Postgraduate Student Bursary report

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"Engineering Geology for a Habitable Earth"

XIV IAEG Congress 2023, 21 to 27th, September 2023, Chengdu, China

The Mineralogical Society postgraduate student bursary helped me attend the XIV IAEG Congress 2023 for "Engineering Geology for a Habitable Earth" from 21 to 27th September, 2023 in China.

My research is focused on the Vanadium mining waste and the Manganese oxides. My work including comparing the performance of natural manganese oxide deposits, commercial manganese oxide and manganese oxides synthesized by hydrothermal methods to adsorb vanadium. Initial results showed that the natural manganese nodules sorbed the greatest amount of V (Q_{max} = 54.0 mg/g) compared to the other two types of manganese oxide (commercial manganese oxide: Q_{max} =10.4 mg/g, synthetic manganese oxides: Q_{max} =26.0 mg/g). The regeneration of manganese oxide and recovery of V are being investigated, and investigation of the mechanism of vanadium adsorption by manganese oxide is ongoing (considering surface multilayer sorption, chemisorption and physisorption). I gave a poster presentation during the session: T4: Geoenvironmental Engineering and Ecological Solutions & T7: Deep Earth Resource and Energy Exploitation &T9: TechnologicalInnovation in Engineering Geology (3rd Shaoxing International Forum). The XIV IAEG Congress 2023 for "Engineering Geology for a Habitable Earth" was a perfect fit to present my research and it was a fantastic opportunity to discuss my project with industrial and academic participants.

The conference was held in Century City International Convention Centre, Chengdu, China
I had a very productive week, attending many fantastic talks/posters on a broad range of subjects, arranged potential collaborations with colleagues, had some very interesting discussions and made many new connections which will be beneficial in developing the technological potential of my project.

I thoroughly enjoyed my time in XIV IAEG Congress 2023. Thank you to MinSoc for your support which allowed me to enjoy such a big in-person conference as a part of my PhD.