

## Special Issue of the Conference ‘Smart Sensors, Actuators and MEMS’, within the SPIE Europe Symposium ‘Microtechnologies for the New Millennium’ Dresden, Germany, 4–6 May 2009

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The biannual Symposium was initiated in 2003 by José Fco. López from the University Las Palmas de Gran Canaria. Following events took place in Seville, Spain 2005 and again on the Canary Islands, Spain 2007. In 2009, the SPIE EUROPE Symposium ‘Microtechnologies for the New Millennium’ went for the first time outside Spain to Dresden, Germany, in the heart of Europe and the European micro and semiconductor technology. The focus of the Symposium, chaired by Thomas Becker from EADS Innovation Works, is to discuss the latest advances on a variety of technologies, addressed in five conferences ‘Smart Sensors, Actuators and MEMS’, VLSI Circuits and Systems, Nanotechnology, Bioengineered and Bioinspired Systems and Photonic Materials, Devices and Applications, which are already shaping this millennium.

In the conference ‘Smart Sensors, Actuators and MEMS’, chaired by Ulrich Schmid (Vienna University of Technology), about 60 contributions from Europe, America and Asia were presented and grouped into 11 sessions including a poster session. The interdisciplinary spirit of the event was displayed by a wide range of topics based on the latest results which were achieved in the research and development areas of precision engineering and MEMS. Therefore, sessions focused on material and fabrication aspects, on micromachined sensors and actuators for the determination of biological, physical and chemical quantities as well as on reliability issues. Moreover, optical and RF MEMS have been presented and more application oriented topics such as energy harvesting, microfluidic systems and ultra-low power, wireless sensing, were discussed. Due to this broad range of topics. Researchers

coming from academia and industry with their specific backgrounds created a very stimulating atmosphere for the exchange of new ideas. From the 60 papers accepted for presentation at the conference 27 prominent candidates were selected for this special issue as revised full length papers representing the interdisciplinary spirit of this event. According to the regulations set by *Microsystem Technologies* all papers went through a regular review process.

Finally, we would like to thank all the reviewers for the work making this special issue possible. We hope you’ll enjoy reading it and take inspiration from it for new ideas.



Prof. Dr. Thomas Becker Symposium Chair and Guest Editor



Prof. Dr. Ulrich Schmid Conference Chair and Guest Editor



Prof. Dr. Bernd Michel Editor-in-Chief of MST

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