

IMPEE PhD Opportunity Form

Last update: 03/07/2014

Project title: CMM inspection planning – formalising a black art.
Supervisor(s): Professor James Ritchie and Dr Theo Lim

Abstract (200 words max):

The aim of this research is to capture and formalise the expertise, rationale and decision making of computer aided inspection (CAI)/coordinate measuring machine (CMM) path planning. It will use traditional knowledge acquisition methods combined with our novel ubiquitous logging architecture and knowledge capture approaches to investigate a range of inspection part programming scenarios to help understand and formalise inspection path planning for computer aided metrology applications. These will involve the study and evaluation of computer aided/virtual engineering methods and real world CMM path planning applications. A key output is to provide the sponsoring company with the unique capability to automatically capture and formalise expert knowledge and rationale for this important knowledge-based task, tailor CAI environments for the user, inform the development of automated algorithms for subsets of path planning software and improve training methods to aid the production of high quality, accurate CMM part programs and/or inspection sequences.

Requirement (Optional); 100 words max):

(e.g. *BEng in Mech Eng with average higher than XX%; Previous experience in XX*)

BEng/MEng/MSc in Mechanical and/or Manufacturing Engineering (or equivalent) 2:1/60% average or above.

BSc/MSc Computer Science (or equivalent) 2:1/60% average or above.

Other engineering, science or mathematical backgrounds studied to a suitably qualified level will be considered.

Computer programming experience is desirable.

Other info (Optional); 100 words max):

(e.g. *Scholarship source; annual amount; length; how to apply. Leave this blank if not applicable*)

Fully funded 42-month Home/EU Scholarship covering Home/EU fees (£4,980/annum) and stipend (£13,863/annum).

Application deadline: **1st September 2014**.

International students may apply but would have to provide top-up fees of £11,140/annum to cover the balance of the total overseas fees rate for academic year 2014/2015 (currently £16,120/annum); note that this top-up level may increase as the PhD progresses.

To find out more please contact Professor J.M. Ritchie (J.M.Ritchie@hw.ac.uk) or Dr T. Lim (T.Lim@hw.ac.uk).