

New ACF Executive Council Members



EC meeting held on 21 September 2014 in Seoul, Korea

New ACF Executive Council (EC) Members (term of office; Jan. 2015 - Dec. 2016) have been nominated by each representative members and among the new EC members, the next president was elected during the EC meeting held on 21 September 2014 in Seoul, Korea.

President:

Prof Manyop Han (Korea Concrete Institute)

Vice-president (policy):

Prof Subhajit Saraswati (Indian Concrete Institute)

Vice-president (technical):

Prof Hiroshi Yokota (Japan Concrete Institute)

Treasurer:

Prof Somnuk Tangtermsirikul (Thailand Concrete Association)

EC members:

Mr David Meager (Concrete Institute of Australia)

Prof Benjamin Lumantarna (Indonesian Society of Civil and Structural Engineers)

Mr Khashchuluu Adiya (Mongolian Concrete Association)

Dr Bahador Sabet Divsholi (Singapore Concrete Institute)

Prof Yin-Wen Chan (Taiwan Concrete Institute)

Dr Le Trung Thanh (Vietnam Concrete Association)

Prof Takafumi Sugiyama (Ex-officio; TB Chairman)

Prof Tamon Ueda (Ex-officio; immediate past president)

New ACF Technical Board Members

As the term of ACF Technical Board office expires by the end of 2014, the election of new TC chairmen and TB chairman (term of office; Jan. 2015 - Dec. 2016) was conducted among TC/TB members on 24 October 2014. With the confirmation and approval of Prof. Uomoto, the immediate past chairman of ACF technical board and witness of the election, the next TB members were officially announced as below:



TC/TB meetings held on 24 September 2014 in Seoul, Korea

TB Chairman:

Prof Takafumi Sugiyama, Hokkaido University, Japan

TC1 Chairman (Design):

Dr. Jianguo Dai, The Hong Kong Polytechnic University, Hong Kong

TC2 Chairman (Materials and Construction):

Dr Boonchai Satitmannatham, Chulalongkorn University, Thailand

TC3 Chairman (Maintenance):

Prof Hiroshi Yokota, Hokkaido University, Japan

Editorial Committee Chairman;

Dr Sanaul Chowdhury, Griffith University, Australia

ACF Member Institute “Thailand Concrete Association (TCA)”



By
Prof. Somnuk Tangtermsirikul
Sirindhorn International Institute of Technology
Thammasat University



Thailand Concrete Association (TCA) was established in 2004 in Bangkok, Thailand. TCA founders, both from academic and industrial sector, were subcommittee members of Engineering Institute of Thailand. The main goals of the organization are promoting academic advancement in engineering and technology on concrete and construction materials; enhancing the quality of engineering knowledge and education; providing academic contribution to industrial and governmental organizations, community, and its members; drafting standards specifications and codes; and cooperating with other national and international organizations.

TCA organizes annual national concrete conference, technical seminars, demonstration and exhibition of construction products, etc. The annual concrete conference, alternately hosted by universities, is usually held in October. Every year, over 200 attendees consisting engineers across the nation gather to participate in the event. The 10th Annual Concrete conference (ACC10) was held on 20-22 October 2014 in Chiang Rai Province. In addition to annual conference, TCA also publish technical journals through Journal of Thailand Concrete Association and monthly newsletters to support its members.



TCA Senior Project Award



Seminar



Exhibitions and Demonstrations



Prof. Dr. Chai Jaturapitakkul

Besides involvement in the national engineering community, TCA is also actively participating in international engineering communities by being members of Asian Concrete Federation (ACF). As an active member of ACF, TCA hosted 9th ACF International Conference in 20012, Pattaya.

Prof. Dr. Chai Jaturapitakkul, a faculty member at King Mongkut's University of Technology Thonburi, is the current president of TCA. His term office starts from January 2014 to December 2015. Members of TCA consist of practicing engineers, academicians, researchers, and suppliers from construction industry.

