

## Monday 29 June

1030-1300	Registration Opens
1300-1600	Pre-Congress Workshops
1600-1700	Break
1700-1745	<b>Plenary Lecture: Prof Jackie Hunter CBE</b> <b>The Evolution Of Biological Microscopy - From Form To Function</b> <b>Plenary Lecture: Prof Dirk Van Dyck</b> <b>Atomic resolution tomography and dynamics of nano-objects</b>
1745-1830	
1830-1930	<b>mmc2015 and EMAG Welcome Reception</b>

## Tuesday 30 June

	Session 1 EM of Functional Materials	Session 2 3D EM Imaging	Session 3 Advanced Specimen Preparation & Biological FIB
0845-0915	<b>Plenary Lecture: Prof Petra Schwille</b>		
0915-0930	<b>Biology scaled up in vitro: An alternative to higher resolution</b>		
0930-0945	Coffee Break and Exhibition		
0945-1000			
1000-1015	<b>Albina Borisevich</b> <b>Atomic scale Physics, Chemistry and Crystallography of oxides with Quantitative STEM</b>	<b>Ilke Arslan</b> <b>3D Tomography</b>	<b>Lucille Gianuzzi</b> <b>Theory and new applications of ex situ lift out</b>
1015-1030			
1030-1045	<i>Mr JM Salih, University of Glasgow</i> Meghemite-like regions at the crossing of two antiphase boundaries in Nd, Ti doped BiFeO <sub>3</sub>	<i>Mrs J Gonnissen, EMAT, Antwerp</i> Optimal experiment design for atom-counting in atomic resolution TEM and STEM: possibilities and limitations to the precision for both imaging methods	<i>Dr C Parmenter, University of Sheffield</i> Making the impossible 'merely difficult' -- cryogenic FIB Lift-out for damage-free soft matter imaging
1045-1100	<i>Prof PD Nellist, University of Oxford</i> Phase contrast imaging in the STEM using fast pixel detectors and its application to polar-ordered perovskites	<i>Dr H Yang, University of Oxford</i> STEM Optical Sectioning for Imaging Screw Displacements in Dislocation Core Structures	<i>Dr M Kemmler, Kleindiek Nanotechnik</i> iLO - A new approach to intuitive TEM sample lift out
1100-1115	<i>Dr D MacLaren, University of Glasgow</i> Contacting functional oxide films	<i>Dr A Stewart, University of Limerick</i> Applications of electron diffraction tomography	<i>Dr C Langlois, CNRS France</i> Crystal Orientation Mapping via ion channeling: an alternative to EBSD
1115-1130	<i>Mr JJP Peters, University of Warwick</i> Structure and dynamics of Pb <sub>2</sub> , ScTaO <sub>6</sub> relaxor ferroelectrics studied using transmission electron microscopy	<i>Prof P Wang, University of Nanjing, China</i> Towards 3D electron ptychography using multislice approach	<i>Dr B Winiarski, University of Manchester</i> Large volume high resolution Plasma FIB Serial Sectioning Tomography
1130-1145	<i>Dr Paterson, University of Glasgow</i> Electron Energy Loss Spectroscopy of a Chiral Metamaterial	<b>Peter Van Aken, Max Planck Institute</b>	<i>Mr P Maguire, Trinity College Dublin</i> Ne+, He+ and Ga+ Irradiation for Nanometre Tuning of 2D Materials
1145-1200	<i>Mr E Long, Trinity</i> An in- and ex-situ study into the oxidation of titanium (IV) sulphide		
1200-1400	<b>Exhibition, Lunch and Posters</b>		

## EM of Functional Materials

**Daniel Abou-Ras, Helmholtz-Zentrum  
Berlin**

1400-1415

**Multi-scale, correlative microscopy  
approaches for analyses of structure-  
property relationships in thin-film solar  
cells**

1415-1430

*Dr G Divitini, University of Cambridge*

1430-1445

In situ studies of thermal degradation of  
perovskite-based solar cells using STEM-  
EDX and multivariate analysis

*Dr T Walther, University of Sheffield*

1445-1500

Self-consistent absorption correction for  
quantitative energy-dispersive X-ray  
spectroscopy of InGaN alloys in a  
transmission electron microscope

