



10th International Conference on:

4M2012

Multi-Material Micro Manufacture

Conference Chair: Humbert Noll, FOTEC and University of Applied Sciences
Wiener Neustadt, Austria

Conference Co-Chairs: Stefan Dimov, Birmingham University, UK
Nadja Adamovich, Vienna University of Technology, Austria

9th-11th October 2012

Vienna, Austria



Organised by FOTEC, TUWien and the 4M Association, with support of the FP7 Integrated Project COTECH, and in Partnership with I2M2



fotec
research + technology



www.4m-association.org/conference/2012

Scope

In today's market, miniaturised and microsystems-based products represent key value-adding elements for many industrial sectors and thus are an important contributor to a sustainable economy. Following the silicon-based microelectronics revolution of the late twentieth century, a number of micro and nano manufacturing techniques have been developed and implemented into process chains for the fabrication of Micro Electro Mechanical Systems (MEMS). Especially, these technology developments have targeted niche markets and as a consequence, a number of MEMS devices are now being effectively exploited commercially. To address the continuing trend for product miniaturisation and the constantly growing demand for novel products enabled by Micro and Nano Technologies (MNTs) the 4M Conference series has, since 2005, been bringing together researchers and industrialists engaged in multi-disciplinary research and development of micro and nano manufacturing platforms and their various existing and emerging application areas.



4M2012 will once again create a forum for the presentation of, and discussions about, the latest advances in manufacturing capabilities to meet the demands for:

- **Product miniaturisation** through innovative integration and development of knowledge-based technologies and production concepts (especially micro and nano) for the processing of non-silicon materials;
- **Prediction of product and process performance** to reduce/manage the risk during product development and production, and to reduce time to market for the next generation of microsystems-based products;
- **Future product platforms** to meet the requirements of the next generation of microsystems-based products, and of more stringent regulations and environmental legislation; and
- **Production scale-up** to ensure effective and efficient transfer of product and technology ideas from laboratories to serial production.

Themes

Papers are invited that present original research and development in processes and process chains for multi-material micro and nano manufacture, in particular but not limited to:

- **Novel materials:** characterisation and processing;
- **Process modelling and simulation;**
- **Process chains** including their **characterisation and control;**
- **Metrology:** inspection and characterisation methods;
- **Components:** fabrication and assembly technologies;
- **Systems:** novel product and system designs.

These six sub-topics represent the intended content of the 4M2012 thematic sessions, to which the authors are invited to submit papers. The Conference will also feature invited special sessions focussed on the latest technology and application advances achieved in major EC-funded projects.

Organising Committee:

Humbert Noll, FOTEC, Austria (**Chairman**)
Nadja Adamovich, TUWien, Austria (**Co-chair**)
Stefan Dimov, Birmingham University, UK (**Co-chair**)
Werner Brenner, TUWien, Austria
Chantal Khan-Malek, FEMTO-ST, France
Bertrand Fillon, CEA, France
Sabino Azcarate, TEKNIKER, Spain
Stéphane Bredeau, CEA, France
Hans Nørgaard Hansen, DTU, Denmark
Massimiliano Annoni, Politecnico di Milano, Italy
Victoire de Margerie, RONDOL Ltd, UK
Ulf Engel, University of Erlangen-Nuremberg, Germany
Kornel Ehmann, Northwestern University, IL, USA
Antony H.C.Lee, MIRDC, Taiwan
Dan Dascalu, IMT-Bucharest, Romania
Giancarlo Maccarini, Università Degli Studi Di Bergamo, Italy

Susan Anson, KIT, Germany
Lars Mattsson, KTH, Sweden
Eleonora Ferraris, KULeuven, Belgium
Martin Richter, FhG EMFT, Germany
Sjoerd Haas, IMEGO, Sweden
Andreas Schoth, University of Freiburg, Germany
Volker Schulze, KIT, Germany
Luc Federzoni, CEA, France
Heinz Kück, HSG-IMAT, Germany
Holger Reinecke, HSG-IMIT & IMTEK, Germany
Pieter Bolt, TNO, Netherlands
Maurice van der Beek, Philips, Netherlands
Per Johander, Swerea-IVF, Sweden
Alexander Stuck, CSEM, Switzerland
Helmut Loibl, FOTEC, Austria
Chris Matthews, Cardiff University, UK

Submission of Full Papers

- Submission site opens 1st February 2012. **Deadline 9th March 2012.**

Paper Review

To ensure a high-quality Conference all papers will be reviewed by fellow authors under the leadership of the Session Chairs.

Oral and Poster presentation

Submitted papers may be selected for oral or poster presentation. All oral and poster presentations will be included in the Conference Proceedings.

Provisional Dates:

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| ○ Submission site will open: | 1st February 2012 |
| ○ Submission deadline for full papers: | 9th March 2012 |
| ○ Feedback from the peer review to authors: | 8 th May 2012 |
| ○ Submission deadline of revised paper: | 8 th June 2012 |
| ○ Notification of acceptance in Final Publication: | 2 nd July 2012 |
| ○ Submission of Final paper: | 27 th July 2012 |
| ○ Authors Final Registration: | 15 th August 2012 |
| ○ Public Final Registration: | 28 th September 2012 |

Proceedings:

All final papers accepted for presentation may be included in the 4M2012 Proceedings to be published by a well known international scientific publisher. Selected papers may be considered for publication in Special Issues.

Conference Secretary

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