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Brief Summary

Earth's early tectonic evolution in the Archean Eon remains highly debated among geoscientists. Although plate tectonics is nowadays universally accepted as the general tectonic regime on modern Earth, it is still unclear when it emerged on a global scale and whether it was preceded by a different tectonic regime (e.g., "stagnant-lid tectonics") during the first 1–2 billion years (Ga) of our planet's evolution.
One powerful and efficient way to address these questions is to use the metamorphic rock record exposed in Archean continental nuclei all over the world. Metamorphic rocks commonly preserve information about their age and the pressure and temperature (*P*–*T*) conditions of their formation, thereby reflecting the tectonic setting in which they formed. Until now, such data for ancient metamorphic rocks older than 2.8 Ga are largely missing and thus prevent interpretation of how crustal differentiation and metamorphism worked during the Archean. My doctoral research aims to fill this critical data gap for the *P*–*T*–age conditions of metamorphosed continental crust older than 2.8 Ga by investigating samples from different Archean cratons worldwide, with a particular focus on the West Australian Craton.

Education: B.Sc. & M.Sc. in Geosciences at Albert-Ludwigs-University Freiburg, Germany

Research interests: metamorphic petrology, geochemistry, geothermobarometry, fluid-rock interaction

Thesis title: Deciphering the tectonic record of early Earth with particular focus on the West Australian Craton

Supervisors: Prof. Chris Clark, A/Prof. Tim Johnson

Conferences: "Constraining K-feldspar megacryst formation in the Albtal granite: a thermodynamic modeling approach" (DMG Meeting, Heidelberg 2019)

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