

**Second Australasia and South East Asia Conference  
in Structural Engineering and Construction: ASEA-SEC2**

**Sustainable Solutions in Structural Engineering and Construction**



**Kasetsart University, Bangkok, Thailand  
3-7 November 2014, Rama Gardens Hotel, Bangkok**

# **Technical Program**

**Second Australasia and South East Asia Conference  
in Structural Engineering and Construction: ASEA-SEC2**

**Sustainable Solutions  
in Structural Engineering and Construction**

**Kasetsart University, Bangkok, Thailand  
3-7 November 2014, Rama Gardens Hotel, Bangkok**

## **Organized by:**

Department of Civil Engineering  
Faculty of Engineering  
Kasetsart University, Bangkok, Thailand.

## **Venue:**

Rama Gardens Hotel, Bangkok, Thailand

## **Local Advisory Panel**

Dr. Peerayuth Charnsethikul, Dean of Faculty of Engineering, KU  
Thanya Kiatiwat, Advisor to the Dean of Faculty of Engineering, KU  
Wanchai Yodsudjai, Head of Department of Civil Engineering, KU  
Wiroj Rujopakarn, Kasetsart University, Thailand  
Suvimol Sujjavanich, Kasetsart University, Thailand  
Prinya Chindaprasert, Khon Kaen University, Thailand

## **Organizing Committee**

Korchoke Chantawarangul (Conference Chair)  
Weerakaset Suanpaga (Conference Co-Chair)  
Watcharin Witayakul  
Somsak Chotichanathawewong  
Thaweesak Piti-khunpongsuk  
Barames Vardhanabhuti  
Kitjapat Phuvoravan  
Suriyon Prempramote  
Wonsiri Punurai, Mahidol University, Thailand  
Wutjanun Muttitanon, Mahidol University, Thailand  
Vanissorn Vimonsatit, Curtin University, Australia

## **3 November 2014**

**1400-1800** Registration and File uploading – Cattleya Room

**1800-2000** Welcome Reception

## **4 November 2014**

### **0800-0900 Opening Session – Cattaleya Room**

Welcoming Address

*Dr. Korchoke Chantawarangul, Conference Chair*

Conference Opening Address

*Dr. Peerayuth Charnsethikul, Dean of Engineering , Kasetsart University*

Welcoming Remarks: Kasetsart University

*Dr. Wanchai Yodsudjai, Head, Department of Civil Engineering*

Welcoming Remarks: ISEC Society

*Prof. Dr. Amarjit Singh, President, ISEC Society*

Welcome Dance: Thai dance.

### **0900-1000 Keynote Lecture I Session**

Introduction to Keynote Speaker

*Dr. Weerakaset Suanpaga, Conference Co-Chair*

Keynote Lecture I: Sustainable Solutions in Structural Engineering and Construction: Low Carbon Footprint Cement and Concrete

*Prof. Dr. Prinya Chindapasirt, Khon Kaen University, Thailand*

### **1000-1030 Coffee/Tea break**

### **1030-1230 Technical Session A (in 5 Parallel sessions)**

### **1230-1330 Lunch break**

### **1330-1530 Technical Session B (in 5 Parallel sessions)**

### **1530-1600 Coffee/Tea break**

### **1600-1800 Technical Session C (in 5 Parallel sessions)**

<b>Time\Room</b>	<b>Cattleya</b>	<b>Canna 1</b>	<b>Canna 2</b>	<b>Gypso</b>	<b>Orchid</b>
1030-1230	Session A1 – 9 papers <b>Behavior of Reinforced Concrete Structures</b>	Session A2 – 8 papers <b>Behavior of Steel Structures</b>	Session A3 – 9 papers <b>Prestressed Concrete and Bridge Structures</b>	Session A4 – 9 papers <b>Construction Safety</b>	Session A5 – 9 papers <b>Education and Ethics &amp; Motivation and Leadership</b>
1230-1330	Lunch break				
1330-1530	Session B1 – 9 papers <b>Behavior of Concrete and Concrete-Like Materials (I)</b>	Session B2 – 8 papers <b>Nonlinear Behavior of Structures</b>	Session B3 – 8 papers <b>Building Structures and Foundation Engineering</b>	Session B4 – 8 papers <b>Contracting Systems</b>	Session B5 – 8 papers <b>Energy and Sustainability &amp; Building Information Modeling (BIM)</b>
1530-1600	Coffee/Tea break				
1600-1800	Session C1 – 8 papers <b>Behavior of Concrete and Concrete-Like Materials (II)</b>	Session C2 – 8 papers <b>Dynamic Behavior of Structures</b>	Session C3 – 8 papers <b>Non-Building Structures</b>	Session C4 – 9 papers <b>Operations, Productivity, and Scheduling</b>	Session C5 – 8 papers <b>Risk and Decision Making</b>

