Abstract:
This lecture outlines recent developments undertaken at Imperial College on detailed structural modelling under extreme loading. These include integrated models for whole building structures under extreme loading, as well as partitioned modelling which allows the realistic and efficient assessment of large-scale structures using parallel processing on High Performance Computing systems. Focus is then given to simplified dynamic assessment, firstly with reference to novel SDOF/MDOF models for blast analysis of steel members as well as whole steel-framed buildings, and secondly considering the progressive collapse assessment of multi-storey buildings under column loss scenarios. The impact of the various developments is illustrated through a number of application studies, and key conclusions are drawn in relation to realistic modelling as well as the structural behaviour under extreme loading.

Speaker:
Prof Bassam IZZUDDIN is Professor of Computational Structural Mechanics and heads the CSM group at Imperial College London. Since joining Imperial in 1990, he has developed advanced nonlinear analysis methods for structures subject to extreme loading, and he has engaged in national/international collaborations with industry and fellow academics on applied structural engineering research utilising his program ADAPTIC. Besides major developments in detailed modelling, he has also developed a range of simplified analysis methods, which are currently being applied in design practice for offshore and building structures. His publication record exceeds 250 papers in leading international journals and conferences.

http://www.imperial.ac.uk/csm

Date: 19 Jun 2017 (Monday)
Time: 9.00am to 10.00am
Venue: CEE Seminar Room A, Block N1, Level B1, N1-B1b-06
School of Civil and Environmental Engineering (CEE), Nanyang Technological University