

Mineralogical Society of the UK and Ireland

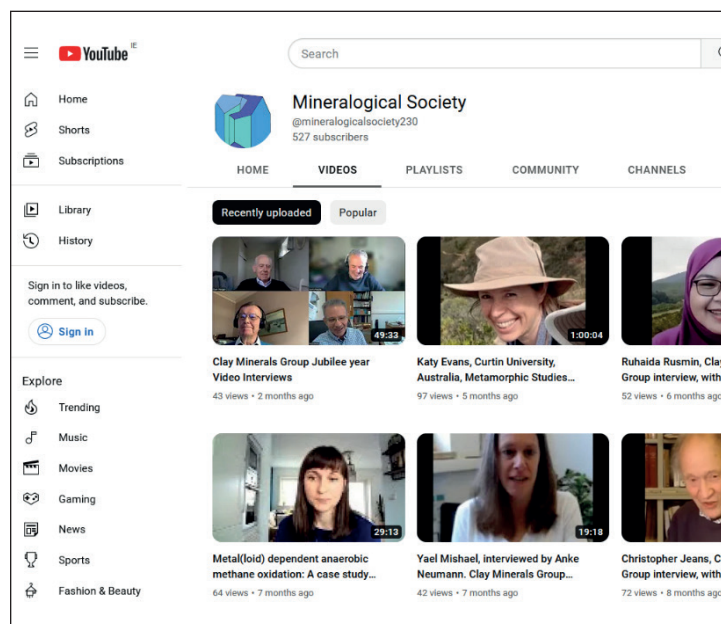
www.minersoc.org

During the time when we had to pivot to online-only communications, we found new ways to communicate and new things to communicate about. Some of these continue to be developed and enhanced and will be with us into the future, I believe.

Over the past couple of years, the Society has invested heavily in online material, released in support of the community during a challenging time. This included recorded seminars, training material, Public Understanding of Science information, interviews with mineralogists, and much more.

For example, go to <https://www.youtube.com/watch?v=i15ZkQpFhRk> for a video: 'Reviewing for Academic Journals: why is this essential and how does it benefit the reviewer?' And, in the same vein, go to <https://geochemistry.group/events/> where a link to a similar event 'Navigating peer review: tips for authors and reviewers' will be posted shortly. Both provide excellent guidance for scientists new (and not so new) to reviewing papers for books and journals.

Go to <https://www.youtube.com/channel/UCJLEvvFJEAtt2SRHozqd7LQ/videos> to see >100 video recordings on the Society's YouTube channel.



HYBRID CONFERENCES

All of our conferences now offer online access as standard. At these so-called 'hybrid' meetings (hybrid between online-only and in-person meetings), we allow those unable to travel to the event in person to benefit from and participate in the science being presented. Remote attendees can help organise sessions, make an oral or a poster presentation, ask questions, and join (online) social events! Colleagues from low- and middle-income countries are encouraged to join our meetings for free. If you'd like to join any of our events, please go to the appropriate meeting page, click on register, and select the appropriate method of joining the event.

CONFERENCES

We have four annual Research in Progress (RiP) meetings coming up.



The Metamorphic Studies Group RiP meeting will have taken place by the time this newsletter reaches you.



Geochemistry Group - GGRIp2023 (<https://www.minersoc.org/ggrip-2023.html>) in Cambridge. This meeting will take place on 18–20 April 2023.



The Clay Minerals Group annual meeting (<https://www.minersoc.org/cm-grip.html>) will have the theme 'Clays and construction' and will take place at the University of Leeds, England, on 18 May. This event is free to attend, but registration is required. The abstract deadline is 13 April. Register online now.



The Applied Mineralogy Group celebrates its 60th Anniversary (<https://www.minersoc.org/amg-60th-anniversary-meeting.html>) with a meeting in St. Andrews on 30–31 May followed by a field trip in East Fife.

MINERALOGICAL SOCIETY BURSARY WINNER – ANNE EBERLE

Fieldwork on Dersingham Bog, investigation of iron–carbon associations in a UK peatland

Anne Eberle, PhD researcher
School of Earth Sciences, University of Bristol

The Mineralogical Society postgraduate student bursary helped me start a new project on the Dersingham Bog in cooperation with the site manager from Natural England to investigate mineral protection by iron–organic carbon (Fe–OC) associations in a UK peatland. This funding supported two fieldwork trips with two fieldwork teams. In February 2022, I went sampling with Master student David Jinks, who joined the project as part of his thesis, and Fin Ring-Hrubesh (PhD researcher, University of Bristol). In July 2022, Elise Dehaen (PhD researcher, University of Exeter) and Dr. Jagannath Biswakarma (Research Associate, University of Bristol) came to help.

Protection of organic carbon (OC) by Fe minerals is recognised as an important carbon preservation mechanism in ecosystems such as marine sediments and terrestrial soils (Longman et al. 2022). Recently, up to 20% of OC has been found in association with Fe minerals in a permafrost peatland in northern Sweden (Patzner et al. 2020). Under oxic conditions, Fe–OC associations can protect OC against microbial decomposition. Under waterlogged, oxygen-free conditions, the Fe-minerals can be dissolved by reduction and associated carbon is released (Patzner et al. 2020). However, the conditions leading to the

formation of Fe–OC associations, their stability, and forms of Fe-minerals in waterlogged peatlands are still unknown.

