

5th February 2008

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.

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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!

Patric Salomon
NoE Patent-DfMM News Editor

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8th MEMUNITY Workshop "Critical Success Factors for Commercialization: Production Test of MEMS at Wafer Level" 13 Mar 2008, Ilmenau, Germany

ICCE 2008 Integration and Commercialization of Micro and Nanosystems International Conference & Exhibition, 3-5 Jun 2008, Clear Water Bay, Kowloon, Hong Kong

Other Events

News from the NoE Patent-DfMM

“Embedded Test Solutions” and “Package Engineering” Tutorials at DTIP 2008, 8 Apr 2008, Nice, France

PATENT-DfMM is organising 2 tutorials addressing “Embedded Test Solutions” and “Package Engineering” for Micro Nano Technology (MNT)-based systems to be held in conjunction with the DTIP symposium (9-11 Apr) <http://tima.imag.fr/conferences/dtip/> .

The Embedded Test Solutions tutorial will explore the need and potential solutions for manufacturing and on-line test of Micro Nano Technology (MNT)-based systems. Specific focus will be put into electrical only methods for implementing both Built-in-Test and Health Monitoring of MEMS based systems.

The Package Engineering tutorial will introduce the various levels of packaging used within the Micro & Nano Systems world with examples and explore reliability issues including typical defects, parametric, evolving and hard physical manufacturing faults and the impact of the packaging process on micro & nano scale MEMS components.

More information will be available soon at www.patent-dfmm.org

Hermeticity Testing of Microsystems, a Questionnaire from Heriot-Watt University

Due to problems associated with the standard helium leak test when applied to microsystems, novel hermeticity test methods are being researched and developed at MISEC, Heriot-Watt University. To ensure the techniques are relevant to industry, we have prepared a brief market survey which aims to help us understand how the hermeticity of devices is currently tested. All contributors will receive a summary of the survey.

Link to survey: <http://www.patent-dfmm.org/site/events/questionnaire.htm>

Systems Engineering for Micro and Nano Technologies Workshop, 11 Dec 2007, Loughborough, UK

The UK's Centre of Excellence in Metrology for Micro and Nano Technology (CEMMNT), in collaboration with the PATENT-DfMM project and the Systems Engineering Innovation Centre (SEIC), held a one-day workshop in December 2007 at the SEIC, in Loughborough to introduce designers utilising MNT to systems engineering, its benefits, and the techniques that underpin this discipline. The event focused on methodologies, processes and systems engineering based tools, as applied to the design, integration and evolution of products embedding MNT. PATENT-DfMM presentations were given by Andrew Richardson (Lancaster University) about “design-for-X” (DfX) philosophies, and Mark Begbie (iSLI), with a perspective on the historical evolution of MNT from a base technology through to its current “multi-physics” level of complexity.

Discussion results raised the hope that this event will signal the start of a new collaboration between two communities who share similar challenges, albeit on divergent scales!

For more information: www.cemmnt.co.uk/news-and-events.php

News from DfMM Community

MINAM – A New Platform Is Born (MINAM, the European Platform of the Micro- and Nano-Manufacturing Community)

More than 150 high ranking representatives of the European Commission, from industry and research institutes all over Europe met in Brussels to celebrate the official launch of MINAM as a European platform. The MINAM platform represents about 500 companies, research institutes and institutions that are active in the business of micro and nano production from nanomaterials, micro- and nanosurfaces, precision-/ microcomponents and microsystems, all the way to test and metrology systems and from manufacturing to equipment and equipment components. PATENT-DfMM was represented by Patric Salomon, 4M2C/enablingMNT.

For more information: www.micronanomanufacturing.eu

MINOS-EURONET Unified Database and Brokerage Events

The MINOS-EURONET consortium has established a unified research database (www.minos-euro.net/databases) containing profiles of European specialists, research centres, projects and networks related to the Micro and Nano Technology field, with a special emphasis on profiles from Central and Eastern Europe. The database aims to reveal and promote the research competences from the New Member States (NMS) at European scale and to facilitate the participation of these organisations to EU programmes and other activities in the field of micro-nanosystems.

