

Microscopy Focus

RMS – SETTING THE STAGE FOR 2008

Allison Winton

2008 promises to be a significant year for the Royal Microscopical Society (RMS). Numerous RMS meetings, courses and conferences will attract speakers of the highest quality and delegates active in all areas of science and industry. "2008 is a MICROSCIENCE year," said Rob Flavin, Executive Director of the RMS. "MICROSCIENCE is our flagship biennial international conference and exhibition on the science of microscopy, imaging and analysis to be held at London's ExCeL from 23-26th June. We also have a very full programme of further courses and meetings which all provide excellent educational opportunities to keep up-to-date with the very latest developments in microscopy and imaging."

In addition to being kept busy organising numerous meetings this year, the RMS will also be busy financially supporting many microscopy focused projects. This includes the creation of new opportunities for funding, such as the newly introduced Vice-President's Fund.

**AN EMINENT LIST OF
PLENARY SPEAKERS
HAS BEEN ANNOUNCED
FOR THE MICROSCIENCE
2008 INTERNATIONAL
CONFERENCE**

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NEWS FROM THE RMS

VICE PRESIDENT'S FUND IS LAUNCHED

The Royal Microscopical Society has founded a new funding channel for backing worthy projects that use microscopy to contribute to the public understanding of science or benefit the Developing World. Established in January 2008, the Vice-President's Fund will support such projects that are in-line with the objectives of the Society up to a maximum of £5000 for each award.

"This is an exciting development", explains Professor Chris Hawes, RMS Vice-President and International Secretary, "The Society receives a number of requests for financial support each year, and most of these are very interesting and worthy of support. However, previously there were no channels through which they could be funded. The new Vice-President's Fund remedies this and we look forward to reviewing many innovative and imaginative ideas."

The deadlines for submission are 1st May and 1st November and applications will be considered by the Council of the RMS at its July and December meetings. Applicants will be informed of the outcome shortly after the meeting at which their application is considered. Reports on all successful applications will also appear in the RMS infocus publication and also on the RMS website.

An application form is available on request from the RMS and should provide all details of milestones and deliverables.

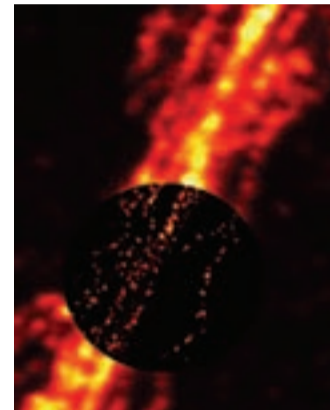
IMAGING NANOPARTICLES

Kicking off the RMS's busy 2008 meeting programme, the 'Cytotoxicity and Characterisation of nanoparticles/tubes and wires' meeting took place extremely successfully on January 10th at Churchill College, Cambridge. This meeting discussed the latest thoughts on mechanisms of particulate toxicity to cells and tissues, and presented some of the latest methods for imaging nanoparticles using soft x-ray microscopy and electron microscopy.

The meeting addressed the challenges of imaging carbon-based nanoparticles and tubes in cells composed of a high proportion of carbon, as well as the issues to be considered when selecting appropriate specimen preparation methods. This attracted an excellent line-up of invited academic speakers discussing subjects ranging from, "Interactions of micro and nanoparticles with tissues of the mammalian gut" to "TEM and STEM studies of the atomic structure and chemistry of ferritin mineral cores: an example of nanoparticle characterisation". Meeting abstracts are available from the RMS on request.

BREAKING RULES AND BUCKY BALLS

An eminent list of plenary speakers has been announced for the MICROSCIENCE 2008 International Conference. A high-profile plenary lecture will provide an interesting and provocative start to each day. Plenary Speakers are: former Government Chief Scientific Officer and Director of Research at Cambridge University's Chemistry Department, Sir David King; 'Bucky Balls' Nobel Prize winner Sir Harry Kroto; Professor Dr Stefan Hell, recently credited for breaking Abbe's light resolution barrier; and Professor Dr Knut Urban, Head of the German Physical Society (DPG). These eminent lecturers will be followed by sessions composed of headline invited speakers drawn from around the world, as well as submitted papers for the first time.



Filament proteins in a human neuron: comparison between confocal and Stimulated Emission Depletion (STED) microscopy featuring < 30 nm resolution (centre). Picture courtesy of Professor Stefan Hell, Max Planck Institute for Biophysical Chemistry, Goettingen, Germany.

The plenary presentations promise to be extremely enlightening. Professor Hell (Max Planck Institute for Biophysical Chemistry, Germany) will discuss his ground breaking development in far-field light microscopy with nanoscale resolution, 'Breaking Abbe's barrier: diffraction - unlimited resolution in far-field optical microscopy'. While the diffraction barrier has prompted the invention of electron, scanning probe, and x-ray microscopy, in the life sciences 80% of all microscopy studies are still performed with lens-based (fluorescence) microscopy in order to view living cells. Far-field 'optical nanoscopy' opens up many exciting new avenues of research.

Also on the nanoscience theme, Professor Sir Harry Kroto (The Florida State University, USA) will discuss 'Mechanisms of self assembly at nanoscale dimensions'. The unexpected discovery of a family of pure carbon cage molecules with incredible properties, the Fullerenes (Buckyballs) and Buckytubes, has facilitated the creation of molecules that 'do something'. Professor Urban (Research Centre Juelich, Germany) will present on the novel microscopy technique, 'Aberration-corrected electron microscopy - a breakthrough for materials science in atomic dimensions'.

"We are particularly pleased to announce such an eminent list of plenary and invited speakers, as well as calling for submitted papers for the first time," said Paul Monaghan, RMS Honorary Secretary for Science. "In addition to the weighty conference programme, what also makes MICROSCIENCE 2008 special is that conference theatres and exhibition will be housed within a single hall. Delegates will therefore circulate easily from lectures to demonstrations and discussions with exhibitors. Or they can network in the VIP lounge, the seating areas, or in the cafes that are also housed within the hall!"

NEW ON-LINE SUBMISSION FACILITY

The MICROSCIENCE 2008 International Conference continues to grow and this year for the first time there is opportunity to present submitted papers in three parallel sessions. These are: Characterisation and nanofabrication of advanced materials; The cell in time and space; and Microscopy and analysis at the frontiers. To facilitate the submission of abstracts, the RMS has introduced a new on-line submission system for the reviewing and scoring of all proposed oral and poster presentations for MICROSCIENCE 2008.

Call for MICROSCIENCE 2008 papers - Deadline for contributed oral papers is *February 29th 2008*. More information is available at: www.microscience2008.org.uk