

PROGRAMME

Tuesday 4 September 2018

- 17h00 Registration (at Wills Hall, Parry's Lane, Stoke Bishop, Bristol)
- 18h00 Welcome buffet
Sponsored by Carl Zeiss Ltd.

Wednesday 5 September 2018

- 08h00 Registration
- 08h45 **Welcome and Opening Addresses**
- *Kevin Murphy*, Mineralogical Society of Great Britain and Ireland
- *Stuart L. Kearns*, University of Bristol
- *Michael B. Matthews*, EMAS President

Session I

- 09h00 **Macro-micro-nanoscale SEM/EDS of earth and planetary materials**, *Tobias SALGE*, Natural History Museum, Core Research Laboratories, London, Great Britain
- 09h30 **The application of SEM imaging techniques to the study of rare fossils**, *Patrick J. ORR*, University College Dublin, School of Earth Sciences, Dublin, Ireland
- 10h00 **SEM element mapping: strengths, limitations and applications to petrography of volcanic rocks**, *Duncan MUIR*, University College of Wales, School of Earth and Ocean Sciences, Cardiff, Great Britain
- 10h30 Refreshment break
- 11h00 **EPMA in the Earth Sciences**, *Richard D. WALSHAW*, University of Leeds, School of Earth and Environment, Leeds Great Britain
- 11h30 **Analysing silicate melt inclusions**, *Ery C. HUGHES*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 12h00 **Trace element analysis of extraterrestrial olivine**, *Timothy GREGORY*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 12h30 Lunch
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Session II

- 13h30 **Transmission electron microscopy: mineralogy at the nanoscale**, *Martin R. LEE*, University of Glasgow, Department of Geographical and Earth Sciences, Glasgow, Great Britain
- 14h00 Contributed talk - **The effect of X-ray energy overlaps on the results of chevkinite (Ce, La, Ca, Th)₄(Fe²⁺, Mg)₂(Ti, Fe³⁺)₃Si₄O₂₂ microanalysis using SEM EDS-WDS**, *Alicja M. LACINSKA*, British Geological Survey, Environmental Science Centre, Keyworth, Great Britain
- 14h15 Contributed talk - **Accuracy of semi-analytical calculations of secondary fluorescence across phase boundaries in electron probe microanalysis**, *Xavier LLOVET*, Universitat de Barcelona, Centres Científics i Tecnològics (CCiTUB), Barcelona, Spain
- 14h30 Contributed talk - **An empirical comparison of stoichiometrically calculated values of H, Li, Be, B and O, obtained by EPMA with determined values of Li, Be and B obtained by LA-ICPMS from a suite of minerals from the collection of the Natural History Museum, London**, *John SPRATT*, Natural History Museum, Core Research Laboratories, London, Great Britain
- 14h45 Contributed talk - **Application of automated mineralogy and EPMA for the quantification of metasomatic processes: case study of secondary scandium minerals from pegmatite**, *Jakub VÝRAVSKÝ*, TESCAN Brno s.r.o, Brno, Czech Republic
- 15h00 Refreshment break
- 15h30 **Cathodoluminescence in SEM and EPMA – applications in geology and material sciences**, *B. Matat JABLON*, University of Strathclyde, Department of Physics, Semiconductor Spectroscopy & Devices, Glasgow, Great Britain
- 16h00 **High-angular resolution electron backscatter diffraction as a new tool for mapping lattice distortion in geological materials**, *David WALLIS*, University of Oxford, Department of Earth Sciences, Oxford, Great Britain
- 16h30 Oral poster presentations I
- 17h00 Poster session I
Sponsored by Oxford Instruments NanoAnalysis.
- 18h00 End of session

Thursday 6 September 2018

Session III

- 08h30 **Isotopic imaging of minerals with NanoSIMS**, *Matt KILBURN*, University of Western Australia, Centre for Microscopy, Characterisation and Analysis (CMCA), Crawley, WA, Australia
- 09h00 **SIMS of synthetic and biological carbonates**, *Nicola ALLISON*, University of St. Andrews, School of Earth and Environmental Sciences, St. Andrews, Great Britain
- 09h30 **Application of secondary ion mass spectrometry (SIMS) to the study of volatiles in melt inclusions**, *Cees-Jan DE HOOG*, University of Edinburgh, School of Geosciences, Edinburgh, Great Britain
- 10h00 Refreshment break
- 10h30 **Laser ablation ICP-MS – From craters to calculations**, *Jay THOMPSON*, University of Tasmania, Department of Earth Sciences, Hobart, Tasmania, Australia
- 11h00 **A multi-technique for determining sulphur concentration and speciation in silicate glasses**, *Duane SMYTHE*, University of Oxford, Department of Earth Sciences, Oxford, Great Britain
- 11h30 **Detecting diagenesis: ⁸⁷Sr/⁸⁶Sr analysis of archaeological bio-apatites by LA-MC-ICPMS to assess diagenetic uptake of Sr in enamel**, *Jamie LEWIS*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 12h00 **Synchrotron μ -X-ray absorption spectroscopy in the Earth Sciences**, *Tina GERAKE*, Diamond Light Source Ltd., Didcot, Great Britain
- 12h30 **Determining the redox state of iron in silicate glasses using XANES**, *Andrew MATZEN*, University of Oxford, Department of Earth Sciences, Oxford, Great Britain
- 13h00 Lunch
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Session IV

