The Centre for Exploration Targeting (CET) is pleased to invite you to a Guest Lecture in the CET Seminar Series given by Prof Brent McInnes

“Thermal Footprints in Time: Exploring the Crust using Thermochronometry”

ABSTRACT

Understanding the time-temperature history of the Earth’s crust is of importance in the assessment of the economic potential of mineral and petroleum systems. In data-poor environments such as greenfields mineral exploration and frontier basin petroleum exploration, mineral thermochronometry may be the only quantitative source of thermal history data available to industry.

Utilizing temperature-sensitive radiometric dating techniques to reveal low-temperature, upper crustal processes can elucidate many fundamental parameters associated with deposit genesis, including timing and duration of mineralization processes, rate of exhumation and erosion of intrusive ore deposits and comparative preservation potential. The integration of helium and fission-track thermochronometry with geochronometry techniques provides applied geoscientists with a new suite of tools to constrain models of deposit formation, inform targeting decisions and reduce exploration costs. This work reviews applications of thermal history analysis in the exploration for georesources such as diamond, gold and base metal deposits.

BIOGRAPHY

Professor Brent McInnes is the Director of the John de Laeter Centre at Curtin University. His expertise is the application of geochemical techniques to quantify geological processes. He has published papers on subduction zone chemical geodynamics, economic geology and geo-thermochronology. His is a recipient of the CSIRO Chairman’s Gold Medal for Research Excellence, the CSIRO National Service from Science Award and the Fulbright Coral Sea Fellowship at NASA.

VENUE

Woolnough Lecture Theatre (1.07), Geography and Geology Building
University of Western Australia, 35 Stirling Hwy, Crawley 6009
Pay parking is available along Fairway (approx. $1.50 per hour)

TIME

4:00 - 4:45pm Thursday 5th March 2015