*Mr JT Griffiths, University of Cambridge*

1500-1515

Nanocathodoluminescence spectral  
imaging of the influence of Si doping on  
the emission energy of InGaN quantum  
wells

*Ms JS Nilsen, Norwegian University of  
Science and Technology*

1515-1530

Self-induced Formation of Quantum  
Structures in the Shell of GaAs/AlGaAs  
Core-Shell Nanowires

**Joachim Mayer, Aachen**

1530-1545

**Chromatic aberration correction for  
materials characterisation**

1545-1600

## EM of 2D Materials

**Quentin Ramasse, SuperSTEM**

*Mr Chuncheng Gong, University of Oxford*

Spatially dependent lattice deformations  
for dislocations at the edge of graphene

*Dr AW Robertson, University of Oxford*

The Temperature Dependence of Defects  
in Graphene Resolved at the Single Atom  
Level

*Dr Y Zhou, Trinity College Dublin*

Work Function Effect in Secondary  
Electron Imaging of Graphene

*Mr A Rooney, University of Manchester*

STEM cross sectional imaging of  
transition metal dichalcogenide  
heterostructures

**Ursel Bangert, University of Limerick**

1600-close

**Posters, Drinks and Exhibition**

1900

**EMAG Dinner at Taps**

FIB and EM Prep User  
Group Meeting

Sponsored by Gatan

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Group Meeting

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# Wednesday 1 July

Session 1

FIB

Session 2

EM of Nanomaterials

0845-0915

**Plenary Lecture: Prof Sir Colin Humphreys CBE**  
**Electron Microscopy: a Key Technique to help Save Energy, Purify Water and Improve our Health**

0915-0930

0930-0945

Coffee Break and Exhibition

0945-1000

1000-1015

**Gregor Hlawacek, Helmholtz-Zentrum  
Helium Ion Microscopy**

**Prof C Ricolleau, University of Paris  
Diderot**

1015-1030

**Size effects on the thermodynamic  
properties of nanoalloys**

1030-1045

*Dr D Fox, Trinity College Dublin*  
Nanopatterning and electrical tuning of  
MoS<sub>2</sub> with a helium ion beam

*Ms K MacArthur, University of Oxford*  
Quantitative EDX Analysis of Catalyst  
Nanoparticles Using a Partial Scattering  
Cross Section Approach

1045-1100

*Dr J Sagar, London Centre for  
Nanotechnology*  
Direct nanostructuring at sub-50 nm  
lengthscales using inert gas ion-beams

*Dr P Kundu, Forschungszentrum Juelich*  
Atomic-scale defects in single crystal  
ultrafine Au nanowires

1100-1115

*Dr M Schmidt, Japan Advanced Institute  
of Science and Technology*  
Nitrogen ion beam microscopy for  
graphene based device fabrication:  
Development and Challenges

*Dr R Kroeger, University of York*  
Strain-gradient enhanced oxidation of iron  
nanoparticles observed by aberration  
corrected high-resolution scanning  
transmission electron microscopy

1115-1130

*Dr G Pimentel, University of Oxford*  
Achieving nm-resolution quantitative EDX  
SEM

*Dr ZY Li, University of Birmingham*  
Direct visualisation of elemental  
segregations in AuRh nanoalloys  
supported on TiO<sub>2</sub> nanorods

1130-1145

*Dr V Oleshko, NIST, Maryland*  
Plasmon Spectroscopy and Imaging for  
In Situ Probing of Nanoscale Mechanical  
Properties of Electrochemical Energy  
Storage Materials

**Jannik Meyer, University of Vienna**

1145-1200

*Dr C Rodenburg, University of Sheffield*  
Low voltage Scanning Electron  
Microscopy to map nanoscale local order  
in carbon based materials

1200-1400

**Exhibition, Lunch and Posters**

**EMAG AGM**

## In-situ EM

## EM of Magnetic & Structural Materials

1400-1415

**Ze Zhang, Zhejiang University**

**Stephen McVitie, University of Glasgow**

**Aberration Corrected Lorentz  
Microscopy**

1415-1430

*Dr E Prestat, University of Manchester*  
XEDS and EELS in the TEM at  
atmospheric pressure and high  
temperature

