



# Mineralogical Society of the UK and Ireland

[www.minersoc.org](http://www.minersoc.org)

## INTERNATIONAL CLAY CONFERENCE 2025

By the time this issue of *Elements* lands on your desk, the 18<sup>th</sup> International Clay Conference will have been and gone in Dublin. At the time of writing, we have 630 delegates from 56 countries intending to join us for the conference and 500 abstracts of content to be presented. Whew! Approximately 80 of our delegates are planning to join us remotely, including participants making oral and poster presentations. We have invested significantly in our capacity to deliver conferences to remote attendees and numerous delegates from the low- and middle-income countries will be joining us without charge. This is a huge step forward for AIPEA and we hope it will be replicated in future conferences.

The list of sessions at the conference is shown below. We include it here to demonstrate the degree of change in terms of subject matter from previous such lists involving the Mineralogical Society (Euroclay in 2015 and ICC in Oxford in 1978). This represents a tremendous breadth of scientific endeavour and an increasing proportion of applied clay science.

- Sorption and Intercalation in Layered Materials: From Origins of Life to Material Science
- From Dioctahedral to Trioctahedral Smectites: Where Volcanism meets Weathering, Sedimentation, and Diagenesis
- Teaching, History, and Future of Clay Mineralogy (in Honor of Dewey Moore and Bruce Velde)
- Origin and Age of Clay Minerals in Soil and Sediment
- Soil and Clay Chemical Analysis – Symposium Honoring M.L. Jackson (Short title: Jackson Symposium)
- Critical Minerals in Clay-rich Deposits: Processes, Occurrences, and Resource Potential
- Natural Zeolites: From Geology and Fundamental Science to Applications and Market Challenges
- Identification and Characterization of Phyllosilicates on Mars and Other Planetary Bodies through Remote Sensing, Rover Instruments, and Analog Studies
- Advances in Structural Characterization of Layered Compounds
- Clay Applications in Ceramics
- Materials via Ordered Interstratifications
- Industrial Applications of Clays
- Clay Minerals in Diagenetic and Low-Grade Studies: Implications for Resource Exploration and Sustainable Energy Development
- Smectite Layer Charge and Interlayer Environment: Structure, Alteration, and Environmental and Technological Significance
- Science and Engineering of Clays for Nuclear Waste Disposal
- Impact of Temperature on Bentonite Barrier Systems based on Findings from In Situ Experiments in the Context of Radioactive Waste Disposal
- Clay Mineral-Based Catalysts for Environmental Engineering and Chemical Processes
- Greenhouse Gas Remediation

- Fundamentals of Tubular Nanoclays
- 1D Nanoporous Clay Materials and Their Industrial Applications
- Multiscale Computational Modeling of Clay-related Materials and their Fluid Interfaces
- Nanoelectronic and Nanophotonic Applications
- Properties and Applications of Novel Smart Clay, LDH, and Clay-related Nanomaterials
- Clays in Geotechnics – Problems and Applications
- Advances in Calcined Clays as Supplementary Cementitious Materials in Blended Cements
- Sustainable and Eco-friendly Clay-based Materials
- Mechanical and Mechano-chemical Activation of Clays
- Synthesis of Geo-inspired Clay Minerals and Associated Hybrids
- The Role of Clays in Human Health and Biomedical Sciences
- Clay Materials in Healthcare Technologies
- Chemical Reactions with Clay Minerals: Implication for Environmental Challenges and Remediation Strategies
- Role of Minerals and Mineral Weathering in Carbon Sequestration and Other Ecosystem Services of Soils
- Clays in Mining
- Synthesis and Applications of Modified Clays in Environmental Remediation
- Interactions of Iron-rich Clays and Iron Oxides with Organics and Heavy Metals: Implications for Iron/Carbon/Metal Cycling
- Universal

Thanks to the many colleagues who have helped to organize this event and committed to attending it. It has become increasingly challenging to find money to travel overseas to conferences and we are grateful for the support for our event.

An important aspect of our involvement in conferences is the ability to harvest a legacy from it in terms of published content. The three main international clay journals (including *Clay Minerals*, *Clays and Clay Minerals*, and *Applied Clay Science*) are represented at the conference and we will be attempting to link sessions with journals so that presenters will agree to support those journals which support their community.

Another legacy that we hope to have is the opportunity to publish videos of some of the presentations delivered during ICC on the Mineralogical Society YouTube channel. We will be recording all of the presentations but only publishing videos with the permission of the presenters.

A detailed report of the conference will be published in a future issue of *Elements*.

## MINERALOGICAL SOCIETY STUDENT AWARDS

The list of 2024 winners of the Mineralogical Society Student Awards is shown below. These second-year students have scored the best results in mineralogy and petrology, and their prize is two years free membership of the Society, a complimentary copy of *Introduction to Rock-Forming Minerals*, and a certificate.

