



DEPARTMENT OF CIVIL ENGINEERING

SEMINAR

New Developments in Resilient and Sustainable Lightweight Steel Structures

Professor Iman Hajirasouliha
The University of Sheffield, UK

Dr Seyed Mohammad Mojtabaei
Aston University, UK

Date: 23 May 2023 (Tuesday)

Time: 4:00 p.m. - 5:30 p.m.

Venue: Room 612B, 6/F Haking Wong Building, The University of Hong Kong

Zoom: <https://hku.zoom.us/j/97732108747> (Meeting ID: 977 3210 8747)

Abstract

Compared to hot-rolled structural members, cold-formed steel (CFS) members offer several advantages of economy and efficiency, including a high strength for a light weight, ease of handling, transporting and stacking, and great flexibility in terms of cross-sectional profiles and sizes. For these reasons, the use of CFS sections as load-bearing members in structures has become increasingly popular during the past decade.

This presentation provides an overview of the main outcomes of recent projects at The University of Sheffield, UK, which aim to develop more efficient CFS structural elements, moment-resisting connections, and practical design methods. Extensive experimental and analytical studies conducted by the speakers' research team have led to more resilient and sustainable lightweight steel structural systems suitable for offsite manufacturing of low- to high-rise buildings in both seismic and non-seismic regions.

About the Speaker

Professor Iman Hajirasouliha is Professor of Structural Engineering and the leader of the Earthquake Engineering Group (EEG) at the University of Sheffield, UK. With over two decades of experience in research and consultancy, his innovative work in earthquake engineering, sustainable lightweight steel structures, structural optimization, resilient-based design, and artificial intelligence has led to over 300 refereed journal papers and conference publications. Professor Hajirasouliha has been Principal or Co-investigator of over €10M EU and UK-funded projects, and holds membership in several prestigious national and international technical committees. He is currently an Associate Editor of Practice Periodical on Structural Design and Construction (ASCE) and Frontiers in Built Environment (Earthquake Engineering Section), and also holds positions on the editorial board of several international journals in the field of Structural Engineering. Professor Hajirasouliha's contributions to his field have been widely recognised, and he is among the world's top 2% scientists in his discipline, according to the database published by Stanford University and Elsevier.

Dr Seyed Mohammad Mojtabaei is an Assistant Professor and leader of the Aston Professional Engineering Centre (APEC) structural research group at Aston University, UK. He was a former fellow of the renowned UK Engineering and Physical Sciences Research Council (EPSRC). Mohammad's research mission is to promote innovation in sustainable lightweight structural systems, with a particular focus on proposing low-carbon resilient structural systems, optimizing key structural performance criteria for hazardous and non-hazardous environments, and developing intelligent manufacturing and design for structural elements. Throughout his research career, Mohammad has published over 45 articles in leading academic journals and international refereed conferences, and successfully secured over £350K research grant as Principal or Co-investigator. He serves on the editorial boards of peer-reviewed journals, including the “International Journal of Architectural Engineering Technology” and “Journal of Data Science and Intelligent Systems”. Additionally, he is a member of the “American Society of Civil Engineers (ASCE)”. Mohammad has over 8 years of industry experience in the UK and the Middle East, and is registered as a Chartered Engineer with the UK Engineering Council (CEng MICE).

- ALL ARE WELCOME -