## Session A 1 Behavior of Reinforced Concrete Structures

**Chair:** *Wanchai Yodsudjai*

**Co-Chair:** *Y.X Zhang*

- AAE-13 Identifying the Effects of Excessive Deflection in Reinforced Concrete Beams  
*E. Ogbeifun, J. H. Pretorius, and C. Mbohwa*
- St-36 Flexural Performance of RC Beams Under Tropical Climate Effects  
*Nauwal Suki, Mohd Hisbany Mohd Hashim, and Afidah Abu Bakar*
- St-46 The Behavior of Reinforced-Concrete Deep Beams with Web Openings under Repeated Loads  
*Anis Abdul Khuder Mohamad -Ali and Abbas Hilo Ali*
- St-47 Confining Transverse Reinforcements for Circular Composite Hollow RC Column with Inner Tube  
*Deok Hee Won, Woo-Sun Park, Ji-Hye Seo, Nam-Hyung Lim, and Taek Hee Han*
- St-73 A Study on Maintenance Methods of Deteriorated Concrete Structures with a Risk Matrix  
*Maki Mizuta, Yoshinori Nonomura, Hisatoshi Shimada, Akinori Shimata, and Tetsuji Ohta*
- St-30 Practical Seismic Strengthening of R/C Beam-Column Joints without Lateral Reinforcements in Developing Countries  
*Yasushi Sanada and Yuebing Li*
- St-17 Shear Repaired RC Beam by FRP Bonding with External Post-Tensioning  
*Rumana Choudhury, T. G. Suntharavaivel, and Nirmal Mandal*
- St-37 Flexural Performance of RC Beams with Near Surface Mounted CFRP Plate  
*Mohd Hisbany Mohd Hashim, Nauwal Suki, and Afidah Abu Bakar*
- St-35 Modeling of Concrete Behavior under Biaxial Fatigue Loading with Various Mean Stresses  
*Ashkan Saboori, Siamak Yazdani, Andrew Reberg, Mijia Yang, Denver Tolliver, and Sara Mamani*

## Session A 2 Behavior of Steel Structures

**Chair:** *Piya Chotickai*

**Co-Chair:** *Natalie Lloyd*

- St-1 Influence of Moment Gradient on Rotation Capacity of Steel Flexural Members  
*Mehdi Shokouhian, Reza Sadeghi, and Yongjiu Shi*
- St-15 Local Effects of Truss Node Forces on Shear Connection in Composite Truss Beams  
*Josef Machacek and Martin Charvat*
- St-31 The Corrosion Behavior of Weathering Steel Under Different Corrosive Environments  
*Takahiro Utsumi and Toshihiko Aso*
- St-32 Evaluation for Residual Axial Force of Corroded High Tensile Bolts  
*Ryoichi Satake, Katashi Fujii, and Yumi Mori*
- St-52 Seismic Progressive Collapse Analysis of Controlled Steel Frame Structures  
*Tantely Jeriniaina Sitraka and Zheng He*
- St-96 Fatigue Test of Steel Girder Web Penetration Details with a Slit  
*Naoto Yoshida, Masahiro Sakano, Hideyuki Konishi, and Takashi Fujii*
- St-50 Load-Carrying Capacities of System Scaffold Structures with Different Types of Bracing  
*Chi-Ling Pan and Chih-Peng Yu*
- I-5 Conceptual Design of Soekarno-Hatta International Airport Rail Link (SHIARL) Project Using Value Engineering Method to Improve Project Feasibility  
*Mohammed Ali Berawi, Bambang Susantono, Hera Zetha Rahman, and Suci Indah Susilowati*

## Session A 3 Prestressed Concrete and Bridge Structures

**Chair:** *Somsak Chotichanathawewong*

**Co-Chair:** *Indubhushan Patnaikuni*

- M-11 A Study of Grouting Material Bleeding Properties for Prestressed Concrete  
*Kyoung-Taek Koh, Gum-Sung Ryu, and Gi-Hong Ahn*
- St-102 Impacts of Pre-Stress Loss on the Long-Term Deflection for Long-Span PC Continuous Girder Bridges  
*Jianqing Bu and Jincan Cui*
- St-13 State of the Art in Repair and Strengthening Methods of Deteriorated Concrete Bridge Structures  
*Irfan Prasetya and Kazuyuki Torii*
- St-23 An Examination on Hybrid Structures Renovated from the Old Railway Steel Bridges  
*Nozomu Taniguchi*
- St-44 A Precast Reinforced Concrete System with Controlled Dynamic Properties  
*Jiri Witzany, Thomas Cejka, and Radek Zigler*
- St-79 Influence of Flange Width on the Shear-Lag Effect for PC Skewed Box-Section Girder Bridges  
*Jianqing Bu and Jin Yang*
- C-26 Experimental Evaluation of Flexural Capacity of Full Scale Precast Concrete Sheetpile  
*Geem Eng Tan, Tai Boon Ong, Kok Keong Choong, and Chong Yong Ong*
- M-3 Use of Ferrocement Panel as Reinforced Concrete Slabs with Lightweight Blocks Infill  
*Nadim Abushawashi and Vanissorn Vimonsatit*
- St-25 Modeling Freeze and Thaw Damage in Concrete Decks Using Damage Mechanics  
*Ashkan Saboori, Siamak Yazdani, Andrew Reberg, Mijia Yang, Denver Tolliver, and Sara Mamani*



