

PhD position

Zonation, paragenesis and fluid evolution from the roots to top of the Far Southeast porphyry system, Mankayan district, Philippines

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We seek an outstanding and motivated PhD candidate to study the Far Southeast (FSE) porphyry system, Mankayan district, Philippines.

The Far Southeast porphyry – Lepanto high-sulfidation epithermal system is large, with resources including 892 Mt @ 0.7 g/t Au and 0.5% Cu (~624 tonne Au and 4.6 Mt Cu; Gold Fields announcement, September 2012) in FSE, and 102 tonne Au and >0.9 Mt Cu in Lepanto (Chang et al., 2011); the adjacent Victoria intermediate-sulfidation veins, now producing, contain 11 Mt @ 7.3 g/t Au. This is the type locality that proved the genetic link between porphyry and high-sulfidation epithermal deposits (Arribas et al., 1995; Mancano and Campbell, 1995; Hedenquist et al., 1998). It is also the site where mineral vectors in lithocaps that indicate proximity to the porphyry roots were discovered (Chang et al., 2011). Studies of this system have contributed significantly to the understanding and exploration of porphyry and epithermal deposits worldwide.

Recently, Gold Fields has carried out >100km of drilling at Far Southeast, providing a 3-dimensional picture of this system over 2 vertical km to -700 m elevation, 400 m below the ore body. This provides arguably a unique opportunity to examine a porphyry system from the roots of the porphyry, through the main porphyry body, up to the mineralized lithocap. This project will study the paragenesis, the vertical zonation and transition in alteration and mineralisation of the system, as well as the fluid evolution.

The project will be based at EGRU (Economic Geology Research Centre), School of Earth and Environmental Sciences, James Cook University, Townsville, Queensland, Australia. EGRU/JCU's research in economic geology is recognised internationally and is supported by world-class analytical facilities. Townsville is close to many world-class mineral deposits.

The project will provide an initial bridging stipend scholarship and international tuition waiver. The student is expected to apply for and win the JCU Postgraduate Research Scholarship (JPRS) for 2015 and onwards. http://www.jcu.edu.au/international/scholarships/JCUPRD_016792.html

International students whose native language is not English must meet the English requirement of IELTS 7.0 (no bands lower than 6.5), or equivalent (http://www.jcu.edu.au/international/apply/entry/JCUPRD1_073732.html).

For enquiries please email Dr. Zhaoshan Chang (Zhaoshan.chang@jcu.edu.au).

To apply please send CV, contact information of 3 references, transcripts (may be informal at the initial stage), copies of previous research outputs and a cover letter outlining research interests and research experience/skills, as well as English test results if applicable, to Zhaoshan. We will start to review applications from 10 March 2014 until a satisfactory applicant is identified. The student is expected to commence shortly after.