

Structures in fire



Dr Mustesin Khan received his PhD degree from the Department of Civil and Environmental Engineering at Brunel University London in 2019. He joined the Department of Building Services Engineering at the Hong Kong Polytechnic University as a Research Assistant Professor in November 2019. His research interests include the broad area of fire safety engineering, with special interest on the computational modelling, hybrid simulation and risk and resilience assessment of civil infrastructures under the effects of fire. He has been focusing on heat transfer analysis, the thermo-mechanical response of structures, CFD – FE coupling, and fire risk assessment for over 8 years. He has authored and co-authored research papers in top journals, such as ASCE and Engineering Structures.

Abstract: Fire safety engineering is a multidisciplinary science, or art, of which the fire resistance of the structure is only one component. Traditional methods used so far to estimate the fire resistance of structural components have certain limitations. Designing structural members using the standard fire testing approach provides conservative and uneconomical designs because of the consideration of unrealistic fire scenario and ignoring the interaction between fire exposed member and the surrounding structure. To avoid these limitations and to develop a performance-based design approach, various full-scale fire tests have been conducted in Cardington. These tests provided useful knowledge about structural behaviour in fire and helped researchers to calibrate finite element models. This progress is significant as it provided a viable and cost-effective method to understand the structural response in fire and estimate the fire resistance.

SFPE Webinar (CPD Event)

Date: 11 December 2020 (Monday)

Time: 6:30 - 7:30 PM (HK)

9:30 - 10:30 PM (AEDT)

10:30 – 11:30 AM (GMT)

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