Dr. Solomon (Sol) BUCKMAN

Position:	Lecturer	
Room:	41.163	
Phone No:	+61 2 4221 5950	
Email:	solomon@uow.edu.au	

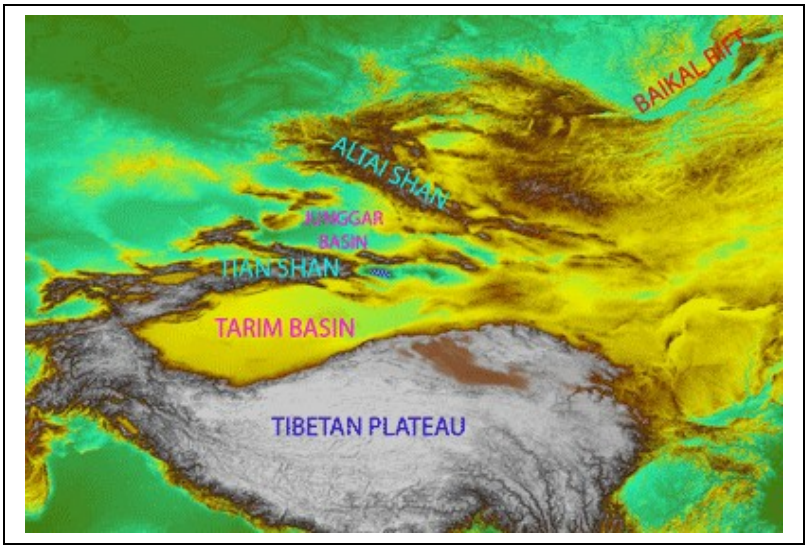
Honours/Masters Scholarships

Industry funded project specific scholarships for Honours and Masters are available to students commencing Honours or Masters. Fieldwork will be based in Orange, NSW.

Contact me or the School Office for further information

Research Interests

- Geological and tectonic setting of mineral deposits
- China and Central Asia – the tectonic and metallogenic evolution of the Eruasian continent
- Neotectonics, geomorphology and intraplate deformation – the Tian Shan in Central Asia and the Mt Lofty/Flinders Ranges, South Australia
    - New England and Lachlan Orogens – tectonic and metallogenic evolution
    - Palaeofire records and sedimentation in bogs and alluvial fans
- Geological application of remote sensing techniques (ASTER, LIDAR, hyperspectral) to the indentification of alteration minerals and subtle neotectonic geomorphological features



Representative Publications

Buckman, S. and Aitchison, J. C. 2004. Tectonic evolution of Palaeozoic terranes in West Junggar, Xinjiang, northwest China. In: Malpas, J., Fletcher, C.J., Aitchison, J.C. & Ali, J. (Eds). *Aspects of the Tectonic Evolution of China*. Geological Society, London, Special Publications, **226**. pp. 101–130.

Buckman, S. and Aitchison, J. C. 2001. Middle Ordovician (Llandeilan) radiolarians from West Junggar, Xinjiang, China. *Micropaleontology* 47/4: 359–367.

Aitchison, J. C., Stratford, J. M. C., and Buckman, S., 1997. Geology of the Upper Barnard region: evidence of Early Permian oblique-slip faulting along the Peel-Manning Fault System. *In*: Ashley, P. M., and Flood, P. G. (eds). *Tectonics and Metallogenesis of the New England Orogen*. Special Publication No. 19 Geological Society of Australia, p. 188–196.

Buckman, S., 2007. Cenozoic intra-continental tectonics in the Tian Shan and West Junggar mountains, NW China. In: Geological Society of Australia, Specialist Group: Tectonics and Structural Geology, Conference "Deformation in the Desert". Alice Springs.

Buckman, S. 2005. Intra-continental deformation, springs and arid ecosystems: Neotectonic faults as important water reservoirs in arid areas of Xinjiang Province, northwest China. *Earth Systems Processes 2 Conference. Calgary, Canada.*

Buckman, S. 2004. Listwanite-hosted gold mineralisation in the New England. In Conference Proceedings; *Geoscience 2004: Dynamic Earth: Past, Present and Future, 17th Australian Geological Convention. Hobart, Tasmania.*

Dart, R. & Buckman, S. 2004. Magnesite beds within the Skillogalee Dolomite, Collaby Hill area, South Australia. In Conference Proceedings; *Geoscience 2004: Dynamic Earth: Past, Present and Future, 17th Australian Geological Convention. Hobart, Tasmania.*

