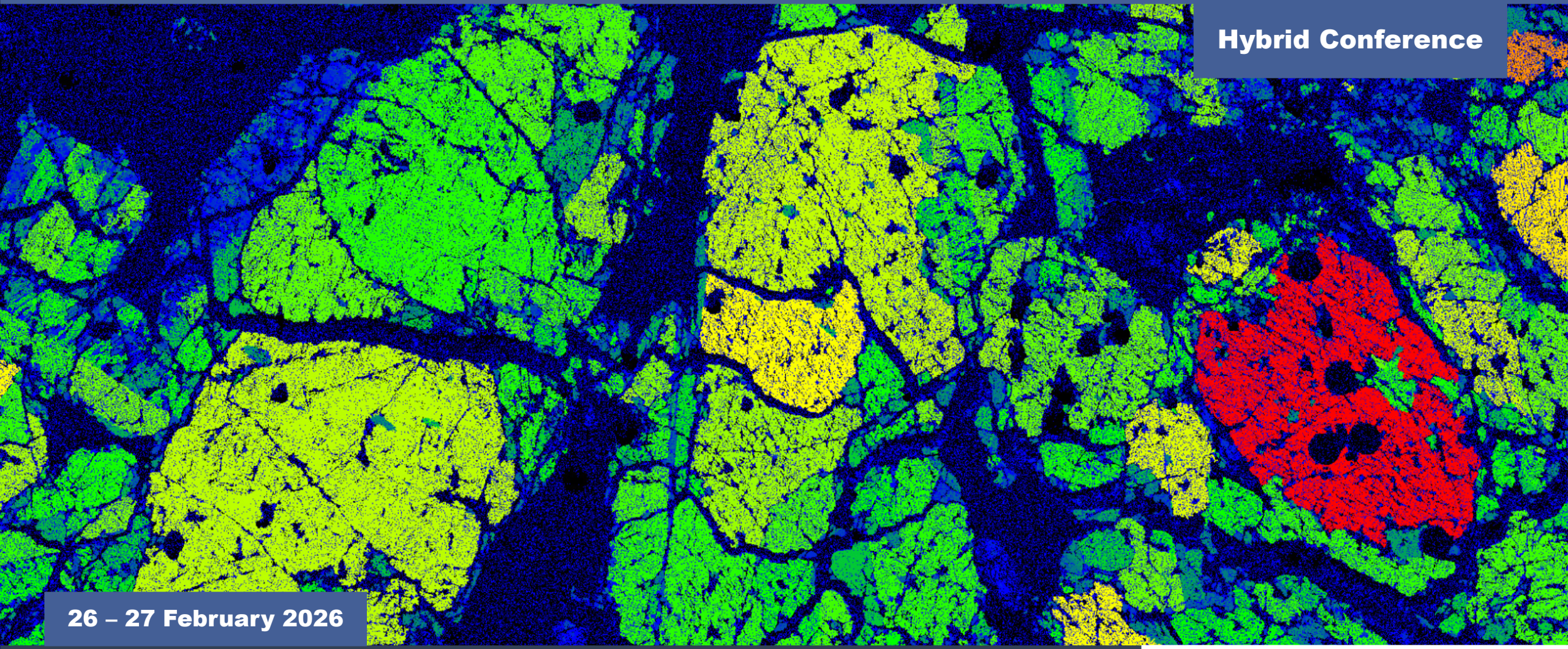

Hybrid Conference

26 – 27 February 2026

Analytical Microscopy in Earth and Planetary Sciences

CONFERENCE PROGRAMME

The Geological Society

Supported by

Mineralogical Society of the UK and Ireland

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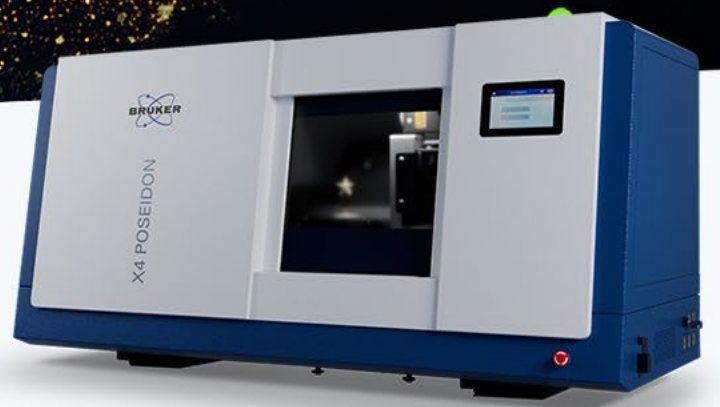
Getting Into Multi-Dimensional Detail

