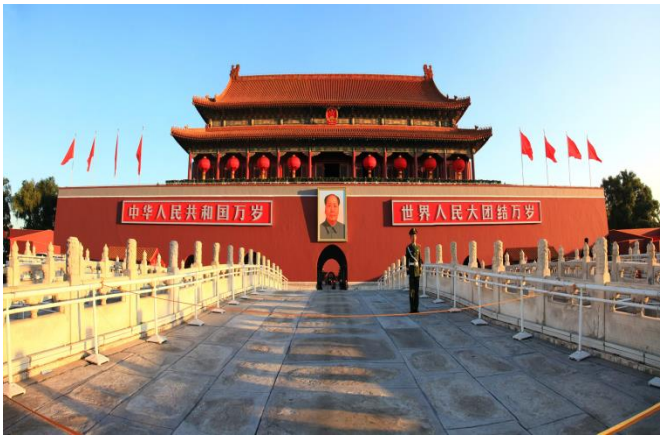
CALL FOR PAPERS

INTERNATIONAL CONFERENCE ON SUSTAINABLE INFRASTRUCTURE – ICSI 2016

A Sustainable Future for China, the Asian Region and the World

Shenzhen, People's Republic of China I October 17-19, 2016

Creating Infrastructure for a Sustainable World



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American Society of Civil Engineers (ASCE)
Chinese Research Academy of Environmental Sciences (CRAES)
Division of Environmental & Light Textile Engineering (CAE)
Human Settlements and Environment Commission of Shenzhen Municipality (HSECSM)

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Research Center of Eco-Environmental Sciences (RCEES)
Shenzhen Academy of Environmental Sciences (SAES)
Tsinghua University (TU)
China Academy of Urban Planning & Design (CAUPD)

INTERNATIONAL CONFERENCE ON SUSTAINABLE INFRASTRUCTURE 2016

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. It will also focus developing roadmaps to address the NAE Grand Challenges.

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Given the global implications of China's infrastructure development, ICSI 2016 will be held in China. The Division of Environmental Engineering at the Chinese Academy of Engineering (CAE) will serve as the lead organizer of the conference together with the American Society of Civil Engineers (ASCE), Chinese Research Academy of Environmental Sciences (CRAES), and Human Settlements and Environment Commission of Shenzhen Municipality (HSECSM). Chinese Academy of Urban Planning & Design (CAUPD), Tsinghua University and Research Center of Eco-Environmental Sciences (RCEES) will be co-organizers of the conference. The CAE will be the lead sponsor of the conference together with the U.S. Academy of Engineering (NAE). 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 Shenzhen, 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.

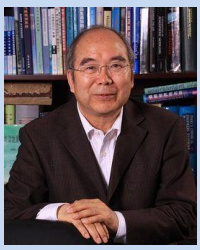
Invitation and Call for Papers

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.ICSI2016.org Final papers will be peer reviewed and published in the Conference Proceedings. Papers accepted for final submission must be 6 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 meters 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 China. The Division of Environmental Engineering at the Chinese Academy of Engineering (CAE) will serve as the lead organizer of the conference with the help of American Society of Civil Engineers (ASCE), Chinese Research Academy of Environmental Sciences (CRAES), and Human Settlements and Environment Commission of Shenzhen Municipality (HSECSM). Chinese Academy of Urban Planning & Design (CAUPD), Tsinghua University and Research Center of Eco-Environmental Sciences (RCEES) will be co-organizers of the conference. CAE will be the lead sponsor of the conference with the help of the U.S. Academy of Engineering (NAE). CAE believes that ICSI 2016 is integral to developing the blueprint for more sustainable cities in China and around the world.



HAO Jiming

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

Roles of important contributors to the 2016 International Conference on Sustainable Infrastructure

1. CAE will be the host, and primary sponsor; the Division of Environmental & Light Textile Engineering of CAE will develop the program, provide the paper management system and produce the proceedings and conference organizer.
2. NAE will assist with developing the program.
3. ASCE, CRAES, HSECSM, CAUPD, RCEES and TU will assist with developing the program and organizing the conference.

INTERNATIONAL CONFERENCE ON SUSTAINABLE INFRASTRUCTURE 2016

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 topics for the conference include:

Situation Analysis: Current and Future Issues

- Analysis of infrastructure conditions
- Global infrastructure assessments
- Infrastructure problems for developing nations
- Infrastructure for a sustainable future

Urbanization, Energy Supply and Transportation Construction

- Sustainable urban transport planning and infrastructure construction
- Big-data based intelligent control of city traffic
- Using Envision™ system rating system
- Envision™ as a decision framework
- Sustainable ROI (return on investment)
- LEED (Leadership in Energy and Environmental Design)

Urbanization and Sustainable Eco-Environmental Construction

- Policies issues in urbanization eco-environmental development
- Infrastructure construction, industrial layout and optimization in urban atmospheric pollution abatement
- Urban water system infrastructure
- Solid waste treatment and disposal infrastructure
- Evaluation of urban ecosystem services
- Urban green space: recreation and health benefits

Sustainable Development and Competitiveness

- Energy saving and renewable energy
- Emission reduction and environmental improvement
- Infrastructure asset management
- Relation of infrastructure conditions and sustainability to local, regional & national competitiveness: water, wastewater, transportation, power, etc.

