

Defence and Security Application Research Center: PhD Funding at UNSW@ADFA

Ph.D. in Mechanical Engineering, University of New South Wales at Australian Defence Force Academy, Canberra.

Title: Development of Methods for Spatial Approximation and Prediction of Flowfields

Abstract: Many problems in engineering and science require prediction of a flow field or a stress field to gain better insights into the underlying physics of the phenomenon. The number of computer based simulations or actual physical experimentation is limited by the resource constraints. To use such resources efficiently, an obvious question to ask is "Is it possible to predict a new flow field using information from an existing set of snapshots of computed or experimental flow fields?" This project is aimed at developing a methodology to achieve this goal. The successful development of such a method would allow us to couple it with optimization methods to derive better designs for a variety of flow problems.

Essential: Excellent Understanding of Approximation Methods, Dimensionality Reduction **and** Good Coding skills in C++, MATLAB

Preferable: Understanding of Methods of Dimensionality Reduction would be useful.

Requirement: Must meet UNSW PhD Admission Requirements and should be able to join in Session 1, 2008.

Contact:

Dr. Tapabrata Ray
School of Aerospace, Civil and Mechanical Engineering
University of New South Wales, Australian Defence Force Academy
Northcott Drive, ACT 2600
Email: t.ray@adfa.edu.au
Tel: 612-62688248
Fax: 612-62688276

Last Date: January 15, 2008. The search might be terminated early if an appropriate candidate is found earlier.