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Innovation Solutions for Sustainable Cities

Research Progress on Modern Stone Structures

Prof. GUO Zi-Xiong
Professor & Dean
College of Civil Engineering
Huaqiao University



Time:

6:00 p.m. - 7:00 p.m.

Registration: 5:30 p.m.

29

Jan

2018

Monday

Venue:	Room Y301, 3/F, Lee Shau Kee Building (Block Y), The Hong Kong Polytechnic University (Campus map)
Medium:	Mandarin
Registration:	https://www.polyu.edu.hk/mysurvey/index.php/155728 (Registration deadline: 26 January 2018, 12:00 n.n.)
Certificate:	Attendance certificate will be issued to registered participants only
Enquiry:	sherri.cheng@polyu.edu.hk / 3400 3407

Abstract

Stone masonry structure is the main structural form of most historical buildings and architectural heritages in the world. However, the study on its structural performance especially the aseismic performance along with its compatibility to modern building technology is limited. Through systematic investigations on key techniques in enhancing the aseismic capacity of traditional and innovative stone masonry structures considering various criteria such as geographical conditions, architectural culture, construction features, and potential hazards in Fujian Province, China, a series of techniques for modern stone masonry structures with favorable seismic performance have been developed. The proposed sets of stone masonry structure strengthening techniques have the advantages of both low cost and easy construction, thus could be well applied in both the seismic strengthening of current stone masonry buildings in rural areas and the protection of historical stone-structured architectural heritages. To mitigate the brittle fracture of stone beams and stone slabs, the technique of near-surface mounting (NSM) with CFRP bars was applied in these stone flexural members, and innovative stone members with NSM CFRP bars were proposed and tested. This study provides strong technical support to be in line with the governmental policy in protecting and promoting traditional stone masonry structures and culture as an architectural heritage.

Speaker's biography

Professor Zi-Xiong Guo serves as a full professor in structural engineering and the Dean of College of Civil Engineering in Huaqiao University (HQU). He mainly engaged in the research of seismic performance of structures, steel-concrete composite structures, and innovative stone masonry structures. He received his PhD from Tongji University and MSc from Xi'an University of Architecture and Technology. He is the Director of the Key Laboratory for Structural Engineering and Disaster Prevention in Fujian Province, China. He also serves as the chairman of Village and Town Disaster Prevention Committee, which is a branch of Architectural Society of China. He is the board member on several editorial boards of academic journals. He has published over 200 journal articles and has been authorized with 20 national invention patents. He has participated in the compilation of 6 national codes and professional standards. He won the second prize of the 2017 China National Science and Technology Progress Award because of his excellent academic achievements, together with 7 other awards in his research field. Because of his excellent contribution in the science and engineering discipline, Prof. Guo was selected into the programs of Outstanding Talent in the New Century by the Ministry of Education, China, and the Leading Talent in Science and Technology by Fujian Province.