Elemental and Structural Characterization of Earth and Planetary Materials

Electron Micrsoscope Analyzers
EDS, WDS, EBSD, Micro-XRF on SEM

M4 TORNADO PLUS
Micro-XRF Spectrometry



X4 POSEIDON
X-ray Microscopy

0930 –1000	Registration & Coffee	
1000 – 1010	Welcome Address	Natasha Stephen, *Geological Society of London*
1010 – 1100	**Keynote:** Precise quantitative mineral analysis by EDS-SEM	Johan Lissenberg, *Cardiff University*
SESSION ONE		
1100 – 1120	No WDS? No Problem! Why Do Geoscientists Continue to Overlook EDS?	George Stonadge, *Oxford Instruments*
1120 – 1140	Element mapping of the lawsonite to epidote transition	Sara Hanel, *University of Minnesota*
1140 – 1200	From Sparse Measurements to Full Maps: Machine Learning Prediction of Mineral Phase Data	Julia Schmitz, *MaP - Microstructure and Pores GmbH, Germany*
1200 -1210	Automated Mineralogy as a part of complex analytical workflows	Marek Dosbaba, *Tescan*
1210 – 1230	Break	
SESSION TWO		
1230 – 1250	Quantifying Facies-Controlled Pore Connectivity in Heterogeneous Porous Media with Alloy Intrusion Porosimetry (AIP)	Joyce Schmatz, *MaP - Microstructure and Pores GmbH* & Julia Schmitz
1250 – 1310	SEM-BEX Mapping on Unprepared and Uncoated Samples: did we find the oldest extraterrestrial zircons?	Alexandra Stavropoulou, *Oxford Instruments*
1310 – 1330	The Importance of being oriented: a review of thirty years of Electron Backscatter Diffraction research in Earth and Planetary Sciences	John Wheeler, *University of Liverpool*
1330 - 1430	Lunch	
COMMUNITY UPDATES		
1430 – 1445	High resolution structural and chemical analysis at the electron Physica Sciences Imaging Centre	Chris Allen, *ePSIC (virtual)*
1445 – 1500	Imaging & Characterisation at the Henry Royce Institute: Facilities and Access	Alexander Massey, *Henry Royce Institute*
1500 – 1515	The Space Nanomaterials atom probe (SNAP) providing an atoms eye view of the Solar System	Luke Daly, *University of Glasgow*
1515 – 1530	An Update for the Microscopy Community from EPSRC	Neil Robinson, *EPSRC UKRI*
1530 – 1600	Break	
1600 – 1610	Automated Mineralogy: Faster, Smarter geological insights with MapsMin	Salomé Larmier, *Thermo Fisher Scientific*

Continued on the next page...

