**PHD SCHOLARSHIP**

The School of Civil Engineering at The University of Queensland (Brisbane, Australia) in collaboration with the Coal Seam Gas Centre at The University of Queensland is offering a PhD scholarship for a motivated student to contribute to research being undertaken within an industry driven research initiative investigating the efficient abandoning of production wells. Potential students with an interest in geomechanics and complex hydro-mechanical process are strongly encouraged to apply. The scholarships will be for three (3) years and valued at $26,288AUD per year. The selected student needs to apply for a scholarship at university level. An additional top-up scholarship of $5,000AUD per year is granted automatically, and student fee-waivers are also available.

**PROJECT INFORMATION**

*Quantifying the pre and post hydration properties of bentonite plugs*

The project aims to deliver a novel, more reliable, lower cost plugging and abandonment (P&A) technology for the coal seam gas (CSG) industry partners in their obligations to decommission wells. Wells and bores have historically been plugged with cement. This is expensive and the cement can potentially shrink and crack leading to possible methane migration or cross-flow between aquifers.

The Coal Seam Gas Centre at UQ is developing bentonite ‘plugs’ that swell when they come into contact with water within the well and provide better sealing. To date, this lower cost approach is designed for use in ‘idealised’ cased CSG wells with no integrity problems. Additional research to develop optimised material compositions and new plug-geometries for a wider range of older, legacy wells from coal, CSG and agricultural industries has started recently.

The project aims at improving the understanding of the coupled hydraulic and mechanical behavior of bentonite in wells after swelling leading to improved solutions for practical applications. Laboratory investigations on the swell and shear strength behavior as well as hydraulic parameters will be conducted in the geotechnical laboratories of the School of Civil Engineering enabling the modelling of the long-term performance of bentonite plugs.

**QUALIFICATIONS**

Candidates must hold a relevant undergraduate or Master’s degree in Civil Engineering with specialization in Geotechnical Engineering or neighboring disciplines. Candidates with skills or interest in investigating complex behaviors of geomaterials are strongly encouraged to apply.

**HOW TO APPLY**

Interested candidates should submit their scholarship application on the Application for school-based PhD or MPhil scholarship [form](http://www.civil.uq.edu.au/RHD-application-apply), together with your supporting documents on the [RHD online application system](http://www.civil.uq.edu.au/RHD-application-apply).

Details on the application for admission and scholarship process can be found at [http://www.civil.uq.edu.au/RHD-application-apply](http://www.civil.uq.edu.au/RHD-application-apply).

For further details on the scholarship project, please contact Dr Alexander Scheuermann at [a.scheuermann@uq.edu.au](mailto:a.scheuermann@uq.edu.au) or Dr Heinz-Gerd Holl at [h.holl@uq.edu.au](mailto:h.holl@uq.edu.au).

Submission due by 05/06/2017

[www.civil.uq.edu.au](http://www.civil.uq.edu.au)