

25 July 2007

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.

NoE Patent-DfMM Co-ordinator:

Andrew Richardson, University of Lancaster, UK

E-mail: A.Richardson@Lancaster.ac.uk

NoE Patent-DfMM News Editor:

Patric Salomon, 4M2C PATRIC SALOMON GmbH

E-mail: DfMM-news@4m2c.com

www.patent-dfmm.org

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

In this edition:

[News from the NoE Patent-DfMM](#)

Design, Test & Manufacturing Technologies for Integrated Micro & Nano Systems, 1-4 Oct 07, Lancaster, UK
Paper "Optimal design of microfluidic networks using biologically inspired principles" from CCLRC published in Microfluidics and Nanofluidics Journal

[News from DfMM Community](#)

EC Framework Programme (FP) 7, Second Call: Objective ICT-2007.3.6: Micro/Nanosystems
MINOS Partners Matching Database for EC FP7
The Message from METRIC 2007: As MEMS Continues to Mature, Communication is the Key to its Success
Sensors Journal's special issue entitled "Modeling, Testing and Reliability Issues in MEMS Engineering" is still open for abstracts
SUSS MicroTec Unveils New ProbeShield® Technology
Vacancy at Lancaster University: Research Appointment in Miniaturised Health and Usage Monitors for Aerospace Electrical Systems
Vacancy at the Institute for System Level Integration (iSLI), Livingston, UK: Senior MEMS Designer
Vacancy at Tyndall National Institute, Cork, Ireland: Professorships and Lectureships in Science and Engineering

[Event Announcements](#)

**PATENT-DfMM is a Media Sponsor of COMS, 2-6 Sep 07, Melbourne, Australia
3rd MINOS-EURONET Strategy Forum, 6-7 Sep 07, Krakow, Poland
MEMS Executive Congress, 4-5 Nov 07, Del Mar, CA, USA**

Other Events

Abstract Deadlines for Conferences

News from the NoE Patent-DfMM

Design, Test & Manufacturing Technologies for Integrated Micro & Nano Systems, 1-4 Oct 07, Lancaster, UK

A 4 day event showcasing technical advances in the field of Micro & Nano Systems Engineering through the European Network of Excellence in Design for Micro & Nano Manufacture and related programs. The event will also address Technology access through Europractice and other initiatives, and opportunities for small & medium sized industry.

Day 1: Micro & Nano Systems – A new Technology for a new Industrial era.

An outreach day identifying UK capability and facilities, technology access across Europe, Engineering Services, Support Associations and Networks, Case studies and new funding initiatives including FP7 and DTI.

Day 2: Business Development & Industrial Challenges

An education and dissemination day focusing on building business activities that either utilise or target Micro & Nano Systems. Will include tutorials on commercialisation and supply chains, Reliability Engineering and Test. Will showcase new Intellectual Property development, methodologies for MNS Design and Manufacture, Engineering Services and Demonstrator projects.

Day 3&4: Collaborative Research & Industrialisation

Technical days focusing on state-of-the-art in design and manufacturing technologies for MNS based systems. Will present key advances in reliability & Test Engineering, Packaging Technologies and System Integration together with contributions from the design automation, simulation and modelling communities.

Further program details and the registration form are available via

www.engineering.lancs.ac.uk/microsystems

Contact: Andrew Richardson, Lancaster University, E-Mail: A.Richardson@lancaster.ac.uk

Paper "Optimal design of microfluidic networks using biologically inspired principles" from CCLRC published in Microfluidics and Nanofluidics Journal

This paper describes how biomimetic principles based on the laws that govern biological vascular trees can be used to design artificial microfluidic distribution systems. The study focuses specifically on microfluidic manifolds composed of constant-depth rectangular- or trapezoidal-sectioned channels, as these geometries can readily be fabricated using standard micro-fabrication techniques. It is shown that it is possible to introduce a prescribed element of flow control into the system by carefully selecting the branching parameter that governs the change in channel dimension at each bifurcation. The complete paper is available in the "Online-first" section of the journal:

<http://www.springerlink.com/content/w176523127185244> .

