

The Snomipede: Project Open Day

July 8th 2008

All welcome

The Richard Roberts Building

University of Sheffield

Molecular Nanostructures from Fabrication to Applications

Recent work has shown that near-field optical methods may yield a resolution as good as 9 nm (ca. $\lambda/30$) and, uniquely among nanolithographic tools, they offer the capacity to execute highly specific molecular transformations. However, the use of a scanning near-field optical microscope as a platform for lithography is subject to the limitation that only one feature may be formed at a time. Our goal is to adapt the concept of massively parallel local probe lithography pioneered at IBM (the "Millipede") and combine it with near-field lithography to yield a massively parallel system based on near-field exposure. Such a system – a "Snomipede" – would offer nanometre scale spatial resolution, combined with exquisite chemical selectivity, over macroscopically extended areas.

The open day will provide a selection of highlights from our work so far, reflecting the progress we have made in the development of new instrumentation and also new chemistries for device fabrication. We are delighted to have Juergen Ruehe (IMTEK, University of Freiburg), Duncan Sutherland (iNano, Denmark) and Peter Beton (School of Physics and Astronomy, University of Nottingham) joining us to give presentations on their own work.

To register please contact Deborah Coupe on d.coupe@sheffield.ac.uk

For further information please go to <http://www.snomipede.org>

Programme

10:30 Welcome and overview - Graham Leggett

10:45 Development of parallel probe arrays for near-field lithography - John Weaver

11:05 A platform for parallel near-field lithography - Jamie Hobbs

11:25 An LED-based near-field probe - James Kingsley

11:45 Juergen Ruehe, Department of Microsystems Engineering, Albert-Ludwigs University of Freiburg

12:25 Buffet lunch

13:30 Duncan Sutherland, iNano, Aarhus, Denmark

14:10 Peter Beton, School of Physics and Astronomy, University of Nottingham

14:50 Synthetic and enzymatic approaches towards biomolecular nanoarrays - Jason Micklefield

15:10 Nanostructured organic semiconductors: new materials and device architectures - Mike Turner and Martin Grell

15:30 Closing remarks

15:35 Tea and coffee

16:00 Close

