

Preface

This volume contains select papers presented at the 4th International Conference on Material Modeling (ICMM4), which took place May 27-29 at the campus of the University of California, Berkeley. By all meaningful measures, ICMM4 was a great success, attracting over 211 participants (ranging from senior colleagues to graduate students) from 5 continents and featuring a technical program that well reflected the cutting-edge of materials modeling research. The first of the series to be held across the Atlantic, ICMM4 signaled the broadening of the conference's international reach and its increasing appeal among mechanicians and materials scientists.

ICMM4 included thematic session on the following topics: Micro-and Nano-Scale Modeling of hcp Alloys; Nonlinear Elasticity and Viscoelasticity; Plasticity and Viscoplasticity; Multiscale Modeling; Experimental Identification and Material Characterization; Dislocation Dynamics; Strain Gradient and Nonclassical Approaches; Atomistic to Continuum Transitions; Polymeric Materials; Nanomechanics; Creep, Damage, Fracture, and Fatigue; Granular Materials and Particle Systems; Statistical Mechanics; Creep, Damage, Fracture, and Fatigue; Composites; Phase-Transforming Materials; Multiferroic Materials; and, Electronic Materials. The papers struck an admirable balance between theory, analysis, computation, and experiment, thus contributing a richly diverse set of perspectives and methods to the audience of the conference.

All participants were invited to submit full-length papers to a special issue of *Technische Mechanik*. The contributed papers, representing a cross-section of the conference, were peer-reviewed and appear in this volume.

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