From the AMG committee

Hello and welcome to the March edition of Applied Mineralogist! We hope you have had a great start to 2019, where the #AppliedMineralogist brings you all the low-down from the winter conferences. Also in this issue, we have a prequel to the upcoming Critical Metals Conference, with all you need to know about the events and keynotes. We would also like to welcome our two new student representatives, Georgian Manuc, University of Leeds and Stefan Horn, BGS.

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Tectonic Studies Group Meeting Round-up

Roxana Stanca, University of Leeds

The Tectonic Studies Group Annual General Meeting (TSG AGM) was held between the 13th and the 16th of January 2019 in Bergen, Norway. The conference debuted with two short-courses: “Seismic interpretation; application to structural geology and potential pitfalls” presented by Christopher Jackson (Imperial College, London) and Dr. Clare Bond (University of Aberdeen) and “Fracture network topology analysis in Network GT” offered by Dr. Bjørn Nyberg and Dr. Casey Nixon (University of Bergen).

The venue for the technical programme was the Natural History Museum where the talks alternated with poster presentations. 139 participants from 59 institutions presented their work during the oral and poster sessions. The talks were divided into nine sessions looking at deformation associated with passive margins and orogenesis, salt tectonics, magmatic intrusions, fault and fracture analysis and their affect on fluid flow and reservoir storage quality and active tectonics. The posters were similarly divided and on display throughout the conference. Plenty of networking opportunities were available for the participants, including an icebreaker held on the evening of the 14th of January in the Natural Science Building and a conference dinner on the 15th at the Kalfaret Brygghus. This was followed by the AGM where the following years committee were voted in.

At the end of the conference, five prizes were awarded to outstanding presentations and undergraduate mapping projects. Congratulations are in order for Joe Aslin who won the best overall presentation, Kit Hardman for the Mike Coward best talk prize and Tara Stephens for the best poster. Robert Rizzo was the proud recipient of the Ramsay Medal for the best paper and Max Altenberg was the winner of the Dave Johnson Undergraduate Mapping Prize.

Volcanic & Magmatic Studies Group Meeting

Ednah Dualeh, University of Leeds

This year, the University of St. Andrews hosted the VMSG annual meeting from the 8-10th January. Surrounded by volcanic features and deposits (along with clear skies), St. Andrews made a great location to host over 200 delegates from all over the UK, enthusiastic to share their research and learn about the advancements in volcanology. Over the two and a half days, more than 50 presentations were given, with over 50% being from ECR, and about 100 posters covering a large range of diverse topics. These included themes such as magma storages, movement and evolution, eruption styles and processes and even volcanism and magmatism on extraterrestrial bodies.

Highlights included talks from the Willy Aspinall 2019 Awardee, Jonathan Stone, who showed the importance of establishing relationships and trust within communities at risk. The VMSG 2019 awardee, Marie Edmonds (University of Cambridge), discussed the transfer of volatiles from the earth’s interior, with specific emphasis on CO₂. The former VMSG awardee (2018), Hugh Tuffen (Lancaster University) talked about rhyolitic conduit processes and outgassing mechanisms.

Congratulations to the student award winners, Elliot Carter (University of Manchester) for his poster on ‘Exploring hydration and carbonation of oceanic lithosphere through the noble gas and halogen systematics of ophiolites’ and to Ben Clarke (University of Edinburgh) for his talk on ‘The style of post-caldera, pumice-cone-forming eruptions: insights from the Main Ethiopian Rift’.