## Session A 4 Construction Safety

**Chair:** *Swapan Saha*

- CS-10 Implementation of Safety Measures in Stone Quarries  
*Abdalla Qudah, Rami Haddad, and Nisreen Al-Daoud*
- CS-2 Comparative Ergonomic Assessment of Slab Formwork Systems  
*Dieter Schlagbauer and Detlef Heck*
- CS-3 Experimental Study on Fall Protection During Bridge Maintenance and Management Works on FRP Inspection Platform  
*Katsutoshi Ohdo, Yasumichi Hino, and Hiroki Takahashi*
- CS-5 SCP vs. SOP: Managing H&S on a Construction Site  
*Arie Gottfried, Paolo Piantanida, and Antonio Cosimo DeVito*
- CS-6 Decision Principles for Ascents Supports in Building Construction  
*Dieter Schlagbauer, Christian Hofstadler, and Cornelia Ninaus*
- CS-7 Professional University Training for the Safety Engineer  
*Renato Lagana*
- CS-8 Legislative Development and Management Health and Safety in Maintenance Construction Sites  
*Renato Lagana*
- CS-9 Object-Oriented Hazard Analysis in Building Construction Projects  
*Jurgen Melzner, Tino Walther, and Hans-Joachim Bargstadt*
- CS-11 Willingness of Construction Workers to Follow Independent Safety Insurance Based on Safety Comprehension  
*Sunarjito Sunarjito*

## Session A 5 Education and Ethics & Motivation and Leadership

**Chair:** *Barry Jones*

- PND-3 Attitudes of Clients towards Unethical Behavior in Construction Projects  
*Adnan Ali Enshassi and Ayat Al Sweity*
- EPE-2 The Importance of Construction Law in Civil and Structural Engineering Education  
*Ulrike Quapp and Klaus Holschemacher*
- EPE-7 Engineering Design Education and Training with Particular Reference to Bridge Design  
*Ayman Y. Nassif*
- C-8 Development of a System to Validate and Certify Equipment and Technicians for Underground Pipe Inspection  
*R. Edward Minchin, Lourdes Ptschelinzew, Raja R. A. Issa, and Yuanxin Zhang*
- EPE-8 The Science of Copyediting: An Analysis of Revision Rates in ISEC Submissions  
*Debito Arudou and Amarjit Singh*
- CPM-2 Innovation Drivers in Construction  
*S. O. Cheung, K. Y. Chan, and P. T. Chow*
- C-42 Work-Related Stress, Restoration and Pursuit of Sustainable Motivational Factors in Construction  
*Rita Obiozo and John Smallwood*
- C-13 Employee Empowerment in Construction: A Review of Issues  
*Alazzaz Faisal and Andrew Whyte*
- CPM-14 Financial Feasibility Development of Sunda Strait Bridge Conceptual Design Using Value Engineering Method  
*Mohammed Ali Berawi, Bambang Susantono, Perdana Miraj, Gunawan Saroji, and Albert Husin*

## **Session B 1 Behavior of Concrete and Concrete-Like Materials (I)**

**Chair:** *Prasert Suwanvitaya*  
**Co-Chair:** *Vankudothu Bhikshma*

- M-12 Influence of Nanosilica and Microsilica on Properties of Concrete  
*Thushara Priyadarshana and Ranjith Dissanayake*
- M-2 Fly Ash and Bagasse Fiber Content on Mechanical Properties of Green Hybrid Fiber-Reinforced Cementitious Composites  
*He Tian and Y. X. Zhang*
- M-21 Evaluation of Shrinkage and Durability of Geopolymer Concrete using F-Class Coal Ashes  
*Gum Sung Ryu, Kyung Taek Koh, Gi Hong Ahn, and Jang Hwa Lee*
- M-25 The Effect Of Fiber Dispersion on Strength Properties of Fiber-Reinforced Cement Composites with MWCNT  
*Su-Tae Kang and Sung-Jin Ha*
- M-28 Hysteresis and Temperature Dependency of Water Vapor Sorption  
*Ruta Miniotaite*
- M-33 Effect of Change in Mix Proportions on Some Properties of Concrete Containing Iraqi Mineral Admixture (Attapulгите)  
*Waleed Abdulrazzaq A.*
- M-34 Bond Strength of Steel-Concrete Composite Elements Using a Cementitious Adhesive  
*Yoshihiro Asada, Isamu Yoshitake, Atsushi Ogawa, and Yuji Fujimoto*
- M-23 Influence of Initial Materials on the Compressive Strength of Geopolymer Soils  
*Chan Hong Nguyen, Tuan Anh Nguyen, and Namshik Ahn*
- M-40 Producing Lightweight Concrete Aggregate from Iraqi Attapulгите  
*Qais Jawad Frayyeh, Waleed Abdulrazzaq, and Mahdi Jasim H.*

