



Name: Glenn Sharrock, PhD, MAusIMM CP (Geotech)

Positions: Principal Geotechnical Engineer & GM - Itasca Australia
Associate Professor – University of Queensland (Adjunct)

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BIOGRAPHICAL DETAILS

Dr Sharrock's is General Manager of Itasca Australia and has 15 years industry experience in a wide range of rock mechanics positions such as Principal Geotechnical Engineer (Newcrest Mining NL), Rock Mechanics Engineer (Mt Isa Mines), Senior Geotechnical Consultant, (AMC Consultants), Senior Lecturer in Geotechnical Engineering (UNSW) and Associate Professor - Caving Geomechanics (UQ). His consulting, operational and research experience spans underground and surface mining in hard rock and coal.

His last caving position was as Principal Geotechnical Engineer at Newcrest's Cadia East, Ridgeway Deeps, Ridgeway SLC and Telfer Mines over a 5 year period. His geotechnical responsibilities covered all aspects of the discipline including measuring excavation damage, seismic risk management, ground support design and numerical modelling of stress, seismicity, deformation and flow. In addition to Newcrest, consulting experience includes: Argyle, Perseverance, North Parks, Koffiefontein, Resolution, Goldex, and various other project studies including Afton, Ekati, Perseverance Deeps, Telfer Deeps and Ridgeway Deeps (Lift 2).

Dr Sharrock has acted as expert witness in a number of legal actions including the Melik Inquiry and Beaconsfield Coronial Inquest. He also holds an Adjunct Associate Professorship at Brian Research Centre at the University of Queensland and assists with projects in the field of Caving Geomechanics. He is a Certified Chartered Professional Geotechnical Engineer.

QUALIFICATIONS

- PhD in Mining Engineering (Geomechanics), University of Queensland, 2003
- M.Sc. (Res) in Materials Science, University of Queensland, 1996
- Bachelor of Applied Science (Mining Engineering), University of New South Wales, 1993

EMPLOYMENT

<i>Currently:</i>	Principal Geotechnical Engineer & GM - Itasca Australia	(2013 - present)
	Associate Professor – University of Queensland	(2011 - present)
<i>Previously:</i>	Principal Geotechnical Engineer - Newcrest Mining NL	(2011 - 2013)
	Senior Lecturer - Geotechnical Engineering - UNSW	(2006 - 2011)
	Specialist Geotechnical Engineer - Newcrest Mining NL	(2008 - 2011)
	Senior Geotechnical Consultant - AMC Consultants	(2003 - 2006)
	Rock Mechanics Engineer - Mt Isa Mines Ltd.	(1999 - 2003)
	Post Graduate Researcher / Geotechnician / Tutor UQ	(1994 - 1999)

PUBLICATIONS

1. Bahaaddini, M., Sharrock, G.B., Hebblewhite, B.K. (2013) Numerical investigation of the effect of joint geometrical parameters on the mechanical properties of a jointed rock mass under uniaxial compression, J. Computers and Geotechnics.
2. Sharrock, G.B., Brunton, I. (2013) Simulating gravity flow in block caving with cellular automata, Int. J. Numer. Anal. Meth. Geomech (in progress).
3. Brunton, I., Sharrock, G.B. (2013) Full scale marker trials at Ridgeway deeps block cave mine, Int. J. Rock Mech. Mining Sci. (in progress).
4. Nilsson, M., Edelbro, C., Sharrock, G. (2012) Numerical estimation of joint shear strength using digital photogrammetry, Proc. Eurock, Sockholm, 28-29 May 2012.
5. Hashim, H., Sharrock, G.B. (2012) Dimensionless percolation rate of particle percolation in block caving mines, Proc. Massmin 2012 Conference, Sudbury.
6. Sharrock, G.B., Beck, D.A., Capes, G., Brunton, I. (2012) Applying coupled Newtonian Cellular Automata-Discontinuum Finite Element models to simulate propagation of Ridgeway Deeps Block Cave, Proc. Massmin 2012 Conference, Sudbury.
7. Brunton, I. , Sharrock, G.B. (2012) Full scale marker trials at Ridgeway deeps block cave mine Proc. Massmin 2012 Conference, Sudbury.
8. Tibbett, J., Sharrock, G.B., Hebblewhite, B.K. (2012) A review on the effects of faults on the mechanics of cave propagation, Proc. Massmin 2012 Conference, Sudbury.
9. Capes, G., Sharrock, G.B., Lowther, R. (2012) Quantifying undercut excavation damage at Ridgeway deeps block cave mine, Proc. Massmin 2012 Conference, Sudbury.
10. Beck, D.A., Sharrock, G.B., Capes, G. (2011) A coupled DFE-Newtonian Cellular Automata scheme for simulation of cave initiation, propagation and induced seismicity, Proc. American Rock Mechanics Symposium, Asheville, USA, 2011.
11. Bahaaddini, M., Sharrock, G.B., Hebblewhite, B.K. (2011) Synthetic rock mass modelling of a rock mass with non-persistent joints, 35th APCOM Symposium 201, Paper Number: 90

