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Brief Summary

The duration and P - T conditions of granulite facies metamorphism depends on how burial, heat flux and exhumation occurs during orogenesis. I'm interested in investigating orogenic processes throughout Earth's history by interpreting lower crustal rocks using phase equilibria modelling and accessory mineral geochronology.

My current research is centred on constraining the duration, P - T evolution and spatial disposition of granulite facies metamorphism in the Eastern Ghats Province, India. Additionally, work includes developing domainal phase equilibria modeling and geochronological techniques for interpreting granulites with different scales of equilibrium volumes. I'm undertaking this research as part of a dual doctoral degree between Curtin University and IIT Kharagpur.

Education: MEarthSci (hons) Geology, University of Edinburgh

Research interests: Metamorphic petrology, geochronology, tectonics

Thesis title: Ultra-high temperature metamorphism in the Eastern Ghats Province, India. What is the spatial constraint on P - T evolutions and fluid redistribution in the lower crust of a hot orogen?

Supervisors: Dr Tim Johnson, A/Prof Chris Clark, Prof Saibal Gupta (IIT Kharagpur), A/Prof Katy Evans

Publications: Mitchell, R.J., Harley, S.L., 2017. Zr-in-rutile resetting in aluminosilicate bearing ultra-high temperature granulites: refining the record of cooling and hydration and cooling in the Napier Complex, Antarctica. *Lithos* 272-273, p128-146.
<https://doi.org/10.1016/j.lithos.2016.11.027>

Links: https://www.researchgate.net/profile/Ruairidh_Mitchell