

## Report of the Workshop on Advances in Concrete Technology

18-21 February 2025

Zanzibar, Tanzania

The Educational Activities Committee of RILEM had the pleasure to co-sponsor the [Workshop on Advances in Concrete Technology – Implementing Advanced Concrete Solutions](#), which took place in Zanzibar, Tanzania, on 18-21 February. The course was organised by the [Indian Institute of Technology Madras \(IITM\) India](#), and the [Institution of Engineers Tanzania \(IET\) Tanzania](#).

The academic lectures of the course were:

- Prof. Manu Santhanam (IITM)
- Prof. Ravindra Gettu (IITM)
- Prof. Radhakrishna G. Pillai (IITM)
- Prof. Mark Alexander (UCT South Africa & IITM).



**Workshop on Advances in Concrete Technology**

**Date:** February 18–21, 2025.  
**Place:** IITM Zanzibar Campus, Bwelele, Zanzibar.  
**Organized by:** Indian Institute of Technology Madras (IITM) India and Institution of Engineers Tanzania (IET) Tanzania

**Implementing Advanced Concrete Solutions**

**About the Workshop**

The Workshop will cover Cement, Types and Basics of Hydration, Testing of cement and quality control issues, Aggregates, testing and quality control, Unconventional components of concrete (supplementary cementitious materials, chemical admixtures), Mix design principles, Chemical admixtures and how to use them effectively; Fresh concrete – properties and precautions, Mechanical properties, Good construction practices, Durability and long-term performance, and Sustainable practices

**Key Resource Persons**

			
Prof Manu Santhanam (IITM)	Prof Ravindra Gettu (IITM)	Prof Radhakrishna G. Pillai (IITM)	Prof Mark Alexander (UCT South Africa & IITM)



The lecturers of the course. From the top left, in clockwise direction: Prof. Manu Santhanam (IITM), Prof. Mark Alexander (UCT South Africa & IITM), Prof. Radhakrishna G. Pillai (IITM), and Prof. Ravindra Gettu (IITM). Credits: IITM India.

The course also offered two lectures from industry partners:

- *Twiga Cement* with a presentation on “Cement Types and New Sustainable Cements”, by Danford Semwenda, Commercial Director.

- SIKA Tanzania with a presentation on “Chemical Admixtures and the Sika Mix Design App”, by Elie Challita (Business Development Manager) and Dennis Ott (Country Manager).

The 30 participants engaged for free consecutive days from 9:00 am to 4:00 pm; they gained insights into global practices and advances science of concrete. On the fourth day, an optional certification examination was organised. The details of the programme of this course can be found at the end of this report.



A photo of the participants together with the lectures and organisers. Credits: IITM India.

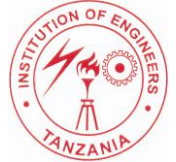


A photo of the participants together with the lectures and organisers. Credits: IITM India.

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.



IIT Madras  
Zanzibar



THE INDIAN INSTITUTE OF TECHNOLOGY (IITM), THE INSTITUTION OF ENGINEERS TANZANIA (IET) AND THE INSTITUTION OF ARCHITECTS, ENGINEERS AND SURVEYORS ZANZIBAR

- PDUs

WORKSHOP ON ADVANCES IN CONCRETE TECHNOLOGY

Venue: IITM Zanzibar Campus, Bweleo

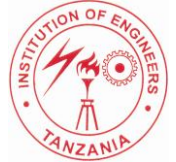
Date: 18<sup>th</sup> – 21<sup>st</sup> February, 2025

PROGRAMME

DAY	TIME	ACTIVITY	RESPONSIBLE
18 <sup>th</sup> February 2025	09:00 – 09:30	Registration & Tea	ALL
	09:30 – 10:00	Overview of the workshop	Facilitators / Prof. Ravindra Gettu
	10:00 – 11:30	Cement and Basics of Hydration	Prof. Manu Santhanam
	11:30 – 11:45	<b>HEALTH BREAK</b>	<b>ALL</b>
	11:45 - 13:00	Aggregates, testing and quality control	Prof. Mark Alexander
	13:00 – 14:00	<b>LUNCH BREAK</b>	<b>ALL</b>
	14:00 – 15:00	Overview of Other Components of Concrete	Prof. Manu Santhanam
	15:00 – 16:00	Cement types, quality control and sustainability	TWIGA Cement Representative
	16:00 – 17:00	Tutorial	Prof Mark Alexander / Facilitators
	17:00 – 17:30	Benefits of Professional Registration	IET and IAESZ
	17:30	<b>CLOSING</b>	<b>Facilitators</b>
19 <sup>th</sup> February 2025	09:00 – 09:30	Tea	ALL
	09:30 – 11:00	Mix design principles	Prof. Mark Alexander
	11:00 – 11:15	<b>HEALTH BREAK</b>	<b>ALL</b>
	11:15 - 13:00	Chemical admixtures	Prof. Manu Santhanam
	13:00 – 14:00	<b>LUNCH BREAK</b>	<b>ALL</b>
	14:00 – 15:00	Chemical admixtures	SIKA Tanzania Representative
	15:00 – 16:00	Fresh Concrete	Prof. Ravindra Gettu
	16:00 – 17:30	Tutorial	Prof Ravindra Gettu / Facilitators
17:30	<b>CLOSING</b>	<b>Facilitators</b>	
20 <sup>th</sup>	09:00 – 09:30	Tea	ALL



**IIT Madras**  
**Zanzibar**



DAY	TIME	ACTIVITY	RESPONSIBLE
February 2025	09:30 – 11:00	Mechanical properties and testing	Prof. Ravindra Gettu
	11:00 – 11:15	<b>HEALTH BREAK</b>	<b>ALL</b>
	11:15 - 13:00	Good construction practices	Prof. Ravindra Gettu & Prof. Radhakrishna Pillai
	13:00 – 14:00	<b>LUNCH BREAK</b>	<b>ALL</b>
	14:00 – 15:00	Durability and long-term performance	Prof. Radhakrishna Pillai
	15:00 – 16:00	Tutorial	Prof. Ravindra Gettu & Prof. Radhakrishna Pillai / Facilitators
	16:00 – 17:00	Closure and Feedback	<b>ALL</b>
	17:00 – 17:30	Tea	<b>ALL</b>
21 <sup>st</sup> February 2025	09:00 – 09:30	Tea	ALL
	09:30 – 12:30	Examination	Facilitators