Contact: Robert Barber, CCLRC Daresbury Laboratory, UK, E-mail: r.w.barber@dl.ac.uk

News from the DfMM community

EC Framework Programme (FP) 7, Second Call: Objective ICT-2007.3.6: Micro/Nanosystems

The European Union has recently opened the 2nd ICT call which includes funding opportunities in the area of Micro/NanoSystems. Proposals can now be submitted through the Electronic Proposal Submission Service (EPSS) until 9th October 2007. The complete call, work programme and other details are available at:

http://cordis.europa.eu/fp7/dc/index.cfm?fuseaction=UserSite.CooperationDetailsCallPage&call_id=65

MINOS Partners Matching Database for EC FP7

To help organisations in finding the right partners for EC projects, the European Projects MINOS-EURONET and ROMNET-ERA are offering now the "ICT 2007 Partners Matching database" which aims at listing research groups with research interest in ICT and other areas from the New Member States, Candidate and Acceding Countries and also from the Western European Countries. It helps research groups and researchers to promote their competencies and initiate cooperation with other organisations and to identify research groups with specific competencies according to topics from calls published in ICT, NMP and Health for 2007. More information: <http://www.nano-link.net/expl.php>.

The Message from METRIC 2007: As MEMS Continues to Mature, Communication is the Key to its Success

Seventy MEMS technologists and business leaders met at the seventh annual members meeting of the MEMS Industry Group, METRIC, in Pittsburgh (USA) in May 2007 to discuss the future needs of the industry and to deliver recommendations and action items to the industry as a whole and particularly to the MEMS Industry Group. Patric Salomon from 4M2C was invited to represent the PATENT-DfMM project and NEXUS.

In morning sessions, the attendees split up into groups by industry sector: High Volume Device Manufacturing, Foundries/MEMS Services, and Equipment Suppliers. In the afternoon, the attendees split up into groups by market segment; Telecom, Industrial, Medical, Entertainment, and Defense/Homeland Security.

A common theme that evolved from the working groups is that strong communication among each link of the MEMS supply chain is critical to the success of the MEMS industry. There's a great need for the industry to continue to come together (in person and virtually) and communicate their needs and requirements to one another. They determined that it was relevant and important for the MEMS Industry Group (MIG) and related organizations to hold forums that foster communication and to work together as to not reinvent the wheel.

Contact: Patric Salomon, 4M2C PATRIC SALOMON GmbH / enablingMNT, E-Mail: patric.salomon@4m2c.com

Sensors Journal's special issue entitled "Modeling, Testing and Reliability Issues in MEMS Engineering" is still open for abstracts

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

Contact: Dr. Stefano Mariani, Politecnico di Milano, Italy, E-mail: stefano.mariani@polimi.it

SUSS MicroTec Unveils New ProbeShield® Technology

SUSS MicroTec AG unveiled its new ProbeShield® Technology that improves the way in which semiconductor devices are characterized and their reliability tested. The semiconductor device manufacturer thus benefits from quicker, more accurate measurement results, which means more efficient model extraction, faster model turnaround and fewer design iterations.

For best-in-class measurement accuracy, the new ProbeShield Technology has an advanced shield that prevents unwanted electromagnetic (EMI) and radio-frequency (RFI) interference as well as light from influencing measurements. ProbeShield Technology features a high-precision positioning system that can withstand high forces from high-pin-count probe cards as well as optional MicroAlign™ Technology for automating probe-to-pad alignment, especially useful for vertical probe cards used to contact small pads.

The entire press release is available at: http://www.suss.com/about_suss/latest_news/2007/17-07-2007

Contact: Joshua M. Preston, SUSS MicroTec Test Systems, Germany, E-mail: JPreston@sussdd.de

Vacancy at Lancaster University: Research Appointment in Miniaturised Health and Usage Monitors for Aerospace Electrical Systems

Applications are invited for a full-time Research Associate for a period of 34 months to work under the direction of Dr Denis Koltsov and Prof. Andrew Richardson on the design of miniaturized sensors and actuators for the on-line detection of defects in aircraft wiring systems. The work will be based around both electrical and acoustic techniques and involve the development and maintenance of an associated characterization and test laboratory to support the work. Applicants should have finished or be near completion of a PhD in Solid State Physics, Electronic Engineering, or equivalent. Industrial experience will be beneficial. The work will be located in the Department of Engineering, and involves cooperation with BCF Designs, Cirencester and Heriot Watt University.

The project will involve close collaboration with a PhD student within the team to identify, classify and model key degradation and failure modes in both existing and emerging wiring systems, developing the theoretical basis of detection strategies and design associated hardware and software based algorithms.

