

10th April 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. Please note, this is NOT a pure dissemination tool of the PATENT-DfMM project but OPEN to all non-commercial related activities! We are happy to publish your latest news as well!

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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Other Events

News from the NoE Patent-DfMM

EUMIREL, the European Microsystems Reliability Service Cluster, secures its first Contract

The European Microsystems Reliability Service Cluster – EUMIREL has recently been developed out of the “Design for Micro & Nano Manufacture – PATENT” network. EUMIREL offers a wide range of reliability services to the European Microsystems industry:

Reliability analysis:

- Application-dependent accelerated reliability tests of MEMS, especially for harsh environment
- Quantitative Accelerated Life Testing of MEMS for calculating reliability indicators
- Functional testing in different environments: temperatures, pressure, gasses, humidity, vibration, etc.
- Electrical and environmental reliability testing including statistical data processing where possible
- Failure analysis including multi-physics modelling
- Design of dedicated test structures for reliability monitoring
- Research-based services on MEMS reliability

Consultancy:

- Advice on MEMS reliability including material, processing and packaging related issues
- Development of reliability test plans
- FMEA studies
- Advice on test instrumentation and set-up and reliability methodology

Information about reliability issues

- Access to databases on material issues, test structures, test equipment availability and MEMS failure mechanisms,

...and a wide range of Training Courses on all aspects of MEMS reliability.

EUMIREL has now secured its first contract on the modelling of charging effects for improved MEMS reliability. The project is aimed at improving the understanding of failure mechanisms leading to improved reliability in products (design for reliability) and predicting device failure likelihood associated with charging.

More information: www.patent-dfmm.org/eumirel/, E-Mail: services@patent-dfmm.org

NEXUSplus Workshop on Structural Health Monitoring co-organised by PATENT-DfMM, 17 Apr 2008, Lancaster, UK

Structural Health Monitoring (SHM) is the continuous and autonomous monitoring of defects, stress/strain, environmental and usage related parameters by means of permanently attached or embedded intelligent and preferable wireless sensor systems in order to ensure the structural integrity of large structures like, airplanes, bridges, ships, wind turbines, dams, dikes, buildings etc. SHM will be a next step in making structures safer, longer lasting and cheaper to maintain. The European Commission has an interest to promote the uptake of SHM and is working with the Nexus Association to identify relevant research topics. Nexus will do this by organizing a number of expert's workshops inviting stakeholders from across the supply chain to participate in identifying the market structure by application and confirming potential opportunities for microsystems to meet the emerging challenges. The objective of the first workshop is to define market needs and identify the barriers to the implementation of Structural Health Monitoring. A second workshop will be to formulate positive actions by the Microsystems community to address these barriers. The results of these workshops will be used as input for future calls in the Framework 7 program.

The first workshop will be held the 17th of April at the Lancaster University. The second workshop is planned to be held in June in Munich.

The workshops are for invited experts only. Expressions of interest from technical experts, in particular

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end-users, specifiers and suppliers can be sent to Henne van Heeren.
Contact: per E-mail: henne@enablingmnt.com, by phone: +31 654 954 621

NEXUSplus Expert Workshop on Design-for-purpose co-organised by PATENT-DfMM, 19 May 2008, Loughborough, UK

On behalf of the EC (IST) the design-for-purpose Experts Workshop is scheduled for Monday the 19th of May 2008. The workshop will engage experts with a vision for how R&D should evolve within FP7 in to debate the topics of metrology and characterisation for micro and nano technologies in the context of "design-for-purpose".

This workshop is part of a series of workshops initiated by NEXUS on behalf of the EC -IST to help develop the priorities for research within the ongoing FP7 programme. The workshop will be held at the well known Systems Engineering Innovation Centre in Loughborough (UK) and will be cosponsored by the Centre of Excellence in Metrology for Micro & Nano Technologies - CEMMNT, Patent-DfMM, the KTN and the SEIC.

The output of this workshop will be a priority list of research areas and a roadmap to help deliver the required capabilities for Europe's MNT research, development and commercialisation activities.

The workshops are for invited experts only.

