



Great minds rise ...  
where still waters mirror their dreams

Picture Credit: Amlan Alok Pradhan

# Talk on 'Viksit Bharat: Transforming Governance' held at IIT Bhubaneswar

## India's Governance Gets a Digital Makeover: Shri V. Srinivas Highlights Citizen-Centric Reforms

In a thought-provoking lecture on “Viksit Bharat – Transforming Governance” held on 16<sup>th</sup> July 2025, Shri V. Srinivas, IAS, Secretary to the Government of India, Department of Administrative Reforms and Public Grievances (DARPG) and Department of Pension and Pensioners' Welfare, laid out the roadmap for a citizen-first, technology-led governance model as part of India's march toward Viksit Bharat@2047. Prof. Shreepad Karmalkar, Director of the Institute also graced the occasion.

Addressing faculty, students, and officials, Shri Srinivas emphasized that India's governance model is undergoing a paradigm shift in the Amrit Kaal, focused on empowering citizens, promoting institutional efficiency, and preparing for Viksit Bharat@2047 — a developed India by the 100th year of independence. “The future of governance lies in systems that are responsive, transparent, and empathetic. Technology is the forced equalizer that brings the Government to the doorstep of every citizen,” he said.



### Key Highlights of the Talk:

#### 1. India's Digital Grievance Redressal Revolution:

Highlighting the scale and impact of reforms, Mr. Srinivas said, “Our grievance redressal platform is now the largest in the world, handling over 30 lakh complaints every year with a resolution time reduced from 28 to just 15 days.” He underscored the use of AI-based dashboards, multilingual interfaces, and mobile apps in enabling faster and more inclusive service delivery.

#### 2. Mission Karmayogi – Creating Future-Ready Civil Servants:

Speaking about capacity building, Mr. Srinivas noted, “Mission Karmayogi is not just a training programme; it is a values-driven transformation of India's civil services. It prepares officers to lead with integrity, empathy, and accountability.” The competency-based framework focuses on continuous learning via iGOT portal and embodies values like Vikasa, Kartavya, and Ekata.





### **3. Making Governance Measurable and Competitive:**

Mr. Srinivas stressed the importance of data in governance reform: “The Good Governance Index and District Governance Index create a healthy competition among States and Districts to serve citizens better. Governance should not only be efficient but also felt at the grassroots.” He also mentioned, “in today’s era, governance should be transformed from ‘Rule-based’ to ‘Role-based’ competency.”

### **4. Expansion of E-Governance:**

India now offers more than 20,000 e-services, covering everything from certificates to payments. “We are moving from entitlement-based to on-demand services. The government is in your palm, not just on paper,” he remarked. He also stressed on the growing importance of data in governance. “Modern day decision-making is based on hardcore data,” he said and highlighted on the significance of proper documentation and digitization in government institutions.

### **5. Last-Mile Inclusion and Administrative Efficiency:**

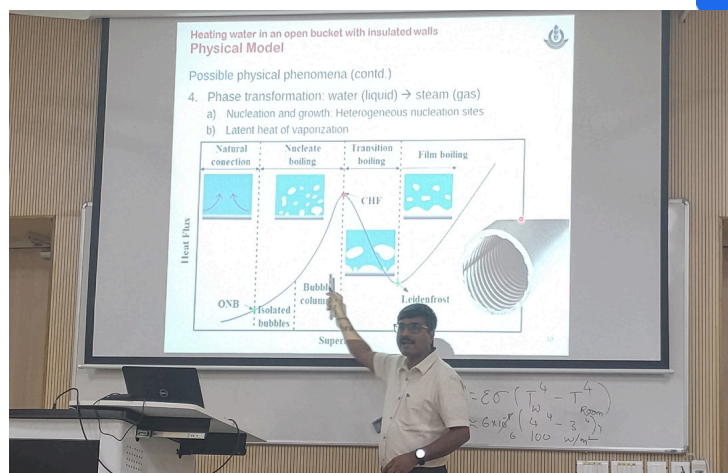
Discussing initiatives like Swachhata campaigns and pension reforms, he added, “From cleaning up 676 lakh sq. ft. of office space to resolving pensioners’ grievances through digital means, we are committed to making every layer of governance efficient and people centric.”

The session concluded with an interactive Q&A, where the participants discussed Mr. Srinivas on the role of youth, academic institutions and innovation in shaping public policy. Shri Srinivas praised IIT Bhubaneswar for fostering innovation and interdisciplinary learning, aligning with the national mission of preparing youth to lead India’s transformation. He called upon faculty members, staff and students to contribute to India’s transformation journey, which calls for ‘Imagining India through innovation’.

Dr. Shantanu Patra, PIC-Extra Academic Activities of the Institute coordinated the programme.



# AICTE Sponsored QIP PG Certification Program on Advanced Materials for Energy and Sustainability



School of Minerals, Metallurgical and Materials Engineering is offering a QIP PG Certification programme titled “Advanced Materials for Energy and Sustainability”. The course is a specially designed course for the upskilling of Faculty from Engineering Colleges and Universities in the emerging areas of “Advanced Materials, Rare-earth & Critical Minerals”, “Energy Materials”, “Advanced Computational Methods”, and “Machine Learning”. The course is offered in a hybrid mode (online and on-campus immersion) running over 6 months (June to December 2025).