12. Akram, S., Sharrock, G.B. (2011) Physical and numerical investigation of conglomeratic rocks, Proc 2nd International FLAC-DEM Symposium, 2011, Feb 14-16, 2011, Melbourne Australia.
 13. Akram, S., Sharrock, G.B. (2011) The role of interstitial cement in synthetic conglomeratic rocks, Proc 2nd International FLAC-DEM Symposium, 2011, Feb 14-16, 2011, Melbourne Australia.
 14. Bahaaddini, M., Sharrock, G.B., Hebblewhite, B.K. (2011) A comparison of physical and numerical experiments on artificial jointed rock masses using PFC3D, Proc 2nd International FLAC-DEM Symposium, 2011, Feb 14-16, 2011, Melbourne Australia.
 15. Sharrock, G., Vakili, A., Duplancic P., Hastings N. (2011) Numerical Analysis of mine subsidence for the Perseverance Deeps Block Cave, Proc 2nd International FLAC-DEM Symposium, 2011, Feb 14-16, 2011, Melbourne Australia.
 16. Hashim, M.H.M., Sharrock, G.B. (2010) Quantification of shear strains in a 2D block cave scaled physical model, ISRM International Symposium and 6th Asian Rock Mechanics Symposium, 23-27 October 2010, New Delhi (India).
 17. Akram, S., Sharrock, G.B. (2010) Physical and numerical investigation of a cemented granular assembly of steel spheres, Int. J. Numer. Anal. Meth. Geomech.
 18. Mosse-Robinson, S., Sharrock, G.B. (2010) Laboratory Experiments to Quantify the Pull-out Strength of Single Strand Cable Bolts for Large Boreholes, Proc 2nd Australasian Ground Control Conference in Mining, Sydney 2010.
 19. Sharrock, G., Capes, G., Fuller, P. Kerr, G., Penney, A. (2010) Laboratory and Field Tests on Point Anchored Resin Bolts at the Ridgeway Deeps Block Cave, Proc 2nd Australasian Ground Control Conference in Mining, Sydney 2010.
 20. Sandy, M., Sharrock, G., Albrecht, J., Vakili, A. (2010) Managing the Transition from Low Stress to High Stress Conditions, Proc 2nd Australasian Ground Control Conference in Mining, Sydney 2010.
 21. Lowther, R.J., Capes G.W., Sharrock G.B. (2010) A deformation monitoring plan for extraction level drives at Ridgeway Deeps block cave mine, Proc. Caving 2010 Conference, Perth Australia.
 22. Sharrock, G.B., Hashim, H. (2009) Disturbed Flow in Block Caving, Proc. American Rock Mechanics Symposium, Asheville, USA, July 2009.
 23. Hashim, H., Sharrock, G.B. (2009) Numerical Investigation of the Effect of Particle Shape on Percolation, Proc. American Rock Mechanics Symposium, Asheville, USA, July 2009.
 24. Sharrock, G.B., Akram, S., Mitra, R. (2009) Application of Synthetic Rock Mass Modeling to Estimate the Strength of Jointed Sandstone, Proc. American Rock Mechanics Symposium, Asheville, USA, July 2009.
 25. Akram, S., Sharrock, G.B. (2009) Physical and Numerical Investigation of a Cemented Granular Assembly under Uniaxial and Triaxial Compression, Proc. American Rock Mechanics Symposium, Asheville, USA, July 2009.
 26. Sharrock, G.B. (2008) The isolated extraction zone – a review, Proc. 1st Southern Hemisphere Rock Mechanics Symposium, pp 255-271.
 27. Hashim, H., Sharrock, G.B. (2008) A review of particle percolation in mining, Proc. 1st Southern Hemisphere Rock Mechanics Symposium, pp 273-284.
 28. Sharrock, G.B., Sandy, M., Albrecht, J., Basson, F. (2007) Practical estimates of rock mass strength in underground mining operations, in IRSM Congress (2007) Lisborn City.
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29. Albrecht, J., Sharrock, G.B. (2006) A Model to Forecast Rockburst Damage. Chapter 42 - Challenges in Deep and High Stress Mining, Editors: Potvin, Y., Hadjigeorgiou, J., Stacey, D., Publisher: Australian Centre for Geomechanics ISBN: 978-0-9804185-1-4, 666 pages.
 30. Albrecht, J., Sharrock, G.B. (2006) Excavation design guidelines and support requirements for seismic conditions, in Proc Deep and High Stress in Mining, Quebec City.
 31. Mikula, P., Sharrock, G.B., Lee, M., Kinnerly, E. (2005) Seismicity management by tight slot blasting for stress control at Mount Charlotte, in Proc. RASIM6, Perth.
 32. Sharrock, G.B., Beck, D., Booth, G., Sandy, M. (2004a) Simulating gravity flow in sub-level caving with cellular automata, Proc. Massmin 2004, Santiago, pp 189-194.
 33. Booth, G., Sharrock, G.B., Beck, D., Booth, G., Sandy, M. (2004b) Visual grade control techniques and sub-level cave draw optimization, Proc. Massmin 2004 Conference, Santiago, pp 189-194.
 34. Sharrock, G.B., (2003). Cellular automata and the simulation of cave-draw, Australian Mining Magazine (November Edition), pp 62- 63.
 35. Sharrock, G.B., Slade, N., Thin, I., Duplancic, P. (2002) The prediction of stress induced caving on a mining abutment, Proc Deep and High Stress Mining Conference, Australian Centre for Geomechanics, Nov 2002, Section 13, pp1-21
 36. Sharrock, G.B., Kuzmaul, J. (1999): 'Tool shearing of a granular material', Proc. 2nd Australasian Congress Applied Mech. Canberra, Australia.
 37. Sharrock, G.B., Aspinall, T.O., Scott, A. (1997): 'Scale modeling of dragline block operating methods', J. Australian Coal Rev., Calgary Canada
 38. Sharrock, G.B., Aspinall, T.O., Scott, A. (1996): 'Measurement and analysis of dragline operating parameters for block excavation', Proc. 4th Int. Symp. on Mine Planning and Equipment Selection, Calgary Canada.
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