



भारतीय प्रौद्योगिकी संस्थान भुवनेश्वर
Indian Institute of Technology Bhubaneswar

Press Release

‘Development of microgrids with high renewable integration is need of the hour’: Dr. R.P. Singh

IIT Bhubaneswar organises talk on ‘Critical Role of Electrical Technology in Global Sustainability’

Bhubaneswar, 19th September 2024: “The requirement and consumption of Electrical Energy has increased manifold in recent times, with significant impact on the sustainability at the global level. In this context, innovative solutions like development of microgrids with high renewable integration is the need of the hour,” said Dr. Rajendra Prasad Singh, Chairman, Board of Governors, IIT Bhubaneswar. Addressing the students, faculty members and employees of the Institute on 18th and 19th September 2024, Dr. Singh spoke on the Critical Role of Electrical Technology in Global Sustainability. The talk was organized by the Institute as part of the Engineer’s Day celebrations.

In his address, Dr. Singh shared his insights on the crucial role of electrical energy in modern society. He brilliantly showed how an electrical power system is analogous to human body, heart being the generator, arterial system the grid, blood pressure the voltage, heart rate the frequency, brain the control system and pace maker the battery. Dr. Singh highlighted the pressing challenges posed by climate change, globalization, and population growth, all of which significantly impact electrical power consumption. He pointed out several factors contributing to the increasing demand for electricity, such as the depletion of coal and oil reserves, the challenges of alternative energy sources like hydropower and nuclear energy, and the rising costs of transmitting power from centralized generation systems. He also emphasized the growing challenges of power transmission to remote regions and the increasing concerns over system reliability. In response to these issues, Dr. Singh advocated for the integration of renewable energy and localized energy systems, particularly through solar and wind power, as viable solutions. He suggested that these approaches could lead to sustainable energy sources, reduced transmission costs, minimized system losses, and a more reliable power supply. Additionally, he underscored the potential of creating networked microgrids and virtual power plants (VPPs) to enhance energy management.

Prior to the talk, Dr. Singh also shared a presentation on Effective Leadership and urged the students to lead from the front with non-conventional decisions and a risk-taking attitude.

Speaking on the occasion, Prof. Shreepad Karmalkar, Director of IIT Bhubaneswar, appreciated Dr. Singh's talk for demonstrating the difference between information and wisdom, and for its effectiveness in getting complex ideas across to a non-specialist audience, and He said: “You can claim to have communication skill if you can explain

your technical ideas to your grandmother. Dr Singh demonstrated how this is done. The slides should contain minimal text of large font size. Diagrams are preferred over text. Imaginative analogies and anecdotes should be employed to get across complex ideas. One may think fast but should speak slowly". Prof. Karmalkar also shared the ways in which the institute is developing communication skills of its students and employees. Each faculty is required to address 11th and 12th-grade students and their parents on a topic related to their specialization. Apart from developing communication skill and deepening understanding in the faculty, this will also boost the Institute's perception. For students, courses are being run in the institute where the students get a chance to hone their communication skills for research and entrepreneurship.

Prof. P. Dinakar, Dean (Sponsored Research & Industrial Consultancy) proposed a vote of thanks.

The two-day programme, held in the state-of-the-art 1500-seater auditorium of the Institute, witnessed an overwhelming response from the members of the Institute.
