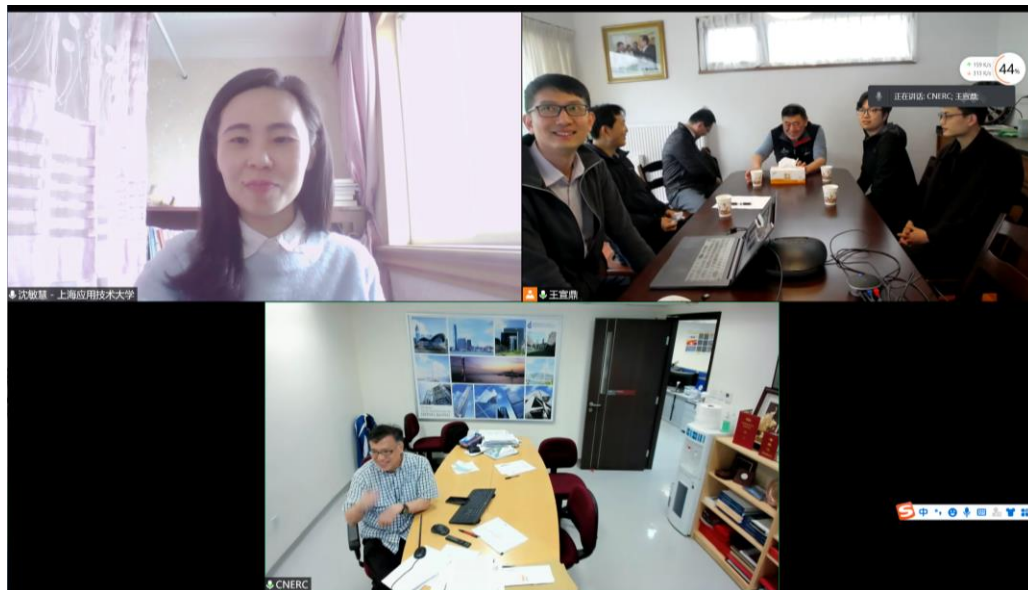


## Research collaboration with Chongqing University Steel Structures Research Institute

2022.04.15

The CNERC has been working with Research Institute for Steel Structures at Chongqing University in the past 5 years, and one of the latest research collaboration is to develop an innovative self-centering structural system for piers and beams of composite bridges with simple on-site assembly. In the afternoon of 15 April 2022, an on-line meeting was jointly hosted by Prof. Xuhong Zhou of CQU, and Prof. K.F. Chung of PolyU to discuss the overall research programme. Prof. Jiepeng Liu, Prof. Ke Ke and Dr. Xuanding Wang from CQU, Mr. Xiaohu Chen of T.Y. Lin International, and Dr. Ligui Yang of Chongqing Jiaotong University, and Dr. Minhui Shen of Shanghai Institute of Technology attended the meeting, and contributed to various technical discussions.



During the meeting, Dr. Xuanding Wang made a comprehensive and in-depth report on the large-scale project "Conceptual Design and Research Plan of Economic Prefabricated Restorable Functional Steel-Concrete Composite Bridge System", based on the sustainable development strategy needs of global low-carbon emission reduction and bridge structure. Against the background of the development trend of industrialization, a new type of economical prefabricated steel-concrete composite bridge system with recoverable functions is proposed. The members of the research group have carried out a lot of basic research work and feasibility analysis on this large-scale project, and put forward a research plan and 6 research topics for the next 2-3 years,

including the design and analysis of prefabricated bridge structures, self-resetting concrete-filled steel tubular piers seismic performance and design method of seismic performance and design theory of recoverable functional bridge pier system, mechanical performance and design method of detachable square steel + bolt + UHPC shear member, mechanical performance and design method of SMA shear member, and the mechanical performance and design method of steel-concrete composite beams, with a budget of more than one million dollars.



This large-scale project will become a key collaborative research project between the CNERC and the Steel Structures Research Institute of Chongqing University. The expected results of this project will provide an important basis for prefabricated structures and construction and design standards in China and even Europe.