For additional information please contact: Henne van Heeren, E-mail: henne@enablingmnt.com,
Phone: +31 654 954 621

News from DfMM Community

CEMMNT receives grant from emda to stimulate innovation in the East Midlands

The Centre of Excellence in Metrology for Micro and Nano Technologies (CEMMNT) has received a £250,000 grant from the East Midlands Development Agency (emda) to accelerate innovation in the East Midlands over 3 years. The funding will be channelled to assist SME companies in particular, through the supply of metrology, surface analysis and systems engineering services. CEMMNT will offer the extensive expertise of specialists from its industry leading partners (BAE Systems, National Physical Laboratory (NPL), QinetiQ, Taylor Hobson and Coventor) to organisations in the region. Key focus sectors will include the health care and transport equipment industries, which form 2 of emda's iNET innovation networks. Among its activities, CEMMNT will hold targeted workshops, surgeries and training events for local companies. The benefits of measurement and characterisation at key stages of product development and manufacturing life cycles, particularly for micro and nano technologies, are substantial.

The complete press release is available at: <http://www.cemmnt.co.uk/news.php/cemmnt-emda>

Coventor and MANCEF to offer Four MEMS Design Scholarships at COMS 2008

Industry standard MEMS software provider, Coventor Inc., along with the Micro and Nanotechnology Commercialization Education Foundation (MANCEF), will again award four 1-year licenses of Coventor's CoventorWare Designer/ Analyzer package to students and their professors during the COMS2008 conference. The scholarships are granted based on proposals submitted by students working in micro systems research around the world.

Four students will each receive a free 1-year license to Coventor's CoventorWare software tools to be used in the University setting. Universities are required to be current MANCEF members to be eligible to submit proposals. Winners are picked based on the quality of the proposal and must comply with Coventor's high-quality standards in the use of its products. MANCEF and Coventor panelists will choose the scholarship winners based on research proposal papers submitted in the following four categories: Bio MEMS; RF MEMS; Sensors/Actuators and Other Novel Designs. To have your proposal considered for this COMS2008 award, please email your abstract to rgiasolli@mancef.org.
Submission Deadline: 30 Jul 2008

Proposal submission guidelines are available at www.mancef-coms2008.org.

Successful Outcome from the PROMENADE Project: Process Relations Launches a Process Development Execution System (PDES)

Following the successful completion of the EC-funded PROMENADE project, Dortmund based Process Relations GmbH announced the launch of XperiDesk, the first Process Development Execution System (PDES) for semiconductor based fabrication processes. XperiDesk supports the complete development cycle for semiconductor based fabrication processes: from the conception of

the idea through each subsequent phase to the final handover of the completed fabrication process to manufacturing.

Users may gain a significant time to market competitive advantage by performing their ongoing developments using XperiDesk, since all development information is completely captured, permitting structured access for its reuse and selective or complete electronic transfer. The flexible modular design of the XperiDesk software suite facilitates adaptive customization to the needs of customer specific environments and methodologies.

XperiDesk demos will be given at the Process Relations stand at Hannover Fair (within the IVAM Pavilion F16 in Hall 6).

Contact: Dirk Ortloff, Process Relations GmbH, Dortmund, Germany, E-mail: dirk.ortloff@process-relations.com, www.process-relations.com

News from the 4M NoE: New World Record in High-Aspect Ratio Microstructure Measurement

Working in conjunction with a major equipment manufacturer, Prof. Lars Mattsson, leader of the Metrology Division of the 4M Network of Excellence, reports that a new aspect ratio of 50:1, the actual dimensions being 400 µm : 8 µm, was recently achieved in laboratory measurements following the optimisation of an existing optical metrology system. Prof. Mattsson, who is Chair of Industrial Metrology and Optics at KTH, Stockholm in Sweden, has benefitted from his membership of the 4M Network to visit other laboratories and audit their metrology facilities, comparing the performance of various systems using X-ray lithography manufactured artefacts made within the Network's own Polymer Division. The complete press release is available at: <http://www.4m-net.org/node/2565>

The 4M Network of Excellence will soon become the 4M Association, with membership open to all. For more information visit: www.4m-net.org/4MAssociation

Contact: Chris Matthews, E-Mail: matthewscw@cf.ac.uk

Abstract Deadlines for Conferences

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
- 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

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- 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

EUROSENSORS 2008

7 - 10 September 2008

Dresden, Germany

Abstract Deadline: 11 April 2008

www.euroensors2008.com

MEMSWAVE Conference, RF-MST Workshop Cluster, and RF MEMS Workshop on Industrial Applications