## Session B 2 Nonlinear Behavior of Structures

**Chair:** *Kitjapat Phuvoravan*

**Co-Chair:** *Arunasis Chakraborty*

- O-1 Naturally Strained Yield Surface Shape Estimated under Pre-Deformation of Tension and Torsion  
*Yasuyuki Kato*
- St-100 The Effect of Residual Stresses in Fillet Welds on Fatigue Behavior: A LEFM Approach  
*Wim Nagy, Hans De Backer, and Philippe Van Bogaert*
- St-27 Fracture-Process Zone Analysis of Reinforced Bars Vertical to Matrix Cracks  
*Shujin Duan, Yanlong Zhang, Ruimei An, and Quanmin Guo*
- St-39 Nonlinear Analysis of a Barbell-Shaped Cross-Section Wall Using Fiber Slice  
*Dae-Han Jun and Pyeong-Doo Kang*
- St-49 A New Method to Determine Tensile-Strain Softening Curve of Quasi-Brittle Materials  
*Ruimei An, Shujin Duan, and Quanmin Guo*
- St-83 Non-Linear Analysis of Three-Pinned Circular Arches  
*Yong-Lin Pi, Mark Andrew Bradford, Kai Luo, and Wei Gao*
- St-82 Retrofit Steel Corroding RC Beams Using CFRP Composites: NLFE Analysis  
*Rami H. Haddad*
- C-41 Limit Analysis under Lateral Loads of Masonry Vaults Updated by Omega-Wrap  
*Laura Anania and Giuseppe D'agata*

## Session B 3 Building Structures and Foundation Engineering

**Chair:** *Barames Vardhanabhuti*

**Co-Chair:** *Adnan Enshassi*

- M-29 The Impact of Climate Parameters on the Surface of Buildings' Walls  
*Ruta Miniotaite*
- St-6 Comparative Efficiency Between Structural Systems for Complex-Shaped Tall Buildings  
*Kyoung Sun Moon*
- St-7 Integrated Multiple Tuned Mass Dampers for Tall Buildings  
*Kyoung Sun Moon*
- St-88 Seismic Collapsing Analysis of Three-Story Wooden Hotel  
*Tomiya Takatani and Hayato Nishikawa*
- GFE-5 Liquefaction Countermeasure Methods Using a Combination of Piles and Raft Foundations  
*Haruyuki Yamamoto, He Huang, and Rihito Kojima*
- GFE-6 Ground Displacement Behaviors Considering Unsteady Seepage Flow and Non-Linear Deformation  
*Haruyuki Yamamoto and Lingyu Meng*
- St-41 Development of a Seismic Fitting for Wooden Buildings  
*Mitsuhiro Miyamoto*
- C-15 Construction Defects in Residential Building Projects: Pilot Study  
*Abdullah Almusharraf and Andrew Whyte*

## Session B 4 Contracting Systems

**Chair:** *Muanmas Wichiensin*

**Co-Chair:** *Edward Minchin*

- p-4 Build-Own-Operate-Transfer (BOOT) for Water-Infrastructure Projects  
*Andrew Whyte and Matthew Palmieri*
- CPM-17 Perceptions of the Retention System in the Construction Industry  
*Priyanka Raina and John Tookey*
- CPM-6 The Public-Private Partnership in Urban Renewal  
*Arie Gottfried, Paolo Piantanida, and Antonio Cosimo DeVito*
- CPM-7 Patrick Stevedores' Client-Side Project Management at Port Botany Ramp D  
*Emmanuel Diacos*
- C-18 International Joint Operation Organizational Structure Designs of Infrastructure Construction Projects  
*Shirly Lumeno, Puti Marzuki, Rizal Tamin, and Indryati Sunaryo*
- C-22 Supply Chain Integration Barriers in Construction: Views From Two South African Projects  
*Fidelis Emuze, John Smallwood, and Wynand Beetge*
- AAE-5 Collaborative Engineering for Sustainable Solutions Assisted by Virtual Construction  
*Barry Jones*
- CPM-9 Identification of the Key Factors for Accurate Life-Cycle Cost Estimation for Construction  
*Ayedh Alqahtani and Andrew Whyte*

## **Session B 5    Energy and Sustainability & Building Information Modeling (BIM)**

**Chair:**                    *Wonsiri Punurai*

**Co-Chair:**                *Maged Georgy*

- CE-2                        Design and Construction of GreenWAVE Energy Converter for Shallow Waters  
*Leigh D. Appleyard*
- E-2                            The Development of Wind Farms  
*Clifford Savage and John Smallwood*
- AAE-7                       Client Satisfaction from the Services of Architects on Building Projects  
*Aluko Olusola Raphael and Omoniyi Sunday Samuel*
- C-6                            Sustainability Assessment of the Replacement of Clay Brick Walls With In-Situ Composite Sandwich Walls  
*Krishna Lawania, Natalie Lloyd, and Wahidul K. Biswas*
- C-43                         Use of BIM Tools for Site Layout Planning  
*Vanissorn Vimonsatit and Maria Lim*
- C-33                         ICT Barriers to Implementing BIM in the Australian Construction Industry  
*Swapan Saha and Craig King*
- H-4                            Technological and Spatial Flexibility for the New Home Designing  
*Cristiana Cellucci and Michele Di Sivo,*
- AAE-6                        Research Agenda for Designing Flexible Architecture to hinder the Functional and Technological Obsolescence  
*Cristiana Cellucci and Michele Di Sivo*