The course was inaugurated by Prof. Shreepad Karmalkar, Director, IIT Bhubaneswar on 30<sup>th</sup> June 2025 in the presence of the faculty members of SMMME. Prof. Shreepad Karmalkar gave the first inaugural lecture on “Semiconductor Technology – Evolution and Uniqueness”. Course coordinators Dr. Kodanda Ram Mangipudi and Prof. Animesh Mandal (HoS, SMMME) welcomed the participants and briefed about the various opportunities for Faculty Development programs such as QIP PhD admission, Summer Research Internship for Faculty (SRIF), MS(R) programs, etc. Subsequently, scheduled lectures continued which lasted for two weeks for the first on-campus immersion session.



## Sessions on Teaching Related Reforms



As part of pedagogy related reforms and with a view to improve student learning, interactive sessions on multiple aspects of teaching were held on 11<sup>th</sup> and 14<sup>th</sup> July 2025 for faculty members. Addressing both the sessions, Prof. Shreepad Karmalkar, Director highlighted the key aspects to consider for improvement of the teaching-learning experience, with special focus on properly conducting classes in the Active Learning Classrooms. He also replied to the queries of faculty members. It may be mentioned that in the first session held on 11<sup>th</sup> July, 11 faculty members from other institutions also participated and gained knowledge.



## IIT Bhubaneswar Launches Blended Mode M.Tech Program in Systems Engineering for Industry Professionals

IIT Bhubaneswar has launched a unique blended M.Tech program in Systems Engineering tailored for working professionals with at least 3 years of industrial experience. Developed in collaboration with Applied Materials India, the program bridges academia and industry by enhancing expertise in modern systems engineering. It covers system behavior modeling, performance testing, system design, reliability engineering, and statistical machine learning. A dedicated module on requirements management also equips engineers for diverse technical management roles.



Speaking on the launch of the program, Prof. Shreepad Karmalkar, Director, IIT Bhubaneswar, emphasized, “Such programs foster deeper collaboration between academia and industry. Beyond professional development, they open avenues for joint R&D, leading to innovations that can significantly benefit society and contribute to the vision of an Atmanirbhar Bharat.”

Adding to this, Prof. Chandrashekhar Bhende, Dean (Post-Graduate & Research Programs), IIT Bhubaneswar, mentioned that this multidisciplinary curriculum demonstrates our dedication to providing flexible learning that meets the evolving needs of industry. The program is designed to empower learners with the skills necessary to drive innovation and lead complex engineering projects in their organizations.

Speaking about the programme, Mr. Sujit Jha, Senior Director, Imaging and Process Control Group at Applied Materials India, who has been instrumental in envisioning the programme, outlined the importance of Systems Engineering in developing advanced, multi-domain technologies. He also emphasized Applied Materials’ support for academic enrichment programs that prepare students for careers in the semiconductor and allied industries. Mr. Jha expressed his enthusiasm about the programme’s launch and success.

Dr. Srikant Gollapudi, Associate Professor, School of Minerals, Metallurgical and Materials Engineering and the Coordinator of program was also present on the occasion and provided an overview of the program. The program is set to commence soon, with participation from eligible industry professionals eager to advance their systems engineering competencies through this flexible learning model.



## North Indian Cities show Unexpected “Clean Air Domes”, says IIT Bhubaneswar Study

Across the world, cities are taking action to fight air pollution, which is a major threat to public health. In India, the government has launched the National Clean Air Program (NCAP) to tackle this issue. But now, a new study by researchers at IIT Bhubaneswar has revealed something surprising: many northern Indian cities may actually have cleaner air in their centers than the areas around them. This study was recently published in the respected journal *Communications Earth & Environment* by the Nature Portfolio. The study has been conducted by Dr. V. Vinoj, Associate Professor, School of Earth, Ocean and Climate Sciences and research scholar Soumya Satyakanta Sethi.

### **The Findings:**

Usually, cities are thought to have more pollution than surrounding rural areas — this is known as the “urban pollution dome” effect. It happens because cities produce a lot of emissions from vehicles, industries, and other sources, and these pollutants tend to stay trapped over the city. However, the researchers found that this is not always the case in northern Indian cities. In many of them, the city centers are actually cleaner, while the surrounding areas are more polluted. The researchers call this a “punctured pollution dome” or a “clean air island” effect.

