CALL FOR PAPERS

INTERNATIONAL CONFERENCE ON SUSTAINABLE INFRASTRUCTURE 2016
A Sustainable Future for China, the Asian Region and the Globe
Beijing, P.R. China I October 17-19, 2016

Civil Engineers — Creating Infrastructure for a Sustainable World

Lead Sponsor
Chinese Academy of Engineering (CAE)

Organizers
Chinese Research Academy of Environmental Sciences (CRAES)
Division of Environmental Engineering, CAE
American Society of Civil Engineers (ASCE)

Co-organizers
Research Center of Eco-Environmental Sciences (RCEES)
Tsinghua University (TU)
**TOP REASONS TO ATTEND**

- Learn from and network with industry leaders and sustainable infrastructure practitioners from around the world
- Learn from successful case studies the best examples of sustainable infrastructure
- Understand industry trends and public policy leading to sustainable development
- Share latest advances in sustainable infrastructure planning, design, and construction
- Learn about new tools and latest research to support sustainable infrastructure
- Learn how to plan infrastructure for climate change and resiliency
- Learn about innovative approaches to infrastructure project financing
- Be a contributor to the comprehensive international conference on infrastructure sustainability and resiliency

**Conference Objectives**

Infrastructure is an essential component of national competitiveness and social well-being. Designing and delivering infrastructure systems that truly contribute to sustainability throughout their service life are the theme of this conference.

The 1st International Conference on Sustainable Infrastructure (ICSI 2014) was held from November 5 to 8, 2014 in Long Beach, CA and had over 300 attendees. ICSI 2014 began with a reality check, the importance of infrastructure to the U.S. and world economy and risks posed by a continuation of society’s unsustainable engineering practices. At the opening plenary, leaders from the World Bank, China, the U.S. Department of Homeland Security, state, and local officials offered their unique perspectives on sustainability in the built environment. ICSI 2014: Creating Infrastructure for a Sustainable World includes all papers presented by the authors in the plenary and in the 24 technical sessions with podium presentations along with a poster session running concurrently. The technical papers describe in significant detail the results and findings from research- or practice- oriented projects of broad interest to the civil engineering community, including case examples. Each of the papers accepted for podium or poster presentation were subjected to a detailed review by members of the Steering and Advisory Committee, along with other domain experts as needed. In total, 104 papers were selected from over 350 abstracts submitted to the conference Technical Committee. Within six months of publication of the ICSI 2014 Proceedings, 4,485 abstracts were read and 1,222 full papers were downloaded.

The International Conference on Sustainable Infrastructure (ICSI) 2016 will focus on sustainability in the built environment, presenting relevant engineering research, demonstrations and applications that contribute to competitiveness and well-being. Presentations and panel discussions will cover sustainable infrastructure planning, financing, design, construction and operation: how practitioners are improving sustainable performance to meet...
the critical challenges of a changing operating environment.

Keeping in perspective the global implications of China’s infrastructure development, ICSI 2016 will be held in Beijing, China. Chinese Research Academy of Environmental Sciences (CRAES) will serve as the lead organizer of the conference with the help of American Society of Civil Engineers (ASCE). Tsinghua University and Research Center of Eco-Environmental Sciences (RCEES) will be co-organizers of the conference. The Chinese Academy of Engineering (CAE) will be the lead sponsor of the conference, and is piloting efforts in developing guidelines and promoting Eco-city demonstration projects. CAE believes that ICSI 2016 is integral to developing the blueprint for more sustainable cities in China and around the world.

Who Should Attend

The conference is organized to facilitate exchange of information and knowledge among civil infrastructure professionals, practitioners, public infrastructure owners, policy makers, government engineers and planners, operations managers and leading applied academics.

Conference Program

The conference is planned for October 17-19, 2016 in Beijing, PR China. The technical program will include plenary and parallel sessions with keynote speakers and contributed papers. Workshops on specialized topics may be organized as part of the conference. The social program will consist of a welcome reception, a farewell dinner, technical and local sightseeing tours.

Invitation and Call for Papers

Prospective speakers are invited to submit abstracts. The conference will produce proceedings which will include conference papers. Speakers who wish to submit a paper for inclusion in the conference proceedings should indicate their intention to do so. Abstract submissions should be limited to two pages. Authors should indicate whether they wish to present in a traditional session, a poster session, or are willing to be considered for either. Online submission is easy and is required to be considered for acceptance into the program. For more information on the process and requirements for submission, please follow the online instructions at www.ICSIConference.org. Final papers will be peer reviewed and published in the Conference Proceedings. Papers accepted for final submission must be 5 to 12 pages.

The scale and magnitude of urban infrastructure growth in China is massive and unprecedented. The Chinese urban population is expected to increase by 350 million by 2025, more than the current US population. To cater to this massive urban population, 5 billion square miles of road, 40 billion square feet of floor space and between 700 to 900 GW of new power generation capacity are expected to be built over the next 20 years. With this mammoth demand of urban infrastructure and the current urban environmental challenges, local and national leaders face the arduous task of building this infrastructure to ensure environmental protection and sustainability.

