

Workshop on Advances in Concrete Technology – Implementing Advanced Concrete Solutions, took place in Zanzibar, Tanzania, on 18-21 February. The course, co-sponsored by RILEM, was organized by IIT Madras and the Institution of Engineers Tanzania (IET). During the 3-day workshop, Professors Ravindra Gettu, Manu Santhanam, Radhakrishna Pillai and Mark Alexander shared their knowledge and expertise through a series of insightful lectures.







## Workshop on Advances in Concrete Technology – Implementing Advanced Concrete Solutions



Danford Semwenda, Commercial Director, Twiga Cement delivered a lecture on "Cement Types and New Sustainable Cements" and Elie Challita (Business Development Manager) and Dennis Ott (Country Manager) from SIKA Tanzania made a presentation on "Chemical Admixtures and the SIKA Mix Design App"

The 30 participants engaged for three consecutive days from 9:00 am to 4:00 pm; they gained insights into global practices and advances in science of concrete. On the fourth day, an optional certification examination was organized.



By the end of the course, the participants also received a certificate of Continuing Professional Development credits, kindly issued by the Institute of Concrete Technology (ICT), and a 3-year RILEM membership.

## **Event**





Construction robotics research and development has been ongoing since the early 1980's, initially in Japan, United States and Europe. In recent years, there is also a rapid development of similar activities in other countries. Construction industry applications of robotics is, however, vastly behind that of manufacturing. Prof. Skibniewski shared the types of construction robots developed to date, and their applications in North America. Allied technologies and solutions dependent on the state of robotization of construction tasks has also been discussed. Prof. Mirosław Skibniewski, Professor, Civil and Environmental Engineering, Maryland Robotics Center, University of Maryland, USA and Distinguished Professor, Indian Institute of Technology, Madras offered two seminars and one workshop at IIT Madras in February.

Seminar 1: Automation and robotics in North American construction industry

Seminar 2: Application Success Factors of 3D printing technologies for construction projects

Prof. Mirosław Skibniewski shared his wealth of experience in an engaging workshop designed to guide students on how to become an effective author of highly-ranked, peer-reviewed scholarly journal papers. Participants of the workshop were encouraged to bring their own journal papers currently in preparation to seek practical advice for their improvement before submitting them for review and consideration for publication in highimpact journals.

Three-dimensional (3D) printing in construction technology has rapidly developed in recent years and is being implemented on a prototype basis for relatively small building and bridge construction projects. Understanding how to adapt 3D printing successfully is still one of the challenging issues facing by the construction industry. Although the innovative literature provides clues about potentially relevant factors for construction 3D printing technology adaptation, research has still not specifically addressed this topic. This knowledge gap hampers further advancements in 3D printing for construction, launching new products, and the development of related services for the industry. Prof. Skibniewski explained potential factors such as "technology compatibility", supply-side benefits," and "complexity" as well as their measurements related to the 3D printing. A method to support decision making to adapt 3D printing technology for construction projects has also been presented.