ACF 2014 (The 6th International Conference of Asian Concrete Federation)



By Prof. Se-Jin Jeon
Ajou University
Korea

ACF 2014 (The 6th International Conference of Asian Concrete Federation) was held at The-K Seoul Hotel in Korea from 21 to 24, September, 2014. Conference chair was Prof. Jongsung Sim of Hanyang University and chairs of IOC (International Organizing Committee) and SC (Scientific Committee) were Prof. Manyop Han of Ajou University and Prof. Donguk Choi of Hankyong National University, respectively. Total 261 papers were submitted and presented from 27 countries, which was the largest number among the ACF conferences so far. Presidents and past president of world class concrete institutes were invited as keynote speakers including ACF (Asian Concrete Federation), ACI (American Concrete Institute), fib (International Federation for Structural Concrete), and RILEM (International Union of Laboratories and Experts in Construction Materials, Systems and Structures). Moreover, ten lead paper presenters and two special invited speakers had contributed to enhancing the quality of the conference.

The papers were presented in 7 parallel sessions on 22-23 September, 2014. The topics of the papers were divided to six categories; Concrete structures / Concrete materials and technologies / Maintenance, monitoring, repair and strengthening / Sustainability / Construction and engineering / Recent research and related topics. Besides, several activities of ACF committees accompanied the conference such as ACF EC (Executive Council) meeting, GA (General Assembly), Sustainability Forum, and TC (Technical Committee) and TB (Technical Board) meetings. Total 12 papers were awarded the Best Papers Awards through the evaluation of SC members and session chairs. During the conference, various tour programs were also provided. In the technical tour, many participants visited the Lotte World Tower under construction in Seoul, which is planned as 123 stories and 555m height, and enjoyed Hangang river cruise appreciating several bridges.



Opening ceremony



GA meeting held on 21 September 2014 in Seoul, Korea



Statistics of ACF 2014

During the GA meeting, Prof. Manyop Han in Korea was elected as the next president of ACF starting in 2015. Also, it was announced that the next ACF conference would be held in Hanoi, Vietnam in 2016. And new ACF symposium will be started in Kolkata, India in 2015. Several new plans are proposed by the next president to promote the relationships between member countries, such as Regional Board, Journal of ACF, ACF Magazine, etc. Furthermore, an effort will be made to increase the number of ACF members in addition to the current ten member countries. The ACF 2014 was a good opportunity for the concrete experts in Asia to get together and to keep close relationship in Asia and with the world.

The Interlace envisioned as "a blatant reversal" of tower-block housing



"They were incredible structures and I'm really interested in using this structural dimension, but to really imbue it with a very acute sense of place, of space, of inhabitation of people who actually live and work and exist in those places," designer and partner-in-charge Ole Scheeren said.

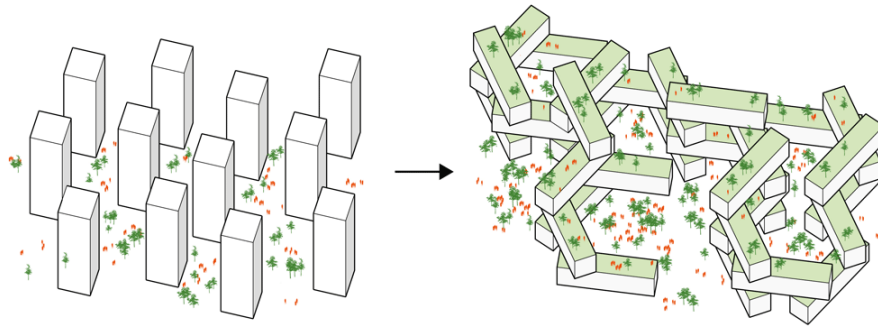
Conceived as the antithesis to tower blocks, The Interlace is made up of 31 apartment buildings that have been arranged and stacked in a honeycomb arrangement to frame eight large hexagonal courtyards.

The development, which was handed over to residents at the end of 2013, accommodates 1,040 apartments of varying sizes. The six-storey blocks are stacked up in twos, threes and fours, creating three peaks of 24 storeys.