The successful candidate will be expected to spend up to 6 weeks per annum at BCF Designs and liaise with the MEMS team at Heriot Watt University.

Duration – 34 months (Fixed Term)

Salary – £22,332 - £25,889 p.a.

Contact: Andrew Richardson, E-mail: A.Richardson@lancaster.ac.uk or Denis Koltsov, E-mail: D.Koltsov@Lancaster.ac.uk

Vacancy at the Institute for System Level Integration (iSLI), Livingston, UK: Senior MEMS Designer

The Institute is seeking to recruit a self-motivated Senior MEMS design engineer to be the principal investigator within iSLI for a flagship collaborative project. As a senior technical member of staff they will be skilled and proficient in the design and analysis of silicon based MEMS devices. They will act as the primary point of contact and will work to grow and maintain the activity through developing further research funding opportunities in conjunction with the other partners.

As part of the iSLI technical team, you will apply your MEMS design skills to the field of highly integrated MEMS systems; integrating Si MEMS, micro-fluidics, photonics and electronics. The project is highly multi-disciplinary, with applications in biology, medicine, metrology, chemical synthesis and smart structures. As the project develops, you will drive the generation of new ideas and build these into further collaborative projects in their own right.

The successful candidate will have a 1st or upper 2nd degree plus a PhD in a relevant field, or equivalent. You will be familiar with silicon MEMS and its applications, having experience of the design process, techniques and tools. Experience in micro-fluidics, optics, and electronics are advantageous. A demonstrable track record in developing and applying for grant funding will also be advantageous.

Contact: Carol Slater, iSLI, UK, Email: carol.slater@sl-i-institute.ac.uk

Vacancy at Tyndall National Institute, Cork, Ireland: Professorships and Lectureships in Science and Engineering

With support from Science Foundation Ireland and University College Cork, Tyndall wishes to hear from leading experts wishing to further their careers as Professors or Lecturers in areas of strategic value to Ireland's future knowledge economy.

The positions will attract awards of €180,000 and €90,000 per annum, respectively, and will initially be for a period of up to five years. Thematic areas to be targeted include MEMS/NEMS; Microsystems for Chemo-Bio Applications; Wireless Sensors for Ambient Intelligence; Heterogeneous Integration, 3D and Wafer Scale Packaging; Micropower Systems for Energy Harvesting and Power Supply on Chip; Biomedical Microdevices for Implantable and Minimally Invasive Theranostics .

Tyndall's research is focused into three strongly inter-related technical areas, identified as critical for Ireland's future economic development: Micro/Nanoelectronics, Photonics and Microsystems. This research agenda is supported by strong activities in theory, modelling and design, and a high quality Central Fabrication Facility for silicon/III-V semiconductor materials and devices.

Further information: Conor O'Mahony, Tyndall National Institute, Ireland, Email: conor.omahony@tyndall.ie, www.tyndall.ie/research/mems

Event Announcements

PATENT-DfMM is a Media Sponsor of COMS, 2-6 Sep 07, Melbourne, Australia

The 12th International Commercialization of Micro and Nano Systems Conference (COMS2007) to be held in Melbourne, Australia, 2-6 September 2007 is calling for Papers and has extended the deadline until Friday 18 May 2007.

This is your opportunity to share your experience and expertise. Potential technical and commercial speakers may submit up to a 500 word abstract for consideration by the program committee.

Technology users (Receptors) may also submit an abstract on their use of the technology, the path to commercialisation and adoption.

For full details and abstract submission, see www.mancef-coms2007.org

3rd MINOS-EURONET Strategy Forum, 6-7 Sep 07, Krakow, Poland

The third MINOS-EURONET Strategy Forum aims to promote and facilitate the potential of combined efforts of research, industry and policy makers to increase the competitiveness of European economy, with special focus on New Member States (NMS), by developing new technologies, emerging technologies and new design and development techniques. The Forum will focus on strategy issues of R&D in the area of nanoelectronics and MNST, cooperation and coordination of research and technology transfer and its future commercial exploitation.

