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PREFACE

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PREFACE

This issue of the *Journal of Mechanics of Materials and Structures* is dedicated to Pisidhi Karasudhi, Professor Emeritus at the Asian Institute of Technology, Thailand (see next page). It contains invited papers, mainly from authors who spoke at the Tenth East Asia-Pacific Conference on Structural Engineering and Construction, in a symposium entitled Recent Advances in Structural Engineering, Mechanics and Materials (August 4 and 5, 2006). The symposium consisted of six technical sessions and a special session on Modern Engineering Education Strategies and Practices. Thirty-two invited papers were included in the technical program. The authors came from Australia, Canada, Hong Kong, Japan, Singapore, Thailand and the United States of America.

The papers are ordered alphabetically according to first author. The first paper by Borujeni, Maijer and Rajapakse is a numerical investigation of the effects of strain rate and boundary conditions on the overall mechanical response and nucleation/evolution of transformation bands in shape memory alloys. In the next paper, elastodynamic reciprocity relations are developed by Karunasena for wave scattering by flaws, when guided waves are allowed to propagate in fiber-reinforced composite plates. The next two papers are in the area of numerical simulations. Liu, Swaddiwudhipong and Pei discuss numerical simulations of micro and nano indentation tests, while Madurapperuma and Puswewala report on their work on finite element modeling of soil creep. In the next paper Selvadurai, Scarpas and Kringos examine the problem of contact between an isotropic elastic halfspace and a rigid circular indenter, where contact is achieved through a set of Winkler ligaments. The next two papers are in the area of dynamics. The dynamic response of multiple flexible strip foundations resting on a multilayered poroelastic half-plane is considered by Senjuntichai and Kaewjuea while Takemiya uses the thin-layer method to determine the transient ground response due to impulse and moving loads. In the next paper Valliappan and Chee combine degradation evaluation methods, damage mechanics, and the finite element method to examine the safety of mechanical structures with age-related degradation. A study of tsunami propagation using the characteristic-based split method is reported by Wijaya, Bui and Kanok-Nukulchai. The dispersive behavior of waves propagating in a prestressed compressible elastic layer with constrained boundaries is studied by Wijeyewickrema, Ushida and Kayestha. In the last paper of the volume, Yang, Kitipornchai and Liew examine the nonlinear local bending of FGM sandwich plates.

We wish to thank all contributors to this issue and the symposium and the reviewers for their valuable comments. We especially thank Professor Charles R. Steele, the Chief Editor of the *Journal of Mechanics of Materials and Structures*, for agreeing to publish this volume as a special issue and Dr. Silvio Levy, Scientific Editor, for his assistance.

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BIOGRAPHICAL NOTE

Pisidhi Karasudhi was born on February 2, 1939 in Bangkok, Thailand. He received a Bachelor's Degree in Civil Engineering in 1961 from Chulalongkorn University in Bangkok, and was among the select few admitted that year to the Master's program in Structural Engineering offered by the SEATO (Southeast Asia Treaty Organization) Graduate School of Engineering in Bangkok. He graduated from there in 1963. He did his postgraduate studies at Northwestern University in Evanston, Illinois (USA), under the supervision of the world-renowned academics Seng-Lip Lee and Leon M. Keer. His Ph.D. dissertation in Theoretical and Applied Mechanics, completed in 1968, was one of the first rigorous treatments of a vibrating rigid structure on an elastic half-space.

Dr. Karasudhi joined the Division of Structural Engineering at the Asian Institute of Technology in 1969, and reached the rank of full professor in 1978. A skilled administrator, he also served as Chairman of the Division from 1975 to 1983. He held visiting professorships at the University of Tokyo in 1979 and the National University of Singapore in 1985. In 1993 became the Founding Dean of the School of Civil Engineering at AIT. As the Institute's Vice-President of Development from 1994 till his retirement from AIT to 1999; in that position he was entrusted with raising funds and developing strong relationships with a large group of donors. He was promoted to the rank of Chair Professor, the highest academic rank at AIT, in 1995. He served as Acting President of AIT on multiple occasions and was a member of the Board of Trustees.

Professor Karasudhi was known for very high academic standards and excellent research. He taught a wide range of graduate courses at AIT including courses in elasticity, nonlinear solid mechanics, viscoelasticity, plates, shells and elastic wave propagation. He supervised eleven doctoral students and over a hundred master's students from all over Asia. He has been a continuous source of inspiration to his students and junior colleagues and mentored them with great dedication. Many of his former students now serve in senior positions in academia, government and industry in Asia, Australia and North America.

His early research was in elastostatic and elastodynamic problems of semi-infinite media and the structural dynamics of tall buildings. Later he supervised doctoral and master's theses dealing with load transfer problems, made seminal contributions to the topic, and applied his solutions to practical problems such as negative skin friction analysis of piles and consolidation settlement of piles. In computational mechanics, he made significant contributions to the finite element analysis of plates and shells. He did pioneering research on low-cost construction materials such as ferrocement and rice-husk-ash cement and concrete. In the 1980s and 1990s, he contributed greatly to the development of infinite elements for poroelastic and layered elastic media: his rigorous examination of elastic wave fields in a bimaterial system led to the creation of the first elastodynamic infinite element for layered media.

Over a hundred research papers and monographs bear Karasudhi's name; his graduate textbook *Foundations of Solid Mechanics* (Kluwer, 1991) quickly became a classic. A member of several learned societies, he was honored with the title of Fellow of the Engineering Institute of Thailand, and chaired its civil engineering chapter from 1986 to 1988. He was a sought-after reviewer for specialized journals and an editorial board member of the *International Journal for Computational Mechanics*, the *International Journal of Structures* and the *Journal of Ferrocement*. He was also active as a consultant to industry.

