

Preface

European Materials Research Society organises every year the Fall Meeting in September in Warsaw. The 2008 Meeting was held from 15 to 19 September at the Warsaw University of Technology. This volume of Solid State Phenomena contains proceedings of the Symposium *C Smart Materials for Smart Devices and Structures*

Smart Materials are recognised as materials that can respond to environmental stimuli with particular changes in some variables such as mechanical and physical properties, structure, composition or functions. Growing interest in their development is driven by emerging applications and integrations of smart materials into industrial systems including civilian, industrial, medical and military applications. Among them are composite multiferroic materials exhibiting two or more ferroic features such as ferromagnetism/magnetostriction, ferroelectricity/piezoelectricity or ferroelasticity/shape memory effects due to their unusual responses, including very large magneto-electric susceptibility, giant magnetostriction and energy coupling coefficients approaching one. The other systems include shape memory and magnetic shape memory alloys, magnetostrictive materials, magnetorheological fluids and polymers.

The Symposium highlighted advances in the development of smart materials with a special focus on numerical modelling, fabrication methods, technologies, and properties, sensing and processing capabilities, in the light of their potential applications in smart structures, devices and systems.

Among the relevant scopes of the Symposium were new capabilities, remarkable performance enhancement or cost reduction, new ideas and directions for future development.

The Symposium brought together researchers from various fields, including contributions from materials engineering, mechanical engineering, theoretical and applied mechanics, electronics, electromechanics and manufacturing.

We want to take the opportunity of thanking everyone involved in the organization of this meeting: the Local Organizing Committee, the International Scientific Committee, the Reviewers and especially all the Participants whose contributions assured the high scientific level of this Symposium.

Chairman of the Symposium
Professor Marcin Leonowicz