

Seminar: Elements of Integrated Sustainable Architecture for Asian Cities

Convenor: Prof Wong Nyuk Hien

Date: 29th January 2014, Wednesday

Time: 3.00pm to 5.00pm

Venue: SDE3 Level 3 LR 424

SPEAKER'S PROFILE



Professor Masayuki Ichinose is currently an Associate Professor in Graduate School of Urban Environmental Sciences, Department of Architecture and Building Engineering, Tokyo Metropolitan University, Japan. He obtained his PhD from Tokyo Metropolitan University in 2005 working in the area of parameter analysis of budget structure of solar spectral irradiance and thermal environment. Over the years, Prof Ichinose has worked in numerous projects both at the building level as well as at urban level. Some of the interesting projects include optimization of heat and light for façade and glazed buildings as well as mitigation of urban heat island effect in Japan.

ABSTRACT OF CONTENTS

My research objective is to provide an analysis of the optimum practices for designing, estimating, evaluating and realizing the actual performance of the buildings and cities as exemplified through real projects. I have been engaged in various advanced projects in Japan that can be categorized into the areas of 1) Efficient daylighting, 2) Perimeter-free air conditioning system, and 3) Improving micro-climate. For Efficient daylighting, efficient way of introducing sunlight into the room that maximizes visible light and minimizes heat gain on the building facade is the most fundamental issue. Various advanced techniques for mechanical systems and material applications are proposed, tested, verified and realized by on-site evaluation. These systems include air-flow-window systems, automated blind control systems, thermotropic material glass and so on. The effects of such techniques are evaluated not only in terms of energy consumption, but also the environment of visibility in a room by focusing on the spectral characteristics of daylight. In addition to the efficient daylighting on the building facade, Perimeter-free air conditioning systems are one of the most efficient ways for realizing energy conservation and a comfortable indoor environment because climate changes drastically throughout the year in Tokyo. Through the introduction of an office building project that was awarded as the sustainable building prize in Japan, the necessity of adjusting and verifying for censoring, controlling and realizing desired performance is evident. As a result of optimizing energy reduction and internal space comfort, adverse effects might worsen the environmental conditions around the buildings. Reflective sunlight on the building facade is becoming prevalent in cities (e.g. "Fryscraper" in London) and a retro-reflective mechanism using film material technology has been put into practical use.

REGISTRATION DETAILS

Admission is **Free** and all are welcome. Please register [here](#) by Friday, 24th Jan 2014.

For enquiries, please contact Ms Amanda at 65164836

Disclaimer: The organizer reserves the right to cancel or postpone the event due to unforeseen circumstances.