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- Identify and quantify minerals automatically
- Correlate high-resolution BSE, elemental maps, and cathodoluminescence images
- Analyze thin-section scale samples with reproducible results
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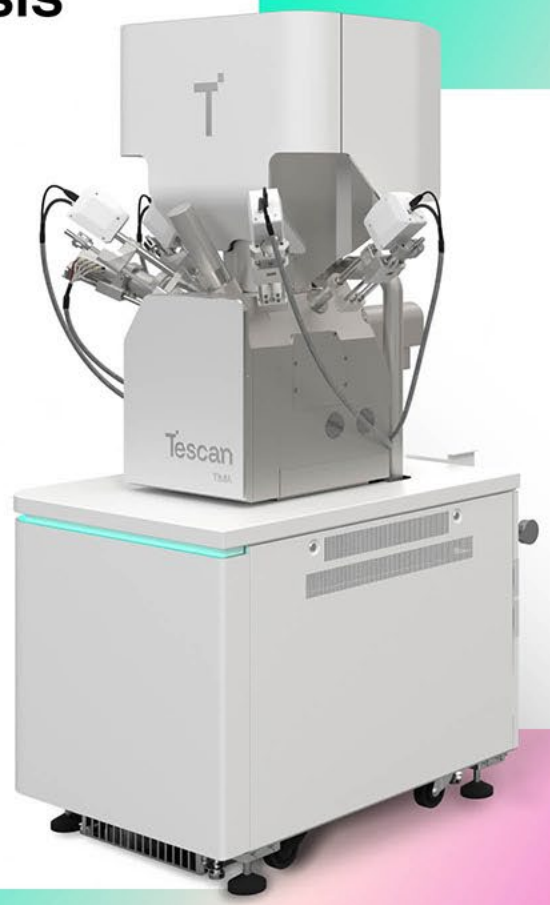
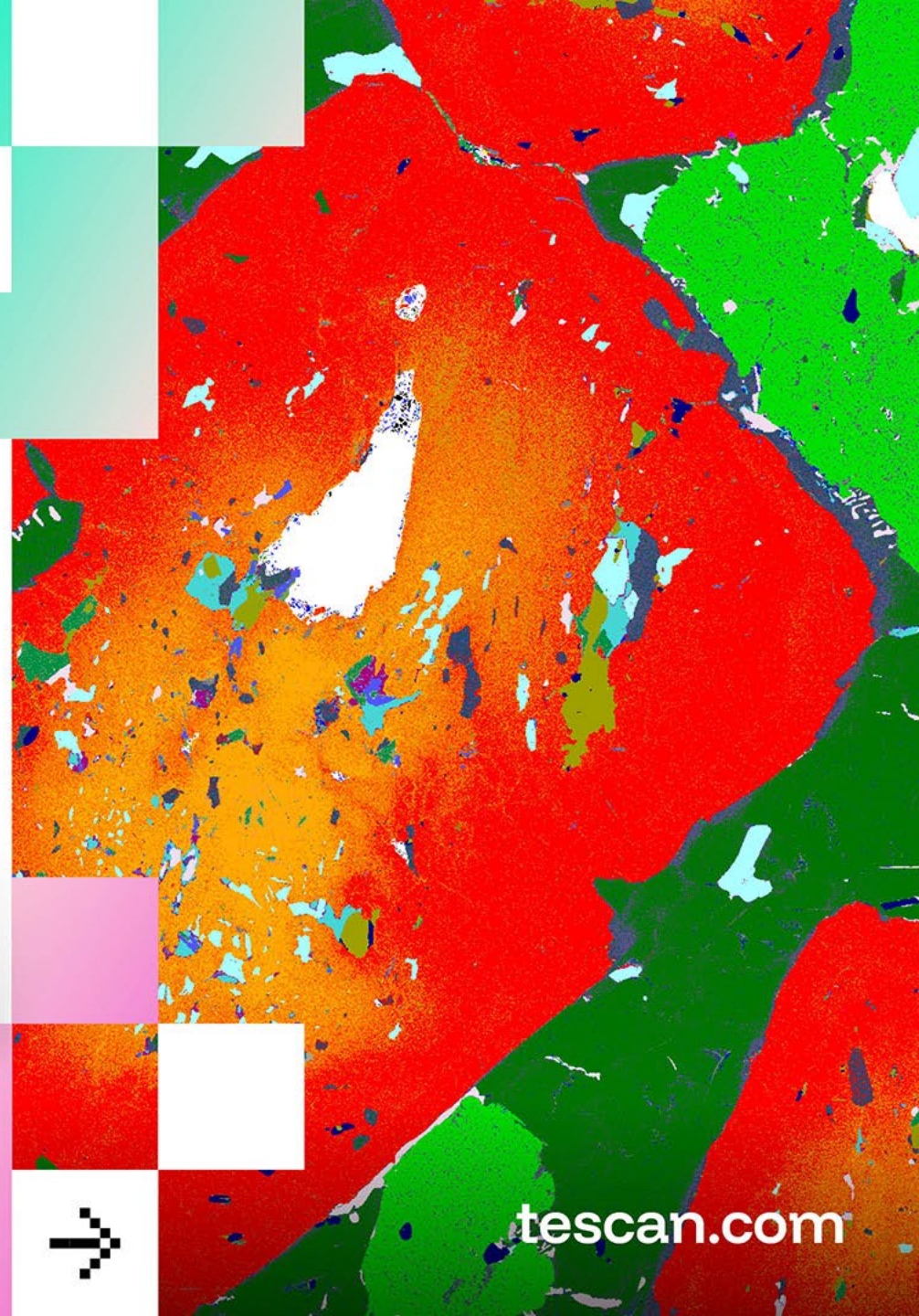
- Understand chemical variability across grain populations and bulk sample composition
- Estimate presence of elements not detected by EDS





Compositionally zoned garnet with abundant inclusions in eclogite rock.