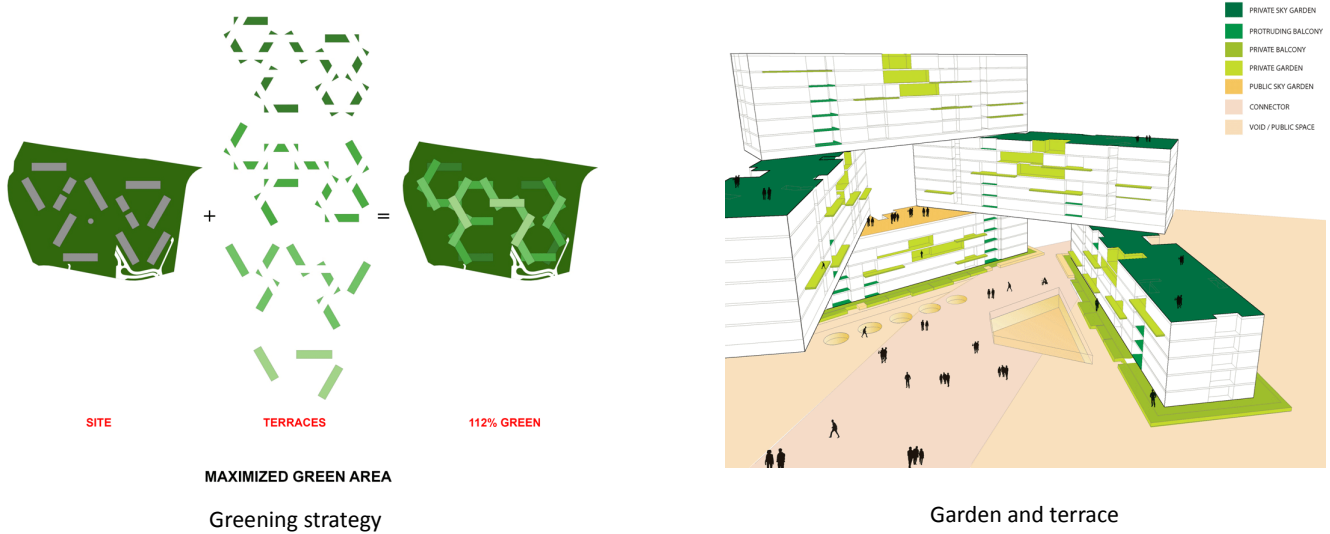
Parts of the blocks rest over others, but several also cantilever outwards to shelter spaces below. This offers residents elevated gardens and roof terraces, both private and communal.

The large multi-storey voids between blocks also help to bring light and ventilation right through the site, as opposed to the isolated environments created by clusters of isolated towers.





Design Concept



The eight large courtyards, which have names such as Theatre Plaza, Lotus Pond and Rainforest Spa, offer a variety of amenities, from swimming pools and gyms to barbecue areas, tennis courts, games rooms, and even a one-kilometer running track that surrounds the site.

These squares form the main entrances for residents and connect up with a network of secondary footpaths that lead through to each home.

A car park is sunken down on a ventilated basement level, but lit from above by openings in the surfaces of the courtyards.

Project credits:

Client: CapitaLand Singapore Pte Ltd

Developer: Joint development by CapitaLand Singapore and Hotel Properties Limited

Design Architect: OMA, designer and partner-in-charge Ole Scheeren (now at Buro Ole Scheeren)

Architect of Record: RSP Architects, Planners & Engineers Pte Ltd

Structural Engineer(s): T.Y.Lin International Pte Ltd

MEP Engineer: Squire Mech Pte Ltd

Landscape: OMA (Concept/SD) / ICN Design International Pte Ltd

Lighting: Lighting Planners Associates (S) Pte Ltd

Quantity Surveyor: Langdon & Seah Singapore Pte Ltd

Acoustics: Acvicon Acoustics Consultants Pte Ltd

Main Contractor: Woh Hup (Private) Limited



PhD Abstract on Methodology to Demolish Reinforced Concrete Structures with High Efficiency Using Induction Heating

Dr. Lim Myung Kwan
Hankyong National University
Korea

Dr. Lim Myung Kwan is a faculty member at Department of Architectural Engineering, Hankyong National University, Korea. His PhD topic was "Methodology to Demolish Reinforced Concrete Structures with High Efficiency Using Induction Heating".

In the recent years, the use and required performance of buildings have changed dramatically due to the advancement of science and technology and globalization. Also, as a result of various causes such as the growing population of developed and developing countries, economic growth and increase of wastes and energy consumption, there has been a need for measures to demolish old buildings efficiently with reduced waste and use of energy during urban reconstruction and maintenance.

Generally, reinforced concrete structures are demolished using breakers or hydraulic breakers. This demolition technique can help shorten the demolition period compared to other techniques, but because it is a rough demolition using large equipment, the demolition debris become mixed and is difficult to discern. Also, because the debris resulting from the existing demolition techniques has lower

recyclability, there is a need to use a demolition technique using large equipment with high crushing efficiency such as the crushing process and to develop a new demolition technology and process that can separate different materials from the debris.