DfMM topics are well represented in MINOS - the following *queries* result in a number of search results:

Reliability: 10 Research Centers, 21 Specialists, 7 projects, 1 network, 1 partner matching - NMP 2008

Packaging: 7 Research Centers, 14 Specialists, 5 projects, 1 network

Design: 70 Research Centers, 124 Specialists, 11 projects, 4 networks, 7 partner matching - NMP 2008

MINOS-EURONET is also promoting R&D collaboration through a number of brokerage events with partners such as NEXUS. Following the successful brokerage event in conjunction with the MINAM Technology Platform in Brussels on 24th Jan 2008, the following events will be supported:

- Congress and One-on-One: Innovation in Microsystems, 4-5 Mar 2008, Munich/Germany
- Brokerage Event on Nano and Microtechnology of IRC Innovation Network, 14 Mar 2008, Venice/Italy.

For more information: www.minos-euro.net

iSLI and Cadence Design Systems join forces to help start-ups

The Institute for System Level Integration (iSLI) has announced an agreement with Cadence Design Systems Ltd. to help advance new businesses by giving them easy access to chip design software and methodology services. Providing access to software design tools and methodology services will enable new companies who may not have the finance or resources available, to accelerate their product development processes allowing them to become successful in the shortest possible time.

The complete press release is available at <http://www.sli-institute.ac.uk/pdf/news/iSLIandCadenceJoinForcesPR.pdf>

CEMMNT's new website provides a comprehensive guide to metrology for industry

The Centre of Excellence in Metrology for Micro and Nano Technologies (CEMMNT) has launched a new website providing comprehensive information for industry on metrology, surface analysis and systems engineering. Designed for ease of navigation, each section interlinks enabling visitors to understand the fundamental principles behind commonly applied technologies, their applications and relevance for each industry sector.

The site includes details on cutting edge measurement and characterisation techniques highlighting their key capabilities. Over 30 case study applications underline the practical benefits of measurement and characterisation at the micro and nanoscale. Web pages focusing on different industry sectors collate the key techniques and relevant applications that are commonly applied to accelerate product commercialisation.

www.cemmnt.co.uk

Abstract Deadlines for Conferences

Call for papers: 4M2008 International Conference on Multi-Material Micro Manufacture, Cardiff, UK, 9-11 Sep 2008

Deadline for submissions: 10 Feb 2008

The main goal of this Conference is to provide a forum for experts from industry and academia to share the results of their in-depth investigations and engage in interdisciplinary discussions about the creation of manufacturing capabilities 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.

More information: www.4m-net.org

Call for papers: Reliability & DfX Engineering for System-in-Package Technologies, Lago Maggiore, Italy, 29 May 2008

Deadline for submissions: 3 Mar 2008

The SiPeX workshop aims to bring together reliability and test engineers to discuss advanced design methodologies, integration technology and assembly engineering for SiP solutions that embrace heterogeneity, multiple energy domains and mixed technology platforms. Papers are invited that address both current challenges and those expected in the future in the following areas:

- Embedded test, Design-for-test and novel test strategies
- Identification, characterization, and modeling of defects, fault and degradation mechanisms
- On-line test, health monitoring fault tolerance and self-repair
- Robust and dependable design strategies, solutions for harsh and challenging environments
- Reliability analysis and modeling techniques, FMEA and Physics of failure
- Reliability measurement and life testing strategies, test structures design, fabrication and characterization.
- Emerging approaches for Design for Reliability and Design for Yield.
- Design for Disposal, Safety Engineering (use of materials and impact on systems)

For additional Information, please use the links below:

Workshop call for paper: <http://www.patent-dfmm.org/site/events/ets.htm>

ETS'08 website: <http://www.cad.polito.it/~ets08/>

Call for papers: The 13th Commercialization of Micro and Nano Systems Conference (COMS), Puerto Vallarta, Mexico, 31 Aug - 4 Sep 2008

Deadline for submissions: 30 Apr 2008

Organized by MANCEF, COECYTJAL, FUMEC and CMM Microsystemas, COMS 2008 is an ideal location to network with leading representatives from the entire micro-nano community. It fosters the commercialization of micro and nano technologies and addresses commercialization issues unique to these emerging and disruptive technologies and it will bring together key personnel from all over the world and from every sector of the supply chain, including government representatives, top researchers in the field, educators, relevant publication sources, equipment suppliers, end users, and financial experts. The small tech community gathers at COMS conferences to learn from others, share their own knowledge, discuss and debate points of view – all of which contribute to the advancement of this emerging field. COMS is the oldest and most widely attended international conference on the commercialization of these enabling technologies.

