सीएसआईआर-केंद्रीय भवन अनुसंधान संस्थान, रूड़की

CSIR-Central Building Research Institute, Roorkee

Ministry of Science and Technology, Govt of India

CSIR-CBRI International Experts Lecture

February 25, 2025, Tuesday, 11:30 AM (IST) onwards

At Rabindranath Tagore Auditorium, CSIR-CBRI, Roorkee

Reconsideration on Urbanization in Tokyo Metropolitan area Since 1983 Great Kanto Earthquake from the Perspective of Exposure

The **1923 Great Kanto Earthquake** raised major concerns about urban vulnerability, especially regarding fire spread and building damage. In response, Japan has focused on fire prevention, seismic retrofitting, and urban resilience. Professor **Osamu Murao's** research addresses ongoing disaster risks, particularly from potential future earthquakes, such as the Tokyo inland or Nankai Trough earthquakes. His work on **urban vulnerability evaluation**, **building vulnerability functions**, and **hazard maps** has been crucial for assessing risks in cities like Tokyo and Yangon. Additionally, his studies on **urban recovery** inform future disaster preparedness. Professor Murao's interdisciplinary approach continues to shape urban planning, promoting safer, more resilient cities.

Dr. Osamu Murao

Professor, Doctor of Engineering, International Strategy for Disaster Mitigation Lab, Graduate School of Engineering (Concurrent)

Professor Osamu Murao is a Doctor of Engineering and a leading researcher specializing in disaster mitigation and urban resilience. He is affiliated with the **International Strategy for Disaster Mitigation Laboratory (ISDM)** and the **Preservation of Historical and Cultural Heritage Lab** at **Tohoku University**. His primary research focuses on **disaster risk reduction**, **urban vulnerability evaluation**, and **post-disaster recovery**, with field research conducted in Japan and internationally, including in **Myanmar, Taiwan, Turkey**, and **Sri Lanka**.

Professor Murao's significant contributions include developing methods for assessing and reducing risks in urban areas, particularly those prone to earthquakes. He has created **building vulnerability functions** and **hazard maps** for cities like Tokyo and Yangon. His work on **urban recovery** processes, including those following the **2011 Great East Japan Earthquake**, has greatly influenced disaster recovery strategies. He has also contributed to integrating **disaster mitigation** into **architecture and urban planning** to build more resilient cities.

His achievements include receiving the **Prize of the Architectural Institute of Japan (2020)** for educational contributions and the **Silver Prize** in the **2011 International Competition for the Disaster Recovery Plan** following the Great East Japan Earthquake. Through an interdisciplinary approach, Professor Murao continues to influence disaster management strategies worldwide, combining engineering, urban design, and disaster management for global resilience.