The Environmental Mineralogy Explorer

The Biannual Newsletter from the Mineralogical Society's Environmental Mineralogy Group

Edited by: Latham Haigh

December 2025 Issue 7

Report On This Year's RiP Meeting

The 2025 EMG RiP took place between the 24th – 25th June at the University of Sheffield with the theme of 'From the laboratory to the field'. The meeting saw around 30 attendees gather at the Sir Robert Hadfield building and online to showcase a wide variety of ongoing research in the area of environmental mineralogy. Topics included carbon sequestration, radionuclides in natural and anthropogenic minerals, and mining. Three keynote talks were given over the meeting, Dr Jagannath Biswakarma, Dr Sarah Pepper, and Prof Sam Shaw. As a previous EMG bursary winner, Jagannath spoke about how his work into iron oxides, part-funded by the EMG, was helping to clean-up arsenic contamination in India. Sarah was invited as part of the committee's push to showcase talent in technicians and gave an excellent overview of her varied and exciting career in mineral sciences. Finally, Sam presented on how the Mineralogical Society has supported him throughout his career, from undergraduate student to professor and President of the society.

Aside from the keynote presentations, the quality of talks was excellent from all the speakers. Following a lot of deliberation, the winner of best talk went to Piyush Sriwastava of the University of Oxford for his excellent work into the mechanisms underpinning carbon sequestration. The poster session was equally engaging and well competed, with all posters in contention for the prize. However, ultimately, Masters student Theodora Boncioaga for her excellently presented and defended work on the impact of iron oxidation states on glass dissolution under radioactive waste disposal conditions.

Overall, the meeting was a great success for the EMG, with a good mix of both new and familiar faces. Thanks to funding from the Royce Institute, catering was covered for the duration of the event at no cost to the EMG. We are delighted to announce that our RiP meeting will return next year, where we hope to welcome an ever broader spectrum of research from across the fields of environmental mineralogy, biogeochemistry, radiochemistry, and pollution studies.

Have You Got Something To Say?

We are always interested in advertising opportunities to our members. If you have something you would like to advertise in our newsletter, contact us at EMG@minersoc.org. Whether it is job opportunities, training courses, or events, we're interested to hear from you!

2026 Anniversary Conference and RiP!

2026 is on track to be an exciting year for EMG! First up is the 150th anniversary conference in June at the University of Manchester, where EMG will be involved with two sessions. We will also be hosting another RiP later in the year with details to follow!

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Join The Committee!

The EMG committee are looking for new members to join the team with several positions becoming available soon. If you're interested in being a part of the committee whether you're interested in a named role or as an ordinary committee member, drop us an email and we will get back to you with more information! We are also very keen to encourage members from across environmental mineralogy to build a diverse team of committee members.

Funding Opportunities

At EMG, we want to provide opportunities to researchers in the field of environmental mineralogy. As always, we want to support students and early career researchers, and our bursary scheme will open in 2026 for applications, offering up to £300 for students and up to £1000 for ECRs. For more details, visit the EMG website! Additionally, we also had great success with our photo competition held alongside our Research in Progress meeting and want to host another competition to coincide with the anniversary conference next June. We will be releasing more details on our website in due course.

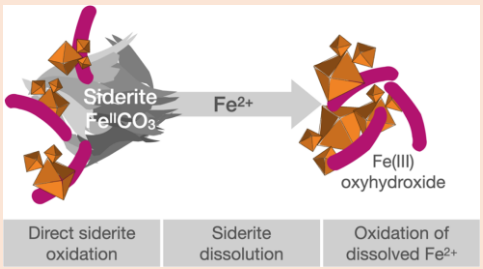
Publications

Research Highlight

Oxidation of Fe(II) carbonate (siderite) by anoxygenic phototrophic Fe(II)-oxidising bacteria

doi.org/10.1180/gbi.2025.4

In this paper, published in GeoBio Interfaces, Maisch *et al.* investigated the interaction between *R. palustris* TIE-1, an anoxygenic phototrophic Fe(II)-oxidising bacteria, and Siderite under varying carbonate concentrations. They found that when in contact with siderite, *R. palustris* TIE-1 could increase the rate of oxidation by up to a factor of five, significantly greater than by dissolution alone. This indicates that anoxygenic phototrophic Fe(II)-oxidising bacteria can enhance siderite dissolution as well as utilising it as an electron source, even when dissolution is limited by geochemical constraints.



New Publications

- Metagenomics elucidates how biogenic methanogenesis may increase in CO_2-injected petroleum wells
  doi.org/10.1180/gbi.2025.10005
- The aerobic biosphere as an O_2 sink before the Great Oxygenation Event: geobiological feedback to solid Earth and surface oxidation
  doi.org/10.1180/gbi.2025.10003
- Structural and thermal effects of Hf^{4+} substitution in $CaZr_{1-x}Hf_xTi_2O_7$ zirconolite
  doi.org/10.1016/j.ceramint.2025.08.415
- Polymer Length Governs DNA Adsorption Dynamics on Mineral Surfaces
  doi.org/10.1021/acs.est.5c08180
- Current Practices for Analyzing Soils and Sediments via Mössbauer Spectroscopy
  doi.org/10.1002/jpln.12024

If you would like your (or a colleague's) publication featured in the Environmental Mineralogy Explorer newsletter don't hesitate to drop us a line at: EMG@minersoc.org