

Preface

The 2nd International Conference on Materials and Applications for Sensors and Transducers, Budapest, Hungary, taking place one year after the 1st meeting in Kos, hosted about 240 oral and poster papers and more than 150 participants.

The rising question is whether this happened accidentally, or is a necessity in the field of sensors. For all of us, working in the field of materials and applications of sensors and transducers (material and sensor designers, sensor users and other personnel involved in instrumentation and measurement) the existing and established conferences in this particular field suffer from two distinguished and recognized drawbacks: the first is the increasing orientation in integrated systems and micro-nano electronic technology, while the second refers to very specific meetings related to either materials for sensors (i.e. semiconducting, superconducting, magnetic etc) or given types of sensors (magnetometers, chemical sensors etc).

Thus, a conference trying to meet the needs for various types of sensors, particularly those ones which may be manufactured by low cost methods (i.e. hybrid sensors, smart specialization devices, particular applications not necessarily requiring integrated micro-nano technologies), covering all types of materials and physical effects, appears to be a necessity.

The MAST International Conference becomes then a MUST in the sensor community, trying to meet the above mentioned goals by:

- I. Gathering together multinational researchers from all over the world, working in different materials for sensors and transducers and technical applications of sensors, but also in some cases in the management of the data coming from sensors and transducers; the careful selection of the conference place allows (like Aegean Sea, Budapest etc) allows for enjoying the local hospitality and sightseeing
- II. Emphasizing in hybrid sensors and smart specialization devices produced by inexpensive methods, without excluding of course micro-nano technology, from all kinds of solid state, liquid and gaseous materials, as well as in particular transducer applications (design and development, as well as use of sensing data)
- III. Publishing the conference proceedings in the form of 4-page papers in a compact volume of Key Engineering Materials which has a certain large impact in CPSI, while long versions of complete research articles are subject of publication in Sensor Letters and the Journal of Optoelectronics and Advanced Materials, both ISI Journals
- IV. Innovatively implementing the Virtual Paper Concept, allowing for large impact of research works presented in the conference by authors who either have no time or no funding support for visiting a conference; this year more than 30 virtual papers are presented in the 2nd IC MAST, following a standardized procedure via the our robust and reliable Conference Site (www.icmast.net)

V. Allowing for lengthy technical and managerial discussions in terms of sensor, material and instrumentation development; furthermore, the different research groups gathered together are offered the particular advantage of arranging and concluding research proposals and projects, otherwise not having a visible possibility of such realization

The 2nd IC MAST organizing committee is proud that the Conference Keynote Speaker was **Manu Barandiaran**, a Distinguished Professor from Spain, presenting the current advances in the field of magnetics and multiferroics.

We are also proud for the invited speakers of the conference:

Dr Tapas Sen, University of Central Lancashire, presenting recent advances in Surface engineering of nanoparticles / nanocomposites for applications in bio-sensors and bio-catalysis

Dr. Ioannis Raptis, Director of Research in the National Research Centre for Scientific Research "Demokritos", Greece, presenting the recent advances in micro and nano electronic technology

Dr. Quentin Ramasse, Research Fellow at the Super-STEM Facility, UK, a member of the team working in grapheme (Nobel Prize in Physics, 2010)

The IC-MAST 2012 organizers believe that the target of the Conference has been successfully met by enhancing knowledge in sensors by all participants, accelerating the achievement of results and optimizing the under design products, in a quite friendly way! Therefore, participants made an appointment for the next year in Prague, where the 3rd International MAST Conference will be realized!

The Conference Chairmen



Evangelos Hristoforou
National TU of Athens



Dimitrios Vlachos
University of Peloponnese

Conference details

2nd International Conference on Materials and Applications for Sensors and Transducers May 24-28, 2012, Budapest Hungary

Chairmen

Hristoforou, National Technical University of Athens, School of Mining and Metallurgy Engineering

D. Vlachos, University of Peloponnese, Department of Computer Science and Technology

Committees

Damianos Sakas, University of Peloponnese

S. Diplas, Sintef Oslo, Norway

D.Kouzoudis, University of Patras, Editor-in-Chief, Sensor Letters

M. Popescu, Editor-in-Chief, Journal of Optoelectronics and Advanced Materials

P. Svec, SAS, Bratislava, Slovakia

H. Chiriac, National Institute for R&D in Technical Physics, Iasi, Romania

R. Germano, Promete, Naples, Italy

I. Raptis, NCSR "Demokritos", Athens, Greece

Raffaele Battaglia, Novaetech Srl

Christophe Dolabdjian, University of CAEN, France

Pavel Ripka, Czech Technical University, Czech Republic

Saci Messaadi, Université de Batna, Algeria

Nico Avdelidis, TWI, UK

Faramarz Hossein-Babaei, K.N. Toosi University of Technology, Iran

Keynote speaker

Prof Jose Manuel Barandiaran, Universidad del País Vasco (UPV/EHU)

Invited speakers

Dr Tapas Sen, University of Central Lancashire

Dr Quentin Ramasse, Scientific Director of the SuperSTEM Laboratory

Dr Ioannis Raptis, Institute of Microelectronics at the NCSR 'Demokritos'