

ZHU Ji-Hua 教授と CHO Jae-Yeol 教授の講演会 Lectures by Prof ZHU Ji-Hua and Prof CHO Jae-Yeol

主催 北海道土木技術会コンクリート研究委員会

Organized by Concrete Research Committee, Association of Civil Engineering Technology
of Hokkaido (to be approved)

中韓の若手気鋭の教授による講演会(参加費無料, 通訳付き)を以下のように開催いたします。
You are cordially invited to attend the invited lectures by two young leading professors from
China and Korea. The admission is free. The translation will be provided.

講演会日時 Date

2017年7月4日 14:00-17:00 on 4th July 2017

講演会場 Venue

ホテルモントレエーデルホフ札幌 Hotel Monterey Edelhof, Sapporo

講演題目 Lecture Titles

ZHU Ji-Hua 教授, 深圳大学 Prof ZHU Ji-Hua, Shenzhen University
“A solution to sea sand sea water RC structures”
(海砂海水鉄筋コンクリート構造物の課題解決法)

CHO Jae-Yeol 教授, ソウル国立大学 Prof CHO Jae-Yeol, Seoul National University
“Extreme Performance Testing Center at SNU and the related researches”
(ソウル国立大学極限性能実験センターと関連研究)

ZHU Ji-Hua 教授の略歴 Biography of Prof ZHU Ji-Hua

- PhD(香港大学, 2006年) PhD from Hong Kong University in 2006
- 深圳大学教授 Professor, Shenzhen University



CHO Jae-Yeol 教授の略歴 Biography of Prof CHO Jae-Yeol

- PhD(ソウル国立大学, 2002年) PhD from SNU in 2002
- ソウル国立大学教授 Professor, SNU
- ソウル国立大学極限性能実験センター長 Director of Extreme Performance Testing Center at SNU



参加申込先: コンクリート研究委員会技術情報小委員会

永野太一 (E-mail: t.nagano@nihonkoatsu.co.jp)

Registration for entry to Mr NAGANO Taichi (E-mail: t.nagano@nihonkoatsu.co.jp),
Technology Information Subcommittee of Concrete Research Committee

Prof ZHU Ji-Hua

Biography

Jihua ZHU is Professor of Structural Engineering in the Faculty of Civil Engineering, Shenzhen University, China. He is leading an active steel and RC structures research group. He obtained his PhD degree from The University of Hong Kong in 2006. His principal research interests, in respect of which he has co-authored one book and some 50 papers, lie in the areas of structural testing, numerical modeling and the development of design guidance for aluminum alloy and steel structures as well as RC structures in marine environment. In particular, through his involvement in a number of Chinese research projects, he has proposed a dual-functional retrofitting technique, the Impressed Current Cathodic Protection and Structural Strengthening (ICCP-SS), for sea-sand RC structures. He has been an editor of the Retrofitting Technology Code for Improving the Durability of RC Structures, which will be published by the Chinese Construction Standard Committee in 2018.

Abstract

The increase in global population has led to an increasing demand for infrastructure, which are mainly built by reinforced concrete. The huge demand of concrete is exacerbating the shortage of river sand. Currently, one solution to this problem is to use sea sand. However, the high percentage of chlorides contained in sea sand will cause the corrosion of reinforcement, resulting in the durability problem of RC structures. Impressed current cathodic protection (ICCP) using CFRP has been demonstrated to be an efficient technique for preventing corrosion in the re-bars; meanwhile, CFRP has also been verified to be capable of improving the capacity of RC structures significantly (i.e. SS-structural strengthening). Therefore, this study aims at taking advantage of both merits of CFRP and combining them together as a new retrofitting technique, termed as the ICCP-SS technique. The ICCP-SS technique provides a totally new solution to the sea sand RC structures. In this presentation, the optimized ICCP-SS technique and its application will be discussed from the material level to the member and structure level.

Prof CHO Jae-Yeol

Biography

Jae-Yeol Cho is a professor in the Department of Civil and Environmental Engineering and a director of Extreme Performance Testing Center at Seoul National University, Korea. He received his Ph.D. degree from Seoul National University in 2001. He also received his B.S. and M.S. degrees in the Department of Civil and Environmental Engineering at Seoul National University. Since 2002 for three year, he worked at the University of Wisconsin – Madison as a post-doctoral researcher and worked at Samsung C&T as a senior manager for two year before joining the Seoul National University in 2007. His research is generally classified into four areas; 1) Application of new materials like high strength rebars, high strength tendons, fiber reinforced concrete, etc. 2) Development of new construction technology like development of hybrid girder 3) Improvement of experiment technology by development of a novel similitude laws 4) Analytical and experimental simulation of impact and impulsive loads, and his overall research goal is to evaluate the validity of the structural design code and use the results to revise the structural design code appropriately. For the past 10 years at Seoul National University, he has a total of 35 published journal papers including 26 SCI papers. He is a chair of International Affairs Committee of Korean Society of Civil Engineers (KSCE) and a Board Member of KSCE and KCI (Korea Concrete Institute). He is also active member of American Society of Civil Engineers (ASCE), American Concrete Institute (ACI), International Bridge and Structural Engineers (IABSE) and Federation Internationale du Beton (fib).

Abstract

This presentation introduces a new structural test facility on Seoul National University campus and the related on-going researches. In order to develop a technology and improve a research capability related to construction and transportation, the South Korea Ministry of Land, Infrastructure and Transport undertook a project to establish the state of the art research and test facilities, which can be used in common with the other facilities by a national R&D network. Six kinds of facilities, Hybrid Structural Testing Center, Geotechnical Centrifuge Testing Center, Wind Tunnel Center, Experimental Center for Coastal & Harbor Engineering, Advanced Construction Materials Testing Center, and Seismic Simulation Testing Center, in fundamental research fields were founded and operated in six universities as the first step of the business beyond 2009. Moreover, additional six kinds of facilities, Extreme Performance Testing Center, Multi-environmental Experiment Facilities for Climate Change, Housing Performance Test Facilities for Improving Life Quality, Large Experimental Facility for Hydraulic Model Test, Facilities to Reproduce Weather Conditions for Road, and Driving Simulator Experiment Facilities, are under construction as the second step at present. Among them, Extreme Performance Testing Center, one of the facilities under construction as the second step will be completed in 2017 in Seoul National University to develop a source technology and improve a research capability related to the field testing performances of structures under extreme load and environment such as impact and blast loads, natural disasters, and extreme heat and cold. To simulate such extreme condition, three kinds of gas gun systems, high speed hydraulic loading machine, drop weight tester, extreme temperature chamber, and Split Hopkinson Pressure Bar systems as major apparatus will be set up in Extreme Performance Testing Center. As Extreme Performance Testing Center is established and operated, it is expected that competitive advantages of the technology in fields of structural engineering under extreme states are obtained as results.