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HANOI, 2016

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PREFACE

Our objective is dedicated to ensuring a sustainable future in which human society has the capacity and opportunity to maintain and improve its quality of life indefinitely, without degrading the quantity, quality or the availability of natural, economic and social resources. We are delighted to announce that Faculty of Civil Engineering, University of Transport and Communications in collaboration with University of Transport and Communications (UTC) is jointly organizing “2016 International Conference on Sustainability in Civil Engineering (ICSCE 2016)” in Hanoi, Vietnam from 26-27 November 2016.

The 2016 International Conference on Sustainability in Civil Engineering to build a high-level international academic communication forum for scientists, experts and scholars. The conference covers a wide range of topics related to current research in this field, including:

- (i) *Sustainable Resources and Materials;*
- (ii) *Sustainable Construction Management;*
- (iii) *Sustainable Infrastructure Development and Planning;*
- (iv) *Sustainable Transportation Planning, Design and Management;*
- (v) *Sustainable River, Estuary and Coastal Engineering.*

The Local Organizing Committee of ICSCE2016 received 105 abstracts from 9 countries and regions, of which 80 full papers were requested after the first round of peer review by 40 members of the Review

Board. Based on the comments of the reviewers, the Board finally selected 72 papers to be included in this Special Issue. The accepted contributions cover the broad spectrum of Sustainability in Civil Engineering related issues. All papers included in this journal are presented by the corresponding authors during the one day symposium either in oral or poster presentations.

On behalf of “2016 International Conference on Sustainability in Civil Engineering”, we would like to express our sincere gratitude to our colleagues who submitted abstracts and papers to ICSCE 2016, the paper reviewers who made in-depth reviews amidst their busy schedule. Special thanks are also due to all keynote speakers, chairpersons, reviewers and international colleagues from France, Germany, Japan, China, America, United Kingdom, France, and Thailand for the efforts in preparing the manuscripts and managing the sessions, respectively. We express our gratitude to our collaborating publisher, The Transport Journal who made our special issue more visible and professional.

Last but not least, LOC of ICSCE 2016 thanks to University of Transport and Communications, the University’s departments for their supporting and contribution the success of the conference.

Prof. Dr. **Le Hai HA**
*Chair of the LOC of ICSCE 2016
and Dean of Civil Engineering Faculty
University of Transport and Communications*

KEYNOTE SPEAKER



Prof. **Jinhai Zheng**
Hohai University, China

Professor Zheng is Dean of the College of Harbour, Coastal and Offshore Engineering, Lab Manager of Key Laboratory of Coastal Disaster and Protection of Ministry of Education, Chairman of Teaching Advisory Committee of Harbour, Waterway and Coastal Engineering speciality, Hydraulic Discipline for higher education, standing committee member of the 10th committee of Jiangsu Youth Federation, executive director of the 3rd administrative committee of Port and Waterway Engineering, member of the 4th committee of Chinese Ocean Engineering Society, member of the 4th Young Scientists Working Committee of Chinese Hydraulic Engineering Society, member of the editorial board of Water Science and Engineering, Journal of Tropical Oceanography, Journal of Transport Science and Engineering, Journal of Hohai University. He was Head of Office of Science and Technology, Hohai University, Vice Dean of College of Transportation, College of Ocean, Hohai University.

He graduated from Department of Harbour and Waterway Engineering, Hohai University in 1993. He received Doctor's Degree from Hohai University in 1998, major in Coastal Engineering. He started to teach in Hohai University in the same year. From October 2005 to September 2006, he was a visiting scholar in Disaster Prevention Research Institute, Kyoto University, Japan.

His major research interests are basic theories and modelling methods in estuarine and coastal dynamics and its engineering applications. He has been the leading scientist for the projects supported by National Natural Science Funds for Distinguished Young Scholar, National Natural Science Funds for General Program, Governmental Public Industry Research Special Funds, Key Projects of Chinese Ministry of Education. He has been the major participant in a «973» project and projects supported by National Natural Science Funds for Key Program, National Natural Science Funds for Major Program.

