

## Preface

These volumes of Advanced Materials Research (AMR) contain the refereed high quality papers that were accepted for presentation at the Seventh International Conference on Fracture and Strength of Solids, FEOFS 2007, on August 27-29 at Kunlun Hotel, Urumqi, China, organized by Far East and Oceanic Fracture Society (FEOFS) and School of Mechanical Engineering, Xinjiang University.

The FEOFS was founded in 1987 with the name of Far East Fracture Group (FEFG) for the purpose of fostering researches in the Far East Nations and Regions in fracture, fatigue and strength of materials. It was also aimed at promoting co-operation among scientists and engineers in these fields. In 1994, FEFG was renamed as the Far East and Oceanic Fracture Society (FEOFS) by taking the opportunity of membership approval to Australia. With the sponsorship of FEOFS, the conference now becomes a major event for the mechanics and mechanisms of fracture, fatigue and strength of solids in this area. The triennial conference is the seventh in the series after the tremendous success in Singapore (1991), in Xi'an (1994), in Hong Kong (1997), in Pohang (2000), in Sendai (2003) and in Bali (2005).

The FEOFS 2007 collaborates with two symposiums, International Conference on Computational Science and Engineering, and A Mini-Symposium on Fracture, Plasticity, Micro-and Nano-mechanics to celebrate the 80th anniversary of Prof. K.C. Hwang. The main objectives of the joint conferences were to review the state of progress, to present their latest findings and to exchange ideas among engineers and scientists involved in fracture and strength of solids, and in computational science in engineering. We have received about 300 contributed papers from leading researchers and participants from 11 country and region as China, Korea, Japan, Indonesia, Malaysia, Australia, Germany, France, Chinese Taipei, Hong Kong (China) and Romania around the world. We strongly hope the new ideas and results presented in the proceedings will stimulate and enhance the progress of the fracture mechanics, materials behavior and computational science researches, as well as the fundamental understandings in these fields.

This volume covers broad areas of Fracture Mechanics and Mechanisms, Fatigue and Crack Propagation, Damage Tolerance and Fracture Control, Interface Failure and Delamination, Dynamic Fracture and Impact Problem, Creep Problems and Modeling, Composite and Metallic Materials, Concrete and Soil, Smart Materials and Structures, Computational Methods and Modeling, Nanomechanics and Nano Structure, Biomechanics and Computational Biology, Environmental Problems and Fluid Mechanics, Geomechanics and Geomaterials Integrity and Health Monitoring Materials by Design, Dynamics of Materials and Structures, Erosion and Corrosion, Thermal Deformation and Thermoelastics, Structural Optimization and Design, and the other novel methods of computer modeling in engineering and sciences.

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