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Anand K. Asundi
Wolfgang Ecke
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Preface

The Second International Conference on Smart Materials and Nanotechnology in Engineering was successfully held , –11 July 2009 in Weihai, China. This unique conference offered many opportunities to communicate with colleagues from a variety of disciplines in universities, companies, factories, and governments from all over the world. As a premier event, this conference promised great excitement, inspiration, and benefits. We hope the conference will be a series that encompasses and bridges the rapidly evolving smart materials and the cutting edge nanotechnology for varied applications.

In the last decade, a wide range of novel smart materials have been produced for aerospace, transportation, telecommunications, and domestic applications. Meanwhile, nanotechnology is rapidly developing and it permits control of matter at the level of atoms and molecules which form the building blocks of smart materials. Thus the combination of these two fields provides many advantages, realizes novel designs that could not be achieved in traditional engineering, and offers greater opportunities as well as challenges.

This conference deals with the integration of smart materials and nanotechnology for applications ranging from bioengineering to photonics, with emphasis on the application in aerospace engineering. It also addresses and predicts novel developments in this field. It discusses various topics including: shape-memory alloys and polymer, electro-active polymer, piezo-materials, electro and magneto restrictive materials and fluids, fiber optic sensor, MEMS sensors and actuators, sensors and actuators, thermo materials, photonic materials, dielectric elastomers, nanocomposites and others.

We received 750 abstracts in response to the call for submissions. Of these we invited authors of 390 abstracts to submit full papers. Also, 7 plenary speakers and 54 keynote speakers were selected to inform and inspire the attendees. 280 papers were presented in 61 oral sessions and 110 papers were presented in 3 poster sessions. The full papers we received were then sent for peer reviews and 257 manuscripts were selected to be published in this SPIE volume.

We would like to take this opportunity to thank the organizing committee, the cooperating organizations, the international scientific committee and every attendee whose support, dedication, and cooperation make this event more exciting, inspiring, and fruitful. This SPIE volume would not have been possible without the support of many colleagues. First and foremost, we wish to express our appreciation for SPIE staff for giving us the opportunity to organize the proceedings with SPIE. Next we thank the reviewers who spent hours reviewing papers in the editorial process.

We hope all the participants benefited from this conference and it should be very interesting to see how the smart materials and nanotechnology field will be further developed at the Third International Conference on Smart Materials and Nanotechnology in Engineering in 2011.

Honorary Chair

Prof. Shanyi Du

Member of Chinese Academy
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Chair

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