled: Empowering Young: Leveraging Science and Technology for Sustainable Development. Dr. Anindita Bhadra from IISER Kolkata, Founding Chair and Alumnus of INYAS, and Dr. Chirasree Roy Chaudhuri from IEST, Shibpur and member of INYAS, were the conveners for the meeting. Chief guest and Patron, Prof Sunil Khare, Director of IISER Kolkata, inaugurated the proceedings by watering two freshly planted saplings. Prof. Tanusri Saha-Dasgupta, Director of S N Bose National Centre for Basic Sciences, Kolkata, Prof. Narinder Mehra, Vice President, INSA and Prof. Soumitro Banerjee, IISER Kolkata, graced the occasion with their presence and shared their views on the role of young scientists in science, society and policy making. Across five technical sessions, INYAS members, alumni and a few invited speakers from IISER Kolkata spoke about their research that are aiming

to achieve the Sustainable Development Goals (SDGs).

Problems that plague academia, especially in this country, were discussed by esteemed panelists, who put a special focus on challenges faced by early career researchers. The meeting ended with updates from representatives of different international young academies, including the Global Young Academy, regarding their continuous efforts at science outreach and cultivation of scientific temperament in their respective countries. INYAS is celebrating its 10th year, and a special issue was announced to be published in collaboration with Wiley to commemorate this occasion, which is expected to be released during the GBM of INYAS in February 2025.

# Rajbhasha Pakhwada



IISER Kolkata celebrated the Rajbhasha Pakhwada from 14-29 September 2024. The Pakhwada started with the Fourth Akhil Bhartiya Rajbhasha Sammelan at New Delhi. Prof. Sanjio S. Zade and Dr. Surashree Dutta attended the same. Many competitions were held in the Institute during the Pakhwada. It ended with the Samapan Samaroh and the Hindi Divas Samaroh on 30 September 2024. Psychiatrist Dr. Rashmi Chakraborty was the Chief Guest of the event.

## Students' Achievements



Mr. Dibyajyoti Chaudhuri (Roll No. 18RS086) a PhD scholar under Professor Suprio Mitra, from the Department of Earth Sciences has been selected to attend the "Workshop on the Structure and Influence of the Earth's Lithospheric System" at the Abdus Salam International Centre for Theoretical Physics (ICTP) Trieste, Italy from 07 October 2024 to 18 October 2024. This offer entitles him to a partial support for attending the workshop.



Ms. Yoshita Baruah (Roll No. 19IP016), an Integrated PhD student of Physics working at CESSI with Prof. Dibyendu Nandi received a travel grant from the International Astronomical Union to present her research at the IAU General Assembly, which was held in Cape Town, South Africa, 6-15 August, 2024. Her presentation focussed on explaining the loss of multiple SpaceX Starlink satellites due to a geomagnetic storm induced by solar activity.







Ms. Shaonwita Pal (Roll No.19RS038), a PhD student of CESSI working with Prof. Dibyendu Nandi received a DST-SERB travel grant to present her work at the IAU General Assembly held in Cape Town, South Africa, 6-15 August, 2024. Her presentation focused on the application of a new analytic method to quantify and predict the dynamics of the sunspot cycle which provides an alternative to relatively more complex and time consuming computational models.



Mr. Sandip Mishra (Roll No. 22RS101), a PhD student at the Paleobiology Laboratory, Department of Earth Sciences under the supervision of Dr. Subhronil Mondal, recently won the PaleoSoc Art Competition 2024, organized by the Paleontological Society, USA. His artwork was featured on a custom-designed bandana and distributed at this year's Geological Society of America's annual meet, CONNECTS 2024, (22-25 September, California, USA). In addition, He has been recognized across the society's official website (along with my short biography) and social media platforms. Additionally, He will receive a year-long membership of the Paleontological Society, USA.



Mr. Prakash Biswas, (Roll No. 20RS106), a PhD scholar of Dr. Amirul Islam Mallick From the Department of Biological Sciences has been selected for a travel award by DBT-CTEP to attend "The International Veterinary Vaccinology Network (IVVN) Conference 2024" at Ho Chi Minh City, Vietnam, on 9 and 10 November. He will be presenting his research on "In vivo targeting of recombinant LAB Vector as a non-invasive tool for microbial tracking".



Mr. Swarnendu Saha (Roll No. 20MS152) a 5th Year BS-MS student has received the Student Travel Grant of 1000 US Dollar from AGU to present his work at AGU 2024, the American Geophysical Union, which shall be organised at Washington DC in the United States from December 9 to December 13, 2024.



## Faculty Members Achievements

Prof. Raja Shunmugam has been invited as an expert panelist for the brainstorming session in the National Programme on Nano Science & Technology (NPNST), Preparation of a Vision document on "Advanced Materials" in the session "Advanced Polymers" at IIT Hyderabad during 02-03 September 2024.