### **Why Is This Happening?**

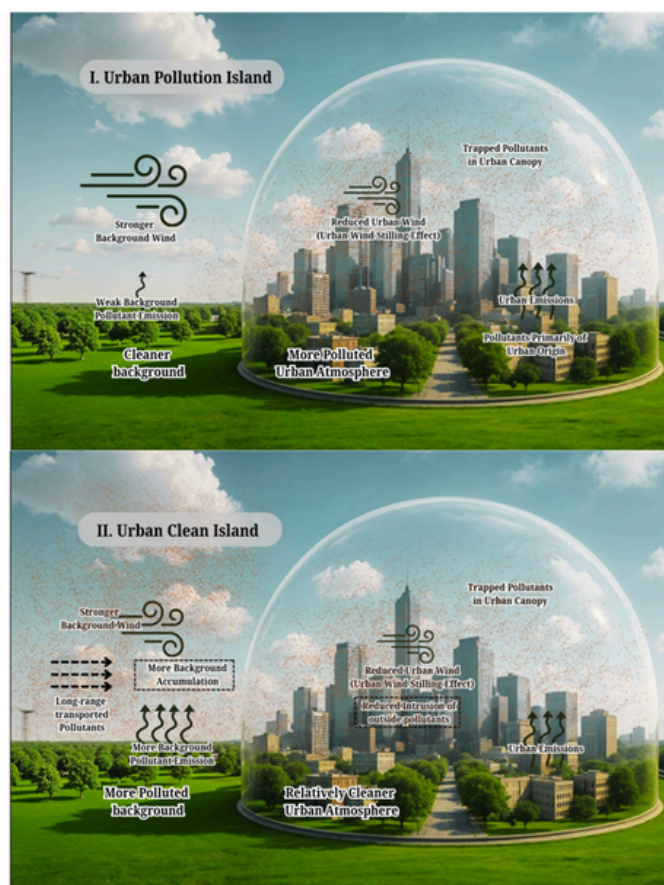
The reason behind this surprising pattern lies in the way city landscapes affect wind movement. Cities are full of tall buildings and uneven structures. This “rough surface” slows down the wind. Normally, this makes the air more stagnant and keeps pollution trapped inside the city — forming a pollution dome. But in northern India, something different is happening. The slow-moving air and city structures are also blocking pollution from outside the city — such as dust, smoke from crop burning, and other pollutants — from entering. So, instead of the city becoming more polluted, these outside pollutants build up around the city, especially on the upwind side, making the outer areas dirtier than the city center.

### **Different Patterns Across India:**

This study looked at 20 years of satellite data covering 141 Indian cities. It showed two clear patterns:

In southern Indian cities, where pollution is mostly local and there’s not much pollution coming from far away, the usual pollution domes are seen — pollution gets trapped within the city. In northern and northwestern Indian cities, like those in the Indo-Gangetic Plain, pollution comes from many outside sources (like dust storms and crop burning). In these areas, city structures block the incoming pollution, causing it to accumulate around the city rather than inside it.

A schematic showing the concept of urban aerosol pollution and clean islands found over rapidly urbanizing Indian cities and the mechanism driving it



## Why This Matters?

These findings challenge old assumptions — many people believe that air pollution always peaks in the city. But this study shows that in some areas, cities can be cleaner than their surroundings.

This also highlights that measuring pollution solely within city boundaries is insufficient. To effectively understand and improve air quality, it is essential to examine how pollutants are transported, their sources, how urban environments influence their movement, and the mechanisms by which they are ultimately removed.

## Looking Ahead: Smarter Solutions for Cleaner Cities

To build cleaner, healthier, and more climate-resilient cities, we need better tools to understand these hidden pollution patterns. That's where new technologies come in — such as “urban digital twins” being developed by IIT Bhubaneswar.

These are digital models of real cities that can simulate everything from air quality to flooding and heat waves. They can help city planners make smarter decisions to deal with not just air pollution, but also future challenges like climate change, extreme heat, and shifting rainfall patterns.

Link to the study: <https://www.nature.com/articles/s43247-025-02538-0>



## Students Visit to IIT Bhubaneswar



The Students of PM SHRI KV INS Chilka visited IIT Bhubaneswar as part of STEM (Science, Technology, Engineering, and Mathematics) Week celebration on 18<sup>th</sup> July 2025, exploring science and new ideas. Around 90 students of class XI and XII visited different UG and PG labs of the Department of Physics at LBC. During the visit, the students were demonstrated with experiments involving Optical Fibre, Prism, Grating. They were introduced to fundamental ideas of physics like interference and diffraction. Interaction with the school students was a heart warming experience.

## Aanand Kids Excel in State-level Skating Championship

Kids from Aanand Kids Activity Centre (Skate Group) won 4 medals in the 6th Odisha State Ranking Roller Skating Championship held on 19th July 2025 at Kalinga Stadium (Bhubaneswar). In the 10-12 years category, Avyakt Shukla won the silver medal in 400m inline, and S. Sriram won the gold medal and the bronze medal in the 200m quad and 400m quad, respectively. In the 6-8 years category, S. Srikrishna won the bronze medal in 200m quads.





सप्त त्वा रश्मयः प्रति षन्त्यश्वाः।  
अभीके त्वा सहमानास एति॥

(Rigveda 1.164.3)

Sapta tvā raśmayah prati śanty aśvāḥ,  
Abhīke tvā sahamānāsa eti.

"Seven rays (or horses) carry you, O light!  
With power they bring you near and fill the space."



Picture Credit: Jasleen Kaur