Stanley Upton, Oxford University  
 Chris Richardson, University of Liverpool  
 Heather Upton, University of East Anglia  
 Star Firman, University of Portsmouth  
 Robyn Ivall, University of Plymouth  
 Christopher Jones, University of Leicester  
 Lily Emmerson, University of Manchester  
 Will McMahon, Imperial College



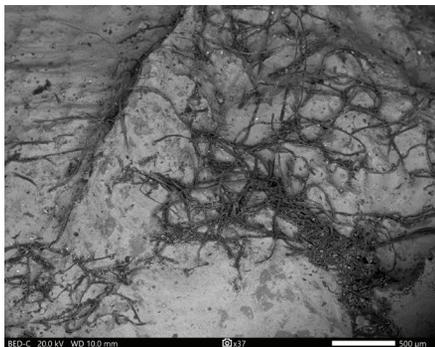
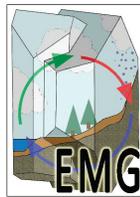
XVIII ICC  
 Dublin, Ireland  
 13-18 JULY 2025

Joshua Li, University College London  
 Ewan Hudson, Newcastle University  
 Samuel Payne, Cardiff University  
 Andrew Rynne, University of Galway  
 Marie Elise, Zacherl Trinity College Dublin  
 Claire Patrick, University of Birmingham  
 Oscar Fletcher, Durham University  
 George Ransford, University of Hull  
 George Abraham, Keele University  
 Josiah Larkin, Aberystwyth  
 Anna Bannon, University College Dublin  
 George Stein, University of Cambridge  
 Michael Harriman, University of Exeter  
 Rebecca Cox, University of Aberdeen  
 Rosie Gipson, Bristol University  
 Declan Beggan, University of Glasgow  
 Fiona Brown, University of Glasgow  
 Alexis Giard, Birkbeck College, University of London  
 Katarina Pishiris, Birkbeck College  
 Katelyn Hosford University College Cork  
 Tim Craven, University of Leeds  
 Emilija Gillingham, Royal Holloway University of London  
 Maisie Haddock, Edgehill University

### ENVIRONMENTAL MINERALOGY GROUP – PHOTO COMPETITION

**Winner: Dr Brooke Johnson, University of Liege, Belgium**

Backscatter electron image of the exposed internal cortex surface of a 1.4-billion-year-old Fe-phylosilicate ooid. The black filaments are exceptionally preserved three-dimensional fossil acritarchs that were entrained within the cortex of the grain during deposition. The pale grey matrix is interlaminated berthierine and greenalite, the mid-grey grains are silica with features suggesting they may be silicified acritarchs. The latter point is supported by the observation that the organic filaments all host a silica internal fill. This unit contains abundant exceptionally preserved acritarchs that retain nanoscopic structural features not previously observed in fossils of this age. I hypothesise that rapid Fe-phylosilicate authigenesis in a hydrodynamically active depositional setting contributed to the exceptional preservation of these acritarchs. This finding is also significant because Precambrian ferruginous sedimentary rocks are canonically barren of fossils and low in organic matter. Our data suggest that examining the unoxidised green clay facies of these units may provide a new window into Precambrian life.



### METAMORPHIC STUDIES GROUP RIP 2025

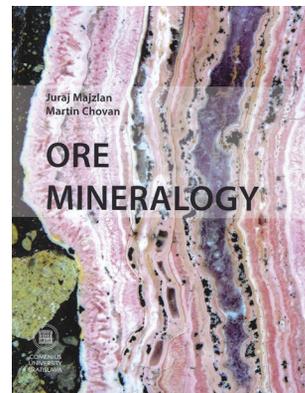


Photo of some of the delegates at the Metamorphic Studies Group Research in Progress Meeting, held at the University of Liverpool, Spring 2025.

### NEW BOOK FOR SALE THROUGH THE SOCIETY

**'Ore Mineralogy' by Juraj Majzlan and Martin Chovan is now available for sale via the Mineralogical Society.**

From the authors' foreword: "Despite their deep historical roots, ore microscopy and ore mineralogy have never held such high importance as they do now, in present times. Satisfying the ever-increasing demand for raw materials means the identification of new resources and the re-evaluation of old ones. Identification of minerals in reflected light and the interpretation of ore textures is not a matter of chance, because "chance favors the prepared mind" (Louis Pasteur). This book should equip those who are interested with the necessary knowledge to discover the world of ore and gangue minerals in reflected polarized light, their chemical analyses, and their role in ore deposits. To all who strive to learn more about ore microscopy and mineralogy, we wish you a pleasant journey and much joy on it."



This is a summary of the table of contents:

- Chapter 1. Introduction
- Chapter 2. Introduction to reflected-light microscopy
- Chapter 3. Ore textures
- Chapter 4. Properties of selected minerals in reflected light
- Chapter 5. Ore textures in selected types of ore deposits
- Chapter 6. Crystal chemistry and structures of simple and common minerals of ore deposits
- Chapter 7. Crystal chemistry of complex sulfides
- Chapter 8. Interpretation of chemical analyses of sulfides and sulfosalts
- Chapter 9. Chemical and spectroscopic methods for the investigation of ores
- Chapter 10. Case study: Application of ore mineralogy in ore beneficiation
- Chapter 11. Identification key for minerals in reflected light

The book is available via the Mineralogical Society online bookshop (<https://members.minersoc.org/Default.aspx?tabid=86&product=62>) at a price of £35 plus packaging and postage.