Prof. Sayan Bhattacharyya has been invited as Chairperson of the Scientific Expert Committee for ASEAN-India Collaborative R & D Proposals Programme under ANRF IN 'Materials Science Thematic Area'.

Prof. Bhattacharyya has been invited as an expert panelist for the brainstorming session in the National Programme on Nano Science & Technology (NPNST), Preparation of a Vision document on "Advanced Materials" in the session "Energy Materials" at IIT Hyderabad during 02-03 September 2024.

Prof. Dibyendu Nandi contributed as an expert member to the Indian Mega Science Vision Document 2035 in Astronomy and Astrophysics which was released recently by the Office of the Principal Scientific Adviser to the Prime Minister, Government of India. The Vision Document is available here. <https://www.psa.gov.in/mega-science-vision>

Prof. Dibyendu Nandi was elected President of Commission E4 (Impact of Magnetic Activity on Solar and Stellar Environments) of the International Astronomical Union - the largest organization of astronomers in the world. He assumed charge as President from August 2024.



Prof. Rahul Banerjee has been elected as a Fellow of Indian National Science Academy.



Dr. Suman De Sarkar has been selected to receive the CRSI Bronze Medal for the year 2025 in recognition of his research contributions in Chemistry.





## MoU signed in September, 2024

An MoU is signed between IISER Kolkata & NIFTEM Govt. of India for research & academic collaboration, during World Food India Programme at New Delhi on 21st Septe. 2024.



The Exchange of MoU with Dr. Harinder Oberoi, Director NIFTEM

## Seminars, Lectures and Colloquia

[DPS Seminar] Dr. Raghunath Ghara (IISER Kolkata) -- Probing the Epoch of Reionization using the Cosmic 21-cm signal, Date: Wednesday, Sep 04, 2024.

[Institute Colloquium] Prof. S.P. Mukherjee - Statistics for National Development, Date: Wednesday, Sep 04, 2024.

[DMS seminar] Prateek Kumar Vishwakarma (Indian Institute of Science, Bangalore) -- Positivity preservers forbidden to operate on diagonal block, Date: Wednesday, Sep 04, 2024.

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[DPS Seminar] Dr. Rajib Saha (IISER Bhopal) -- Measuring CMB angular power spectrum from multifrequency CMB observations, Date: Wednesday, Sep 11, 2024.

[DES Seminar] Dr. Saumik Samanta (Stellenbosch University, South Africa) -- Exchange of nutrients between seasonal sea ice and seawater in the Southern Ocean: Implication on global carbon sink, Date: Wednesday, Sep 11, 2024.

[DBS Seminar] Dr. Debabrata Dutta (Postdoctoral Fellow, Department of Radiology/Nuclear Medicine, University of Massachusetts Chan Medical School, Worcester, MA, USA) -- Cryo-EM structure of the human cardiac myosin filament Date: Wednesday, Sep 11, 2024.

[Institute Colloquium] Prof. Raman Trivedi -- Climate Resilient Aquaculture Strategies for Coastal Region of India, Date: Wednesday, Sep 11, 2024.

[DMS seminar] Shanta Laishram (Indian Statistical Institute, New Delhi) -- On the stability of certain higher degree polynomials Date: Thursday, Sep 12, 2024.

[DPS Seminar] Prof. B Ananthanarayan (CHEP, IISc) -- Feynman Integrals and Hypergeometric Functions: Recent Results and Mathematica Implementations Date: Tuesday, Sep 17, 2024.

[DPS Seminar] Dr. Jayeeta Bhattacharyya (IIT Madras) -- TADF emitters: Materials for the next generation OLEDs Date: Wednesday, Sep 18, 2024.

[DBS Seminar] Prof. Angshuman Bagchi (Professor, Department of Biochemistry and Biophysics, University of Kalyani, Nadia) -- Application of Machine Learning in prediction of protein-protein interactions Date: Wednesday, Sep 18, 2024.

[Institute Colloquium] Prof. Ashok Ganguli (Director, IISER Berhampur) -- Design of nanostructured Nanomaterials for energy conversion, storage and biomedical Applications Date: Monday, Sep 23, 2024.

[DPS Seminar] Dr. Arpan Kar (CQUEST, Sogang University) -- Celestial bodies as the probes of dark matter Date: Wednesday, Sep 25, 2024.

[DMS Seminar] Buddhananda Banerjee (IIT, Kharagpur) -- Angular Co-variance using intrinsic geometry of torus: Application to Non-parametric change points detection in meteorological data, Date: Wednesday, Sep 25, 2024.

[DBS Seminar] Abhishek Singharoy (DBS) -- "Biophysics inverted: From function to structure", Date: Wednesday, Sep 25, 2024.