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Dr. Bruno Briseghella is Distinguished professor and Dean of the College of Civil Engineering, Fuzhou University (Fuzhou, China). His main research activities have been focused on bridge and structural design, earthquake engineering, including seismic isolation and retrofitting, both from the theoretical and experimental point of view. He has published more than 200 scientific papers in National and International Journals and Conferences and has served as PI or CO-PI of several research programs granted by important Institutions. Dr. Briseghella has widely worked for the seismic retrofitting of Buildings and Bridges after the Earthquake in L'Aquila (2009, Italy) and Modena (2013, Italy).

SEISMIC RETROFITTING OF EXISTING STRUCTURES. THE CHINESE EXPERIENCE

The Seismic Design, Assessment and Retrofitting of Buildings and Bridges have become topics of remarkable interest among bridge engineers all over the world. Since some decades, the construction of buildings and bridges has been developing very fast in China. Meanwhile, reinforced Concrete (RC) structures are subjected to degradation phenomena during their service life, one of the main causes being the corrosion of steel reinforcement, which brings to a reduction of the structural capacity, especially for lack of/or improper maintenance interventions, design errors and construction defects. Moreover, most Provinces in China are located in seismic areas and most of the structures have been built with old codes not fulfilling all the current anti-seismic requirements. Therefore, the interventions for extending the service life and durability should be linked with the seismic retrofitting. This Lectures will introduce some recent advances on seismic retrofitting in China. Recent large earthquakes in China (e.g. Wenchuan earthquake and Yushu earthquake) resulted in enormous damage buildings and bridges. Recognizing the seismic vulnerability of existing structures, the Chinese government started a nationwide mission in 2009, aiming at increasing the seismic capacity of strategic buildings, e.g. school buildings, and infrastructures through inspection and retrofit activities. For example, in the case of school buildings, seismic isolation was adopted as an innovative efficient retrofit technique. Regarding seismic retrofitting of RC bridges, advanced technologies and materials, e.g. ultra-high performance concrete, have been developed to obtain more sustainable techniques.