

Dear Reader,



The Network of Excellence (NoE) Patent-DfMM aims to establish a collaborative team to provide European industry with support in the field of "Design for Micro & Nano Manufacture (DfMM)" to ensure that problems affecting the manufacturing and reliability of products based on micro & nano technologies (MNT) can be addressed before prototyping and production. For more information: <http://www.patent-dfmm.org/>

Welcome to the new edition of our bi-monthly E-Newsletter, which will keep you updated on project related activities, but also on other DfMM activities that run outside of the project.

We apologise in case you have been added to our database in error: if so, please reply by e-mail with "UNSUBSCRIBE" in the subject field.

We welcome your comments and contributions.

Happy reading!

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News from the NoE Patent-DfMM

PATENT-DfMM and NEXUS MWG Reliability & Test, DfMM Tutorial Session and MEMUNITY workshop, NEXUS Annual General Meeting and FP7 Workshop, 27-29 Nov 2006, Milan, Italy

Participation in all three days is open to interested people and free of charge! A special edition of DfMM News has been sent out to announce this event.

Please visit our website www.patent-dfmm.org for further information and a registration form.

PATENT-DfMM and NEXUS MWG Design Modelling Simulation Workshop, 25-26 Jan 2007, Berlin, Germany

(this workshop was originally planned for Oct 2006)

The objective of this workshop is to identify needs of the MEMS industry (fabless design houses, manufacturers, etc.) in terms of design methodology and software tools. As an outcome, PATENT-DfMM aims at a first draft road map identifying key challenges as well as probable developments associated with future design methodologies and tools in the areas of DfT (Test), DfR (Reliability), DfY (Yield) and DfP (Packaging) strategies for MNT.

MEMS designers from industry and research labs, as well as MEMS software tool providers are welcome to participate. Active participants will receive a copy of the resulting “roadmap documentation”. The workshop is jointly organised by the NEXUS MWG Design Modelling Simulation (DMS) and PATENT-DfMM.

Contact: Patric Salomon, 4M2C, Germany, E-mail: patric.salomon@4m2c.com, www.patent-dfmm.org

PATENT-DfMM role in the INTEGRAMplus EUROPRACTICE Project

Future integration platforms for MNT such as those targeted by INTEGRAMplus represent a step-change in complexity. The ability to consider manufacturability and reliability during the design process is hence critical. For this reason, INTEGRAMplus has built a formal link into the key EU expert cluster in DfM, to ensure access to resource expected to be required by customers of the service.

To ensure optimal access to DfM skills and resources, a budget of €100k is managed by INTEGRAMplus for the sole purpose of buying in services where necessary. The INTEGRAMplus Steering Committee will ratify any calls released. Where such a need for PATENT-DfMM type services are identified within INTEGRAMplus, an open ITT will be issued and copied to the PATENT-DfMM network with a view to receiving tenders that will be selected through a competitive process.

Contact: services@patent-dfmm.org, www.patent-dfmm.org

Event Announcements

NanoTRANSFER 2006, 13 December, Paris, France

PATENT-DfMM is a media sponsor of NanoTRANSFER 2006, the 2nd Workshop on Nanotechnology Transfer in Europe. The workshop will feature speakers presenting technology transfer opportunities ranging from partnership with commercial organizations to collaborations with research labs or European Projects. Speakers and attendees sharing the same business interests will benefit from intensive networking based on pre-arranged meetings.

To register please visit: <http://www.nanosprint.com/workshop/2006/>.

Integration & Commercialization of Micro & Nanosystems, 10-13 Jan 2007, Sanya, Hainan, China

PATENT-DfMM is a media sponsor of this networking event that offers the exchange of ideas with nearly 500 global experts who have submitted state-of-the-art micro and nano advances to the MicroNanoChina conference. Best early-bird rates available until November 24, 2006. Co-organized by the Nanotechnology Institute of American Society of Mechanical Engineers (ASME), the Micro/Nano Manufacturing Technology Institution of the Chinese Mechanical Engineering Society (CMES), & the Micro and Nanotechnology Commercialization and Education Foundation (MANCEF), the conference will focus on the state-of-the-art research & development in micro- & nano-scale phenomena, devices, systems, manufacturing, & commercialization of micro- & nano-technologies. *To register, exhibit or sponsor please visit: www.asmeconferences.org/micronanoChina07.*

List of Events

10 November 2006

INTEGRAMplus Launch Workshop “Big Business from Small Beginnings”

