

Schedule for UK Road Shows, 15th May-16th May 2008. Activity organised in the frame of MINOS-EURONET project (www.minoseuro.net) by Tim Harper, Cientifica Ltd, partner in this project.

The roadshow will consist of a series of presentations given by eastern partners at key western institutions. The aim is to select the key eastern expertise that the institutes may find useful, and present this in an internal seminar. This activity is organised in the frame of the MINOS-EURONET project (www.minoseuro.net)

Wednesday 15th May

- Morning: **Arrival and travel to Cambridge**

- Afternoon: **University of Cambridge Nanoscience Centre** (<http://www.nanoscience.cam.ac.uk/>) The Cambridge centre was the first to open in the UK and its head, Prof Mark Welland was recently appointed chief scientist to the Ministry of Defence. The centre is also home to the new Nokia Nanoelectronics research centre which launched the 'Morph' phone concept in February this year (<http://www.admin.cam.ac.uk/news/dp/2008022501>). Cambridge is constantly in the top three universities worldwide, and has global research collaborations.

Thursday 16th May

Morning: University of Sheffield, home of the new Kroto Research Institute and Centre for Nanoscience and Technology (<http://www.shef.ac.uk/northcampus/>) hosted by Prof Richard Jones who is also chief nanoscience advisor to the EPSRC (the UK national academic funding body). Since its inception, the new Sheffield/Leeds research hub has become one of the UKs fastest growing nanoscience centres, with an emphasis on polymers and the life sciences. Richard Jones is also the author of one of the best written and most entertaining nanoscience books published so far, *Soft Machines*.

Afternoon: University of Oxford Begbroke Science Park (<http://www.begbroke.ox.ac.uk/research/nanotechnology.php>), also home to two Interdisciplinary Research Collaboration (IRC) centres -Quantum Information Processing (QIP) and Bio-nanotechnology. We'll be hosted by Prof Pete Dobson, founder of Oxonica and a number of other nano related spin offs, who has been the director of Begbroke Nano since its inception.

New World Record in High-Aspect Ratio Microstructure Measurement!

Press Release from 4M Network of Excellence: **A new record has been achieved for the aspect ratio measurement of micro structures.** Working in conjunction with a major equipment manufacturer, **Prof. Lars Mattsson (KTH, Stockholm, Sweden, larsm@iip.kth.se)**, leader of the Metrology Division of the 4M Network of Excellence, reports that a new aspect ratio of 50:1 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.

"There are currently no suitable standards in high aspect ratio micro-metrology, and it is an issue that will impact on many of the growth areas in micro-manufacturing" said Mattsson. "Different equipment developed by a variety of companies and being used by operators in a number of ways inevitably leads to uncertainty in the measurements provided. And strangely enough the worst measurement errors were discovered in the horizontal x-y plane at the top of deep microstructures. This was a complete surprise for the instrument manufacturers as well."

"In 4M I have been able to observe different equipment being operated in different environments on standard test pieces. This has enabled me to establish the measurement limitations of today's equipment, and take this information to metrology equipment manufacturers as useful information for future instrument development."

This has recently lead to Prof. Mattsson working with one major equipment manufacturer and, in collaboration with them, improving the performance of their optical measurement system such that it was able to achieve measurements of a star shaped microstructure with an aspect ratio of 50:1, the actual dimensions being 400 µm : 8 µm.

The 4M Network of Excellence will soon become the **4M Association**, with membership open to all (see: www.4m-net.org/4MAssociation, contact **Chris Matthews, matthewscw@cf.ac.uk**). The 4M NoE is a Knowledge Community in Multi-Material Micro Manufacture, **comprising over 150 researchers from 30 partner institutions**, and **supported by over 80, mainly industrial, affiliates**. Funded by the EC, the Network seeks to develop Micro- and Nano- Technology (MNT) for the batch-manufacture of microcomponents and devices in a variety of materials for future microsystems products. The Network acts as a knowledge resource to both the research community and industry in the development of microsystems devices that provide increased functionality in tiny packages, integrating micro and nano scale features and properties into products and systems.

Micro and NanoTechnology Bulletin is published quarterly by IMT-Bucharest, Romania (www.imt.ro). This Bulletin, originally intended to publish **results of Romanian researchers in the micro and nanotechnology (MNT) field**, is extending its coverage since 2004 to Eastern Europe. The purpose is to contribute to a *better communication of MNT scientific communities from Eastern Europe to the rest of the world*. MNT Bulletin is distributed free of charge to interested organisations and individuals.

Editor-in-Chief: **Dan Dascalu (IMT-Bucharest)**. The Bulletin is also available on the web page: www.imt.ro/mnt.

IMT-Bucharest it is also the coordinator of three SSA projects (**MINOS-EURONET**) with *support and dissemination activities* through *web pages, e-newsletter, flash news and online databases*:

- E-newsletters and flash news: **MINOS-EURONET project**: <http://www.minos-euro.net>;
- Online Databases: <http://www.minos-euro.net>



MINOS-EURONET Coordinator : Prof. Dan Dascalu (dascalu@imt.ro). **MINOS-EURONET Team** (minos@nano-link.net)
Contributions and correspondence for MNT Bulletin may be sent to mnt@imt.ro.