

S₂A₃

Public Lecture Series

The CO₂-rich Precambrian atmosphere, Bushveld Mining and CO₂ sequestration opportunities in South Africa

- Speaker:** Wlady Altermann
Department of Geology, University of Pretoria
- On:** Wednesday, 9 May 2012
- At:** 17h15 (to 18h15)
- Venue:** Sci-Enza, Main Campus, University of Pretoria
(Note: Please use the Prospect Street entrance. See
<http://s2a3.up.ac.za/directions.php> for directions and a map.)

Carbon dioxide (CO₂) has been internationally identified as the anthropogenic emission gas contributing most effectively to global warming. Therefore, high public and research interest has been centred on carbon capture and storage (CCS) possibilities, worldwide. Research on CCS in South Africa concentrates on the injection of anthropogenic CO₂ into underground geological formations, as exemplified by the recent launch of the Atlas on Geological Storage of Carbon Dioxide in South Africa. The Atlas reported an estimated capacity of storage of up to 150Gt of CO₂, mostly located offshore. Offshore storage reservoirs are however difficult to access and monitor and will therefore raise the CCS costs substantially. Studies of the Earth' early Eon, the Precambrian, offer an alternative. Precambrian rocks of South African host a world-wide unmatched mineral wealth. During the Precambrian, but especially during the Archean, 3.5 to 2.5 billion years ago, the Earth's atmosphere was comparatively 3000 times richer in CO₂, then it is today. Natural CO₂ sequestration started in the Archean and involved weathering of rocks, carbonate sedimentation and bacterial life. In the same way, mining waste tailings could be used today for sequestration of anthropogenic CO₂ in South Africa, on large industrial scale.

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