Malvern, UK

www.integramplus.com

14 - 17 November 2006

Electronica 2006

Munich, Germany

www.electronica.de

21 - 23 November 2006

IST Event 2006

Helsinki, Finland

http://europa.eu.int/information_society/istevent/2006/index_en.htm

27 - 28 November 2006

PATENT-DfMM and NEXUS MWG Reliability and Test Workshop

Milan, Italy

www.patent-dfmm.org

29 November 2006

NEXUS Annual General Meeting (AGM) and EC FP7 Workshop

Milan, Italy

www.nexus-mems.com

13 December 2006

NanoTRANSFER 2006

Paris, France

<http://www.nanosprint.com/workshop/2006/>

10 - 13 January 2007

Integration & Commercialization of Micro & Nanosystems

Sanya, Hainan, China

www.asmeconferences.org/micronanoChina07

21 - 25 January 2007

MEMS 2007 IEEE International Conference on Micro Electro Mechanical Systems

Kobe, Japan

www.conferences.jp/mems2007

25 - 26 January 2007

PATENT-DfMM and NEXUS MWG Design Modelling Simulation Workshop

Berlin, Germany

www.patent-dfmm.org

Abstract deadlines for conferences

Call for Papers: DTIP 2007 - Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS, 25-27 Apr 07, Stresa, Lago Maggiore, Italy

Submission Deadline: 10 November 2006

This series of Symposia is a unique event planned to bring together participants interested in manufacturing microstructures and participants interested in design tools to facilitate the conception of these microstructures. A special emphasis will be put on the very crucial needs of MEMS/MOEMS in terms of packaging solutions. The goal of the Symposium is to provide a forum for in-depth investigations and interdisciplinary discussions involving design, modeling, testing, micromachining, microfabrication, integration and packaging of structures, devices, and systems.

The CAD, Design and Test Conference will bring together researchers, engineers and practitioners involved in the development of CAD tools and design methodologies for MEMS and MOEMS. The participants will also have the opportunity to interact with the other Conference by the means of plenary talks. The Microfabrication, Integration and Packaging Conference will bring together researchers, engineers and practitioners involved in the development of integration technologies and packaging for MEMS and MOEMS. The participants will also have the opportunity to interact with the other Conference by the means of plenary talks.

More information: <http://tima.imag.fr/Conferences/dtip>

Call for participation: EDAA PHd FORUM @ DATE 07 Conference (16-20 Apr 07), Nice, France

Deadline: 12 Nov 06

The PhD forum is part of the DATE Conference and hosted by the European Design Automation Association EDAA. The PhD Forum is a great opportunity for PhD students to present their thesis work to a broad audience in the system design and design automation community from both industry and academia. The PhD Forum may also help students to establish contacts for entering the job market.

On the other side, representatives from industry and academia get a glance of state-of-the-art in system design and design automation. Students who have finished their PhD thesis within the last 12 months or students who are close to finish to their thesis work are invited to present. More information:

<http://ces.univ-karlsruhe.de/phd-forum>

Contact: Joerg Henkel, University of Karlsruhe, Germany, E-mail: henkel@informatik.uni-karlsruhe.de

Call for Demonstrations: University Booth at DATE'2007, 16-20 Apr 2007, Nice, France

Submission Deadline: 19 Jan 07

As part of the DATE'2007 (Design, Automation and Test in Europe) Conference, a University Booth will be organised for EDA software and hardware demonstrations. It offers a unique chance to exhibit prototypes to both Academia and Industry and to demonstrate pre-commercial results obtained in government funded projects. Universities, research institutes and government funded project consortia interested in demonstrating their hardware and software demonstrations are invited to fill out and return the application form.

More information: www.date-conference.com

International Semiconductor Conference (CAS 2007), 15-17 Oct 07, Sinaia, Romania

Starting with the 1995 edition, the conference has been an IEEE event, being sponsored by the IEEE Electron Devices Society. The Conference profile has been gradually extended from semiconductor device physics and technology to micro- and nano-technologies. Workshops had been held in collaboration with EC FP6 Projects such as NEXUS, PATENT-DfMM, 4M, Europractice, AMICOM and others. CAS 2007 will be held from 15th of October to 17th of October 2007, in the beautiful mountain resort Sinaia, Romania. Main topics will be: Nanoscience and nanoengineering; Micro and nanotechnologies for biomedical and environmental applications; Novel materials and intelligent materials; Microoptics and microphotronics; Micromachined devices and circuits for microwave and millimeter wave applications; Micro and nanotechnologies for transducers, interfaces and microsystems; Power devices and microelectronics (including CAD).

