

## **Preface**

### **Honoring the Career of Yozo Fujino**

This special issue of Smart Structures and Systems (SSS) is dedicated to Dr. Yozo Fujino to celebrate his outstanding and innovative contributions to structural engineering during his career. The papers in this issue present a wide range of recent results on bridge dynamics, wind and earthquake effects on structures, health monitoring, and passive/active control technology. This collection of papers also provides a glimpse into the broad nature of Dr. Fujino's interests.

Prof. Fujino is an internationally recognized leader who has been an inspiration to industrial and academic scientists and engineers for over 30 years. During his brilliant academic career, Prof. Fujino has made and continues to make fundamental contributions to dynamics, control and monitoring of bridges considering both wind actions and earthquakes loading. He made significant academic contributions in modeling the nonlinear vibration of cable-stayed bridges and their active/passive control in the 1990s. He is the first person who identified the lateral vibration of cable-stayed bridges due to the synchronization of human walking in 1990, long before the well-known vibration problems of London's Millennium Bridge occurred. His studies on multiple tuned mass dampers (MTMD) and tuned liquid damper (TLD) are well known and frequently cited. In the past decade, he did ground breaking work on vibration-based monitoring, successfully extracting aerodynamic self-excited forces from ambient vibration of a suspension bridge and recognizing vibration modes that were not considered in design from seismic response data. The outcomes of his research are summarized in more than 300 papers in peer-reviewed international journals and more than 700 papers in international conference proceedings. In addition, he has consulted on over 30 signature bridge projects including Akashi Kaikyo Bridge in Japan, Millennium Bridge (vibration control) in UK and Stonecutters Bridge in Hong Kong, demonstrating his recognition not only for his research achievements, but also for his practical knowledge and experience in bridge engineering.

In addition to his numerous contributions to science and engineering, Dr. Fujino is a dedicated and passionate teacher and professor, inspiring young scientists and engineers to advance their knowledge and experiences. His exceptional guidance and mentorship has resulted in the graduation of over 150 M.E. and Ph.D. students, with many of these talented individuals contributing to and shaping the current industrial and academic civil engineering fields. Indeed, we are both personally indebted to Dr. Fujino for his mentorship and friendship, as are so many in the structural engineering community.

The list of national and international awards and honors is long and impressive, including the ASCE Scanlan Medal, the IABMAS T.Y. Lin Medal, and the Medal with Purple Ribbon from the Emperor of Japan. We are sure that there will be more to come.

Dr. Fujino's remarkable talents are not confined to the realm of engineering and science, as he also an accomplished painter, focusing mainly on water-color paintings of bridges. His painting is widely known in his professional community. He uses some paintings to explain his research

results at his technical conference presentations, providing a unique and warm flavor in his presentations, as well as to send New Year's Greetings to his friends and colleagues. For his demonstrated commitment to the social and artistic side of the profession, he recently received the ASCE Winter Award.

Dr. Fujino is currently a Distinguished Professor of Advanced Sciences at Yokohama National University (YNU) in Japan. He is also jointly appointed as a Program Director (Policy Adviser) for the Council for Science, Technology and Innovation, Cabinet Office, Japanese Government. Prior to joining YNU, he served for more than 30 years as a Professor of Civil Engineering and the head of the Bridge and Structures Laboratory at The University of Tokyo.

On behalf of all the contributors to this special issue, we would like to sincerely congratulate Dr. Yozo Fujino on a truly amazing career and wish him good health, happiness, and many more contributions to structural engineering in the years to come.

Billie F. Spencer, Jr.  
Paolo Gardoni  
University of Illinois at Urbana-Champaign

March 2015

