



24 HOURS OF
**CONCRETE
KNOWLEDGE**

Hosted by the American Concrete Institute • July 12-13, 2022

24 HOURS OF CONCRETE KNOWLEDGE

TUESDAY, JULY 12, 2022

Welcome from ACI Global Moderators Antonio Nanni and Kari Yuers

9:00-10:00 PM Baghdad Time / 2:00-3:00 PM Detroit Time	1
Co-Host Organization: ACI Iraq Chapter	
12:00-1:00 PM Hermosillo Time / 3:00-4:00 PM Detroit Time	3
Co-Host Organization: ACI Northwest Mexico Chapter	
3:00-4:00 PM Bogotá Time / 4:00-5:00 PM Detroit Time	4
Co-Host Organization: ACI Republic of Colombia Chapter	
6:00-7:00 PM São Paulo Time / 5:00-6:00 PM Detroit Time	6
Co-Host Organization: IBRACON - Instituto Brasileiro do Concreto	
5:00-6:00 PM Quito Time / 6:00-7:00 PM Detroit Time	8
Co-Host Organization: ACI Ecuador Chapter	
6:00-7:00 PM Mérida Time / 7:00-8:00 PM Detroit Time	10
Co-Host Organization: ACI Southeast Mexico Chapter	
6:00-7:00 PM Guatemala City Time / 8:00-9:00 PM Detroit Time	12
Co-Host Organizations: ACI Guatemala Chapter & Instituto del Cemento y del Concreto de Guatemala (ICCG)	

WEDNESDAY, JULY 13, 2022

1:00-2:00 PM Auckland Time / 9:00-10:00 PM Detroit Time	14
Co-Host Organization: Concrete New Zealand Learned Society	
12:00-1:00 PM Sydney Time / 10:00-11:00 PM Detroit Time	16
Co-Host Organization: Concrete Institute of Australia	
12:00-1:00 PM Tokyo Time / 11:00 PM-12:00 AM Detroit Time	18
Co-Host Organization: Japan Concrete Institute (JCI)	
11:00 AM-12:00 PM Bangkok Time / 12:00-1:00 AM Detroit Time	20
Co-Host Organization: Thailand Concrete Association (TCA)	
2:00-3:00 PM Seoul Time / 1:00-2:00 AM Detroit Time	22
Co-Host Organization: Korea Concrete Institute (KCI)	
2:00-3:00 PM Singapore Time / 2:00-3:00 AM Detroit Time	24
Co-Host Organization: ACI Singapore Chapter	
10:00-11:00 AM Beirut Time / 3:00-4:00 AM Detroit Time	26
Co-Host Organization: ACI Lebanon Chapter	
10:00-11:00 AM Paris Time / 4:00-5:00 AM Detroit Time	28
Co-Host Organization: ACI Paris Chapter	
12:00-1:00 PM Erbil Time / 5:00-6:00 AM Detroit Time	30
Co-Host Organization: ACI Kurdistan Chapter	
11:00 AM-12:00 PM London Time / 6:00-7:00 AM Detroit Time	32
Co-Host Organization: The Institute of Concrete Technology (ICT)	
4:30-5:30 PM Mumbai Time / 7:00-8:00 AM Detroit Time	34
Co-Host Organization: ACI India Chapter	
2:00-3:00 PM Rome Time / 8:00-9:00 AM Detroit Time	36
Co-Host Organization: ACI Italy Chapter	
3:00-4:00 PM Lausanne Time / 9:00-10:00 AM Detroit Time	38
Co-Host Organization: Fédération internationale du béton (<i>fib</i>)	
4:00-5:00 PM Warsaw Time / 10:00-11:00 AM Detroit Time	40
Co-Host Organization: Committee of Civil Engineering of the Polish Academy of Sciences (CCE PAS)	
5:00-6:00 PM Oslo Time / 11:00 AM-12:00 PM Detroit Time	42
Co-Host Organization: Norwegian Concrete Association (NCA)	
6:00-7:00 PM Madrid Time / 12:00-1:00 PM Detroit Time	44
Co-Host Organization: Asociación Española de Ingeniería Estructural (ACHE)	
1:00-2:00 PM Santiago Time / 1:00-2:00 PM Detroit Time	46
Co-Host Organization: Instituto del Cemento y del Hormigón de Chile (ICH)	
Closing remarks from ACI Global Moderators Antonio Nanni and Kari Yuers	

Wednesday, July 13, 2022
4:30-5:30 PM Mumbai Time / 7:00-8:00 AM Detroit Time
Co-Host Organization: ACI India Chapter



Website: <https://icaci.com>

The ACI India Chapter was established on December 26, 1979, by a few enthusiastic concrete technologists with ACI for the “Development and Advancement of Good Practices in Concrete Technology” in India. Today the Chapter membership consists of over 2000 concrete professionals and organizations, including consulting civil and structural engineers, concrete practitioners, academicians, researchers, material scientists, constructors, students, and so on. We are driven by our motto, “Progress Through Knowledge.” Our Chapter is distinctly active in organizing seminars, symposiums, technical lectures, meetings, and workshops with the participation of experts in the field and associated professional bodies.

