

**Dr Quinn Reynolds**  
**MINTEK**



Quinn is 45 years old and holds an undergraduate degree in Chemical Engineering from the University of Kwazulu-Natal, a Masters in Engineering from the University of the Witwatersrand, and a PhD in Applied Mathematics from the University of Cape Town. He has worked in the Pyrometallurgy Division at Mintek for the past 23 years. Mintek is a research institute conducting applied research and development to serve the extensive mineral processing and metallurgical industry in South Africa and worldwide.

Quinn's expertise includes mathematical and computational modelling of complex coupled phenomena in high temperature processes, and in particular the application of high-performance computing and open source modelling software to pyrometallurgy. His current areas of research include magnetohydrodynamic modelling of electric arcs, multiphysics fluid flow problems in furnace tapping and phase separation, combustion modelling for metallurgical processing, and discrete element modelling for particle flow problems. He has also performed extensive work in the characterization of the dynamic behaviour of direct-current plasma arcs using high-speed photography and electrical measurement techniques.