NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

You are cordially invited to the workshop organised by JSPS, ACI (Singapore Chapter) and PTRC.

Workshop on
Mineral Admixture Application to Concrete in Hot Weather Conditions

Date: 15 July 2019 (Monday)

Time: 1:00pm to 5:30pm

13:00-13:20 Introduction of JSPS Core-to-Core Project (Assoc. Professor Shingo ASAMOTO, Saitama University, Japan)

13:20-13:50 Practice of Concrete Temperature Control for Mass Concrete in Singapore
(Mr. Jinping LU, President of American Concrete Institute-Singapore Chapter)

13:50-14:20 Potential Utilisations of Off-Standard Fly Ashes
(Professor Somnuk TANGTERMSIRIKUL, Thammasat University SIIT, Thailand)

14:20-14:50 Application of Fly Ash and Bottom Ash from Coal Fired Thermal Power Plants in Sri Lanka
(Professor Anura NANAYAKKARA, University of Moratuwa, Sri Lanka)

14:50-15:10 Tea Break

15:10-15:40 The Situation of Using Some Mineral Additives in Vietnam
(Assoc. Professor Van Tuan NGUYEN, National University of Civil Engineering, Vietnam)

15:40-16:00 Three Types of Environmentally Friendly Concrete using Ground Granulated Blast Furnace Slag
(Dr. Kazuhisa YODA, Kajima Technical Research Institute, Japan)

16:00-16:20 Concrete Component Compatibility the (Backbone) of Design Concrete for Hot Weather
(Mr. Petr DOBRY, SIKA Kimia Sdn. Bhd., Malaysia)

16:20-16:40 Admixture Technology Widely Used in Asia and the Advancements (Mr. Shivram BAGADE, BASF)

16:40-17:00 Reducing Effect of Shrinkage Reducing Agents on Early-Age (Plastic) Shrinkage Cracking
(Dr. Keisuke TAKAHASHI, UBE Industries Ltd.)

17:00-17:20 Free Discussion

17:20-17:30 Concluding Remarks (Assoc. Professor Shingo ASAMOTO, Saitama University, Japan)

Venue: Lecture Theatre 7 (LT 7), Block NS1, NS1-02-03 (Second Level)
Nanyang Technological University | Singapore, 50 Nanyang Avenue, Singapore 639798

Abstract:

The construction in hot weather conditions is categorised as “hot weather concreting” in American, European and Japanese specifications, which is special but usual in tropical countries. The specifications for the temperate zone cannot be fully applicable to the tropical zone. The hot weather effect on fresh and hardened concrete and durability should be appropriately taken into account to have the effective measures based on the climate and materials in tropical countries. The application of mineral admixture to concrete would be one of possible measures to reduce the hydration heat and improve the durability in hot weather conditions. In Singapore, the blended cement with high replacement of blast furnace slag with cement has been applied to both infrastructures and buildings while fly ash has been widely utilised in Thailand for past 10 years and recently, Sri Lanka also has used fly ash cement to reduce the heat. Vietnam is motivated to utilise the mineral admixture. Japan has studied the fresh and hardened properties and durability of concrete with mineral admixture to specify the characteristics in the JSCE specification. In the workshop, the effect of mineral admixture on concrete and the application in each country would be discussed to share the information to utilise mineral admixture in concrete in Asian countries. That is one of the objectives of JSPS (Japan Society for the Promotion of Science) core-to-core program (“Collaborative Research Network on Standardisation of Design and Construction for Hot Weather Concreting based on Asian Climate and Materials”, Coordinator: Assoc. Professor Shingo ASAMOTO), which promotes carrying out project-related joint research, scientific meetings and researcher exchanges.

NANYANG TECHNOLOGICAL UNIVERSITY
SINGAPORE

You are cordially invited to the workshop organised by JSPS, ACI (Singapore Chapter) and PTRC.

Workshop on

Mineral Admixture Application to Concrete in Hot Weather Conditions

Speaker 1: Dr. Shingo ASAMOTO, D. Eng., Associate Professor, Saitama University, Japan

Dr. Shingo ASAMOTO obtained his bachelor, master and doctor degrees of engineering at The University of Tokyo, 2001, 2003 and 2006, respectively. His research interests are time-dependent deformation of cementitious materials, durability of concrete with mineral admixture, micro character and performance of cementitious materials subjected to high temperature from 60 °C to 80 °C.

Speaker 2: Mr. Jinping LU, MD, Admaterials Technologies Pte Ltd, Singapore

Mr. Jinping LU has more than 30 years of experience working in areas of research & development, testing and technical consultancy for construction materials. He was a Lecturer in the Department of Construction Materials at the Tongji University, China from 1988 to 1994. Mr Lu is currently the President of American Concrete Institute - Singapore Chapter. Mr Lu serves as Advisory Committee member of Temasek Polytechnic, School of Applied Science (May 2017 – Apr 2020), SAC Council Committee member for Management System and Product (CCMP), Spring Singapore (Jul 2015 – Jun 2018), Member of SAC Technical Committee for Laboratory Accreditation (SINGLAS) (Jul 2015 – Jun 2018); Member of SAC Technical Committee for Proficiency Test (Jul 2015 – Jun 2018) and Member of Board of Directors, International Congress on Polymers in Concrete (ICPIC). Mr Lu has also presented more than 50 papers at various international conferences in the region and has published articles on testing, performance and research on construction materials. He is the lead auditor for certification of Ready-Mix Concrete Products by Singapore Accreditation Council. He received five years' service award of dedicated voluntary service to the community from People's Association and Merit Award from Spring Singapore for Meritorious service and contribution to the Singapore National Standardisation Programme.