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VIRTUAL POSTER SESSION		
1610 – 1620	Resolving Mixed Spinel Signatures with EPMA Element Mapping in Metasomatized Peridotites	Danielle Carr, *University of Texas at Arlington*
1620 – 1630	Linking olivine crystal-preferred orientations to deformation: EBSD evidence from the Songshugou Peridotite Massif (North Qinling, Central China)	Hongyuan Zhang, *China University of Geosciences (Beijing)*
1630 – 1640	High-resolution Scanning Electron Microscopy Imaging in Mudstone Thin Sections with Different Metallisation Alternatives	Mateus A Rodrigues, *Fluminense Federal University*
1640 – 1655	Lighting session	
1655 - 1830	Poster session & Drinks Reception	

Posters

Resolving Mixed Spinel Signatures with EPMA Element Mapping in Metasomatized Peridotites	Danielle Carr, *University of Texas at Arlington (Virtual)*
Telling the time with SEM-EDS: Application of quantitative EDS to diffusion chronometry	Joe Gardener, *University of Liverpool*
The macroscopic and microscopic mineralization controlled by the Yanshanian movement surface in the Xitian area, Hunan Province, South Central China	Hongyuan Zhang, *China University of Geoscience, Beijing (Virtual)*
Quantifying Porosity and Mineralogy in Rock Samples through Integrated SEM/EDS and Machine Learning Approaches	Joyce Schmatz, *MaP - Microstructure and Pores GmbH*
High-resolution Scanning Electron Microscopy Imaging in Mudstone Thin Sections with Different Metallization Alternatives	Renan de Melo Correia Lima / Mateus A. Rodrigues, *Fluminense Federal University (Virtual)*

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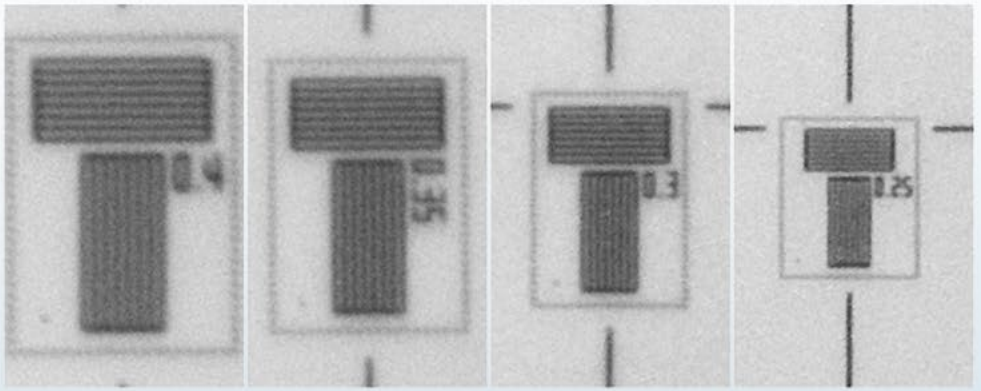
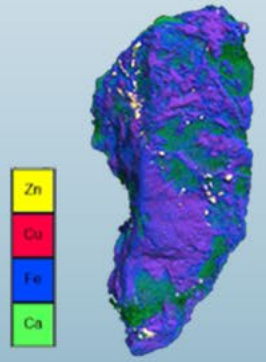


