

KlimaCampus Kolloquium

Prof. Dr. Yukio Tamura

at the Invitation of the Meteorological Institute of
Universität Hamburg

Wind Resistant Design of Tall Buildings and Relevant Emerging Issues

The lecture discusses various topics related to wind-resistant design of buildings and structures. Starting from some historical matters including statistics of economic and human losses due to strong wind events, it discusses various wind climates causing damage to human societies such as tropical cyclones, extra-tropical cyclones, tornados, downbursts, dust devils, gravity winds and so on. Various wind related issues relevant to tall building constructions including pedestrian level wind environment, habitability to building vibrations, wind-induced acoustic noise, and so on are discussed. Then, typical wind-induced vibrations such as vortex-resonance of circular elements and tower-like structures, galloping and rain-wind-induced vibrations of cables, torsional flutter of bridges and so on are introduced. Next, various measures to suppress those wind-induced vibrations, e.g. aerodynamic measures changing building configurations; structural design measures; auxiliary damping devices, and some recent trends of aerodynamic measures and damping devices, are also introduced. Finally, it introduces recent and future trends of structural wind engineering, including climate change effects, virtual engineering organizations, and full-scale storm simulators.

KlimaCampus Hamburg

05.06.2014, 15:15 Uhr; ZMAW Raum 22/23; Bundesstraße 53