The last night of the conference was marked by the closing gala. The very energetic ceilidh music caused a few injured volcanologist. The dinner provided an excellent opportunity for delegates to socialize and network, as the ‘random’ seat assignment meant that most of the attendees found themselves beside people they had not met before. I would like to extend a thank you to the local organizing committee from the University of St. Andrews lead by Sami Mikhail for arranging and hosting a successful meeting.
Mineral Deposits Studies Group Meeting
Joe Shaw, University of Bristol

Timed early in the new year, the MDSG AGM never fails to draw a large and diverse crowd from their winter break for a conference focused on all aspects of ore deposit geology and exploration. MDSG 2019 was hosted at the Camborne School of Mines, in the heart of the Cornish mining community. An evening icebreaker on 2nd January set the scene for the following two days of talks and posters and there was a bonus fieldtrip to Poldark mine and the United Downs geothermal power project. Throughout the conference there was a great mix of academic, industry and student presentations and the conference dinner provided a fantastic opportunity for networking between people from different disciplines.

After conference attendees had found their accommodation, name badges and beverages, Dr Robin Shail led the icebreaker with a lively opening lecture on Cornish geology, the legacy of mining in Cornwall and new opportunities being explored, in the format of everyone’s favourite TV quiz shows combined. This talk was a great introduction to the region for non-locals and a good primer for later talks on regional structural geology and local mineral resources.

Each day of scheduled presentations consisted of three sessions, covering a broad range of topics. The opening mafic and sedimentary mineralisation session featured a keynote talk by Katie McFall (Cardiff University) on the effect of primary volatiles on PGE mineralisation in layered intrusions and all sessions during the day showcased great student research. The official poster session was also scheduled on the afternoon of day one – everything was to play for as Anglo American were sponsoring a cash prize for best student poster. After a great day of talks, attendees were whisked away to the lavish conference dinner at the Royal Duchy Hotel.

On the second day of the conference, themes were unusual mineral deposits, granite-hosted mineralisation and porphyry copper deposits. Of particular local interest were talks from Cornish Lithium and others about the role of cross-course fault structures in concentrating vein-hosted mineralisation. Prof. Christoph Heinrich’s keynote talk in the porphyry copper deposit session sparked some debate over the importance of mushes in magma pathways leading to PCD formation, which was followed by Lawrence Carter’s (CSM) student talk on the exsolution depth of volatiles at the Yerrington batholith in Nevada. Lawrence gave a great defence of his project and went on to win best student talk, sponsored by Rio Tinto. In the end, the best student poster prize went to Joseph Shaw (University of Bristol), for his work on the timing of supergene weathering and alteration at Spence PCD.

Following the main conference, Robin Shail and Sam Hughes led an insightful field excursion to the local Poldark Mine and the United Downs Geothermal drilling project. The historic Poldark Mine, located in the Wendron Mining District, is the only complete, publically-accessible tin workings in the southwest! After an insight into the oldest Cornish commodity, the group visited the newest endeavour; geothermal energy. Lucy Cotton (United Downs) gave us a summation of the project and ongoing progress, with recent drilling exceeding 1,000 m! This was a chance to marvel at the drill, and hear about the positive impact sustainable geothermal energy would have in the southwest.

Overall, the conference was very well organised and offered something of interest to everybody who attended. All of the talks and posters contained novel research and the conveners of each session managed to keep things on schedule. Camborne School of Mines have set the bar high for the organisers of MDSG 2020...

#AppliedMineralogy - @DarylBlanks

From your #ThinSectionThursdays, #FieldwordFridays & #MineralMondays, our #AppliedMineralogy winner is... Miss Daryl Blanks (@DarylBlanks); a first for #FieldworkFriday!

These pictures come from fieldwork in the Zambian bush, investigating apatite-rich sulphide occurrences. Some spectacular field geology and core samples!
The 3rd International Critical Metals Meeting, or ICMM19, will be held at the Surgeons Hall in Edinburgh at the end of April. This meeting will bring together researchers, both academic and industrial, who are working at different stages along the life cycle of critical metals. Three main themes will be addressed at the meeting, Critical metals for low carbon transport, Responsible sourcing of critical metals, and Geology and resources of critical metals.

The conference has six fantastic keynotes covering the topics of geological, economics and responsible sourcing.