JIMA RT RC-04 RESOLUTION CHART
0.4µm / 0.35µm / 0.3µm / 0.25µm

Multilayer ceramic capacitor (MLCC): 175nm



Chalcopyrite: N90 Optional XRF Module

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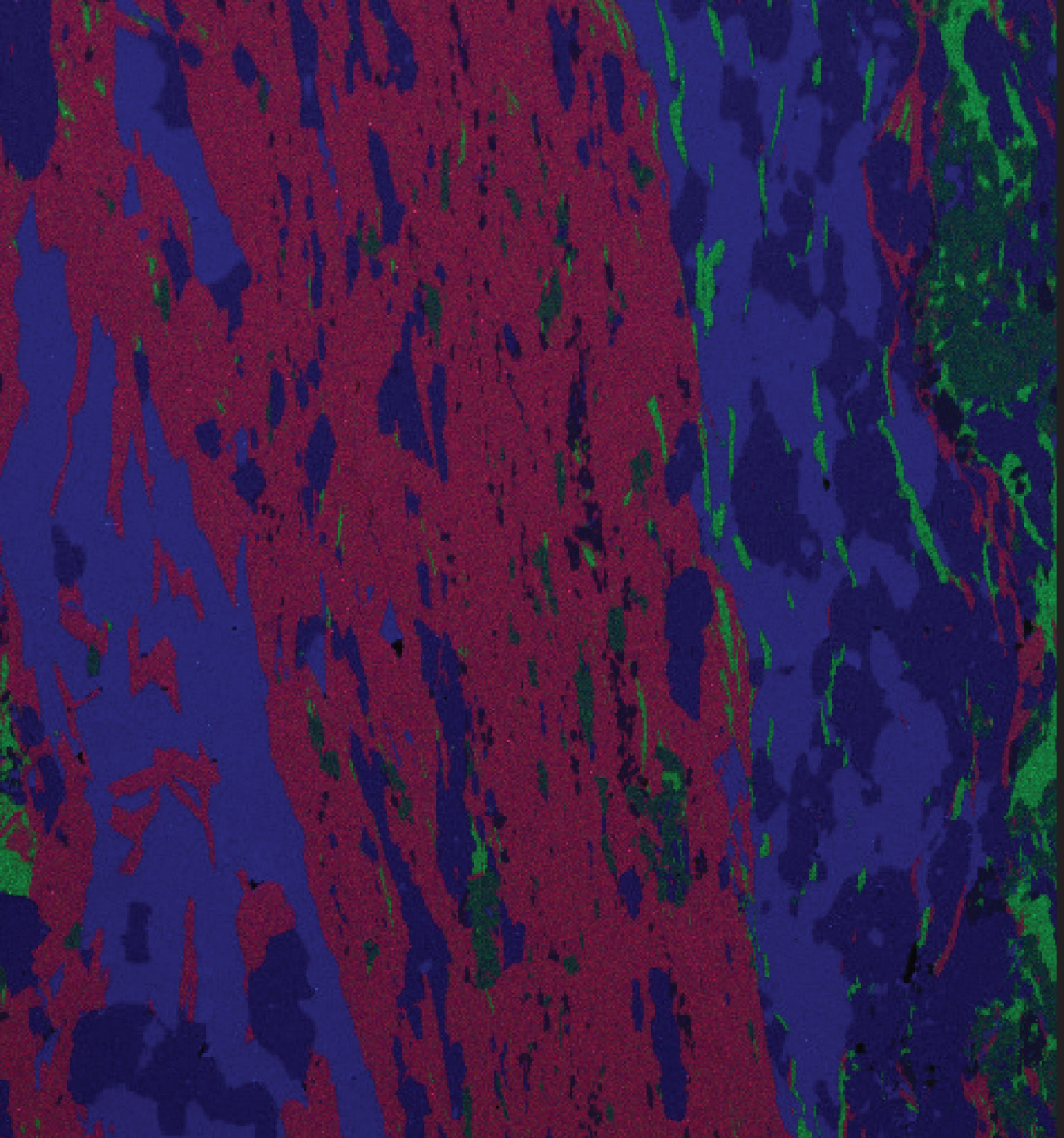