- 14h00 **X-ray tomography analysis and applications of μ -CT techniques for 3D visualisation in palaeobiology**, *Tom DAVIES*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 14h30 Contributed talk - **Linking EBSD and optical microscope through optical modelling of crystallographical data from EBSD**, *Bjørn E. SØRENSEN*, Norwegian University of Science and Technology, Department of Geoscience and Petroleum, Trondheim, Norway
- 14h45 Contributed talk - **Characterising shock deformation of the Martian crust by electron backscatter diffraction analysis of the nakhlite meteorites Governador Valadares and NWA 998**, *Sammy GRIFFIN*, University of Glasgow, Department of Geographical and Earth Sciences, Glasgow, Great Britain

- 15h00 Contributed talk - **Optimisation and implementation of a new LA-ICP-MS setup: Reconstructing Miocene sea surface temperature using Mn-rich foraminifera**, *Michael G. NAIRN*, Cardiff University, School of Earth and Ocean Sciences, Cardiff, Great Britain
- 15h15 Contributed talk - **Application of X-ray photoelectron spectroscopy in the Earth Sciences**, *Martin SMITH*, University of Brighton, School of Environment and Technology, Brighton, Great Britain
- 15h30 Contributed talk - **Insights into magma storage and edifice instability from Kilauean crystal clots: An integrated geochemical and crystallographic approach**, *Penny WIESER*, University of Cambridge, Department of Earth Sciences, Cambridge, Great Britain
- 15h45 Oral poster presentations II
- 16h15 Poster session II
- 17h15 End of session
- 19h00 Workshop dinner at the Bristol Museum of Art & Gallery (Queens Road, Bristol)
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Friday 7 September 2018

Session V

- 08h45 **Chemical and ultrastructural characterisation of pigmented soft tissues in fossil vertebrates and insects**, *Maria MCNAMARA*, University College Cork, School of Biological, Earth & Environmental Sciences, Cork, Ireland
- 09h15 Contributed talk - **Quantitative joint analysis of backscattered electron and cathodoluminescence images of natural zircons**, *Dmitry A. ZAMYATIN*, Zavaritsky Institute of Geology and Geochemistry, Laboratory of Physical and Chemical Research Methods, Yekaterinburg, Russia
- 09h30 Contributed talk - **Extracting mineralogical and textural data through multi-scale and multi-dimensional imaging techniques**, *Glaciale TIU*, Luleå University of Technology, Civil, Environmental and Natural Resources Engineering/Ore Geology, Luleå, Sweden
- 09h45 Contributed talk - **Estimating sub-surface oxidation processes through the abundance of superparamagnetic grains in a continental ophiolite complex: A multiscale correlative study**, *Joshua F. EINSLE*, University of Cambridge, Department of Earth Sciences, Cambridge, Great Britain
- 10h00 Refreshment break

Session VI

- 10h30 **The use of micro-ATR (FTIR) and Raman spectroscopy to measure volatiles in silicate glasses**, *Richard BROOKER*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 11h00 **Atom probe tomography: providing new insights into geological materials**, *James DOUGLAS*, University of Oxford, Department of Materials, Oxford, Great Britain
- 11h30 **Preparation of Earth Science materials for microbeam analysis**, *Jon WADE*, University of Oxford, Department of Earth Sciences, Oxford, Great Britain
- 12h00 Lunch

Session VII

- 13h00 **A forward look in applications of high-spatial resolution LA-ICP-MS U-Th-Pb geochronology**, *Matthew HORSTWOOD*, British Geological Survey, Geochronology and Tracers Facility, Keyworth, Great Britain
- 13h30 **New frontiers in isotope ratio measurement using collision cell, multi-collector plasma mass-spectrometry**, *Tim ELLIOTT*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 14h00 **Quantitative chemical analysis of diamond anvil cell experiments and other tiny samples**, *Eleonor JENNINGS*, University of Bayreuth, Bayerisches Geoinstitut, Bayreuth, Germany
- 14h30 **High spatial resolution analysis of chemical zoning in volcanic crystals**, *Jon BLUNDY*, University of Bristol, School of Earth Sciences, Bristol, Great Britain
- 15h00 **Closing ceremony**