- Anouk Borst (Early career researcher keynote, University of St Andrews): Peralkaline-hosted Critical Metal Deposits: From magmatic enrichment to hydrothermal mobilisation
- Kathryn Goodenough (British Geological Survey): The geology of decarbonisation
- Ben Katz (PACT): Inside and outside the fence: an integrated approach to cobalt for development
- David Merriman (Roskill): The EV Revolution: Impacts on critical raw material supply chains
- Jacqui Murray (Innovate UK): Electric vehicle batteries: the UK government approach
- Paul Nex (University of Witwatersrand): Have the Wheels Fallen off your “Hype Cycle”? A retrospective look at criticality: tantalum, rare earth elements and lithium

The conference will have 70 delegates representing 15 countries, with a dedicated poster session and three full days of talks; this is set to be a diverse and stimulating meeting.

The organisers are very grateful to the supporters of the meeting, including the Applied Mineralogy Group, the Mineralogical Society, Mkango Resources, the British Geological Survey, the Mineral Deposits Studies Group, Geology for Global Development, IMPACT, Cornish Lithium, Zeiss and Oxford Instruments. The Warwickshire Geological Conservation Group are also thanked for supporting our student delegates.

### Notices

**Get Involved**

If you would like to become more involved in the AMG, elections are held yearly at the AGM. Spaces for Student Representatives come up regularly. If you would like to be considered for a committee spot please email Eimear Deady (Secretary).

**AMG Postgraduate Bursaries**

The AMG provides bursaries for postgraduate students in the disciplines of *Applied Mineralogy, Crystallography, and Petrology and Geochemistry*. Bursaries are intended to support conference attendance and associated travel costs, although other activities may be considered. Application guidelines can be found at [www.minersoc.org/amg-bursaries](http://www.minersoc.org/amg-bursaries).

Please note there are two bursary application deadlines each year: 1st March and 1st September. Requests for funding must be received well in advance of the event to allow for consideration by the committee.

**Funding**

We welcome applications from both individuals or organisations for funding in support of events covered in the AMG remit. Further guidelines on how to apply can be found at [www.minersoc.org/amg-funding](http://www.minersoc.org/amg-funding).

**Editorial**

Thank you to those who have contributed to this issue of *Applied Mineralogist*. Please forward any articles, comments or notices of events and conferences to amgminsoc@gmail.com. All previous issues of *Applied Mineralogist* are available at [www.minersoc.org/amg-applied-mineralogist](http://www.minersoc.org/amg-applied-mineralogist).

Thanks for reading; our next *Applied Mineralogist* will be out in June. Keep up on what is happening in the meantime by following us on twitter @amg_min.

**Calendar**

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<td>APR '19</td>
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<td>APR '19</td>
<td>GGRiP Meeting Portsmouth, England</td>
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<td>APR '19</td>
<td>3rd International Critical Metals Meeting</td>
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<td>APR '19</td>
<td>Surgeons Hall, Edinburgh, Scotland</td>
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<td>MAY '19</td>
<td>Geologists Association Student Symposium</td>
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<td>Burlington House, London</td>
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<td>JUN '19</td>
<td>Minerals in a Sustainable Future Meeting</td>
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<td>British Geological Survey, Keyworth</td>
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<td>JUN '19</td>
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<td>AUG '19</td>
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**Across**

1. World-class Cu-porphyr... in Nottinghamshire? (7)
2. Birthstone of the month! (10)
3. A holistic approach to chronometric data (15)
4. It is getting hot under the ice! (5,6)
5. Iceland’s doing it, why can’t Cornwall? (10)

**Down**

1. A primitive andesite from Japan (8)
2. Monomineralic on the moon (11)
3. The orthorhombic sibling of rutile (8)
4. Old, but nice in the northwest territories (6)
5. Peridot olivine plummets on Earth (9)
6. A cluster of phenocrystic friends (12)
7. Fourteen years of service on the Red Planet (4)

### AMG Crossword

Can you solve this quarter's AMG Crossword? Tweet us at @amg_min if you can!