# EVENT SNAPSHOTS

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## MoU signed with NeXHS Renewables Private Limited to Foster Collaboration in Renewable Energy Research

IIT Bhubaneswar and Chennai-based NeXHS Renewables Private Limited have signed an MoU on 17th May 2024, with an objective to collaborate on various projects, initiatives, and research endeavours with a focus on advancing sustainable energy solutions.

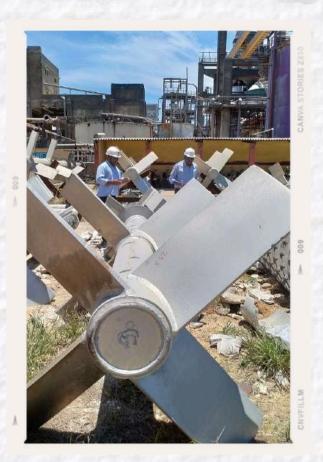
Under the 'Fund for Improvement of S&T Infrastructure (FIST)' Scheme of Ministry of Science and Technology, Government of India, the School of Infrastructure at IIT Bhubaneswar will establish a Center for coastal and river bank erosion, primarily focusing on research related to the morphological aspects of the coastal landforms, river bank stability, and scour and deposition issues related to various offshore structures. As per the agreement, NeXHS Renewables Private Limited will provide partial funds towards the procurement of necessary equipment for this center. IIT Bhubaneswar and NeXHS Renewables Private Limited will work closely to identify areas of mutual interest, establish joint research teams, and facilitate the exchange of knowledge and resources.

Prof. Shreepad Karmalkar, Director and Mr. Sudhansu Bhusan Prusty, MD & CEO of NeXHS Renewables Private Limited spoke on the occasion. Prof. Sumanta Haldar, Head of School of Infrastructure of IIT Bhubaneswar, along with Dr. Arindam Sarkar, Dr. T. Jothi Saravanan and other faculty members stressed the quantum of cutting-edge research currently being carried out at the center for coastal and river bank erosion.

Key representatives from both IIT Bhubaneswar and NeXHS Renewables Private Limited, along with dignitaries, Prof. Dinakar Pasla, Dean (SRIC), faculty members, and industry stakeholders were present on the occasion.

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### Improved Shaft-motor Coupling Design by IIT Bhubaneswar for PPL



A research team led by Dr. Srikant Gollapudi, with Dr. Devesh Punera and Prof. Brahma Deo as co-principal investigator, undertook a Project to improve life of a high intensity shear stirrer for an acid tank at Paradeep Phosphates Limited (PPL). Originally, the stirrer's lifespan was less than three months. The team developed a new design, which was implemented by PPL, and it has now lasted over 15 months, continuing to perform effectively. PPL authorities have expressed their satisfaction with this outcome. Additionally, the institute is engaged in other projects with PPL, including the Luro Burner project led by Dr. Venugopal from the School of Mechanical Sciences, and an electrical power project by Prof. Chandrashekhar N. optimization Bhende, Dean of Postgraduate and Research Programs (School of Electrical Sciences). Notably, PPL was the first industry to sign an MoU with IIT Bhubaneswar.

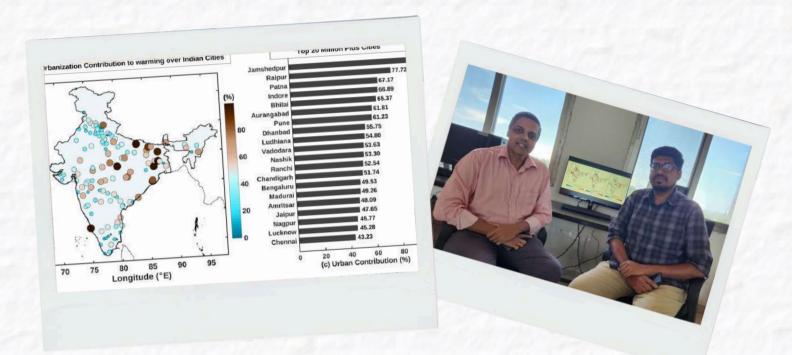
#### New Cafe opens in our Campus

Mo Tea Cafe, a tea/coffee/snack kiosk, has opened near the School of Infrastructure's parking area from 20th May 2024. The café will be open from 8 a.m. to 9 p.m. every day.

#### **STORY OF ACHIEVEMENT**

#### IIT Bhubaneswar Researchers' Paper published in Nature Cities Urbanization alone has led to an overall 60% enhancement in warming in Indian cities, says the study

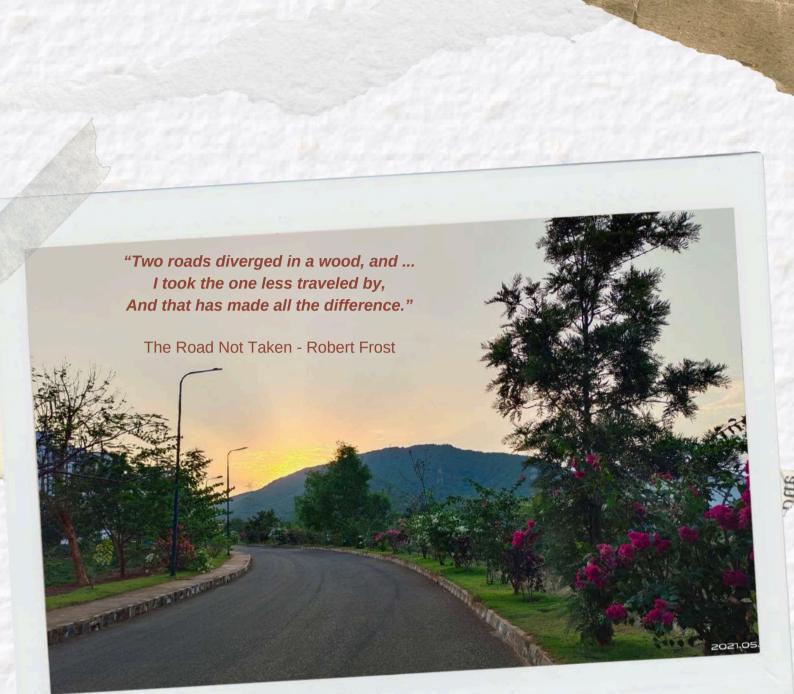
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An innovative study by the researchers from IIT Bhubaneswar reveals that urbanization alone has caused up to 60% additional warming in Indian cities, with significant variability among different cities. This research provides a science based quantitative ranking of urbanization for Indian cities. The study titled 'Urbanization and regional climate change-linked warming of Indian Cities' published in the journal 'Nature Cities' is first-of-its-kind and provides insight by carefully separating regional climate change and urbanization in multiple cities. The research was led by Dr. V. Vinoj, Associate Professor, School of Earth, Ocean & Climate Sciences and Soumya Satyakanta Sethi.

In the context of rising temperature, the study investigated the contributions of local-scale urbanization and regional climate change to the observed surface warming in 141 major Indian cities over the past two decades. By leveraging 18 years of high-resolution land surface temperature data from the MODIS sensor on NASA's Aqua satellite for the period between 2003 and 2020, the research team carefully compared urban and rural warming trends. Applying strict quality control measures, they subtracted the regional climate change effects observed in rural areas from the urban warming to isolate the urbanization effect. The study emphasizes the urgent need for detailed urban climate studies and data generation as Indian cities rapidly expand.

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