Sustainable Cities

- Designing sustainable cities and urban systems
- Mega-cities and meta-cities
- Critical issues in urban planning
- Case studies of sustainable urban systems
- LID (Low Impact Development)

Innovation and sustainable infrastructure

- Smart city and Internet+: Internet of things, Cyber-physical systems
- Big-data analysis for urban science and engineering
- Distributed energy and water infrastructure
- 3D Printing
- Autonomous Vehicles
- Conceptual design, implementation, performance evaluation
- Sustainable project management

Sustainable Materials, Tools and Methodologies

- Sustainable construction materials
- Life-cycle assessments
- Risk assessments
- BIM(Building Information Models) in sustainable infrastructure projects
- Complex systems analysis and management
- Network analysis of infrastructure systems

Cross-cutting Issues

- Applying system thinking to infrastructure planning
- Water/energy/resiliency/food/transportation/architecture nexus
- Decision making under uncertainty
- Sustainability accreditation and certification
- Sustainability in engineering education

Risk, Resiliency, and Adaption to Climate Change

- Policies in mitigation and adaption to climate change
- Design for recovery from extreme events
- Effects of climate change on city construction and operation
- Sustainability and resilience optimization
- Effects of climate change on urbanization and city governance
- Sponge city construction in China and storm water management

Financing Infrastructure Projects

- Financing large projects: domestic and global

Conference Topics...continued

Sustainable Cities
- Sustainable land use
- Urban farming

Sustainability, Society and Culture
- Sustainability, quality of life and culture
- Social LCAs (Life Cycle Assessment)
- Using design charrettes on infrastructure projects
- Business cases for social responsibility

Special Topics on Chinese Urbanization
- Ecological civilization and sustainable urban development strategies
- Construction and operation of smart cities
- Sustainable urban planning
- Urban "utility tunnel"
- Sponge city construction
- Treatment of urban black and odorous water body
- Urban garden landscape

Financing Infrastructure Projects
- Asian Development Bank, World Bank, Asian Infrastructure Investment Bank, BRIC Bank, GEF, Green Climate Fund, Private Sovereign Wealth Funds-Finances
- Case examples: what works and doesn't work
- Innovative financing mechanisms
- Innovative projects finance methods for sustainability
- Public-private partnerships (P3) for sustainable development

IMPORTANT DATES

Call for Papers: January 31, 2016

Abstracts Due: April 15, 2016

2nd Announcement: April 30, 2016

Abstract acceptance: June 15, 2016

Final Manuscript Deadline: July 30, 2016

NATIONAL ACADEMY OF ENGINEERING

NAE GRAND CHALLENGES FOR ENGINEERING

NATIONAL ACADEMY OF ENGINEERING

ISCI 2016 will help develop a road map for solutions of these grand challenges, including but not limited to Grand Challenge Numbers 2, 7, 9, 12 and 13.

1. Advance Personalized Learning
2. Make Solar Energy Economical
3. Enhance Virtual Reality
4. Reverse-Engineer the Brain
5. Engineer Better Medicines
6. Advance Health Informatics
7. Restore and Improve Urban Infrastructure
8. Secure Cyberspace
9. Provide Access to Clean Water
10. Provide Energy from Fusion
11. Prevent Nuclear Terror
12. Manage the Nitrogen Cycle
13. Develop Carbon Sequestration Methods
14. Engineer the Tools for Scientific Discovery

INTERNATIONAL CONFERENCE ON SUSTAINABLE INFRASTRUCTURE 2016

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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.

Katherine Sierra

Nonresident Senior Fellow,
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Brookings Institution
Vice President, Sustainable Development, World Bank (July 2007-August 2010)

Shenzhen, P.R. China I October 17-19, 2016

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Conference Venue

Shenzhen is a major city in Guangdong Province, China. Situated in the Pearl River Delta Region, it is China's first and one of the most successful Special Economic Zones (SEZ). Since its inception as a SEZ by Deng Xiaoping in 1980, Shenzhen experienced a massive population growth and was one the fastest-growing cities of the world during 1990s and 2000s. Shenzhen is the major electronics manufacturing center in China and is home to many of China's most successful high-tech companies. Home to 7 million people it is regarded as one of the most livable cities in China. Local attractions include the Low Carbon City, over 20 public parks and easy access to multiple beaches.

INTERNATIONAL CONFERENCE ON SUSTAINABLE INFRASTRUCTURE 2016

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