30 June - 3 July 2008

Fodele, Crete, Greece

Abstract Deadline: 27 April 2008

<http://www.iesl.forth.gr/conferences/memswave2008/default.aspx>

IMAPS Nordic 2008 Conference

14 - 16 September 2008

Helsingoer, Denmark

Abstract Deadline: 29 April 2008

www.imapseurope.org/nordic

COMS 2008 Int. Conference on the Commercialisation of Micro and Nano Systems

31 August - 4 September 2008

Puerto Vallarta, Mexico

Abstract Deadline: 30 April 2008

www.mancef-coms2008.org

CAS 2008 International Semiconductor Conference

13 - 15 October 2008

Sinaia, Romania

Abstract Deadline: 1 June 2008

www.imt.cas

COMSOL 2008 Conference

4 - 6 November 2008

Hannover, Germany

Abstract Deadline: 18 June 2008

www.comsol.de/conference2008/europe

Events Announcements

CANEUS MEMS Reliability for Space, Aeronautics and Defence Applications Workshop, 29-30 May 2008, Toulouse, France

The goal of this workshop is to develop an MNT reliability and testing program with broad applicability for dealing with a diverse set of MNT systems and vendors for these systems. The proposed consortium project will be based on a clear identification of the end-user reliability and radiation tolerance needs, and technical solutions to deal with MEMS design for reliability, virtual prototyping, technology analysis, failure analysis, test, qualification, and system versus component reliability trades. The cross fertilization of inputs from end users, manufacturers, test, characterization and FA labs will trigger new opportunities for MEMS reliability activities. Conclusions will emphasize a possible cooperation to be set up at a worldwide level and at the end of the two-day workshop.

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

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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-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>

Netherlands MicroNanoConference '08, 17-19 Nov 2008, Ede, The Netherlands

MinacNed, MicroNed and NanoNed have declared their intent to organize a joint conference in 2008. By now, this intent has been committed to paper and the actual cooperation has been started by setting up an organization committee. Together, the three parties that are organizing the conference now, cover the complete field of interested parties in the Netherlands concerning microtechnology and nanotechnology.

For more information about the conference, please contact the conference bureau at FHI: Roy Vervoort, E-mail: r.vervoort@fhi.nl , www.minacned.nl/micronanoconferentie2008

Other Events

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/>

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NEXUSplus Experts Workshop on Microfluidics

Neuchâtel, Switzerland

www.nexus-mems.com

15 April 2008

MINOS-EURONET Workshop "R&D Competitiveness of Central European Region (or Slovakia) and Strengthening Its Role in ERA"

Bratislava, Slovakia

www.minos-euro.net

16 - 18 April 2008

IEEE DDECS 2008 Workshop on Design and Diagnostics of Electronic Circuits and Systems

Bratislava, Slovakia

<http://ui.sav.sk/DDECS2008>

21 - 25 April 2008

MicroTechnology/HANNOVER MESSE

Hannover, Germany

http://www.ivam.de/index.php?content=messe_details&id=275

7 - 8 May 2008

METRIC 2008

Pittsburgh, PA, USA

www.memsiindustrygroup.org

9 May 2008

MEMS Education Course "MEMS Business and Management"

Pittsburgh, PA, USA

www.memsiindustrygroup.org

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18 - 22 May 2008

euspen 10th Anniversary International Conference & Exhibition

Zurich, Switzerland

www.zurich2008.euspen.eu

29 May 2008

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

Pallanza, Lago Maggiore, Italy

www.patent-dfmm.org

29 - 30 May 2008

MEMS Reliability for Space, Aeronautics and Defence Applications Workshop

Toulouse, France

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

3 - 5 June 2008

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

Clear Water Bay, Kowloon, Hong Kong

www.asmeconferences.org/MicroNano08

3 - 5 June 2008

SMT/HYBRID/PACKAGING 2008

Nuernberg, Germany

www.smt-exhibition.com

9 - 12 June 2008

STIMESI MEMS Training Course Program "MEMS Design and INTEGRAMplus Prototyping Services"

Neuchâtel, Switzerland

www.STIMESI.org

30 June - 3 July 2008

MEMSWAVE Conference, RF-MST Workshop Cluster, and RF MEMS Workshop on Industrial Applications

Fodele, Crete, Greece

<http://www.iesl.forth.gr/conferences/memswave2008/default.aspx>

31 August - 4 September 2008

COMS 2008 Int. Conference on the Commercialisation of Micro and Nano Systems

Puerto Vallarta, Mexico

www.mancef-coms2008.org

Next issue planned: June 2008 (deadline for contributions: 1 June 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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Published on behalf of the project "Design for Micro & Nano Manufacture (Patent-DfMM)", a Network of Excellence funded by the European Commission DG INFSO E5 within the Information Society Technologies (IST) Programme of FP6.

www.patent-dfmm.org

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