Local Moderator: Sunny Surlaker, Director of the Institute for International Talent Development



Sunny Surlaker currently heads the Technical Services and R&D Division for Assess Build Chem Pvt. Ltd. and is the Director of the Institute for International Talent Development, a training organization specializing in construction-related training. He worked for over 12 years internationally in the field of building chemicals (across the United States, Europe, Brazil, the Middle East, and India). He is a Fellow of Association of Consulting Civil Engineers (ACCE) and an active member of ACI, The Institution of Engineers (India), Indian Concrete Institute (ICI), Indian Society of Structural Engineers (ISSE), and India Chapter of the American Concrete Institute. He is President of India Chapter of ACI, a Managing Committee Member at ICI – Mumbai, and Editor of *Concrete India – Journal of IC-ACI*. He is also a member of ICI Committees for Handbooks on Admixtures and Waterproofing. He received his BE (civil) from Veermata Jijabai Technological Institute (VJTI), Matunga, Mumbai, India, and his masters (civil) from the University of Michigan.

1st Speaker: Dr. Sivakumar Kandasami, Deputy General Manager (Civil), Larsen & Toubro Limited



Dr. Sivakumar Kandasami is a Deputy General Manager with the Buildings and Factories IC of L&T Construction in Chennai, India. A civil/structural engineer, he is a specialist in concrete technology and practice having substantial experience in concrete durability design for a variety of infrastructure, including assessment-cum-substantiation of civil nuclear facilities. He is a Fellow of The Institution of Engineers (India), and The Institute of Concrete Technology (ICT), UK. Kandasami is a member of ACI, ASTM International, and the Indian Concrete Institute (ICI), with involvement in various technical committees. Further, he represents L&T Construction in the General Council of ICI and represents India in the Council of ICT. A strong exponent of concrete technology, he has delivered several invited lectures for academia and examined several graduate theses at the Indian Institute of Technology Madras, Chennai, Tamil Nadu, India, and Anna University, Chennai, Tamil Nadu, India. He has contributed to the Editorial Board of *Journal of Testing and Evaluation* (ASTM International, 2009 to present), *Construction Materials* (ICE, 2018 to present), and *Civil Engineering* (ICE, 2010 to 2016). Furthermore, he reviews manuscripts for several journals, including *ACI Materials Journal* and *ACI Structural Journal*. He is a member of the Technical Board of the ICI. Kandasami is a recipient of the ORS Award (UK universities) and MCR Award (ICE, UK). He received his PhD from the University of Dundee.

Presentation Title: C&D Waste for Sustainable Concrete Construction

With India set to overtake several developed nations as a large economy, the construction industry is poised for a new phase of rapid growth alongside deployment of digital technologies. For the upcoming infrastructure, as ever, concrete being the favored material of choice in various forms, characteristics, and performance, the ingredients to make concrete are in huge demand and are in short supply. This demand entails not only increase in cost of construction but also creates huge pressure on natural resources—difficult to sustain forever. As India moves to a circular economy, it is important to carefully examine the life cycle of the concrete, and any dismantled concrete should be recycled and pulled back into the system for use as aggregates reducing the embodied carbon of concrete. This presentation looks at the developments happening in India on the use of recycled aggregates in construction.

2nd Speaker: Dr. Manu Santhanam, Professor, Department of Civil Engineering, IIT Madras



Dr. Manu Santhanam is a Professor in the Department of Civil Engineering, Indian Institute of Technology (IIT) Madras. After more than 2 years with Sika Corporation, USA, as an R&D Chemist, he went back to Purdue University for his PhD, which was completed in 2001, on the topic of sulfate attack of concrete. He joined IIT Madras soon after the completion of his PhD. Santhanam specializes in research on cementitious materials from an interdisciplinary approach, wherein sophisticated analytical techniques from chemistry and materials science are used to explore the link between microstructure and performance of cement-based materials. The primary focus of Santhanam's research has been the performance of concrete prepared with supplementary cementitious materials. The gamut of investigations conducted in various research projects on this aspect include the understanding of fresh state properties such as rheology and setting, as well as hardened state characteristics including strength and durability. The development of pore structure and its impact on the early and long-term properties of cementitious systems modified by supplementary materials is a recurring theme in the projects executed by Santhanam's group. He has published more than 150 papers in peer-reviewed journals and conferences and is on the Editorial Board of *Cement and Concrete Composites*, *ASCE Journal of Materials in Civil Engineering*, *Journal of Sustainable Cement-Based Materials*, and *Advances in Cement Research*. He obtained his BTech from IIT in 1994 and his MS and PhD from Purdue University in 1996 and 2001, respectively.

Presentation Title: Utilization of Limestone Calcined Clay Combination as Supplementary Cementing Material to Reduce CO₂ Footprint of Concrete

The presentation focuses on the processing and use of blends of limestone and calcined clay as high-volume replacements for clinker in ternary blended cementitious systems. The alteration in hydration chemistry brought about using such materials leads to a denser microstructure with very little interconnected porosity. This leads to a very high level of durability of concrete with such binders, especially in a chloride environment. The resultant impact on sustainability indicators like CO₂ emission and energy consumption is also very positive.