Preface

This special issue of Smart Structures and Systems, *an International Journal of Mechatronics, Sensors, Monitoring, Control, Diagnosis, and Life Cycle Engineering*, contains the papers invited from those presented at the US-Korea Joint Workshop on Smart Structure Technology for Steel Structures held in Seoul, Korea on November 16-18, 2006. The workshop was co-organized by the Smart Infrastructures Technology Center (SISTeC) at KAIST and the Korean Society of Steel Construction (KSSC) in collaboration with Lehigh University, the University of California at Berkeley, and the Asian-Pacific Network of Centers for Research in Smart Structures Technology (ANCRiSST). The objectives of the workshop were: 1) to assess the current status of research and development (R & D) in this emerging field of importance, 2) to identify critical and strategic R & D issues in the future, and 3) to promote cooperative projects between two countries.

This special issue brings together 12 excellent papers with topics focused on smart sensors, damage detection, condition assessment, structural modifications, seismic retrofit, vibration control, and their applications to steel structures. More specifically, the following subjects are covered: nano-composite, ionic polymer-metal composite, piezoelectric paint sensors; vibration-based damage detections; optimum maintenance for steel structures; seismic isolation/retrofit; real-time hybrid testing; and smart MR dampers for stay cables.

We hope that the readers may find this special issue interesting and useful for their future R&D and field application activities related to improving the safety, reliability, longevity, and performance of various steel structures. We will also like to express our sincere appreciation to the authors for their great contributions to this special issue. Our special gratitude is expressed to Dr. S.C. Liu at the US National Science Foundation (NSF), Prof. H.N. Cho, the president of the KSSC, and Prof. C.K. Choi, the responsible Editor in Chief for their leadership, encouragement, and supports during the preparation of the workshop and this special issue. The financial supports for the workshop from the Korea Science and Engineering Foundation (KOSEF), the US National Science Foundation (NSF), the Asia-Pacific Network of Centers for Research in Smart Structure Technology (ANCRiSST) and others are gratefully acknowledged.

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