Professor Zheng has published more than 70 scientific papers in national and international magazines and academic conferences, and 27 of them are SCI and EI. Numerical Modelling and Application of Channel Regulation of the Complicated River Network in Pearl River Delta won the second prize (rank 2) of the Science and Technology Award for China water transport construction in 2009. Recent Changes in the Freshwater and Sediment Input and Characteristics of Freshwater and Sediment Transport of the Yangtze River won second prize (rank 3) of National Prize for Natural Sciences in 2009. Two of his computer softwares have been registered for computer software copyright in National Copyright Administration.

Professor Zheng presented a keynote lecture title: **Research and application of beach nourishment in China.**

KEYNOTE SPEAKER



Prof. Dr. **Abdelhafid Khelidj**
Nantes University, France

In 1989 he took the PhD in Civil Engineering, ENSM Nantes (currently Central high school of Nantes, ECN) - University of Nantes), and In 2003 he took the Habilitation to supervise research in Civil Engineering (Nantes University).

He is actually director of the research team Geomaterials and Water Interactions of GeM (30 researchers), and Responsible for the professional license "conduct of public civil works projects (IUT Saint Nazaire).

He was Co-Director of the laboratory UMR-CNRS GeM (220 researchers) (2008-2012) and expert for the AERES (evaluation of a research laboratory in France) and also in Belgium, Algeria, and Czech Republic.

He is author or Co author of more than 40 papers in international journals, first author (coordinator) of a book and author of five book chapters, and more than 50 plenary lectures at international conferences. He is a member of several scientific and professional associations (ACI, RILEM etc..). Member of the Scientific Council of the AUGC (association of French civil engineering). He is also member of the management and administration board of the IUT of Saint Nazaire (Nantes University). His research topics deal with the behavior at the early age of concrete and cementitious materials and the durability of concrete structures under combined mechanical and environmental solicitations.

Title of his keynote lecture: **Transport properties in concrete: Coupling between mechanical and environmental solicitations, some experimental and numerical results.**

KEYNOTE SPEAKER



Prof. **Kuniei Nogami**
Tokyo Metropolitan University (TMU),
Japan

Professor Kuniei NOGAMI is Research Professor (used to be a Professor) in Department of Civil and Environmental Engineering, Tokyo Metropolitan University (TMU). Prof. NOGAMI got D.Eng in TMU in 1989. His previous research focus on the buckling design of the steel structure, the ultimate strength of suspension and cable-stayed bridges. In the last 10 years, since the numbers of old steel bridges increased rapidly, he is expanding his research to maintenance engineering until now.

He is author and co-author of more 70 peer-reviewed journal papers publications and in the proceedings of international conferences/symposiums on steel structure, suspension and cable-stayed bridges. He is a member of many professional societies such as Japan Society of Civil Engineers (JSCE), Japanese Society of Steel Construction (JSSC), International Association for Bridge and Structural Engineering,... He is a chairman of Committee of Steel Structure JSCE, Committee of Partial Factor Design of Standard Specification for Road Bridges of Japanese Road Association and International Committee of Japanese Society of Steel Construction"

Professor Kuniei NOGAMI will be presented a Keynote lecture title: **Current state and problem to the maintenance of steel structures in Japan**

KEYNOTE SPEAKER



Assoc. Prof. Dr. **Pham Huy Giao**
Asian Institute of Technology (AIT),
Thailand

Dr. P. H. Giao, a Vietnamese nationality, is Associate Professor in Geotechnical & Earth Resources Engineering, Asian Institute of Technology (AIT). Dr. Giao got MSc in Geological-geophysical engineering from Bucharest University, M. Eng. & D. Eng. in Geotechnical Engineering with specialization in Engineering Geology & Applied Geophysics from Asian Institute of Technology (AIT), an International Graduate Institute based in Bangkok, Thailand, where he currently serves as Coordinator of the Geotechnical & Earth Resources Engineering field of study and the Geo-exploration and Petroleum Geoengineering program of AIT. His current research interests include two major areas, and namely, Geotechnical Engineering (*site investigation, soft clay characterization, FEM groundwater modeling and land subsidence analysis*) and Geo-exploration & Petroleum Geoengineering (*exploration and engineering geophysics, petrophysics, soft computing for log analysis*). He is author and co-author of more than 30 peer-reviewed journal papers and 70 publications in the proceedings of international conferences/symposiums on FEM modeling, artificial recharge, petrophysics, exploration and engineering geophysics and petroleum engineering. Dr. Giao has served as the principal investigator of many large projects of innovative research in geotechnical-geophysical engineering and international education reform, funded by various sponsors, including the Asian Link project funded by European Commission of EU. He is a member of many professional societies such as European Association of Geoscientists and Engineers (EAGE), Society of Exploration Geophysics (SEG), International Association for Mathematical Geosciences (IAMG), International Association of Low land Technology (IALT), Society of Petrophysics and Well Log Analysis (SPWLA), International Society of Soil Mechanics & Geotechnical Engineering (ISSMGE), South East Asian Geotechnical Society (SEAGS), Vietnam Association of Geophysicists (VAG), and Vietnam Association of Engineering Geologists (VAEG).