In this study, the high frequency induction heating technology was applied to reinforced concrete, during which the technique to selectively heat and disassemble the rebar inside the reinforced concrete as a conductive resistor was developed. To be specific, high frequency induction heating technology was used to validate the characteristics of deformed steel bars to increase in temperature due to the arrangement of bar inside the reinforced concrete, occurrence of cracks caused by heat expansion pressure, and the chemical and physical vulnerabilities of concrete resulting from thermal conduction in the surface of rebar. In addition, the scope and degree of vulnerability of concrete based on the areas of heating were observed to perform a review of the applied technologies in each of the steps.

This is a low-noise, low-pollution technology developed to increase the rate of recovering the rebar from inside reinforced concrete and the rate of recycling building wastes, and is expected to contribute to the reduction of energy use by minimizing the secondary process.

PhD Abstract on Experimental Evaluation of Concrete Structural Behavior Subjected to Extreme Loading

Dr. Na-Hyun Yi
Nanyang Technological University
Singapore

Dr. Na-Hyun Yi is a research fellow at School of Civil and Environmental Engineering, Nanyang Technological University, Singapore. She received her PhD from Yonsei University, Korea and her PhD topic was "Experimental Evaluation of Concrete Structural Behavior Subjected to Extreme Loading".

In recent years, frequent terror or military attacks by explosion or impact accidents have occurred. Exemplary case of these attacks was World Trade Center collapse and US Department of Defense Pentagon attack on Sept. 11 of 2001. These attacks of the civil infrastructure have induced numerous casualties and property damage, which raised public concerns and anxiety of potential terrorist attacks. However, an existing design procedure for civil infrastructures does not consider a protective design for extreme loading scenario. Also, the extreme loading researches of prestressed concrete (PSC) member, which widely used for nuclear

containment vessel, gas tank, bridges, and tunnel, are insufficient due to experimental limitations of loading characteristics. To protect concrete structures against extreme loading such as explosion and impact with high strain rate, understanding of the effect, characteristic, and propagation mechanism of extreme loadings on structures is needed. Therefore, in this thesis, the extreme loading scenario of blast, impact, fire, and impact-fire combined loading were studied and concrete structural members such as bi-directionally reinforced RC, unbonded PSC, and UHSC, RPC, which have been actively developed to improve concrete strength, were experimentally evaluated to verify structural performance and damage failure mechanism. Also, to accurately measure the concrete structures behavior under high strain rate from extreme loading, the measurement systems and test procedures were established. Also, the existing design criteria and tested results were reviewed to determine the structural performance for damage criteria. And the conceptual performance-based design procedure for extreme loading analysis was suggested for effective protective design of concrete structures.



Announcement of The 1st International Symposium of Asian Concrete Federation On Ultra High Performance Concrete

Date: 7 October 2015

Venue: Science City, Kolkata, India

Host: Indian Concrete Institute (ICI)

Indian Concrete Institute (ICI) will host the 1st International Symposium of Asian Concrete Federation on Ultra High Performance Concrete on 7 October 2015 at Science City in Kolkata, India in conjunction with the 4th Asian Conference on Ecstasy in Concrete (ACECON 2015) on Advancements in Structural Concrete (8-10 October 2015).

ICI, which is a premier organization in the sphere of structural concrete in India, operates through 30 local centers and 85 student chapters spread throughout the length and breadth of India. With the objective of disseminating latest technical advancements in concrete, ICI has been conducting many national and international technical events. Two principal international events being held by ICI include the Innovative World of Concrete (IWC) and Asian Conference on Ecstasy in Concrete (ACECON).

The first ACECON was held in Bengalura in 2000. After this, the event is being held at five year interval. The second and the third ACECON was held in Mumbai (2005) and in Chennai (2010), respectively.

Co-Chairman

Prof. Surendra P Shah, North Western University
Prof. Walter P. Murphy, North Western University
Prof. Dr.-Ing Ekkehard Fehling, University of Kassel, Germany

Registration

Categories	ACF 2015	ACECON 2015	ACF 2015 + ACECON 2015
Early-Bird Registration (before 15 April 2015)	\$200	\$400	\$500
Registration (after 15 April 2015)	\$250	\$450	\$600

Website

<http://www.acecon2015.com>

Contact

Mr. Anjan Kumar: acecon2015@gmail.com

Membership fee

Members are kindly reminded to pay their membership fee. Please contact the secretariat in case you have any query about your membership status.

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