An exhibition of equipment suppliers, product & service providers and consultants will be held in conjunction with COMS 2008. COMS addresses the issues related to building successful MNT firms, regions and educational programs:

- Global Overview of Small Technologies
- Business Strategies – innovation methods, business models including clusters, start-ups, foundries, “commercializing off the shelf” technology (COTS), investment methods, barriers to commercialization, case studies

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- Education, society and workforce issues - role of Government, education and skills programs, secondary, tertiary, postgraduate and continuing professional development, business alliances and international linkages, role and activities of professional bodies, opportunities for educational exchange
- Applications and Transformations – emerging and novel applications e.g. automotive, aerospace, consumer goods, sport and leisure - regional analysis, impact on existing manufacturing enterprises including businesses that have transformed themselves, role of micro and nano technology in business transformation
- Next generation of small technologies
- Tools and technologies - equipment, test, and design
- Packaging, integration and prototyping
- Reliability and standards
- The role of Venture Capitalists /Angels
- Social implications, Regional clusters, The Role of Roadmaps
- AND all application areas of Micro and Nano Systems

More information: www.mancef-coms2008.org

4M2008 Conference on: Multi-Material Micro Manufacture (4M)

9 - 11 September 2008

Cardiff, UK

Abstract Deadline: 10 Feb 2008

www.4m-net.org

EUMW 2008 European Microwave Week 2008

27 - 31 October 2008

Amsterdam, The Netherlands

Abstract Deadline: 24 Feb 2008

www.eumweek.com

ICICDT 2008 International Conference on IC Design & Technology

2 - 4 June 2008

Grenoble, France

Abstract Deadline: 29 Feb 2008

www.icicdt.org

Nanotech Northern Europe 2008

23 - 25 September 2008

Copenhagen, Denmark

Abstract Deadline: 29 Feb 2008

www.nanotech.net

Workshop on Reliability & DfX Engineering for System-in-Package Technologies

29 May 2008

Pallanza, Lago Maggiore, Italy

Abstract Deadline: 3 Mar 2008

<http://www.patent-dfmm.org/site/events/ets.htm>

nanoMan 2008 International Conference on nanoManufacturing

13 - 16 July 2008

Singapore

Abstract Deadline: 15 Mar 2008

<http://nanoman2008.tju.edu.cn/>

GMM/GI/ITG Fachtagung Zuverlässigkeit und Entwurf

29 September - 1 October 2008

Ingolstadt, Germany

Abstract Deadline: 28 Mar 2008

www.zue2008.de

IMAPS Nordic 2008 Conference

14 - 16 September 2008

Helsingoer, Denmark

Abstract Deadline: 29 Apr 2008

www.imapseurope.org/nordic

COMS 2008 International Conference on the Commercialisation of Micro and Nano Systems

31 August - 4 September 2008

Puerto Vallarta, Mexico

Abstract Deadline: 30 Apr 2008

www.mancef-coms2008.org

Events Announcements

CEMMNT workshop: "Accelerating Innovation in Health and Personal Care Technologies", 12 Feb 2008, York, UK

Smith and Nephew Technical Services Group (TSG) and The Centre of Excellence in Metrology for Micro and Nano Technologies (CEMMNT) are holding a free workshop that will demonstrate how advances in measurement, characterisation and analytical technologies are being applied to drive commercialisation in the health and personal care sectors. Oral presentations from industry specialists will highlight new technology benefits. Relevant case study applications will include medical devices, implant materials, biosensors and skin care products. New state-of-the-art open access facilities and instrumentation for industry will be described with laboratory tours providing the opportunity to see the technology in action.

This event will focus on the role micro and nano technologies play in enabling innovation and will benefit anyone involved in R&D and manufacturing in the healthcare, personal care, pharmaceutical and related industries. Delegates will have the opportunity to discuss their challenges in confidence and receive free problem solving advice from industry experts.

Further information: <http://www.cemmnt.co.uk/events.php/snevent120208>

Workshop „Efficient Antenna Design with 3D EM Software”, 25 Feb 2008, Darmstadt, Germany

Our hunger for mobility, bandwidth and data speed, paired with miniaturisation and increasing complexity of mobile devices, is a challenge for all developers and researchers in the wireless market. These requirements can only be met by using simulation tools before the first prototype is built. This free workshop demonstrates the benefit you can gain from using state-of-the-art 3D EM simulation for wireless applications.