## Session C 1 Behavior of Concrete and Concrete-Like Materials (II)

**Chair:** *Suvimol Sujjavanich*

**Co-Chair:** *Klaus Holshemacher*

- M-37 Mechanical Properties of Warm Mix Asphalt Concrete Application Using Advera  
*Weerakaset Suanpaga, Watcharin Witayakul, Somsak Chotichanathawewong, and Thaweesak Piti-khunpongskuk*
- M-41 Mechanical Properties of Fly Ash Based Alkali-Activated Cement Using A Statistical Analysis Technique  
*Hyuk Lee and Vanissorn Vimonsatit*
- M-42 Hydration and Microstructural Properties of Cement Paste Containing Nano and Microsilica  
*P. L. Chow and Salim Barbhuiya*
- M-6 Mechanical Properties of a PVA Fiber Reinforced Engineered Cementitious Composite  
*Ting Huang and Y. X. Zhang*
- M-9 Durability of Basalt Fibers in Concrete Medium  
*Himabindu Myadaraboina, David Law, and Indubhushan Patnaikuni*
- St-61 Mechanical Properties of Fly Ash Based Geopolymer Concrete with Addition of GGBS  
*V. Bhikshma and T. Naveenkumar*
- Su-7 Sodium-Silicate Activated Slag-Fly Ash Cement  
*Jan-Pieter Vermeulen and Natalie Anne Lloyd*
- M-22 Influence of Curing Conditions and Alkali Hydroxide on Strength of Fly Ash Geopolymer Concrete  
*Khoa Tan Nguyen, Tuan Anh Le, An Thao Huynh, and Namshik Ahn*
- M-24 Chemical Resistance Properties of Fly Ash Geopolymer Concrete  
*Khoa Vo Anh Pham, Hyemi Kang, Anthao Huynh, and Namshik Ahn*



## Session C 2    **Dynamic Behavior of Structures**

**Chair:**            *Suriyon Prempramote*

**Co-Chair:**        *Yasuyuki Kato*

- GFE-16            Evaluation of S-Wave Amplification Spectrum Using  
Microtremors  
*Hayato Nishikawa and Tomiya Takatani*
- St-10              Numerical Dynamic Analysis of Orthotropic Plates under  
Localized Blast Loading  
*Sofia W. Alisjahbana and Wiratman Wangsadinata*
- St-2                Seismic Evaluation of Steel Plate Shear Walls under  
Earthquake Sequences  
*Nik Favretto and Cheng Chen*
- St-22              Modal Parameter Estimation of LTI System Using Hilbert-  
Huang Transformation of Measured Wireless Sensor Data  
*Meda Vinay Teja, Swarup Mahato, and Arunasis  
Chakraborty*
- St-28              A Model Shaking Table Test Investigation on an Assembly  
Frame  
*Shujin Duan, Zhenlu Wang, Yan Yu, and Qian Hua*
- St-3                Seismic Response of a Flag-Shaped Hysteretic Behavior under  
Ground Motions  
*Daniel L. Silva and Cheng Chen*
- RADM-2           Experimental Study on Hydrodynamic Drag of Walls in  
Natural River Flows  
*Hitoshi Kuwamura*
- St-78              Precast Structure Component for Simple House "Manhit"  
*Johnny Rakham*

## Session C 3 Non-Building Structures

**Chair:** *Thaweesak Piti-khunpongsuk*

**Co-Chair:** *Ruta Miniotaite*

- C-12 Wind Tunnel Test for Calculating Wind Forces on Scaffolds with Baseboard Height as a Parameter  
*Hiroki Takahashi, Katsutoshi Ohdo, and Seiji Takanashi*
- Q-1 Permeability of Tunnel Lining with Air/Water Bubbles on Concrete Surface  
*Tomoyuki Maeda, Hiroki Honma, Masayuki Hirano, and Isamu Yoshitake*
- St-16 Design of Double-Skinned Composite Tubular Offshore Wind Turbine Towers  
*Taek Hee Han, Deokhee Won, Sang Ryang Yoo, and Jin-Hak Yi*
- St-24 Wind Loads and Wind-Induced Buckling of Open-Topped Oil-Storage Tanks in Various Arrangements  
*Yasushi Uematsu, Jumpei Yasunaga and Choongmo Koo*
- CE-3 Dispersion of Wave Forces on Caisson Breakwaters Using Interlocking Systems  
*Jihye Seo, Jin-Hak Yi, Deock-Hee Won, and Woo-Sun Park*
- St-45 Using Nanofibres in the Restoration of Historic Coatings -- Resistance to Salt Crystallization  
*Klara Kroftova and Marketa Smidtova*
- C-25 An Experimental Study on Load Capacity of Steel Scaffolds with Lined Setups  
*Jui-Lin Peng, Chung-Ming Ho, and Chi-Ling Pan*
- Q-2 Application of Pareto Diagram and Statistical Process Control to measure the Quality Performance of Construction Projects  
*Mifta Priyanto*

