

Geowissenschaftliches Kolloquium

Eclogites as archives of mantle temperature and redox evolution

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Sonja Aulbach

Goethe Universität Frankfurt

Mantle eclogite xenoliths are typically entrained from deep cratonic mantle lithospheres by kimberlites. They have ≥ 1.9 Ga protoliths that originated in ancient spreading ridges and were subsequently recycled into the mantle. Thus, they can be used to extract information on the potential temperature (warm but not hot) and redox state (more reducing than today) of the palaeo-convecting mantle, which has multiple implications for ancient volatile cycles and geodynamics.



Dr. Sonja Aulbach studied in Frankfurt and Sydney, and has mostly worked on the chemical characterisation of mantle material entrained in kimberlites from cratons around the globe. Based in Frankfurt since 2009, the main objectives of her work are to unravel the age, origin and evolution of ancient continental lithospheres, and to understand the implications for geochemical cycles and geodynamics through time.

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Institut für Geologische Wissenschaften

Großer Hörsaal (C.011), Haus C
Malteserstrasse 74-100
12249 Berlin



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