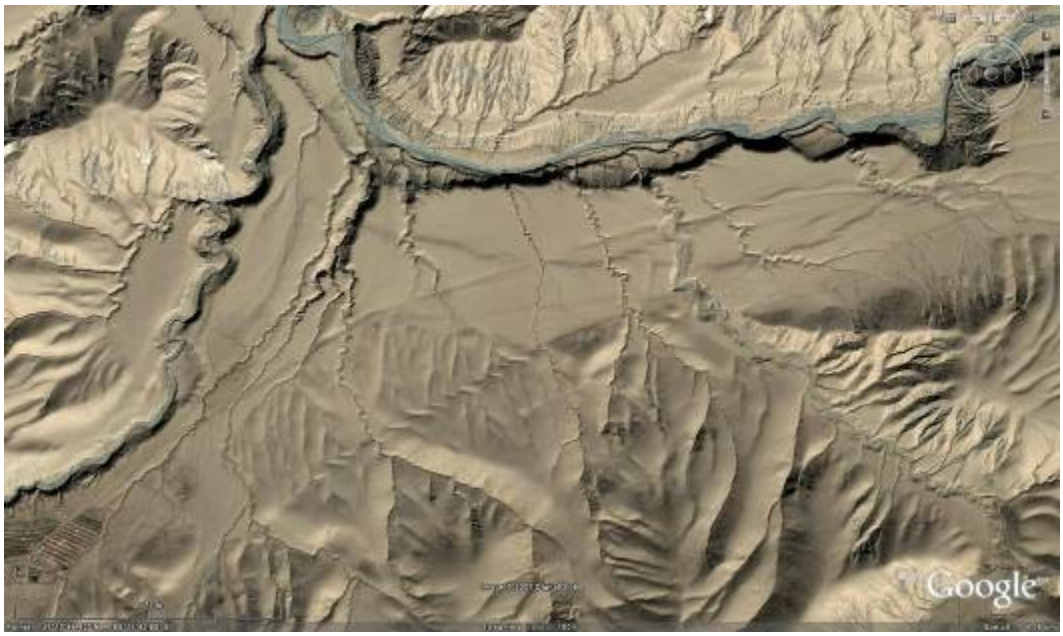
Pope, S. & Buckman, S. 2004. Relationship of the Lena Quartzite to the deep copper orebodies at Mount Isa. In Conference Proceedings; *Geoscience 2004: Dynamic Earth: Past, Present and Future, 17th Australian Geological Convention. Hobart, Tasmania.*

Aitchison, J. C., and Buckman, S., 1998. New constraints on the evolution of ophiolitic rocks of the West Junggar region, Xinjiang, China. In: *Western Pacific Geophysics Meeting (1998: Taipei, Taiwan), Supplement to Eos, Trans., AGU*, Vol.79, no.24, p. 119.

Buckman, S., 2000. Tectonics and mineralization along the Silk Road, West Junggar, northwest China. *Economic Geology Research Unit Newsletter*, August 2000 edition.

Buckman, S. 2001. Continental growth and gold mineralization along the Silk Road, Xinjiang, NW China. In Conference Proceedings *Hydrothermal Odessy - Tectonics and Metallogeny. James Cook University, Townsville.*

Searchable Publications



Altyn Tag Fault in northern Tibet offsetting recent streams

Suggested Topics for Future

1. The Tian Shan, Xinjiang Provence, northwest China

a) The timing and nature of gold and copper deposits in the Tian Shan. *Components – geochemistry, stable isotopes, geochronology (ICP-MS laser ablation of monazites and zircons, structural geology*

b) Intraplate deformation and the identification of neotectonic faults in northwest China; their spatial and temporal relationship to the India-Asia collision. Components – remote sensing, OSL/TL dating, GPS mapping, tectonic geomorphology and GIS

c) The age and timing of emplacement of ophiolites and accretionary complexes in Central Asia. Components – geochronology, geochemistry (XRF, ICP) and radiolarian/conodont biostratigraphy.

d) Identification of rocktypes and alteration haloes surrounding gold mines in the Tian Shan using remote sensing (ASTER + SRTM)

2. Lachlan and New England Orogens, NSW.

a) Gold and copper mineralization within the Macquarie Arc

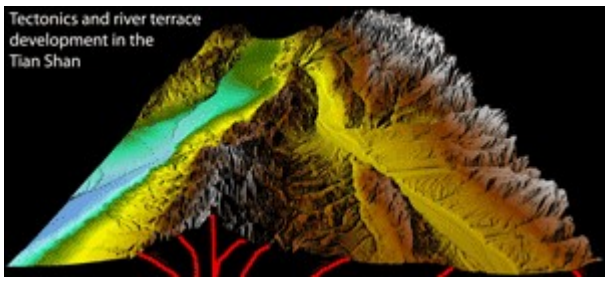
b) Platinum group mineralization in layered intrusives within the Lachlan orogen, NSW.