The Dersingham Bog is a peatland in Norfolk that contains abundant iron sourced from the underlying glauconite- and pyrite-rich sandstone. The peatland has experienced disturbances of different magnitudes in different areas because of its historical use and drainage and has undergone several restoration methods such as ditch blocking to raise the water table. The land-use history and restoration affected the peatland hydrology and therefore the (Fe-)geochemistry, which we went to investigate in our project by comparing areas of different disturbances. The site provides good conditions to study the preservation of OC by Fe-minerals in temperate peatlands, its formation and fate under waterlogged conditions, and the role of Fe for the metabolisation of OC by microorganisms by comparing Fe-rich and Fe-poor peat of the same mire.

We collected pore water from multiple depths along a transect across the peatland in February and July 2022 for geochemical analysis and took duplicate peat cores at the same sampling points in July for geochemical and microbial analyses. The pore water samples have already been processed and show interesting differences between sampling areas, such as high dissolved Fe concentrations in the disturbed area, despite ongoing restoration since the 1990s. Cores are currently being prepared for analyses of the element content, mineralogy, and microbial community composition.

This project gave me the opportunity to venture into the topic of peatland restoration within the context of my PhD project, to work together with the site manager from Natural England, and to obtain experience in applications for sampling permission. I hope my work will contribute to the understanding of the site and the effect of restoration measures, as well as Fe–OC interactions, in peat.

REFERENCES

- Longman J, Faust JC, Bryce C, Homoky WB, März C (2022) Organic carbon burial with reactive iron across global environments. *Global Biogeochemical Cycles* 36: e2022GB007447, doi: 10.1029/2022GB007447
- Patzner and 10 coauthors (2020) Iron mineral dissolution releases iron and associated organic carbon during permafrost thaw. *Nature Communications* 11: 6329, doi: 10.1038/s41467-020-20102-6

RECENT PAPERS ACCEPTED FOR PUBLICATION IN CLAY MINERALS

Plastic behaviour of clay materials for the manufacture of fast-drying red ceramics
V. S. Nandi, A. Zaccaron, F. Raupp-Pereira, S. Arcaro, A. M. Bernardin, and O. R. K. Montedo

Effects of clay activation and amine chain length on silica–palygorskite heterostructure properties

Lilya Boudriche, Faïza Bergaya, and Amel Boudjemaa



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Effective removal of hexavalent chromium with magnetically reduced graphene oxide bentonite

Shoufa Cao, Jingmao Guo, Jianchao Ma, Enqing Chen, Jin Pang, Siyu Zhang, Haidong Hao, Danlei Wu, and Shaobin Wang

Molecular dynamics modelling of Na-montmorillonite subjected to uniaxial compression and unidirectional shearing

Ran Yuan, Wen-Ming Wang, Yi He, Yong Fang, and Xi-Long Huang

Distribution of rare earth elements of Tunisian margin clays

Fakher Jamoussi and Alberto Lopez Galindo

Geometry optimization of an electrochemical reactor for bleaching kaolin

José Angel Cobos-Murcia, Eduardo Hernández-Aguilar, Ariadna Trujillo-Estrada, Grisell Gallegos-Ortega, and Victor Esteban Reyes-Cruz

RECENT PAPERS ACCEPTED FOR PUBLICATION IN MINERALOGICAL MAGAZINE

Chrysoberyl and associated beryllium minerals resulting from metamorphic overprint of the Maršíkov – Schinderhübel III pegmatite, Czech Republic

Olena Rybníková, Pavel Uher, Milan Novák, Štěpán Chládek, Peter Bačík, Sergii Kurylo, and Tomáš Vaculovič

Graham Chinner – Obituary

Tim Holland

Re-investigation of ‘minasgeraisite-(Y)’ from the Jaguaraçu pegmatite, Brazil and high-temperature crystal chemistry of gadolinite supergroup minerals

Oleg S. Vereshchagin, Liudmila A. Gorelova, Anastasia K. Shagova, Anatoly V. Kasatkin, Radek Škoda, Vladimir N. Bocharov, Natalia S. Vlasenko, and Michaela Vašinová Galiova

Mineral assemblages and compositional variations in bavenite-bohseite from granitic pegmatites of the Bohemian Massif, Czech Republic

Milan Novák, Zdeněk Dolníček, Adam Zachař, Petr Gadas, Miroslav Nepejchal, Kamil Sobek, Radek Škoda, and Luboš Vrtiška

Quantitative evaluation of metamictization of columbite-(Mn) from rare-element pegmatites using Raman spectroscopy

Yuanyuan Hao, Yonggang Feng, Ting Liang, Matthew Brzozowski, Minghui Ju, Ruili Zhou, and Yan Wang

Crystal-chemical characterization and spectroscopy of fluorcarletonite and carletonite

Ekaterina Kaneva, Alexander Bogdanov, Tatiana Radomskaya, Olga Belozerovala, and Roman Shendrik

Zincorietveldite, Zn(UO₂)(SO₄)₂(H₂O)₅, the zinc analogue of rietveldite from the Blue Lizard mine, San Juan County, Utah, USA

Anthony R. Kampf, Travis A. Olds, Jakub Plášil, and Joe Marty

Argentopolybasite, Ag₁₆Sb₂S₁₁, a new member of the polybasite group

Martin Števko, Tomáš Mikuš, Jiří Sejkora, Jakub Plášil, Emil Makovický, Jozef Vlasáč, and Anatoly Kasatkin

