

Hybrid Conference

17 - 18 November 2026

GeoFutures 2026: Critical Minerals

CONFERENCE PROGRAMME

The Geological Society

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MINERAL DEPOSITS STUDIES GROUP

Tuesday 17 November 2026		
0900 - 0930	Registration opens, tea & coffee	
0930 - 0940	Welcome address	
0940 - 1010	**Keynote:** *Title TBC*	Libby Sharman, *Society of Economic Geologists (SEG)*
Session one: Innovation in Understanding Critical Mineral Systems and Deposit Geology		
1010 - 1025	Predicting porphyry copper prospectivity with plate reconstruction models and machine learning	Edward Clennett, *University College London*
1025 - 1040	Prospectivity on a Plate: Tectonic Reconstructions for Critical Mineral Targeting	Jamie Price, *SRK Consulting*
1040 - 1055	Evolving tectonic style governs metal mineralisation in mountain belts	Alex Copley, *University of Cambridge*
1055 - 1110	Magmatic Ni-Cu-Co-PGE deposits from craton to orogenic belt: new search space for battery metal discovery	David Holwell, *Univeristy of Leicester*
1110 - 1125	A 4D Petrogenetic Model for the Uis Pegmatite Field	Joseph Benson, *University of St. Andrews*
1125 - 1140	Refreshment break	
1140 - 1155	Magma recharge modulates major element evolution and REE mineralisation potential in alkaline-silicate rocks: a case study of Erongo, Namibia	Caroline Soderman, *University of Cambridge*
1155 - 1210	Look Up, not Down! Rare Earth Mineral Deposits in the Roof Zones of Alkaline Igneous Intrusions	Adrian Finch, *University of St. Andrews*
1210 - 1225	Processes to products in supergene enrichment of carbonatite-hosted REE deposits.	Martin Smith, University of Brighton
1225 - 1240	From Magma to Mineralisation to Groundwater: Deep Drilling a REE-Rich Carbonatite	Sam Broom-Fendley, *University of Exeter*
1240 - 1255	Potential role of molten salts and metaevaporites for IOCG deposit formation	Michael Anenburg, *Australian National Unviersity*
1255 - 1355	Lunch	
Session two: New Approaches to Critical Mineral Exploration and Targeting		
1355 - 1410	Deformation and recrystallisation as a mechanism for critical metal enrichment: coupled microstructural-geochemical insights from the Rajapalot Au-Co deposit	Lily Dickson, *University of Leeds*
1410 - 1425	Diamonds to detect critical metal evolution in the mantle (DIADEM)	Hannah S. R. Hughes, *Camborne School of Mines, University of Exeter*
1425 - 1440	Building a domestic critical minerals supply chain for the UK	Jeremy Wrathall, *Cornish Lithium*
1440 - 1455	Liquid ores: the multi-commodity mineral potential of saline geofluids	Konstanin Nazarov, *University of Oxford*
1455- 1510	Parys Mountain: An Old Mine, A New Mineral System	James McFarlane, *Anglesey Mining Plc*

