

Item for ASEG Preview and Newsletter

2024 Winner Richard Lane Scholarship



The winner of the fourth annual Richard Lane Scholarship is **Neil Harbison** from The Queensland University of Technology (QUT), Faculty of Science, School of Earth and Atmospheric Sciences. Neil is undertaking an Honours degree in Earth Science and has been awarded \$5,000. Neil's supervisor is Associate Professor Craig O'Neill

The ASEG Scholarship has been established to support Geophysics Honours and Masters Students and to commemorate the life and work of ASEG Gold Medal recipient Richard Lane. The scholarship is open to all BSc (Hons) and MSc geophysics students and consists of a grant of \$5,000 to the best ranked student for the current year. Ranking is based on a 200 word discussion, overview of geophysics project and on their academic transcript. For 2024 we acknowledge and thank the donation and concept from Jayson Meyers and Resource Potentials Pty Ltd.

The scholarship is an annual event and donations to support the continuation of this scholarship are sought from institutions, companies and individuals. Information on donations via the ASEG Research Foundation can be found at www.aseg.org.au/foundation/donate. Please mark donation specifically "Richard Lane Scholarship:"

Honours project description:

The Georgetown Inlier, east of Cloncurry in North Queensland, contains resources of base metals and precious metals. The source regions and fluid pathways of these mineral deposits are poorly understood. The aim of this Honours project is to build a geological model of the mid-crust in the Georgetown Inlier. Specifically, for the purpose of mapping the source regions of ore forming fluids. Modelling the source

regions of ore forming fluids is vital for understanding the type and extent of potential orebodies in the region.

Passive seismic data will be collected and analysed using Horizontal to Vertical Spectral Ratio (HVSr) and Frequency Time Analysis (FTAN) methods. Seismometers will be placed at 20 locations evenly distributed along survey line 07GA IG 2 length 683km) between Croydon and Mount Surprise. Existing Geoscience Australia and Geological Survey of Queensland (GSQ) data (seismic, gravity and magnetic data) will also be used to build this model. This project is a collaboration with GSQ to gain further understanding of the mineral deposits in the Georgetown Inlier.

Why Neil is studying Geophysics (~200 word discussion):

Geophysics is a burgeoning and often underappreciated discipline that is critical for the function of modern society. I would like to become proficient in a broad array of geophysical methods. I am studying geophysics because I believe that I can use geophysics to make a meaningful contribution to science and broader society.

I was introduced to geophysics in my third year at QUT in 2023. One of the assessment items in the unit was an introduction to Ground Penetrating Radar (GPR). To learn the technique, the class used a GPR scanner on a section of lawn at the QUT Gardens Point campus. Using the GPR scanner was great fun and I found it really interesting seeing the radargram take shape as I cleaned up the data. As a bonus, we got to see a real-world outcome for our efforts. We located a sinkhole on one of the radargrams. The QUT facilities team was notified and filled it in. I thoroughly enjoyed the process of data acquisition through to a real-world result. Between the transition to renewable energy and the growing space industry; I anticipate that there will be a plethora of exciting geophysics projects in the coming years.

Previous winners of the Richard Lane Scholarship

2021 Zak Weidinger from University of Tasmania School of Natural Sciences, Earth Sciences

2022 Tom McNamara from University of Melbourne– School of Geography, Earth and Atmospheric Sciences

2023 Claire Mortimore from the School of Earth Science, University of Western Australia