We are looking for 2 x PhD candidates with background in Mechanical/Chemical Engineering/Physics to engage in an ARC funded project “A new adaptive aqueous lubricant for severe metalworking at elevated temperature” starting in 2015.

PhD-1 will focus on the computational chemical modelling of chemical reaction of compounds by First Principles and Tight Binding (DFTB) quantum simulation method and molecular dynamic simulation.

PhD-2 will investigate the lubrication / antiwear mechanism of new type of lubricant at nano scale. Experimental work with chemical characterisation are also needed.

The successful applicants are expected to hold at least an Honours 1 (or equivalent) degree in engineering or science. For overseas applicants, an IELTS score of 6.5 is required.

Experience in quantum mechanics, first principles calculations, programming, chemical background on organic and inorganic polymer, chemical characterisation techniques are desirable.

Applicants should submit a CV clearly showing education (with an academic transcript) and research experience.

How to apply:
Applications close on 10 February 2015.
For further information or to apply contact Prof. Kiet Tieu, email ktieu@uow.edu.au, tel 0242213061, School of Mechanical, Materials and Mechatronics Engineering, University of Wollongong.