Session two: New Approaches to Critical Mineral Exploration and Targeting continued...		
1510 - 1525	Beyond Lithium Grade: A Geochemical Framework Enhancing LCT Pegmatite Project Evaluation, Exploration and Geometallurgy	Radu-Gabriel Miron, *SRK Exploration Ltd*
1525 - 1540	Refreshment break	
1540 - 1555	Tectonic settings for porphyry copper formation in the Northern Great Basin, USA	Hero Bain, *University of St.Andrews*
1555 - 1610	Characteristics of chromite-bearing serpentinization in the Robusha Peridotite Massif, Tibet, and their relationship to regional tectonics	Hongyuan Zhang, *China University of Geoscience*
1610 - 1625	A Systems Approach to Viable Mineral Exploration	Matthew Grimshaw, *Worth Discovery*
1625 - 1710	**Panel discussion: Critical Minerals Policy Panel** This panel will explore how scientific and learned institutions engage with policy making; navigating obscurity, strengthening connections and collaborating for greater impact. Panellists from the Royal Academy of Engineering, the Royal Society of Chemistry, the Institute of Materials Minerals and Mining and the Geological Society of London will come together to discuss case studies from joint reports, cross-institutional panels, collective statements and engagement with ministers that touch on themes of critical mineral demand and supply, recycling, skills, and lifespan. The discussion will explore the benefits and challenges of collaboration for effective policy engagement and consider how we can continue to better connect policymaking with science through partnership.	Izzi Monk, *Policy Advisor, Environment and Circular Economy, Royal Society of Chemistry* Keyne Walker, *Policy Advisor, Climate and Sustainability, Royal Academy of Engineering* Rachel Stonehouse, *Head of Policy, Institute of Materials, Minerals and Mining (IOM3)* Dr Megan O'Donnell FGS, *Head of Policy and Communications, The Geological Society*
1710 - 1720	End of day 1 wrap up	
1720 - 1830	Poster session (sponsored by Applied Mineralogy Group (AMG)	

Wednesday 18 November 2026		
0900 - 0930	Registration opens, tea & coffee	
0930 - 0940	Welcome address	
0940 - 1010	**Keynote:** *Title TBC*	Sarah Gleeson, *University College Dublin*
Session four: Supply Chain Mapping and Minerals Intelligence		
1010 - 1025	Understanding Resilience in Critical Raw Material Supply Systems	Lingli Zhou, *Durham University*
1025 - 1040	Evolving the UK Criticality Assessment: New Ideas, New Needs	Christian Bishop, Critical Minerals Intelligence Centre, British Geological Survey
1040 - 1055	Mineral Systems and Mineral Criticality: Exploring the Intersection of Policy and Prospectivity	Edward Bunker, *Viridien*
1055 - 1110	Critical minerals for digital technologies	Holly Elliott, *British Geological Survey*
1110 - 1125	Refreshment break	
1125 - 1140	A Geology-Based Assessment of Mining Lease Adequacy and Land-Use Efficiency: A 3D Geological Modeling Case Study of a Manganese Deposit in the Eastern Ghats Mobile Belt, India	Ahmed Koko Suleiman Dalbon, *Andhra University*
1140 - 1155	The potential supply of secondary minerals for UK's energy transition	Jorge Torrubia, *British Geological Survey*
1155 - 1210	The Critical State of Global Copper: For Whom the Bell Tolls?	Gavin M. Mudd, *British Geological Survey*
Session five: Sustainable Value Chains for Critical Minerals		
1210 - 1225	Why by-product critical minerals are a stubborn problem	Daniel J. Smith, *University of Birmingham*
1225 - 1240	Don't dig it up! In situ reprocessing and remediation of mine tailings to recover critical metals	Gawen Jenkin, *University of Leicester*
1240 - 1255	Mineral Resource Estimation for Critical Mineral deposits: Challenges associated with RPEEE in early stage projects	Martin Pittuck, *SRK Consulting (UK) Ltd*
1255 - 1355	Lunch	
1355 - 1410	Virtual Poster Presentations (Sponsored by Applied Mineralogy Group (AMG))	
1410 - 1425	From Waste to Resource: Phytotechnologies for Sustainable Mine Closure	Rose Ridgeway, *Mine Environment Management*
1425 - 1440	Unlocking Cobalt from Pyrite-Rich Mine Residues: What Diagnostic Oxidation Reveals About Metal Liberation	Ummul Sultana, *University of Queensland*
1440 - 1455	Roadmaps for Critical Minerals Sustainability—What Can Be Achieved, Where and by When?	Desire Runganga, *Western Australia School of Mines*
1455 - 1510	Integrating Socio-Political Impacts on Local Mining Communities into Low-Carbon Technology Production Systems to Facilitate a Just Transition	Diana Rincon Valbuena, *University of Warwick*
1510 - 1525	Refreshment break	
1525 - 1540	Industry-Academia Outreach: Engaging Future Professionals in Responsible Critical Minerals Development	Ben Lepley, *SLR Consulting*
1540 - 1555	Co-creating a roadmap for responsible nickel production in the Philippines	Rowan T. Halkes, *British Geological Survey*