Speaker 3: Dr. Somnuk Tangtermsirikul, D.Eng, Professor, Thammasat University, Thailand

Dr. Somnuk TANGTERMSIRIKUL obtained a B.Eng degree in Civil Engineering with honors from Chulalongkorn University, Thailand in 1984. He received his Master's and Doctoral degrees from the University Tokyo, Japan in 1986 and 1989, respectively. He is currently a Professor at the School of Civil Engineering and Technology, Sirindhorn International Institute of Technology (SIIT), Thammasat University, Thailand and Center Head of the Construction and Maintenance Technology Research Center (CONTEC), as well as an advisor of Thailand Concrete Association and Civil Engineering Chapter of the Engineering Institute of Thailand. He is also currently a Vice President (Technical) of Asian Concrete Federation (ACF). His research interests are use of wastes, cement replacing and recycled materials in concrete; special and functional construction materials and structures; durability of concrete; assessment, life cycle evaluation and maintenance of concrete structures.

Speaker 4: Dr. Anura NANAYAKKARA, D. Eng., Professor, University of Moratuwa, Sri Lanka

Dr. Anura NANAYAKKARA obtained a B. Sc. degree in Civil Engineering with honors from University of Moratuwa, Sri Lanka in 1982. He received his Master's and Doctoral degrees from the University Tokyo, Japan in 1987 and 1990, respectively. His research interests are possibility and measures of delayed ettringite formation in mass concrete, early age thermal cracking of concrete, pumpability of concrete in hot weather conditions, bottom ash applications in geopolyrmer, fire performance of cellular light weight concrete, alternatives for river sand.

Speaker 5: Dr. Van Tuan NGUYEN, Associate Professor, National University of Civil Engineering, Vietnam

Dr. Van Tuan NGUYEN received his PhD degree in Materials and Environment from Delft University of Technology, the Netherlands. His research interests are R&D of (ultra) high performance concrete, hydration process and microstructure development, and deformation of cement blended with mineral admixtures, i.e. rice husk ash, fly ash, especially with low water to binder ratios.

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

You are cordially invited to the workshop organised by JSPS, ACI (Singapore Chapter) and PTRC.

Workshop on

Mineral Admixture Application to Concrete in Hot Weather Conditions

Speaker 6: Dr. Kazuhisa YODA, Dr. Eng, General Manager, Building Construction and Material Group, Kajima Technical Research Institute, Japan

Dr. Kazuhisa YODA is currently a General Manager at the Building Construction and Material Group, Kajima Technical Research Institute, Japan. His research interests are as follows: Concrete materials and construction technologies mainly applicable to Recycled aggregate concrete, High-strength concrete, High fluidity concrete, CFT concrete and Ground-granulated blast furnace slag concrete.

Speaker 7: Mr. Petr DOBRY, Target Market Concrete Manager for South East Asia, SIKA KIMIA SDN. BHD.

Mr. Petr DOBRY is responsible for the development of the SIKA Concrete Business in South East Asia with the focus on product, customer solutions and overall growth of the business. Previously he was the Cement Technical Expert at Lafargeholcim Singapore, focusing on cement quality monitoring with target on customer satisfaction in concrete applications. He also developed new testing tools and methods to evaluate cement application performance and admixture compatibility.

Speaker 8: Mr. Shivram BAGADE, BASF

Mr. Shivram BAGADE holds a Bachelor in Civil Engineering from, the Siddaganga Institute of Technology, Tumkur India. He has 15+ years of experience in the field of cement, concrete and construction chemicals. Prior to graduation, he completed his Diploma in Civil Engineering from the Govt Polytechnic Raichur, India.

Mr. Bagade was instrumental in prestigious projects in India, China, Malaysia and Singapore. He designed special Concretes aided by the utilisation of an array of Construction Chemicals.

He has delivered several lectures at various forums, educational institutions, Government and Prime organisation. He has published several papers in the area of Innovative admixtures, Early strength concrete, Protection of R.C. structures from corrosion, Mass housing, Shanghai Tower, Penang Second Bridge, Precast Concrete, Underground Construction.

Mr. Bagade is actively associated with professional organisations like ICI, ACCE (I), CSM and ACI. He was in the Managing Committee of the ICI-KBC during 2005-2010. He was also in the Board of Directors of the American Concrete Institute – KL Chapter, Malaysia during 2015-16.

Mr. Bagade has been awarded as “YOUNG SCIENTIST OF INDIA” by Indian Concrete Institute in September 2012 for his valuable contribution to the Indian cement and concrete industry in the short span of his career.

Mr. Bagade works for BASF and was based in India, China and Malaysia where he worked in various positions. Currently he is based in Singapore, responsible for Sales and Market management - Construction Chemicals Business for Singapore, Malaysia and Brunei.

Speaker 9: Dr. Keisuke TAKAHASHI, D. Eng., UBE Industries, Ltd.

Dr. Keisuke TAKAHASHI holds a doctor degree of engineering from Technische Universität Freiberg, Germany and is an employee of the Cement Development Department at UBE Industries, Ltd in Japan. His research interests are plastic shrinkage, rheology, effects of mixing energies on physicochemical properties, durability under deep sea conditions of cementitious materials, and utilisation of ternary binder systems etc.