The first session will be devoted to the strategic issues of innovation policy, presentations given by EU representatives and Polish Ministry of Science will explain the objectives and will give details on procedures created for supporting innovative cooperation. During the second session scheduled meetings between MINOS-EURONET and NEXUS as well as EURIPIDES initiatives are planned in order to deepen their contacts as well as to discuss and plan joint efforts enhancing innovative MNST cooperation particularly focused for NMS. The third session will be devoted to local solutions for coordination of R&D activities. In the fourth session existing European Technology Platforms will be presented to express the industrial expectations and market-focused point of view of potential recipients of research efforts.

The Forum is linked to the IX-th National Scientific Conference on Electron Technology ELTE'07

(www.elte2007.agh.edu.pl).

More information:

http://www.elte2007.agh.edu.pl/?Program_konferencji:Forum_program%F3w_europejskich

MEMS Executive Congress, 4-5 Nov 07, Del Mar, CA, USA

The next MEMS Industry Group event, MEMS Executive Congress, will be held on 4-5 November in Del Mar, California (San Diego County). MEMS Executive Congress is an elite forum open to leaders of MEMS and user/integrator companies and provides the opportunity for executives to connect and discuss critical business and MEMS integration issues. Congress events will include a number of high-level keynote speakers as well as informative panel discussions about the role of MEMS in areas such as energy, mobile media, consumer goods, and medical.

Please visit www.memscongress.com for more information and to register.

Other Events

30 July - 10 August 2007

4M Summer School

Lyngby, Denmark

www.4m-net.org

2 - 5 September 2007

MicroNanoReliability 2007

Berlin, Germany

www.micronanoreliability.com

2 - 7 Septemeber 2007

COMS 2007

Melbourne, Australia

www.mancef-coms2007.org

6 - 7 September 2007
3rd MINOS-EURONET Strategy Forum
Krakow, Poland
www.minos-euro.net

11 - 13 September 2007
ESSDERC/ ESSCIRC 2007
Munich, Germany
www.esscirc2007.org

16 - 18 September 2007
MME 2007 Micromechanics Europe
Guimaraes, Portugal
www.mme07.dei.uminho.pt

17 - 19 September 2007
THERMINIC 2007
Budapest, Hungary
<http://tima.imag.fr/conferences/therminic/>

17 - 21 September 2007
2007 European MRS Fall Meeting
Warsaw, Poland
<http://science24.com/event/emrs2007fall/>

1 - 4 October 2007
Design, Test & Manufacturing Technologies for Integrated Micro & Nano Systems
Lancaster, UK
www.patent-dfmm.org

3 - 5 October 2007
4M2007 Conference
Borovets, Bulgaria
www.4m-net.org/Conference/4M2007

7 - 10 October 2007
microTAS 2007
Paris, France
www.microtas2007.org

15 - 17 October 2007
CAS 2007 International Semiconductor Conference
Sinaia, Romania
www.imt.ro/cas

Abstract deadlines for conferences

Smart Systems Integration
9 - 10 April 2008
Barcelona, Spain
Abstract Deadline: 18 Aug 07
www.mesago.de/de/SSI

IMS 2008 International Microwave Symposium
15 - 20 June 2008
Atlanta GA, USA

25 July 2007

Abstract Deadline: 14 Sep 07

www.ims2008.org

MEMS, MOEMS, and Micromachining Conference at Photonics Europe 2008

7 - 11 April 2008

Strasbourg, France

Abstract Deadline: 19 Sep 07

<http://spie.org/app/conferences/index.cfm>

ANALOG'08

2 - 4 April 2008

Siegen, Germany

Abstract Deadline: 19 Oct 07

www.analog08.de

World Congress of Computational Mechanics + ECCOMASS

30 June - 4 July 2008

Venice, Italy

Abstract Deadline: 28 Feb 08

<http://congress.cimne.upc.es/iacm08/frontal/default.asp>

Next issue planned : **September 2007** (deadline for contributions: **1 September 07**)

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.

Edited by: Conny Reichl & Patric Salomon, 4M2C PATRIC SALOMON GmbH, Germany
E-Mail: dfmm-news@4m2c.com, Phone: +49 30 2435 7870, Fax: +49 721 1515 82528

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

This e-mail newsletter is distributed to registered subscribers, project partners, and partner programmes free of charge. If you have been added to our database in error, please reply by e-mail with "UNSUBSCRIBE" in the subject field.

4M2C PATRIC SALOMON GmbH (Berlin, Germany), Managing Director: Patric Salomon, Registered at Amtsgericht Charlottenburg HRB 90666