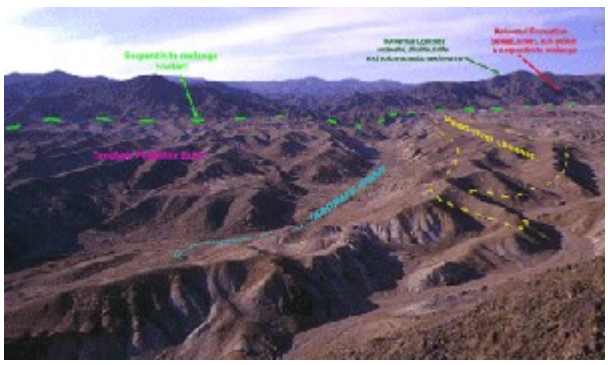
c) Silica-carbonate (listwanite) epithermal alteration and the mobility of precious metals near the margins of serpentinite (ophiolite) bodies in the New England and Lachlan orogens.

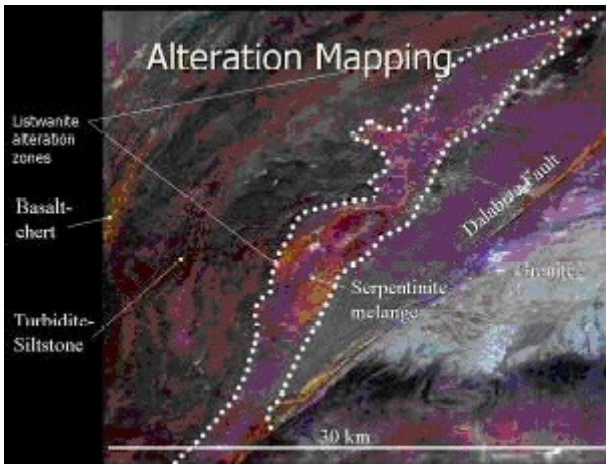
3. Mt Lofty and Flinders Ranges, South Australia

a) Detailed structural and geomophological mapping of the neotectonic Willunga Fault at Sellicks Beach, Fleurieu Peninsula, South Australia, using high resolution LIDAR (digital elevation models) and tri-spectral and hyperspectral remote sensing data

b) Alluvial fan





development in relation to the neotectonic Wilunga Fault and the Quaternary paleofire history as recorded by charcoal abundance in the alluvial sediments (OSL and C14 dating)	
4. Industry assisted projects – I am happy to consider any mine/exploration specific project that have a degree of originality and academic merit and is focused on a particular problem that the mine/exploration is dealing with.	

Abbreviated CV

2007-present ***Lecturer at the University of Wollongong*** – earth resources & tectonics

2001-2007 ***Lecturer at the University of South Australia*** – geology, tectonics, petrology, geochemistry, field mapping, supervision of post-graduates (honours and PhD).

2001 ***Research Fellow*** at the School of Earth Sciences, James Cook University. Investigating structural controls on Ag-Pb-Zn mineralization at the Cannington deposit in conjunction with BHP.

2000 ***M.I.M.*** – contract geologist at Mt. Isa Mine.

1996-2000 ***PhD*** at the University of Hong Kong. Thesis topic: "*Tectonics and Mineralization of West Junggar, NW China.*"

1997 ***Caledonian Pacific Resources*** – geological consultant Attunga Cu/Au skarn deposit in the New England Orogen.

1996 ***Hargraves Resources*** – Exploration Geologist based in Orange, NSW.

1994-1996 ***Sons of Gwalia Ltd*** - Exploration Geologist based in Laverton, W.A., investigating Archaean gold/nickel deposits.

1993 ***Honours in Geology*** at the University of Sydney: Thesis topic: Field mapping project in the New England Orogen, N.S.W., Australia. Title; "*The Geology North of the Barnard River at Barry Station: Evidence of Early Permian Strike-slip Faulting and Basin Development*."