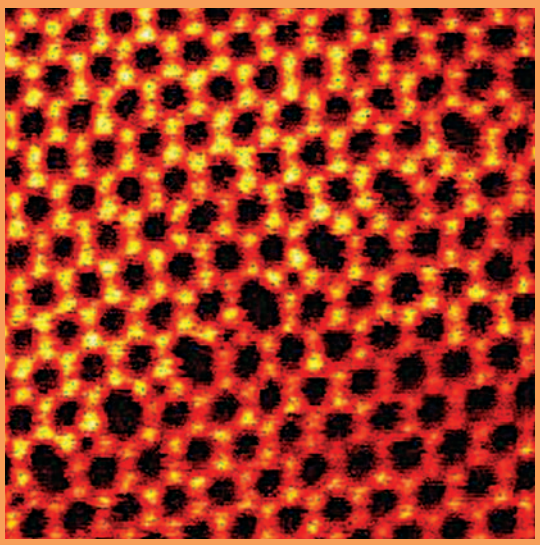
Call for Papers



Characterisation, manipulation and fabrication on the nanoscale

EMAG 2007

Electron Microscopy and Analysis Group Conference 2007

3–7 September 2007

Glasgow Caledonian University &
The University of Glasgow

IOP Institute of Physics

EMAG 2007

Electron Microscopy and Analysis Group
Conference 2007

Microscopists now not only have the ability to probe structure-property relationships at the sub-nanometre level but also to manipulate materials and fabricate structures on this scale. This continues to generate unprecedented opportunities to characterise matter at the atomic level and to fabricate new structures with novel mechanical, optical, electronic or magnetic properties.

The Electron Microscopy and Analysis Group's (EMAG) biennial conference has established a strong reputation as a key event in the calendars of the national and international microscopy communities, since its inaugural meeting in 1946 (then known as the Electron Microscopy Group). EMAG 2007 will continue this tradition in Glasgow, a city that has a long history in science, engineering and innovation. The superb transport links mean that EMAG 2007 will be easily accessible for day visitors as well as for delegates attending the whole conference and the Advanced School. A high quality Trade Exhibition is at the heart of an EMAG conference. EMAG 2007 will build on the success of the Exhibition at the University of Leeds in 2005 with a mixture of exhibits and technical workshops to enable delegates to interact with vendors and witness the latest developments in microscopy and related techniques.

The scientific themes of EMAG 2007 will be addressed through invited and contributed oral and poster presentations. Keynote plenary lectures will promote a focus for the conference sessions, arranged by topic. Sessions will be complemented by invited speakers as well as contributed oral and poster presentations. One of the principal features of the conference is the opportunity it gives to young researchers to present their work through both the symposia and the poster sessions. Prizes will be awarded for the best student contributions. The Advanced School is designed for research students to enhance their appreciation of some of the key scientific issues of the conference.

The themes of EMAG 2007 will be:

- Advanced electron microscopy techniques;
- Investigating structure-property relationships in advanced materials;
- Nanophysics and nanotechnology.

Oral and poster contributions within any of these themes are invited. These may address topics such as:

- Imaging dynamic processes
- 3-D microscopy
- Aberration corrected microscopy
- In-situ microscopy techniques
- Biological materials
- Geological microscopy
- Advances in SEM & FIB (CL, EBSD, energy-filters)
- Detector technologies
- High spatial resolution chemical and structural analysis
- Surface imaging and modification
- Electron crystallography
- Functional materials
- Structural materials
- Catalytic materials
- Nanomaterials
- Interfacial analysis

Details at http://www.iop.org/Conferences/

EMAG 2007

Electron Microscopy and Analysis Group Conference 2007

Submission of Abstracts

Abstracts should be submitted on-line via 'Forthcoming Institute Conferences' at **http://www.iop.org/Conferences** by **26 March** at the latest. Each abstract should have a maximum of 300 words; references and figures are not permitted. The programme committee will note your preference for oral and poster presentations but cannot guarantee your preference.

When submitting your abstract please specify the following:

- Type of file (MS Word file or text)
- Presentation preference
- Corresponding author
- Presenting author
- Author List
- Student Work

Authors will receive confirmation that the abstract has been submitted successfully together with a reference number which must be quoted when making subsequent enquiries. Notification with regards to the acceptance of the abstract will be sent by **7 May 2007**.

