

IIT BHUBANESWAR & TCS ION LAUNCH CERTIFICATE PROGRAMME ON CLOUD SYSTEMS & INFRASTRUCTURE MANAGEMENT

IIT Bhubaneswar and TCS iON have signed an MoU to launch a Certificate Programme on Cloud Systems and Infrastructure Management on 8th May 2025. The MoU was signed between Prof. Dinakar Pasla, Dean (Sponsored Research and Industrial Consultancy), IIT Bhubaneswar and Mr. V. Ramaswamy, Global Head, TCS, iON, in the presence of Prof. V. Pandu (Continuing Education), IIT Bhubaneswar Dean and Dr. Ranga, Padmalochan Bera, programme coordinator. On behalf of TCS iON, Ms. Aditi Srivastava, Programme Manager & Academic Alliance Lead; Mr. Abhijit Lahiri, Product Manager, Learning Programs-Higher Education and Mr. Debashis Roy, Domain Consultant Learning Programs-Higher Education were also present on the occasion, along with senior faculty members and staff of IIT Bhubaneswar.



This programme will cover theoretical, practical and applied use cases in the fields of Cloud Systems and related technologies. Internationally acclaimed academicians, researchers and industry professionals with proven knowledge, experience and demonstrable ability in the field of Cloud Computing and AI will conduct sessions in this programme.

This programme will allow freshers, mid-career professionals and entrepreneurs to gain foundational skills and applied domain knowledge in the areas of Cloud Systems and Infrastructure Management. This will also open possibilities of different research collaborations between TCS and IIT Bhubaneswar.



An international conference on "Advanced Materials in Energy, Environment & Sustainability" (AMEES-2025) was held at IIT Bhubaneswar, in association with Materials Research Society of India (MRSI) during 16th to 18th May 2025. The conference was inaugurated by Prof. V. Pandu Ranga, Dean (Continuing Education), IIT Bhubaneswar and Prof. Kulamani Parida, MRSI-Bhubaneswar Chapter. Prof. Snehasis Chowdhuri, HOD, Department of Chemistry, School of Basic Sciences, IIT Bhubaneswar, Prof. Umaprasana Ojha, Convenor and Dr. Palas Roy, Co-Convenor also spoke on the occasion and highlighted the importance of this conference.



Several practicing researchers from premier research Institutes of the country and abroad with an exceptional track record, participated in the conferences and presented their research outputs in the key area of renewable energy, water purification, solar photovoltaics, environment restoration, energy storage devices, nanotechnology etc.

More than 35 oral presentations and 50 posters were presented during the three-day event. Several awards from the American Chemical Society and Royal Society of Chemistry were distributed to the poster participants in recognition to their efforts. The Anusandhan National Research Foundation of Govt. of India financially supported the conference along with several equipment and chemical suppliers.

The conference aimed to contribute towards the promotion of renewable energy utilization, environmental restoration and adoption of sustainable practices of the Nation.





OUR FACULTY GETS RECOGNITION ON INTERNATIONAL WOMEN IN MATHEMATICS DAY 2025

International Women the occasion of in On Mathematics Day 2025 (12th May), Elsevier has recognized outstanding women mathematicians who are making impactful contributions to the field. Sasmita Barik from Among them is Prof. IIT Bhubaneswar, dedication whose work and to mathematical research continue to inspire the academic community.





Prof. Barik's work explores the spectral properties of graphs and matrices, with notable research on topics such as the eigenvalues of graphs and multi-digraphs, graph operations and products, reciprocal eigenvalue property, smallest positive eigenvalue, and applications to complex networks. One of her recent publications, "On integer matrices with integer eigenvalues and Laplacian integral graphs" (Elsevier, 2023), provides significant insights into the conditions under which matrices and graphs exhibit integral spectra — a topic of both theoretical and practical interest in algebraic graph theory.

Read more:

https://www.sciencedirect.com/science/article/pii/S0012365X2300393X? via%3Dihub

We extend our heartfelt congratulations to Prof. Barik for this well-deserved recognition and for continuing to inspire the mathematics community. <u>Provide the served se</u>



Ms. Dikshika Mahapatra, a PhD Scholar of School of Earth, Ocean & Climate Sciences (SEOCS), under the guidance of Dr. Debadatta Swain, Associate Professor, has conducted a study related to heating effect owing to land cover change. Here is a brief on the interesting findings of the study.