## Session C 4 Operations, Productivity, and Scheduling

**Chair:** *Watcharin Witayakul*

**Co-Chair:** *Arie Gottfried*

- C-5 Simulation of Bridge Construction Works: An Exploratory Study  
*Fahimeh Zaeri and James Olabode Bamidele Rotimi*
- C-39 Effect of Gross Floor Area on Construction Time  
*Ifte Choudhury*
- C-40 Optimum Construction Equipment Fleets for Road Surface Operations  
*Tarek Gomaa, Maged Georgy, and Moheeb Ibrahim*
- C-36 Cyclone Models for a Submerged Breakwater  
*Punyaanek Srisurin and Amarjit Singh*
- CS-1 Distribution of Breaks in the Construction Industry  
*Dieter Schlagbauer and Detlef Heck*
- M-22 Influence of Curing Conditions and Alkali Hydroxide on Strength for Fly Ash Geopolymer Concrete  
*Khoa Tan Nguyen, Tuan Anh Le, Namshik Ahn, and An Thao Huynh*
- C-17 Role of Building Information Modeling (BIM) in the Malaysian Construction Industry  
*Aryani Ahmad Latiffi, Suzila Mohd, and Juliana Brahim*
- C-23 An Initiative in Implementation of Building Information Modelling (BIM) in the Malaysian Construction Industry  
*Aryani Ahmad Ahmad Latiffi, Juliana Brahim, Suzila Mohd, and Mohamad Syazli Fathi*
- C-9 Development of Asphalt Binder Performance Grades  
*Safwan Khedr, Maram Saudi, and Mona Khafegy*

## Session C 5 Risk and Decision Making

**Chair:** *Wutjanan Muttitanon*

**Co-Chair:** *Sai On Cheung*

- p-1 Multi-Objective Decision-Making to Select Multiple Project Delivery Methods for Multi-Project Transportation Systems  
*Ziqiang Zeng, R. Edward Minchin, Lourdes Ptschelinzew, and Yuanxin Zhang*
- CPM-16 Causes and Effects of Variations on Construction Projects  
*Nishadi Jayawardena, Thanuja Ramachandra, and James Rotimi*
- C-28 A New Methodology for Addressing Client Risks in Construction Projects  
*Abdullah Albogamy, Nashwan Dawood, and Darren Scott*
- AAE-9 Risk Assessment Through Construction Sequence Analysis for Plant Construction Projects  
*Jihye Kim and Jaehyun Choi*
- H-3 An Exploratory Evaluation of a New Risk-Based Inspection Scheme  
*Jeff Clement Samasoni and James Olabode Bamidele Rotimi*
- RADM-6 Risks in Deploying Mobile Telecom Sites  
*M. Mostafa Eid, Maged Georgy, and Hesham Osman*
- C-16 Types, Causes, and Effects of Defective Construction Works  
*Pornsak Jareanvanun and Pitch Sutheerawatthana*
- CPM-8 Offshore Platform Decommissioning: The Need For A Cost Index  
*Abdullahi Baba Ahmed and Amila Noor Bt Wan Abdullah Zawawi*

## **5 November 2014**

### **1030-1100 Coffee/Tea break**

### **1100-1200 Keynote Lecture II Session – Cattleya Room**

Introduction to Keynote Speaker

*Dr. Vanissorn Vimonsatit, Curtin University, Australia*

Keynote Lecture II: Construction Supply Chain Integrity:  
Mitigating the Counterfeit Threat

