

# **Two Exciting Ph.D APAI Scholarships** **@ RMIT University \***

(In the fields of GPS meteorology/surveying, atmospheric modelling, satellite data assimilation, satellite orbit determination, climate change & weather forecasting)

## **Project Description**

Applications are invited for two Australian Research Council (ARC), The Department of Innovation, Industry, Science and Research (DIISR) International Scientific Linkage (ISL) and industry-funded research places. RMIT University in collaboration with The Australian Bureau of Meteorology, University of New South Wales and The Joint Centre of Satellite Data Assimilation of NASA, NOAA and DoD, of USA are recently awarded both ARC and DIISR ISL projects in the area of GPS meteorology and satellite atmosphere remote sensing. The ARC project is entitled with "Satellite-Based Radio Occultation for Atmospheric Sounding, Weather Forecasting and Climate Monitoring in the Australian Region". This project will investigate innovative approaches for global profiling of temperature, pressure and humidity from Earth's surface to the stratosphere by employing a satellite-based radio occultation technique. New space-borne and ground-based satellite positioning and remote sensing techniques, atmospheric sounding technologies and their fusion to overcome the constraints of sparse atmospheric sensor distribution for weather forecasting and climate monitoring will be studied. This technique is promising as it is able to map the detailed refractivity profile and the structure of the atmosphere inexpensively with a fine vertical resolution and high spatio-temporal sampling density.

This project is dedicated to developing superior national capabilities in anticipating, analysing and investigating critical meteorological threats to Australia. The outcome of this project will be a new methodology for testing and improving regional numerical weather prediction and global climate models in the Australian Region, which will considerably advance our knowledge of atmospheric physics and climate change processes.

## **Required Background of Applicants**

**[General]:** Applicants for this position should have strong analytical and computational skills and should be comfortable working in a team environment.

**[Academic]:** A good degree in GPS satellite positioning / meteorology / atmosphere / astronomy / applied physics / Geodesy / Computer engineering. A good knowledge / experience of atmospheric modelling, data assimilation and computer programming language(s) will be an advantage. The primary research tasks of the two APAIs are precise satellite orbit determination (APAI-1) and satellite data assimilation (APAI-2).

## **Duration of Project and Stipend**

The project is funded for 3 years from early 2009 and the tax-free annual stipend is \$26k-\$30k, commensurate with background/experience. In addition, teaching/research assistant opportunities exist for extra income depending on experience and capability and funded travel opportunity to USA.

**Deadline:** until the positions are filled.

## **Contact Details:**

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\* There are also **two postdoctoral research fellow positions** open now (remuneration package upto \$90k/p.a. for 3 yrs)