Authors will have the opportunity to make amendments to the abstract on-line prior to refereeing, for further information please see the web site.

If you are unable to submit your abstract on-line please send an electronic copy to **jodie.cartwright@iop.org**

Proceedings

Authors who have a contributed abstract accepted for presentation are asked to submit a 4-page camera-ready paper by **Friday 29 June 2007**. Further details will be sent on acceptance. Papers accepted for publication will appear in the Journal of Physics: Conference Series volume, which will be sent to delegates after the conference.

Conference Venue

The Conference and Trade Exhibition will take place at Glasgow Caledonian University whose campus is located in the heart of Glasgow city centre. The campus is a one minute walk from Glasgow Buchanan bus station which has fast, frequent links to Glasgow Airport. Glasgow Queen St rail station is a five minute walk for connections to Edinburgh and the East Coast mainline. Glasgow Central Station is a ten minute walk for connections to the West Coast Mainline and for rail services to Prestwick Airport. The Trade Exhibition and poster sessions will be housed in the Arc Health and Fitness Centre, with all conference lecture theatres within a two minute walk.

Accommodation

Modern en-suite accommodation has been reserved at Glasgow Caledonian halls of residence. The halls are on campus within a few minutes walk of the lecture theatres and Trade Exhibition. A limited number of car parking spaces are available at the Caledonian Court accommodation on a strictly first-come, first-served basis. Room rates include a full English or continental breakfast: Single En-Suite Room £50.00

Registration Fees

The registration fee (3 days) includes the welcome reception, refreshments and lunches throughout the conference, one copy of the abstract book, one copy of the proceedings (available after the conference) and one ticket for the conference dinner.

Details at http://www.iop.org/Conferences/

EMAG 2007

Electron Microscopy and Analysis Group Conference 2007

The member rate is available to members of the Institute of Physics, members of co-sponsoring Institutes and Societies, members of collaborating societies and members of the Business Partners network.

Registration will be available from May 2007.

Advanced School: EELS and EFTEM

University of Glasgow 3 – 4 September

The two-day EMAG advanced school will be held in the Department of Physics & Astronomy at the University of Glasgow on **Monday 3 and Tuesday 4 September** prior to the EMAG conference. The school will consist of a series of lectures, practical sessions and interactive demonstrations delivered by international experts in the field. Topics and presenters are subject to change:

The basics of inelastic electron scattering processes and spectra *R M Brydson (University of Leeds, UK)*
Instrumentation *A J Craven (University of Glasgow, UK)*
Low-loss spectroscopy *D W McComb (Imperial College London, UK)*
Core-loss spectroscopy *A J Craven (University of Glasgow ,UK)*
Localisation and inelastic imaging *P D Nellist (University of Oxford, UK)*
Spectrum imaging *C Colliex (Université Paris Sud, France)*
Energy-filtered TEM *P J Thomas (Gatan, UK)*
Modelling of spectra *A J Scott (University of Leeds, UK)*
Spectrum image acquisition *M MacKenzie (University of Glasgow, UK)*
EFTEM acquisition *N Wilkinson (Gatan, UK)*
Data processing *P J Thomas (Gatan, UK)*

The programme will start at **09:00 on Monday 3 September** and is aimed at postgraduate students and postdoctoral researchers who wish to learn how to use EELS/EFTEM in their research.

Registration fees (including lunches and a full set of lecture notes) are £50 for research students and £100 for postdoctoral researchers. There will be a maximum of 24 places on the school.

For further details please contact:

M MacKenzie
The Department of Physics & Astronomy
University of Glasgow.
Tel: +44 (0) 141 3305580
Email: **m.mackenzie@physics.gla.ac.uk**

P D Nellist
The Department of Materials
Oxford University.
Tel: +44 (0)1865 273656
Email: **peter.nellist@materials.ox.ac.uk**

Trade Exhibition

4 – 6 September

A major Trade Exhibition on electron microscopy and related technologies will be mounted in the Arc Health and Fitness Centre at Glasgow Caledonian University in parallel with the oral and poster sessions. The Trade Exhibition will be open at 09:00 until 20:00 on Wednesday 5 and 09:00 until 18:00 on Thursday 6. In addition to the main exhibition, exhibitors will have the opportunity to give trade presentations. To book exhibition space please contact Jill Cowlard at the address below.