Keeping in perspective the global implications of China’s infrastructure development, ICSI 2016 will be held in Beijing, China. CRAES will serve as the lead organizer of the conference with the help of ASCE. Tsinghua University and RCEES will be co-organizers of the conference. The CAE will be the lead sponsor of the conference, and is piloting efforts in developing guidelines and promoting Eco-city demonstration projects. CAE believes that ICSI 2016 is integral to developing the blueprint for more sustainable cities in China and around the world.

Member of Chinese Academy of Engineering
Director of Environmental and Light Engineering Division at Chinese Academy of Engineering
Professor at Tsinghua University
Dean of Research Institute of Environmental Science and Engineering at Tsinghua University

Hao Jiming
Sponsorship
As the premier event for all sustainability professionals, this event is expected to attract a large number of attendees from practice, academia, government, industry, and allied fields. Highlight your company’s commitment and unique contribution to sustainable infrastructure before the industry’s premier leaders, planners and practitioners by becoming a conference sponsor.

Conference Topics
Conference papers and presentations will cover all types of horizontal infrastructure: roads, bridges, dams, levees, buildings and facilities, rail, waterways, transit, water and wastewater, aviation, ports, solid and hazardous waste, telecommunications, and energy. The topic areas to be addressed at the conference are:

Situation: Current and Projected
- Analysis of infrastructure conditions
- Global infrastructure assessments
- Infrastructure problems for developing nations
- Infrastructure for a sustainable future

Financing Infrastructure Projects
- Financing approaches, constraints
- Financing large projects: domestic and global
- Innovative financing mechanisms
- Making the financial case for sustainable infrastructure
- Case examples: what works, doesn't work
- Public-private partnerships (P3) for sustainable development
- Innovative project finance methods for sustainability

Cross-cutting Issues
- Infrastructure and the water/energy nexus
- Sustainability in engineering education
- Sustainability accreditation and certification
- Infrastructure asset management
- Applying systems thinking to infrastructure planning
- Decision making under uncertainty

Materials, Tools, and Methodologies
- Sustainable construction materials
- Life-cycle assessments
- Risk assessments
- Using BIM on sustainable infrastructure projects
- Complex systems analysis and management
- Network analysis of infrastructure systems

Innovation
- Sustainable project management

Sustainability and Competitiveness
- Relation of infrastructure conditions and sustainability to local, regional and national competitiveness: water, wastewater, transportation, power, etc.
- Infrastructure asset management

Risk, Resiliency, and Adaptation to Climate Change
- Strategies for mitigation and adaptation
- Design for recovery from extreme events
- Contribution of sustainable infrastructure to business continuity/recovery
- Sustainability and resilience optimization

Sustainable Cities
- Designing sustainable cities and urban systems
- Mega-cities and meta-cities
- Critical issues urban planning
- Case examples of sustainable urban systems
- Low-impact development
- Land use

Sustainability, Society and Culture
- Sustainability, quality of life and culture
- Social LCAs
- Using design charrettes on infrastructure projects
- The business case for social responsibility

Envision™ and Other Rating Systems
- Using the Envision™ rating system
- Envision™ as a decision framework
- Sustainable ROI
- LEED

Special Topics on Chinese Urbanization
- Sustainable town development

IMPORTANT DATES
Abstracts Due: August 19, 2015
Abstract acceptance: September 15, 2015
Draft Papers Due: January 6, 2016
Paper Acceptance: April 4, 2016
Final Manuscript Deadline: May 4, 2016
By 2050, around 7 billion people globally will be urban dwellers and 60% of those urban regions have not yet been built. Most of this urban development is going to be in the developing regions of the world. Catering to this massive demand of urban infrastructure is one of the most daunting challenges faced by the engineers and planners. Keeping in view the increasing uncertainties from climate change, resource depletion and population growth sustainable urban infrastructure development has become an imperative. The International Conference on Sustainable Infrastructure 2016 (ICSI 2016) would bring together global leaders, including academicians and practitioners who are engaged in research and implementation of sustainable infrastructure globally.

**CONFERENCE COMMITTEE**

**Conference Organizing Committee**

**Conference Chair**
John C Crittenden, P.E., F.M.CAE; M.ASCE, M.NAE
Georgia Institute of Technology, USA

**Honorary Conference Chair**
Liu Xu, M.CAE, Prof., Ph.D.
Vice President of Chinese Academy of Engineering, CHINA

**Executive Chairs**
Meng Wei, M.CAE, Prof. Ph.D.
President of Chinese Research Academy of Environmental Sciences, CHINA

Shao Yisheng, Prof., Ph.D.
Vice President of China Academy of Urban Planning and Design, CHINA

Qu Jiuhui, M.CAE, Prof. Ph.D.
Research Center for Eco-Environmental Sciences, CHINA