Professor GIAO presented a Keynote lecture title: **Analysis of land subsidence effect on long linear structures in transportation geotechnics with some case studies in the SE Asia.**

KEYNOTE SPEAKER



Assoc. Prof. Dr. **Hoai Tran Nam**
Auburn University, USA

Prof. Dr. P.E., LEED GA. NAM HOAI TRAN is a lecturer in National Center for Asphalt Technology, Auburn University, Auburn, AL. He got two license such as: Registered in the State of Arkansas (No. 13851) and LEED Green Associate (No. 10664472). He is Member of Federal Highway Administration Expert Task Group for Asphalt Mixtures Member of Transportation Research Board Committee AFP70 and AFK50; Member of ASCE Mechanics of Pavement Committee; Member of Association of Asphalt Paving Technologists and Member of International Society for Asphalt Pavements.

Prof. NAM is instructor in National Center for Asphalt Technology, Auburn University since 2007. Former instructor in Department of Civil Engineering, University of Arkansas, Fayetteville, AR during period from 2007 to 2009.

He obtained the Best Poster Award for the Asphalt Materials Section at the 2012 TRB Annual Meeting; Mary Elizabeth Westpheling Scholarship for Academic Excellence in 2004. Second Place in National Mechanics of Material Contest, Vietnam, 1994; Germany Scholarship for Vietnamese Students with Academic Excellence, 1994; Second Place in National Static and Dynamic Mechanics Contest, Vietnam, 1993; Second Place in National Computer Programming Contest, Vietnam, 1993.

He is author and co-author of two book and more than 100 science papers.

He presented a keynote lecture title: **Evaluation of warm mix asphalt and high RAP mix on NCAT pavement test track**

KEYNOTE SPEAKER



Assoc. Prof. Dr. **Nguyen Danh Thao**
Ho Chi Minh City University of
Technology (HCMUT), Vietnam

Assoc. Prof. Dr. Nguyen Danh THAO gained his doctoral degree in Japan in Civil Engineering in 2007. Since 2008, he has served as the Deputy Director, then Director (since 2010) of the External Relations Office of Ho Chi Minh City University of Technology (HCMUT) which deals with international projects and partnership. He has achieved his expertise through different academic & research activities. He has engaged in a number of research conducted in Vietnam, Asia and Africa. He has closely worked with many international experts and researchers in field of natural disasters and climate change. His co-research work which was entitled “Coastal Disasters & Climate Change in Vietnam” was published by Elsevier in 2014. He is the author and co-author of more than 40 peer-reviewed scientific papers in field of coastal engineering and co-author of five book chapters published by Springer and Elsevier. He also cooperated with businesses to research on local issues, significantly contributed to the improvement of living conditions in coastal areas.

Assoc. Prof. Dr. THAO was key member who organized and chaired many conferences in local and regional areas. He bridged the academia with businesses, government and community. Particularly, he focused on seminars which helped raise public awareness about natural disasters & climate change in the central land and southern part of Vietnam. He was the principal investigator and co-investigator of many research projects in field of coastal disaster. At present, he is implementing the research project named “Coastal disasters and climate change in Southeast Asia: An assessment and countermeasures for sustainable development of the fast-growing coastal areas” supported by JICA and AUN/SEED-Net.

Assoc. Prof. Thao will present a Keynote lecture title: **Impact of sea level rise and land subsidence on flood projections in Mekong Delta.**