

PREFACE

Micromechanics has as its objective the bridging of the material microstructure to its mechanical response. This task, however, necessitates quite often a consideration of spatial material randomness, and thereby, a creation of micromechanical models and theories more general than the deterministic ones. The importance of such models has led over the recent years to organization of many national and international meetings focused on this vast subject at the intersection of mechanics, materials science, applied mathematics and physics, and other areas of science and engineering.

In June 1993 a Symposium on Micromechanics of Random Media was held at the University of Virginia. That symposium resulted in twenty papers published as a special supplement to the *Applied Mechanics Reviews* (Vol. 47, No. 1, Part 2, 1994), which were a representative cross section of the ongoing research on random microstructural effects in mechanics of solid media. Interest in such problems has not abated, and so, in 1996 we organized another symposium on the same subject that was run within an ASME International Mechanical Engineering Congress and Exposition in Atlanta in November 1996. The present issue is therefore named *Micromechanics of Random Media II*.

The issue provides a perspective on current interests in this area. The ten contributed papers range over topics from random geometry of composite materials, scale effects, homogenization and effective elastic properties, elastoplasticity, phase transformations, through fracture and damage in disordered composites. Arrangement of the papers in this issue reflects this sequence of topics. It is hoped that the present issue will not only provide a perspective and reference on current trends and advances in micromechanics, but also serve as a kind of enticement for others to join in this interesting and challenging field.

We wish to thank all the participants for their contributions to this issue, all the reviewers, and the *International Journal of Solids and Structures* for providing the opportunity to publish this issue.

I. JASIUK

*The George W. Woodruff School of Mechanical Engineering
Georgia Institute of Technology
Atlanta, GA 30332-0405, U.S.A.*

M. OSTOJA-STARZEWSKI

*Institute of Paper Science and Technology, and
Georgia Institute of Technology
500 10th St., N.W.
Atlanta, GA 30318-5794, U.S.A.*