**Inter-Graduate School Program for**

**Sustainable Development and Survivable Societies**

# Interdisciplinary Seminar (1 session course)

**【＃18-(1)】**

# Research Methods for Urban Risk Study

**By: Dr. Mahua Mukherjee**
**(Assoc. Professor of IIT Roorkee, India, Visiting Assoc. Professor of DPRI)**

**Date: June 24, 16:30- 18:00**

**Venue: Shishukan Hall (HIGASHI ICHIJOKAN, basement floor)**

**<Summary>**

The lecture will introduce different research methodologies like historical, qualitative, correlational, experimental, simulation, logical argumentation and case studies. Questionnaire survey and case study method, most commonly applied tactics across field will be discussed.

With increasing urbanization, and impending climate change, urban areas are experiencing frequent and intense risk incidents like heat stress, urban flooding etc. resulting in regular loss of lives, infrastructure and other assets. Sealing of urban surfaces with non-natural materials like bitumen and concrete, modified urban geometry introduced by taller buildings and structures, rapid decline in vegetation and water bodies impacted on urban climate. Urban Heat Island (UHI), an urban phenomenon, makes the heat-wave impact more acute.

Storm-water is increasingly becoming difficult for cities to manage due to increased city size and impermeability and intense rain induced by climate change. Engineered drainage infrastructure is proving inadequate to carry increased runoff from impermeable city surfaces and resulting in frequent urban flooding incidences. Scientific community is studying these risks closely to assess the risk and to plan effective adaptation and mitigation measures.

The experimental study on UHI and storm-water runoff will be discussed with case studies. Brief reference to tools and techniques, instrumentation, simulation and results will be shared.

**<Activity type>**

Lecture and Discussion

**<Obligation of attendee>**

Submission of short report after the lecture