Swinburne University of Technology  
Centre for Astrophysics and Supercomputing, Melbourne  

Postdoctoral Research Associate  
Extragalactic Fundamental Physics  

A Post-doctoral Research Associate (PDRA) is sought to work with Michael Murphy at Swinburne’s Centre for Astrophysics & Supercomputing (CAS) on measuring possible cosmological variations in the fundamental constants using quasar absorption lines.

A full-time appointment, funded by an Australian Research Council (ARC) grant, will be made for two years, with funding available for a third year subject to performance. The grant includes a AUD$15,000 research budget.

The PDRA will participate in an international collaboration undertaking a 35-night program of high-resolution optical quasar spectroscopy on ESO’s Very Large Telescope. They will lead the spectral analysis for the Swinburne node to detect any “varying constants”. Related campaigns on other telescopes (optical, radio, mm) may also be led by the PDRA. Subject to good performance, some time may be devoted to other aspects of precision astronomical spectroscopy of the PDRA’s choosing. There will be opportunities to assist with PhD supervision and public outreach.

Selection criteria:

Essential:
- A PhD, or clear expectation to submit a PhD thesis by the commencement date, in a related field.
- Demonstrated team-work skills.
- Excellent presentation and scientific writing skills.
- Ability to collaborate effectively.

Desirable:
- Demonstrated observational, data reduction and analysis experience, particularly in optical spectroscopy.
- Scientific computing proficiency and ability to write custom code.
- Completes tasks with minimal supervision; accountable for outcomes.
- Takes ownership of and can lead aspects of scientific projects.

CAS is one of Australia’s largest research astronomy groups, with over 30 staff/post-docs and ~30 PhD students expected in 2011. Swinburne holds a long-term agreement with Caltech guaranteeing 15–20 nights per year on the Keck telescopes for CAS staff (including post-docs as PI). CAS is part of the new ARC Centre of Excellence for All-Sky Astrophysics (CAASTRO) funded for AUD$20 million over seven years. It operates a significant supercomputing facility, to be renewed in 2011, and a HD 3D “Virtual Reality Theatre”. We have a lively research culture with weekly discussion groups and international speakers comprise half of our colloquia. The campus is located in the cosmopolitan urban area of Hawthorn, and Melbourne is one of the “world’s most livable cities”.

Swinburne is a 2010 Federally-recognised "Employer of Choice for Women". Swinburne encourages applications from Indigenous people, people from culturally and linguistically diverse backgrounds, people with disabilities, women and men.

Remuneration includes $65,508–75,289 salary plus 17% superannuation, standard 4-week annual leave plus sick leave (including carer leave), maternity (& partner) leave. A relocation allowance is available.

The application deadline is the 15th January, 2011. Applications should be e-mailed directly to Michael Murphy and must include a CV, publication list, 1-2 pages directly addressing the above selection criteria, and 1 page highlighting other research interests, past, present & future. Applicants should ensure that three referees e-mail reference letters to Michael Murphy by the application deadline.

See corresponding AAS Job Register ad at http://members.aas.org/JobReg/JobDetailPage.cfm?JobID=27030

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