Jill Cowlard
Optimus Events Ltd
(part of The CEM Group)
1 Doughty Building, Crow Arch Lane
Ringwood BH24 1NZ, UK
Tel: +44 (0) 1425 485 045
Fax: +44 (0) 1425 483573
E-mail: **jill@cemgroup.com**

Details at http://www.iop.org/Conferences/

Social Programme

The social programme will consist of a Welcome Reception, a Trade Exhibition Buffet and a Conference Dinner in the impressive Tall Ship at Glasgow Harbour (**http://www.thetallship.com/**), the only remaining Clyde built tall ship in Britain.
Full details will be available on registration.

Poster Prizes

Cash prizes sponsored by major equipment manufacturers will be awarded for the best oral and poster presentations by students. The winners will be selected by a panel of judges and prizes will be awarded prior to the plenary lecture on the final day of the conference.

Student Bursaries

Students and young scholars are encouraged to apply for an EMAG bursary to assist meeting the costs incurred in attending the conference and/or Advance School. Applications should be submitted to address below by no later than **10 June 2007**.

Prof. Stephen E. Donnelly
School of Computing, Science and Engineering,
Newton Building
Salford University
Salford
Greater Manchester
M5 4WT
UK
Email: **S.E.Donnelly@salford.ac.uk**

Organising Committee

Conference Chair: D W McComb
Programme Organisers: S E Donnelly, R T Baker
Proceedings Editors: P D Brown, G Moebus, R T Baker
Trade Exhibition Organisers: P Lander, K Meade and Optimus Events Ltd
Advanced School Organisers: P Nellist, A J Craven, M MacKenzie
Local organisation: I MacLaren, M MacKenzie, M Doughty

Co-Sponsors

The Royal Microscopical Society
The Institute of Materials, Minerals and Mining

General Enquiries

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Programme Enquiries

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Exhibition Enquiries

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1 Doughty Building, Crow Arch Lane
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Tel: +44 (0) 1425 485040
Fax: +44 (0) 1425 483573
E-mail: **jill@cemgroup.com**

Call for Papers

Important dates	
Abstract submission deadline:	26 March 2007
Abstract notification:	7 May 2007
Early registration deadline:	29 June 2007

Plenary Speakers

Spatially-resolved EELS of individual nanostructures over the UV/visible/IR spectral domain
Prof Christian Colliex (Université Paris Sud, France)
Glimpsing order within the disarray
Prof Michael M J Treacy (Arizona State University, USA)
TEM studies of magnetic multilayers, elements and nano wires
Prof John Chapman (University of Glasgow, UK)

Invited Speakers

Electron beam induced fabrication and characterization of nanostructures
Dr Kazuo Furuya (National Institute for Materials Science, Japan)
Dynamic in-situ experiments using combined SPM and TEM
Prof Eva Olsson (Chalmers University of Technology, Sweden)
Energy, structure, and chemistry of nanometer-thick intergranular films at metal-ceramic interfaces
Prof Wayne Kaplan (Technion - Israel Institute of Technology, Israel)
Oxides on semiconductors studied by EELS
Prof Alan Craven (University of Glasgow, UK)
Aberration corrected TEM: current status and future prospects
Prof Angus Kirkland (Oxford University, UK)
Dynamic electron microscopy of the growth of nanowires and the structure of their catalysts
Dr Frances Ross (IBM TJ Watson Research Center, USA)
Applications of FIB and TEM in the Earth and planetary sciences
Dr Martin Lee (University of Glasgow, UK)
Atomistic modelling of strontium titanate grain boundaries
Prof Mike Finnis (Imperial College London, UK)
Electron Microscopy in the Biosciences
Prof Marin van Heel (Imperial College London, UK)
SEM in Surface Science
Dr Edward D Boyes (DuPont, USA)

Co-sponsored by the Royal Microscopical Society and the Institute of Materials, Minerals and Mining.