*Prof. Dr. Edward Minchin Jr., University of Florida, U.S.A.*

### **1200-1300 Lunch break**

### **1300-1700 Technical Tours (in 4 Parallel sessions)**

**TT 1** Chao Phraya River Crossing Bridge at Nonthaburi 1 Road  
Construction Project

**TT 2** Bangkok Mass Transit System (BTS) Skytrain Operation Center

**TT 3** Thailand's New Parliament House Construction Project

**TT 4** Kasetsart University - Bangkhen Campus

### **1800-2100 Dinner Banquet – Cattleya Room**

Loy Krathong Cultural Show

## **6 Nov 2014 - Cultural and Networking Tours**

**0830-2200 CT 1** Loy Krathong Festival

**0900-1800 CT 2** Ancient City Tour

**1800-2145 CT 2b** Chao Phraya Dinner Cruise

## **7 Nov 2014 - Cultural and Networking Tours**

**1200-1700 CT 3** Crocodile Farm

**0900-1800 CT 4** Lifestyle of native, River Kwai Bridge and War Museum

# **Keynote Lectures**

*Keynote Lecture I*

**Sustainable Solutions in Structural Engineering and Construction: Low Carbon Footprint Cement and Concrete**

*Prinya Chindaprasirt*

*Professor and Director*

*Sustainable Infrastructure Research and Development Center*

*Department of Civil Engineering, Faculty of Engineering*

*Khon Kaen University, Khon Kaen 40002, Thailand*

*Email:prinya@kku.ac.th*

**ABSTRACT**

The need to find sustainable solutions in structural engineering and construction lies in the use of low carbon footprint construction materials. The focus is on cement and concrete as they are the most used construction materials. For efficient use of cement, partial replacement of Portland cement (PC) with micro-particle pozzolans is a preferred choice. The strength and durability of the composites are enhanced. The incorporation of nano-compound further improves the properties of the cement composites. Also, a new low carbon footprint cementitious material called “geopolymer” has been developed recently. Several pozzolans such as coal ashes, rice husk ash and palm oil fuel ash available in a large quantity in Thailand are good source materials. High strength geopolymer can be obtained with the use of these fine pozzolans. However, high calcium fly ash is produced in large quantity in Thailand and it is still not fully used in the cement and concrete industry. It is thus a good commodity for use as source material for making this low carbon footprint geopolymer. Test results indicated that the strength of this geopolymer is comparable but durability is superior to normal Portland cement products.

**Keywords:** Portland cement, pozzolan, geopolymer, composites, high calcium fly ash

*Keynote Lecture II*

**Construction Supply Chain Integrity:  
Mitigating the Counterfeit Threat**

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**ABSTRACT**

Counterfeiting has been around since ancient times and the history of the practice is discussed briefly in the presentation. However, the presentation mainly deals with more recent developments. The account begins with a research project sponsored by the Construction Industry Institute conducted between 2008 and 2010. Results of the ground-breaking research include the first documentation that counterfeit construction commodities present a serious problem for the construction industry. The results are based on a rigorous effort that included 192 face-to-face interviews with construction industry leaders from all over the globe conducted by research team members stationed in the U.S, China, the UK, Taiwan, Hongkong and Pakistan. Besides these countries, interviews were conducted in Canada. From the time the research project ended until recent weeks, there have been an alarming number of new counterfeit issues uncovered in the construction industry. For instance, the U.S. Customs and Border Protection (CBP) reported in 2012 that the seizures of consumer safety and critical technology items increased to over \$60 million – and they estimate that they only identify and seize about five percent of the counterfeit items entering the country. Some of these were construction commodities. Last year, South Korea shut down still more nuclear power plants because of counterfeit parts similar to the counterfeit parts identified in the original research in U.S. nuclear power plants. India has also recently shut down nuclear power plants due to suspected Russian-made counterfeit products. The presentation concludes with a discussion of potential tipoffs and recommendations to help identify potential counterfeit items and mitigate the problem.



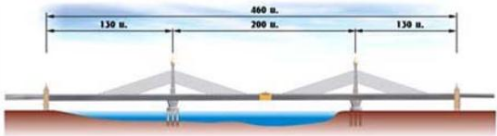
# **Technical Tours**

# Technical Tour 1: Chao Phraya River Crossing Bridge at Nonthaburi 1 Road Construction Project

The first Extradosed bridge in Thailand with the total length of 460 m. At the time of our visit, the construction will almost completed, but before its scheduled open to traffic.

We will have technical presentation as well as a nice walk on the bridge over the Chao Phraya River.

More detailed at: Chao Praya River Crossing Bridge at Nonthaburi

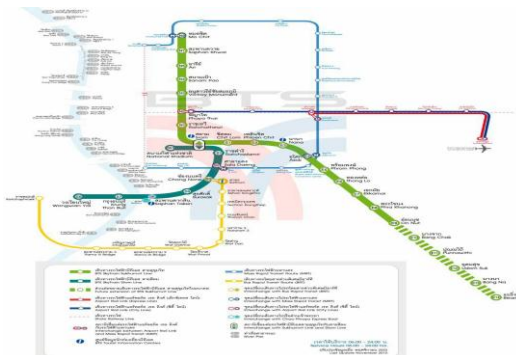


## Technical Tour 2: Bangkok Mass Transit System (BTS) Skytrain Operation Center

The BTS Skytrain with total system length of 30.95 km serving 600,000 passengers per day in the heart of Bangkok.

We will visit their operation center to see how they do it. The place is small room, so the number of visitor is limited to 10 participants.

More detailed at: [BTS Sky Train System](#)



### Technical Tour 3: Thailand's New Parliament House Construction Project

The 12.2 billion Baht New Parliament House is under construction alongside the Chao Phraya River. The foundation work will be on going during the time of our visit.



