Design for Micro & Nano Manufacture (DfMM) News

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The NoE Patent-DfMM aims to establish a collaborative team to provide European industry with support in the field of "design for micro nano manufacture" to ensure that problems affecting the manufacture and reliability of products based on micro nano technologies (MNT) can be addressed before prototype and pre-production.

Presentations available from PATENT-DfMM/ NEXUS Workshop on Design for Reliability and Manufacturability in MNT, 24 Apr 07, Stresa, Italy

This event was co-organised by PATENT-DfMM and the NEXUS Methodology Working Groups "Reliability & Test" and "Design Modelling Simulation" and held in conjunction with the DTIP Design Test Integration and Packaging Conference, 25-27 Apr 2007.
More than 30 participants discussed reliability and test problems and design methodologies that might lead to significant improvements. The following key topics were addressed:
• Reliable Design using Multi-Level Process Verification;
• Design for Yield Methodologies;
• Reliability & Test issues in Silicon / Polymer Microsystems "INTEGRAMplus";
• Embedded Test Centre (PATENT-DfMM);
• EURIMEL Reliability Services (PATENT-DfMM);
• Micromachine Centre Activities – Japan;
• Failure & Dissipative mechanisms;
• EC FP7 & opportunities and where can NEXUS and PATENT-DfMM help;

PATENT-DfMM and NEXUS were also co-organising a special session within DTIP on "Opportunities for Cooperative R&D" (25 Apr) and a panel discussion on "Design for Reliability and Test of Microsystems" (26 Apr). The panel *featured key industry speakers*: Chris Reeves: Microsystems Business Stream Manager, QinetiQ, UK, Alistair Sutherland: Technical Director, BCF Designs, UK, Ludo Stulens: Senior Consultant, Philips Applied Technologies, The Netherlands and Andrew Richardson: Director - Centre for Microsystems Engineering, Lancaster University, UK. The session was moderated by Patric Salomon: Managing Director - 4M2C P. SALOMON GmbH, Germany and Vice Chairman of NEXUS Microsystems Association.

Copies of workshop and panel presentations are now available at www.patent-dfmm.org. Also an annual summary report of achievements 2006 of the PATENT-DfMM projects is available from the website.
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CEMMNT – Partnerships and Collaborative Projects

The *Centre of Excellence in Metrology for Micro and Nano Technologies* (**CEMMNT**) provides open access measurement and characterisation services and solutions to organisations commercialising new products and processes based on micro and nano technologies (MNT). Uniquely, CEMMNT unites five global MNT leaders that are ideally positioned to supply industry: BAE Systems, Coventor, QinetiQ, the National Physical Laboratory and Taylor Hobson. Each partner offers complementary expertise that can benefit products at different stages of their lifecycle. By bringing together this wide range of capabilities and knowledge, the partners are able to deliver customised solutions across all industrial sectors.

The CEMMNT Hub is keen to engage with UK and European organisations wishing to bid for proposals and programmes of research.
Contact: **Drew Murray**, CEMMNT Hub Ltd, UK,
E-mail: **drew.murray@cemmnt.co.uk, www.cemmnt.co.uk**

Sensors Journal: special issue entitled "Modeling, Testing and Reliability Issues in MEMS Engineering" Guest Editor Dr. Stefano Mariani from PATENT partner POLIMI

The aim of this special issue is to collect high quality research results on all DfMM-related aspects of MEMS engineering. Because it has been a free online journal (an Open Access journal), papers rapidly published in Sensors (ISSN 1424-8220) will receive very high publicity. Papers published in Sensors are rapidly indexed by databases including Chemical Abstracts and Science Citation Index expanded (Web of Science). You may send your manuscript soon or by 30 November 2007. Papers accepted will be published immediately. Finally, all the papers belonging to this special issue will be gathered together in a homepage.

Please send your paper by e-mail to **sensors@mdpi.org** and send copies to **stefano.mariani@polimi.it**. The subject title of the message should be "Manuscript for Special Issue "MODELING, TESTING AND RELIABILITY ISSUES IN MEMS ENGINEERING" for the journal SENSORS".
More information: **www.mdpi.org/sensors.**
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E-mail: **stefano.mariani@polimi.it**

MSc in Micro and Nanotechnology – Engineering, Management & Society from Lancaster University

Micro and Nanotechnology (MNT) could well be the next industrial revolution with radical changes in the way we setup, run and market our businesses. Novel and knowledge-based manufacturing has the potential to complement, if not replace, conventional manufacturing industries with their highly material-intensive processes. Development of a knowledge-based industry requires a highly educated workforce with key competences in the technical, management and societal dimensions of Micro and Nanotechnologies. Although the spending on MNT will double in the next 2-3 years, there is still a profound skill shortage in the area.

The Lancaster Micro and Nanotechnology Masters course is a unique and timely opportunity for engineering or sciences graduate to enter an interdisciplinary research or commercial R&D career in MNT. A good balance between technical, management and social science content makes this course directly applicable to entrepreneurs in existing, as well as new businesses in the MNT area. Existing technical personnel would find novel MNT technology topics essential for their professional development, especially since this course is organised in a modular structure that allows part time intensive learning. The course consists of 6 taught modules and a long project which will involve working in an academic or industrial environment in the area of MNT:
• Micro and Nanotechnology;
• Nanoscience and Nanomaterials;
• Design for Manufacture and Reliability Testing
• The High Technology Entrepreneurial Venture;
• Management of the Technology Based Enterprise;
• The Ethical and Societal Dynamics of Nanotechnology
More information:
http://www.engineering.lancs.ac.uk/postgraduate/nano
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