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Friday 27 February 2026

0900 – 0930	Registration & Coffee	
0930 - 1000	Panel Discussion: Collaboration in Lab Management, challenges, opportunities, and the eternal quest for funding	
1000 - 1010	Improved geological phase discrimination using spherical indexing	Rene De Kloe, *Gatan/EDAX*
1010 – 1030	Microscopic Meteorites: Art, Science and Stories from space	Lorelei Robertson, *University of Nottingham*
1030 – 1050	Building a pilot open-access correlative rock microscope	Marco A. Acevedo Zamora, Queensland University of Technology
1050 - 1110	Lithium to Uranium: A New Analytical SEM for Environmental Research hosted by UCL Earth Sciences	Andy Thompson, *University College London*
1110 – 1150	Break	
THEME THREE		
1150 - 1210	Micro to nanoscale characterisation of olivine, wadsleyite and ringwoodite in the Catherwood L6 ordinary chondrite and implications for the evolution of high-pressure mineral assemblages in planetary materials	Lee White, *Open University*
1210 - 1230	Hydrothermal Alteration of Isle of Rum Peridotite – A Jezero Crater Analogue	Cesca Willcocks, *University of Leicester*
1230 - 1250	Constraints on Basaltic Volcanism on Vesta: Insights from Pb-Pb Isotope Systematics in Eucrites	Hayley Lowe, *University of Manchester (Virtual)*
1250 - 1410	Lunch & Sponsor Networking	
1410 - 1420	Light Element Chemical State Analysis with New Soft X-ray Grating for SEM	Calum Dickinson, *JEOL (UK) Ltd*
THEME FOUR		
1420 - 1440	Out of Space, Under the Beam: Low-Dose SEM–EDS of Fragile Phases in Carbonaceous Chondrites and Asteroid Bennu Return Samples	Tobias Salge, *Natural History Museum*
1440 - 1500	4D STEM and Correlative EDS Analyses of Planetary Materials	Niamh Topping , *University of Leicester (Virtual)*
1500 - 1520	Novel Combinations of Quantum Diamond Microscopy and Electron Probe Microanalysis Reveal Intricate Intergrowths in an Unusual Meteorite	Jennifer T. Mitchell, *University of Minnesota*
1520 - 1530	Bruker XRM and XRF applications in the Geosciences	Stephan Le Roux, *Bruker*
1530 - 1600	Break	
THEME FIVE		
1600 - 1650	**Keynote:** Laser-induced breakdown spectroscopy (LIBS) as a tool for planetary exploration: From the macroscale to the microscale on Mars and beyond.	Candice Bedford, *Purdue University (Virtual)*
1650 - 1710	GSL Publications & closing words	

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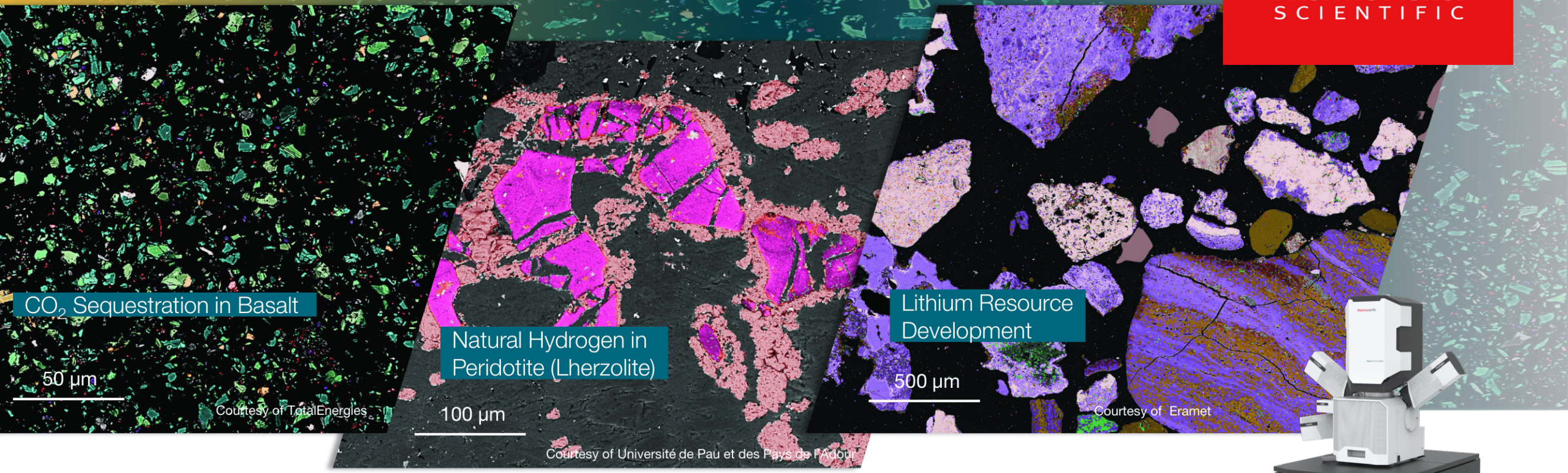

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Convenors:

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Cesca Willcocks (University of Leicester, UK)
Duncan Muir (Cardiff University, UK)
Jen Mitchell (University of Minnesota, USA)

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