More information: www.imt.ro/cas

Deadline for submission of the contributed papers: 10 Jun 07

DTIP 2007 - SYMPOSIUM on Design, Test, Integration and Packaging of MEMS/MOEMS

25 - 27 April 2007

Stresa, Lago Maggiore, Italy

Abstract Deadline: 10 Nov 06

<http://tima.imag.fr/conferences/dtip/>

AMAA 2007 - Advanced Microsystems for Automotive Applications

9 - 10 May 2007

Berlin, Germany

Abstract Deadline: 1 Dec 06

www.amaa.de

Transducers '07 & Eurosensors XXI

10 - 14 June 2007

Lyon, France

Abstract Deadline: 1 Dec 06

www.transducers07.org

International Semiconductor Conference (CAS 2007)

15 - 17 October 2007

Sinaia, Romania

Abstract Deadline: 10 Jun 07

www.imt.ro/cas

Other News

New Roadmap on Nanomanufacturing

The European Working Group Micro- and NanoManufacturing has published a Roadmap on "Nanomanufacturing". The Roadmap has been developed by the Working Group between March and July 2006. The development of the roadmap has been supported by the EU-projects IPMMAN and MicroSapient. This roadmap highlights the development of the production technologies in the next years. End of June, first results of this roadmap had been given to the European Commission to provide inputs to the preparation of the 7th Framework Programme.

Contact: Wolfgang Schaefer, Fraunhofer IPA, E-mail: wolfgang.schaefer@ipa.fraunhofer.de

www.micronanomanufacturing.eu/roadmap.php

STMicroelectronics Presents Important Research Findings on MEMS

STMicroelectronics has published a new issue of the ST Journal of Research focusing on MEMS. The latest issue features articles from PATENT-DfMM partners:

More than Moore: micro-machined products enable new applications and open new markets by B. Vigna (STMicroelectronics)

Out of plane vs. in plane flexural behaviour of thin polysilicon films: mechanical characterization and application of the Weibull approach by F. Cacchione, A. Corigliano - Politecnico di Milano, B. De Masi, C. Riva - STMicroelectronics

A capacitance and optical method for the static and dynamic characterization of MEMS devices by Eleonora Ferraris, Irene Fassi, Institute of Industrial Technology and Automation, Biagio De Masi, STMicroelectronics, Richard Rosing, Andrew Richardson, Lancaster University

www.st.com/stonline/press/magazine/stjournal/vol0301/index.htm

NEXUS Market Report 2005-2009 now also available on CD ROM; Price reduction for NEXUS Roadmap Report

Over the next five years, the market of MEMS/MST is predicted to grow at a rate of 16% per year from \$12 billion in 2004 to \$25 billion in 2009 across a spectrum of 26 MEMS/MST products. The latest NEXUS Market Report had been published in January 2006 in print format, and is now available on CD ROM as well. Print or CD ROM version: €1100, bundle of both: €1300. The NEXUS Roadmap report (published end 2003) is now available at €200, or if bought as an add-on to the market report for €100.

More information: Patric Salomon, E-Mail: patric.salomon@4m2c.com, www.enablingmnt.com

MEMS simulation class “Design and Simulation of CMOS MEMS Devices”, 14-15 Nov 06, Moffett Field, CA, USA

This two day class will provide theoretical background and instruction on the system design and simulation of electrostatic MEMS devices, such as accelerometers and resonators, and their associated CMOS drive electronics. You will learn how to use MEMSPRO and ANSYS/Multiphysics to engineer your designs from layout, through finite element simulation, to SPICE simulation, and design verification.

In collaboration with A.M. Fitzgerald & Associates and SoftMEMS, this course will be hosted by Ozen Engineering, Inc. in California.

More information and registration: <http://www.ozeninc.com/default.asp?ii=55>

New 3-Axis Accelerometers from STMicroelectronics Squeeze Size and Foster Flexibility

STMicroelectronics introduced the first two devices in its new family of low-g linear accelerometers, distinguished by small form factor and low power consumption. The feature-rich LIS302 sensors meet the growing demand for smart functionality, such as hard-disk drive protection and motion-controlled operation, in today’s mobile phones, digital audio players, and laptops.

The LIS302DL is the first sensor on the market with a standard SPI/I2C digital interface and two independent programmable interrupt signals which make it possible to monitor the end device for ‘free fall’ and ‘high-g motion’ states at the same time. The second device, the analog-output LIS302ALB sensor provides separated acceleration values for all three (x, y, z) axes, as well as a multiplexed signal.

Both devices have been in production since Q3 2006 for selected markets and will be available by the end of 2006 for use in all markets.

Contact: Benedetto Vigna, STMicroelectronics, Italy, E-mail: benedetto.vigna@st.com

Next issue planned : **14 Dec 2006** (deadline for contributions: **11 Dec 2006**)

Please feel free to send us any DfMM-related news that might be of interest for our readership.

This e-mail newsletter contains public information, only. Please feel free to distribute it to anyone who might be interested in the topics.

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