Special Issue of the Conferences ‘Smart Sensors, Actuators and MEMS’, ‘Cyber-Physical Systems’ and ‘Bio-MEMS and Medical Microdevices’ within the SPIE EUROPE ‘MICROTECHNOLOGIES’ Symposium Barcelona, Spain, 4–6 May 2015

Ulrich Schmid¹ · Jose Luis Sanchez-Rojas² · Sander van den Driesche³ · Riccardo Brama⁴ · Bernd Michel⁵

Published online: 25 May 2016
© Springer-Verlag Berlin Heidelberg 2016

The biannual Symposium was initiated in 2003 by José Fco. López from the University of Las Palmas de Gran Canaria. The following events took place in Seville, Spain 2005, again on the Canary Islands in 2007, and in 2009 for the first time outside of Spain in Dresden, Germany. In 2011 the symposium was organised in Prague, Czech Republic, and in 2013 hosted in Grenoble, France. In 2015 the SPIE EUROPE ‘MICROTECHNOLOGIES’ Symposium took place in Barcelona, Spain. The focus of this Symposium, chaired by Ulrich Schmid from Technische Universität Wien, is to discuss the latest advances on

a variety of technologies, addressed in five conferences: Smart Sensors, Actuators and MEMS, Cyber-Physical Systems, Nanotechnology, Bio-MEMS and Medical Microdevices, and Integrated Photonics: Materials, Devices and Applications, which are already shaping this millennium.

In the three conferences chaired by Jose Luis Sanchez-Rojas (Universidad de Castilla-La Mancha), Riccardo Brama (CMC Labs) and Sander van den Driesche (Universität Bremen) about 129 contributions from Europe, America and Asia were presented, divided into 18 oral sessions and 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 micro- and nanomachined devices and systems. Therefore, sessions were focused on material and fabrication aspects, MEMS sensors and actuators for the determination of biological, physical and chemical quantities as well as on reliability issues. Moreover, also application oriented topics such as energy harvesting, bio-sensing 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 129 papers accepted for presentation at these conferences 42 prominent candidates were selected for this special issue as extended full length papers representing the interdisciplinary spirit of this event. According to the regulations set by *Microsystem Technologies* all papers went through the regular peer review process.

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

✉ Ulrich Schmid
ulrich.e366.schmid@tuwien.ac.at

Jose Luis Sanchez-Rojas
JoseLuis.SALdavero@uclm.es

Sander van den Driesche
sdriesche@uni-bremen.de

Riccardo Brama
r.brama@gmail.com

Bernd Michel
bernd.michel@coinn.de

¹ Institute of Sensor and Actuator Systems, TU Wien, Gusshausstrasse 27-29, 1040 Vienna, Austria

² Group of Microsystems, Actuators and Sensors, E.T.S.I. Industriales, Universidad de Castilla-La Mancha, 13071 Ciudad Real, Spain

³ Department of Physics and Electrical Engineering, Institute for Microsensors, Actuators and Systems (IMSAS), University of Bremen, Otto-Hahn-Allee NW1, 28359 Bremen, Germany

⁴ CMC Labs, Contrada Pagliarulo, snc, 72012 Carovigno, BR, Italy

⁵ Micro Materials Center Berlin (MMC), Volmerstrasse 9B, 12489 Berlin, Germany

Prof. Dr. Ulrich Schmid
Symposium Chair and Guest Editor

Prof. Dr. Jose Luis Sanchez-Rojas
Conference Chair and Guest Editor

Dr. Sander van den Driesche
Conference Chair and Guest Editor

Dr. Riccardo Brama
Conference Chair and Guest Editor

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