Significance of land use & land cover

Urbanisation and associated land cover change is known to exacerbate heat distribution in the environment. A recent study has highlighted significant variations in land surface temperature (LST) across different parts of the IIT Bhubaneswar campus, a critical yet often overlooked factor influencing our local climate. LST is a measure of the degree of heating of the land surface features when exposed to sunlight. Further, concrete and asphalt absorb and trap heat, warming up such areas extensively compared to landscapes covered with vegetation. Higher LSTs also make places uncomfortable to live in, consequently increasing electricity use for air conditioning as well as rendering outdoor activities difficult.



Land Surface Temperature over IIT Bhubaneswar

Figure A: IIT Bhubaneswar campus on October 14, 2023

A true-colour satellite image (left) visually distinguishes the built-up and vegetated areas over the IIT Bhubaneswar campus (Figure A). The right image reveals the extent of LST variations over the same region at this period. The residential area (predominantly red-shaded) records temperatures reaching nearly 36.6 °C as compared to 29.2 °C for the greener academic area during the same time.

Thus, a noticeable temperature contrast was observed with the residential zone experiencing significantly higher LST than the academic area. This difference is directly traceable to variations in land cover: while concrete structures and paved roads dominate the residential area, the academic zone retains ample green spaces, which help regulate temperature through evapotranspiration and shade (Figure B).



Residential Area

Figure B: Snapshots of Academic and Residential areas

Yet another comparison highlights this contrast. Figure C is the thermal imagery of few locations within the IIT Bhubaneswar campus. The figure clearly depicts how temperature varies across land covers during the day. The noticeable changes in LST between neighbouring areas with different land covers emphasize how vital greenery is for maintaining cooler, more liveable spaces.



Figure C: Thermal imagery of few locations within IIT Bhubaneswar

The wake-up call

With rapid infrastructural expansion, the study underscores the need to conserve green spaces to prevent excessive heat builtup. Strategies such as increasing tree cover, incorporating green roofs, and using reflective building materials can help regulate temperatures, fostering a more sustainable and comfortable living and learning environment. These findings have important implications for future campus planning and urban development.

Our role

We all have a crucial role in preventing our lovely campus from turning into a boiling cauldron. Raising community awareness, initiating plantation drives, and promoting sustainable practices are key to maintain and developing a greener and cooler environment. Simple actions like reducing energy use, advocating green policies, and spreading knowledge about LST change can lead to long-term positive impacts. Water bodies, like ponds and lakes, should be preserved and artificial water bodies be developed to help maintain a natural cooling effect. Proper infrastructure planning to include shaded walkways, green spaces, and eco-friendly construction can help our campus to stay cooler and healthier.

Contributor note

The above analysis is based on long-period field observations and collocated satellite observations over the IIT Bhubaneswar campus. A variety of instruments, namely InfraRed Thermometers and portable Automatic Weather Stations were utilized for this.



club) and Aanand Kids (kids club). The food festival was a vibrant event that brought together the IIT Bhubaneswar family – students, faculty, staff, and their families – to indulge in the joy of food and fellowship.

This year's festival proudly featured a delightful array of homemade dishes, traditional delicacies and regional specialties, lovingly prepared by the club members. From cherished family recipes to innovative fusion bites, the stalls showcased the diverse culinary heritage.





The Mango Food Festival was held on 17th May 2025, at the IIT Bhubaneswar campus, bringing a burst of tropical flavor to the summer heat. Among the many attractions, Team Mother's Touch stood out with their delicious and creative mango delicacies. With four dedicated stalls managed by Smt. Amita Bhumkar, Smt. Purva Choudhary, Smt. Shweta Dalal Smt. S. Radhika Patro, Smt. Saritha Srinivas and Smt. Jaisri Narasimman the team showcased a delightful spread including mango juice, mango jaljeera, mango bhel, mango custard, mango cake, mango rice, and organic sugar-free cheeku ladoo.



Each dish was prepared with care and love, leaving visitors impressed with the taste and presentation. Students and faculty alike praised the food, making it one of the highlights of the festival. The event wouldn't have been possible without continuous motivation and guidance by Smt. Shruti Karmalkar. T