*Mr D Johnstone, University of Cambridge*  
Crystal Cartography: orientation imaging  
by scanning precession electron  
diffraction

1430-1445

1445-1500

*Prof E Boyes, University of York*  
AC E(S)TEM development and  
application to single atom catalysis

*Dr J Rusz, Uppsala University, Sweden*  
Mapping Magnetic Properties of Materials  
at Atomic Spatial Resolution

1500-1515

*Dr T Roncal-Herrero, University of York*  
Dynamic and quantitative in situ  
observation of Au nanoparticles formation  
by liquid cell scanning transmission  
electron microscopy

*Mr B Aminahmadi, University of Antwerp*  
Dislocation mediated hardening and  
relaxation in nanocrystalline palladium  
films revealed by on-chip HRTEM time-  
resolved nano mechanical testing

1515-1530

*Dr P Abellan, SuperSTEM*  
Controlled radiolytic synthesis in the fluid  
stage. Towards understanding the effect  
of the electron beam in liquids

*Mr DF Reyes, CEMES-CNRS*  
Magnetic states in Co/Cu multi-layered  
nanowires observed by electron  
holography

1530-1545

*Mr EA Lewis, University of Manchester*  
Alloying, hollowing and core-shell  
inversion in AgAu nanoparticles revealed  
by EDX spectrum imaging during in situ  
heating

*Dr TP Almerida, Imperial College London*  
In situ transmission electron microscopy  
and of-axis electron holography of thermal  
demagnetisation in non-ideal  
palaeomagnetic recorders

1545-1600

*Dr Doherty, Trinity College Dublin*  
In situ TEM Characterisation of 2-  
Dimensional Materials in Liquids for  
Energy Storage and Optoelectronics  
Applications

*Dr P Longo, Gatan*  
High-Speed analysis of Pt based alloys at  
high spatial resolution using EELS

1600-close

**Posters Drinks and Exhibition**

# Thursday 2 July

## Session 1

### Advanced EM Techniques

## Session 2

### EM of Biological Systems and Biomaterials

0900-0915	<b>Gerald Kothleitner, Graz University of Technology</b> <b>Compositional Quantification of Inelastic Atomic Resolution STEM Images</b>	<i>Dr M Klosowski, Imperial College London</i> Probing the ultrastructure and chemistry of bone at the nanometre scale
0915-0930		<i>Dr F Nudelman, University of Edinburgh</i> On the crystallisation mechanisms in the confined space within collagen fibres
0930-0945	<i>Dr L Jones, University of Oxford</i> Towards Statistically Representative Atomic Resolution 3D Nano-metrology for Materials Modelling and Catalyst Design	<i>Mr O Matar, University of Leeds</i> Correlative Microscopy of Barium Titanate and Barium-Strontium Titanate Nanoparticles for Biomarker Applications
0945-1000	Coffee Break and Exhibition	
1000-1015	<i>Dr B Mendis, University of Durham</i> Dynamic Scattering of electron vortex beams in a zone-axis crystal	<i>Mrs N Mustafa, University of Nottingham</i> Characterisation of Mg biodegradable stents produced by radio frequency magnetron sputtering
1015-1030	<i>Mr SG Smith, University of Glasgow</i> Assessing Chiral Crystallography Using Convergent Electron Vortex Beam Diffraction	<i>Miss K Erbacher, University of Salzburg</i> The effects of $\Delta^9$ -Tetrahydrocannabinole treatment on gonadal microvascularization and affected fertility examined by SEM and 3D-morphometry
1030-1045	<i>Dr S Shofman, El-Mul Technologies, Israel</i> Cascade model of noise formation in electron detectors	<i>Dr A Goode, Imperial College London</i> High resolution and dynamic microscopy of the biopersistence of intra- and extracellular aggregates of MWNTs in the brain
1045-1100	Break	
1100-1115	<b>Plenary Lecture: Dr Max Haider</b>	
1115-1130	<b>Advanced instrumentation for high resolution EM</b>	
1130-1145	<b>Poster Prizes</b>	
1145-1615	EMAG Conference Ends	
1615-1700	<b>Plenary Lecture: Prof Xiaowei Zhuang</b> <b>Illuminating biology at the nanoscale with super-resolution imaging</b>	