

The next Hunter Earth Sciences Discussion Group (HEDG) night is on ...

Tuesday 10th March 2009

Customs House, Newcastle

HEDG is a regular speaker series for geoscience professionals, academics and students in Newcastle and the Lower Hunter Valley. Drinks and nibbles at the bar from 6pm with the presentations from 6.30pm.

Curtain raiser: Warren Potma and Jamie Robinson

CSIRO - Division of Exploration & Mining

'Minerals Down Under National Research Flagship'

The role of the Minerals Down Under Flagship is to create new knowledge and transformational technologies for the mineral sector and to ensure there are appropriate pathways for the transfer of that knowledge and technologies to industry in order to improve Australia's global competitive position. Research is focussed on a) Discovering Australia's mineral resources b) Transforming the future mine c) Securing Australia's future ore reserves d) Driving sustainable processing through system innovations overview

Main feature: Dr Glen Phillips

University of Newcastle

'A 3 billion year record of continental evolution

- evidence for continent building and break-up in Antarctica'

Through geological time, the translation of continental lithosphere across the surface of the earth has lead to the accretion and break-up of super-continents. The influence of super-continents on the global earth system is a widely contested theme, where it has been attributed to major planetary events ranging from catastrophic climate change (i.e., Snowball Earth) to mantle instabilities causing plumes. Owing to this potential feedback between significant planetary events and the global distribution of continental lithosphere, an accurate portrayal of continental 'wanderings' through time is required. However, hindering progress toward the development of a global time-space model of continent distribution is limited data from many key continental regions. One such region is Antarctica.

Recent work carried out in the Mac.Robertson Land sector of East Antarctica provides valuable information on the palaeogeographic relationship between Antarctica and India during the accretion and dispersion of the super-continents Rodinia and Gondwana. This work utilised kinematic analysis, mineral equilibria modelling and geochronology to constrain the timing and nature of orogenic events in this region of Antarctica. As a result, it can be shown that large tracts of Antarctica were probably accreted to India as far back as the early Neoproterozoic; which is in sharp contrast with the current model where India and Antarctica were separate until the early Palaeozoic assembly of Gondwana. This research also shows that continental break-up between India and Antarctica probably began during the Permian dispersion of Pangaea and finished in Cretaceous times. To conclude, a discussion on the geodynamic processes associated with continental accretion and dispersion events in Antarctica will be presented.

For further details and to RSVP by Monday 7th March contact Phil Gilmore at phil.gilmore@dpi.nsw.gov.au



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