Associate Professor Richard Liew from Civil Engineering Department of NUS delivered the first plenary lecture on Constructability of Multistorey Buildings and Long-span structures at the North America Structural Steel Conference and the 7th Pacific Structural Steel Conference held in Los Angeles, USA from 24-26 March 2004.

The paper highlights the design challenges, recent innovations and discusses the buildability issues related to multistorey building and large span structures. The basic features of buildability of steel, which becomes the statutory requirement for Singapore’s code of practice on buildable design, are explained. Special features of prominent steel buildings and large span roof structures that have high buildable scores are presented. The advantages of using steel-concrete composite systems for multistorey construction are highlighted and the issues related to their buildability are examined. The combined use of concrete cores, steel frames and composite floors to form an integrated system is recommended for buildability and robustness performance in progressive collapse scenarios.

Advances in fire-structure modeling techniques, and on fire-protective technology, are providing further confidence in designing steel structures against willful attack. Greater emphasis is placed on collaboration between designers, suppliers, fabricators and contractors to exploit the advantages of real-world modeling through advanced analysis and 3-D steel detailing. From design to practice, Richard’s lecture offers some new pointers for design and construction of multistorey and multi-functional facilities. He concludes that steel is the preferred choice for lightweight, long span and fast track construction.