## Technical Tour 4. Kasetsart University - Bangkhen Campus

Kasetsart University is one of the largest university in Thailand with over 60,000 students in 30 Faculties.

The university comprises of 4 campuses. The main campus is Bangkhen Campus in Bangkok, with 16 Faculties including Faculty of Engineering.

The visit will be centered at Department of Civil Engineering, Faculty of Engineering.

A brief presentation and discussion for academic exchange and campus tour will be arranged.

### Kasetsart University



# **Cultural and Networking Tours**

# Loy Krathong Festival

Loy Krathong Day is one of the most popular festivals of Thailand celebrated annually on the Full-Moon Day of the Twelfth Lunar Month. It takes place at a time when the weather is fine as the rainy season is over and there is a high water level all over the country.

"Loy" means "to float" and a "Krathong" is a lotus-shaped vessel made of banana leaves. The Krathong usually contains a candle, three joss-sticks, some flowers and coins.

In fact, the festival is of Brahmin origin in which people offer thanks to the Goddess of the water. Thus, by moonlight, people light the candles and joss-sticks, make a wish and launch their Krathongs on canals, rivers or even small ponds. It is believed that the Krathongs carry away sins and bad luck, and the wishes that have been made for the new year due to start. Indeed, it is the time to be joyful and happy as the sufferings are floated away.

The festival starts in the evening when there is a full moon in the sky. People of all walks of life carry their Krathongs to the nearby rivers. After lighting candles and joss-sticks and making a wish, they gently place the Krathongs on the water and let them drift away till they go out of sight.

A Beauty Queen Contest is an important part of the festival and for this occasion it is called "The Noppamas Queen Contest". Noppamas is a legendary figure from the Sukhothai period. Old documents refer to her as the chief royal consort of a Sukhothai King named "Lithai". Noppamas was said to have made the first decorated Krathong to float in the river on the occasion.

In Bangkok, major establishments such as leading hotels and amusement parks organise their Loy Krathong Festival and the Krathong contest as major annual function.

For visitors to Thailand, the Loy Krathong Festival is an occasion not to be missed. The festival is listed in the tourist calendar. Everyone is invited to take part and share the joy and happiness.



## Loy Krathong Song

November full moon shine loy kratong loy kratong  
And the water's high in local river and the klong  
loy loy kratong loy loy kratong  
loy kratong is here and everybody's full of cheers  
We're together at the Klong each on with each krathong  
as we push away we pray we would see a better day

# CT 1

## The Landmark of Bangkok Tour

Pick up from hotel and visit to

- Wat Traimitr
- Wat Pho
- Cross Chao Phraya River by boat to visit Wat Arun

Lunch at restaurant

Visit to

- Royal Grand Palace & Emerald Buddha
- Wat Phra Kaeo
- Wat Benchamabophit
- Vimanmek Royal Mension
- At the end of tour will be visit to local product store

Remark: Please do not were short, sandals, no-sleeves T-shirts. Camera may not use inside the building





# CT 2

## Ayuttaya World Heritage Tour

- Pick up from hotel depart for Bang Pa-in
- Phra Thinang Aisawan Thippa-at
- Phra Thinang Uthayan Phumisathian
- Phra Thinang Wahat Thatsana
- Wat Niwet Thammaprawat
- Wat Phra Si Sanphet
- Lunch at resterant
- Wat Yai Chaimongkol
- Wihan Phra Mongkol Bophit
- At the end of tour will be visit to local product store.



# CT 2b

## Chao Phraya Dinner Cruise

- 1700 Pick up From Hotel
- 1930 Check in at River City Pier 1. Siphraya (Charoen Krung 30 Rd). Warm welcome from our receptionists
- 1945 Depart River City Pier. Our waiters and waitresses bring you to your designated seats and a welcome drink fruit punch is served along with snacks. Our singer introduces safety regulations in case of emergency.
- 2000 Dinner. Select your desired dishes from our international buffet bar. Our musicians begin singing easy-listening jazz songs to complement with your meal.
- 2100 Time for a dance! Our singer selects cultural and international upbeat songs to sing and dance with you.
- 2145 Arrive River City Pier./ Transfer to Hotel



# CT 3

## CROCODILE FARM (HALF DAY)

- 1200 Pick up tourists from various points.
- 1300 Depart from Bangkok to the Crocodile Farm.
- 1420 Visit the crocodile wrestling show.
- 1500 Visit the magic show.
- 1530 Visit the elephant theme show.
- 1600 Transport back to hotel



# CT4

## Damnernsaduak Floating Market & River Kwai Bridge

- Pick up from hotel depart Bangkok for Samut Songkram province.
- Stop at “TAO TAN”
- Arrival at Damnernsaduak district take a long tail speed boat along the canal to floating market.
- Visit to Royal Thai Handicraft Village
- Lunch at restaurant
- JEATH War Museum
- Kanchanaburi War Cemetery
- The Bridge over the River Kwai
- At the end of tour will be visit to local product store.



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## KU Student

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Siripong	Intangam
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