This workshop is offered in conjunction with the International ITG Workshop on Smart Antennas - WSA 2008 (<http://wsa2008.nt.tu-darmstadt.de/nt/index.php?id=400>) and is for wireless designers, developers, researchers and other interested technicians, who are working on antennas and their environment. A focus will be put on special simulation features for smart antennas.

More information and registration: <http://www.cst.com/Content/Events/Details.aspx?eventId=799>

8th MEMUNITY Workshop "Critical Success Factors for Commercialization: Production Test of MEMS at Wafer Level" 13 Mar 2008, Ilmenau, Germany

Building off a series of successful workshops taking place around Europe, MEMUNITY is pleased to announce its 8th MEMUNITY Workshop to be held on 13 March, 2008 in Ilmenau, Germany.

Technical presentations will be held on the topic of "Production Test of MEMS at Wafer Level" from leading MEMS manufacturers, research institutes, universities and equipment manufacturers such as Infineon Technologies, XFab, the Fraunhofer Institute, Polytec and SUSS MicroTec. Live demonstrations of wafer-level test solutions will also be on hand.

Registration and a full agenda are available at www.memunity.org

ICCE 2008 Integration and Commercialization of Micro and Nanosystems International Conference & Exhibition, 3-5 Jun 2008, Clear Water Bay, Kowloon, Hong Kong

PATENT-DfMM is a Media Sponsor of this event which is co-organized by the Nanotechnology Institute of American Society of Mechanical Engineers (ASME), and the Micro and Nanotechnology Commercialization and Education Foundation (MANCEF). The conference focuses on the state-of-the-

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art research and development in Micro- and Nano-scale phenomena, devices, systems, manufacturing, as well as the commercialization of Micro- and Nano-technologies. The conference will consist of plenary talks, invited talks, contributed oral and poster presentations, and exhibitions and will provide opportunities for communication and collaboration between industry and academia.
More information: <http://www.asmeconferences.org/MicroNano08/index.cfm>

Other Events

4 - 5 March 2008

Congress and One-on-One Microsystems

Munich, Germany

www.bayern-innovativ.de

5 - 7 March 2008

SEMI® Europe Standards Spring Event

Brussels, Belgium

www.semi.org/eustandards

6 - 7 March 2008

MNT Reliability for Aerospace Workshop

Toulouse, France

<http://caneus.org/workshops/reliability/indexTpl.php?link=call.html>

10 - 14 March 2008

DATE 2008 Design, Automation and Test Conference

Munich, Germany

www.date-conference.com

11 - 12 March 2008

AMAA 2008 - Advanced Microsystems for Automotive Applications

Berlin, Germany

www.amaa.de

13 March 2008

MEMUNITY Workshop "Critical Success Factors for Commercialization: Production Test of MEMS at Wafer Level"

Ilmenau, Germany

www.memunity.org

17 - 20 March 2008

International Conference and Exhibition on Device Packaging

Scottsdale, AZ, USA

www.imaps.org/devicepackaging

24 - 27 March 2008

2008 MRS Spring Meeting

San Francisco, CA, USA

www.mrs.org/spring2008

2 - 4 April 2008

ANALOG'08

Siegen, Germany

www.analog08.de

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Patent-DfMM Tutorials on “Embedded Test Solutions” and “Package Engineering” at DTIP 2008

Nice, Cote d' Azur, France

www.patent-dfmm.org

9 - 10 April 2008

GOSPEL Workshop on Plastic Chemical Sensors

Dresden, Germany

<http://www.gospel-network.org/265.0.html>

9 - 10 April 2008

Smart Systems Integration

Barcelona, Spain

www.mesago.de/de/SSI

9 - 11 April 2008

DTIP 2008 - SYMPOSIUM on Design, Test, Integration and Packaging of MEMS/MOEMS

Nice, Cote d' Azur, France

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

3 - 5 June 2008

ICCE 2008 Integration and Commercialization of Micro and Nanosystems International Conference & Exhibition

Clear Water Bay, Kowloon, Hong Kong

<http://www.asmeconferences.org/MicroNano08/index.cfm>

Next issue planned: **March 2008** (deadline for contributions: **1 Mar 2008**)

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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