Wang Kaijun, Prof., Ph.D.
Tsinghua University, CHINA

**Conference Secretariat**

**Secretary General**
Song Yonghui, Prof. Ph.D.,
Chinese Research Academy of Environmental Sciences, CHINA

**Members**
Zhang Jian, Director, Second Bureau, Chinese Academy of Engineering, CHINA

Li Tao, Ph.D.,
Director, International Water Association, CHINA

Zhang Mengheng, Ph.D., Director,
Chinese Research Academy of Environmental Sciences, CHINA

Li Duo, BBISS
Georgia Institute of Technology, USA

**Conference Advisory Committee**

Zhou Ji, M.CAE, Prof., Ph.D.,
President, Chinese Academy of Engineering, CHINA

Bill Wallace, ENV SP,
M.ASCE, Chair, ICSI 2014
Wallace Futures Group, USA

Wu Xiaqing, Deputy Minister of Ministry of Environmental Protection, CHINA

Doug Sereno, P.E., ENV SP,
F.ASCE,
Port of Long Beach, USA

Qi Ji, Deputy Minister,
Ministry of Housing and Urban-Rural Development, CHINA

Arpad Horvath, Ph.D.,
M.ASCE, University of California, Berkeley, USA

Chris Hendrickson, Ph.D.,
NAE, Dist.M.ASCE, Carnegie Mellon University, USA

Katherine Sierra,
Brookings Institution
Vice President, Sustainable Development, World Bank
(July 2007-August 2010)

Wang Kaijun, Prof., Ph.D.,
Tsinghua University, CHINA

Glen T Daigger, Ph.D., P.E.,
BCEE, NAE, Dist.M.ASCE
One Water Solutions, USA

By 2050, around 7 billion people globally will be urban dwellers and 60% of those urban regions have not yet been built. Most of this urban development is going to be in the developing regions of the world. Catering to this massive demand of urban infrastructure is one of the most daunting challenges faced by the engineers and planners. Keeping in view the increasing uncertainties from climate change, resource depletion and population growth sustainable urban infrastructure development has become an imperative. The International Conference on Sustainable Infrastructure 2016 (ICSI 2016) would bring together global leaders, including academicians and practitioners who are engaged in research and implementation of sustainable infrastructure globally.
Conference Program Committee

**Technical Chair/ Proceedings Editor**

**John C Crittenden**, P.E., F.M.CAE; M.ASCE, M.NAE  
Georgia Institute of Technology, USA

**Hao Jiming**, M.CAE, Prof., Ph.D.,  
Tsinghua University, CHINA

**Members**

- **Qian Yi**, M.CAE, Prof., Ph.D.,  
Tsinghua University, CHINA

- **Ding Yihui**, M.CAE, Prof., Ph.D.,  
China Meteorological Administration, CHINA

- **Duan Ning**, M.CAE, Prof., Ph.D.,  
Chinese Research Academy of Environmental Sciences, CHINA

- **Cui Kai**, M.CAE  
China Architecture Design & Research Group, USA

- **Ren Nanqi**, M.CAE, Prof., Ph.D.,  
Harbin Institute of Technology, CHINA

- **Zhang Chaoran**, M.CAE  
China Yangtze Three Gorges Project Dev. Corp., CHINA

- **Zou Deci**, M.CAE  
China Academy of Urban Planning and Design, CHINA

- **Yongsheng Chen**, Assoc. Prof. Ph.D.  
Georgia Institute of Technology, USA

- **Dan Hoornweg**, PhD, P.Eng, M.ASCE  
University of Ontario Institute of Technology, CANADA

- **Jack Fritz**, PhD, P.E., M.ASCE  
Consultant, USA

- **Cliff Davidson**, Prof. Ph.D., M.ASCE  
Syracuse University, USA

- **Ming Xu**, Asst. Prof., Ph.D.,  
A.M.ASCE  
University of Michigan, USA

- **Ivonne Santiago**, Clinical Prof., PhD.,  
M.ASCE  
University of Texas at El Paso, USA

- **Julie Zimmerman**, Prof. Ph.D.,  
A.M.ASCE  
Yale University, USA

- **Jim Mihelcic**, Prof. Ph.D.,  
University of South Florida, USA

- **Glaucio H. Paulino**, Prof. Ph.D.,  
A.M.ASCE  
Georgia Institute of Technology, USA

- **Babak Ashuri**, Assoc. Prof., Ph.D.,  
A.M.ASCE  
Georgia Institute of Technology, USA

- **Joe Brown**, Asst. Prof., Ph.D.,  
Georgia Institute of Technology, USA

- **Arka Pandit**, Res. Faculty, Ph.D.  
Georgia Institute of Technology, USA

---

**Conference Venue**

Being capital of the People’s Republic of China, Beijing is the nation's political, economic, cultural, educational and international trade and communication center. As one of the six ancient cities in China, it has been the heart and soul of politics and society throughout its long history and consequently there is an unparalleled wealth of discovery to delight and intrigue travelers as they explore the city's ancient past and exciting modern development. Now it has become one of the most popular tourist destinations in the world, with about 140 million Chinese tourists and 4.4 million international visitors in a year.