GLOBAL INITIATIVE FOR ACADEMIC NETWORKS

Ministry of Human Resource Development
Government of India

सत्यमेव जयते

# GLOBAL INITIATIVE FOR ACADEMIC NETWORKS

National Coordinating Institute
**INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR**

www.gian.iitkgp.ac.in

# MAINTAINABILITY (DESIGN, CONSTRUCTION & FACILITY MANAGEMENT) OF GREEN BUILDINGS

## Overview

Growing complexity of building systems and higher user demand, have prioritized maintainability over maintenance especially for the green building sector. Though operation and maintenance (O&M) expenditure is the largest part of life cycle cost, none of the green rating tools consider this explicitly. The term maintainability is design characteristics of an element and it addresses the entire life cycle phases and aims for enhancing the real-life performance – which is crucial for a green building. It emphasizes on "doing it right the first time" not only for the design, but also for construction / installation, O&M and facilities management. In Indian scenario due to lack of O&M fund, lenient implementation of green building norms and dearth of skilled O&M team, it is of utmost interest to consider maintainability aspect of green buildings to ensure its desired performance.

Considering these issues and challenges, the primary objectives of the course are: (a) to define acceptable standards in design and construction practices which thus enhance long-term maintainability of green buildings; (b) to improve the standard and quality of design, construction and maintenance practices to produce efficient facilities that require minimum maintenance; and (c) to enhance awareness among the designer community about the effect of design / specification on facilities management processes which is quite neglected in existing curriculums.

The course will introduce the concept of maintainability and various aspects of green facilities management. The broad topics will include maintainability of major components and systems of a green building, namely, envelope (facade, basement, roof etc), wet areas, HVAC, electrical, lighting, fire protection, water supply - sanitary, security system etc. Participants will be trained to formulate a guideline for field investigation / expert walk-through for identifying maintainability issues which they will implement in a building site. The course will also cover various mathematical models of major building grading systems which will help them to formulate their own grading tool such that they can analyse the field data for maintainability scoring of the case study building.

Course participants will learn these topics through lectures and hands-on experiments. The field exercises and the assignments will be shared to stimulate research motivation of the participants.

**Modules**

**January 8-13, 2018**

Number of participants for the course will be limited to fifty.

## Who Should Attend

- You are an architect, engineer, facility manager, policy maker and researcher from various governments, non-governmental and private organizations engaged in design, construction or facility management of green buildings.
- You are a student at all levels (B.Arch/BTech/MSc/MTech/PhD) or Faculty from reputed academic institutions and technical institutions.

## Fees

The participation fees for taking the course is as follows:

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| **Participants from abroad :** | **US $500** |
| **Industry/ Research Organizations:** | **₹ 10000** |
| **Academic Institutions:** | **₹ 5000** |
| **Students with valid ID :** | **₹ 1000** |

The above fee include all instructional materials, computer use for tutorials and assignments, laboratory equipment usage charges, 24 hr free internet facility. The participants will be provided with accommodation on payment basis.

# The Faculty

**Prof. Michael Yit Lin Chew** is professor in the Dept. of Building, National of University of Singapore. His research interests include building system and diagnostics; building maintainability; fire technology and facade technology. He has been honored with teaching excellence awards several times, four patents and research funding exceeding $4m. Apart from authoring more than 200 publications and 4 books (recommended as texts in many overseas and local institutions), he is editorial board member of six international peer-reviewed journals. He has seen his products licensed and commercialized, with his R&D brought from the laboratory to on-site applications including airports, buildings and civil structures both local and overseas. He is the founder of a NUS spin-off company - Building System and Diagnostics Pvt. Ltd. incorporated in April 2003.

**Dr. Sutapa Das** is Assistant Professor of Indian Institute of Technology, Kharagpur – jointly in Dept of Architecture & Regional Planning, and Ranbir & Chitra Gupta School of Design & Management. Her research interest includes building performance & management; building-occupant interface; construction technology & management; critical infrastructure protection and intelligent buildings. She has more than 60 technical publications and nine awards at national and international level.

# Course Co-ordinator

**Prof. Sutapa Das**
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# Registration Process

Registration for GIAN courses is not automatic because of the constraints on maximum number of participants allowed to register for a course. In order to register for one or multiple non-overlapping courses, you have to apply online using the following steps:

1. **Create login and password at www.gian.iitkgp.ac.in/GREGN/index**
2. **Login and complete the registration form.**
3. **Select courses**
4. **Confirm your application and payment information.**
5. **Pay ₹ 500 (non-refundable) through online payment gateway.**

The course coordinators of the selected courses will go through your application and confirm your selection as a participant one month before the starting date of the courses. Once you are selected you will be informed and requested to pay the full fees through online payment gateway service.