Session seven: Sustainable Value Chains for Critical Minerals		
1555 - 1610	Estimating global extractable copper in subvolcanic brines	Michele Paulatto, *Imperial College London*
1610 - 1655	Wrap-up and discussion	Chair: Sarah Gordon
1655 - 1710	End of day 2 wrap up	

Poster Presentations (Sponsored by Applied Mineralogy Group (AMG))

Porphyry Prospectivity Mapping and Targeting on the Arabian Shield	Alex Tunnadine, *SRK Consulting (UK) Ltd*
A Century of Copper Slag Generation: Global Production Trends and Implications as a Secondary Resource of Critical Metals	Alexandria Tanciongco, *University of Leicester*
Unlocking Cornwall's Geothermal-Lithium Resources: Fault Reactivation, Fluid Flow and Permeability Evolution Through Time	Catherine Mottram, *University of Portsmouth*
Critical raw material potential of volcanogenic massive sulphide (VMS) deposits in the UK	Hannah Grant, *British Geolgoical Survey*
Iron Recovering from Fluorspar Tailings via Magnetizing Roasting and Magnetic Separation: A Sustainable Waste Minimisation Approach	Kemane Kgwete, *University of Witwatersrand*
Carbonatite-Hosted REE Prospectivity Mapping Under Label Scarcity	Miaozhou Tang, *Imperial College London*
Challenges of Limiting the Number of Input Variables in Machine Learning: A Case Study on the Prediction of REE-Bearing Phosphorites	Nasreddine Tahar Belkacem, *Ouargla University*
Fingerprints of Nickel Exploration in the Pulivendla-Vemula (P-V) sill in Cuddapah Basin:Geological Complexity and Discovery Potential	P V Sunder Raju, *CSIR-National Geophysical research institute*
Characterization of a shear-controlled graphite mineralization zone within the Eastern Ghat Mobile Belt through integrated geophysical methods: A case study of the Bandhabhuin graphite block, India	Ramjit Marndi, *Indian Institute of Technology Bhubaneswar*
New Exploration Guides for Mn and Rare Earth Element Mineralizations Associated with Central Saharan Cenozoic Anorogenic Volcanism	Riad Ben El Khaznadji, *Université des sciences et technologie Houari Boumediene*
Consensus Prospectivity Mapping and Uncertainty Assessment of Graphite Deposits: A Multi-Workflow Machine Learning Approach	Suchitra Behera, *Indian Institute of Technology Bhubaneswar*
Beyond Sulfide Oxidation: New Pathways for Cu, Au and Sulfur Recovery from Complex Concentrates	Ummul Sultana, *University of Queensland*
Mineralogical Controls on Nickel Redistribution during Lateritic Weathering: Insights from the Batu Putih Ni Laterite Deposit, Sulawesi, Indonesia	Yu Shen, China university of Geosciences
Digestion Method Controls on Using Geochemical Data for Rock Classification: Insights from the Camp Creek Cu-Mo-(Au-Ag) Porphyry Deposit, Northwestern British Columbia, Canada	Maxwell Long Porter, Imperial College London
Is AI really helping Geoscience Microscopy?	Rich Taylor, *Zeiss*
Critical metal by-product recovery on site: a case study for co-extraction of bismuth, tellurium and tungsten using Deep Eutectic Solvents at Björkdal Gold Mine	Lara Tritton, *University of Leicester*

Convenors:

- **Kathryn Goodenough,** British Geological Survey
- **Nick Gardiner,** University of St.Andrews
- **Sarah Gordon,** Satarla & Imperial College London
- **Karen Hudson-Edwards,** University of Exeter

THANK YOU

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