Australian Government
National Health and Medical Research Council

NEUROSLEEP
NHMRC Centre of Research Excellence

Call for Applications - Postgraduate Clinical Research and Training Positions

Closing date: EXTENDED UNTIL MONDAY 17TH MARCH 2014

Applications are invited for **Postdoctoral Research Fellowships** (part-time and full-time) and **Postgraduate Research Scholarships** (full-time) commencing in 2014 at **NeuroSleep, the Centre for Translational Sleep and Circadian Neurobiology**

NeuroSleep, a NHMRC Centre of Research Excellence (CRE), opening in early 2014 will integrate research from neurology, psychiatry, neuropsychology, respiratory neurobiology, chronobiology, imaging, and biophysics. The goal of the centre is to better understand how disrupted sleep leads to impaired brain function and how these problems can be prevented or managed to improve health. NeuroSleep will undertake clinical sleep research in four main research themes:

1. Improving alertness and cognition in patients with sleep apnea;
2. Neurobehavioural and neurometabolic effects of sleep loss and circadian misalignment;
3. Translational neurobiological strategies for insomnia; and,
4. Neurodegenerative and neuropsychiatric disorders in later life - sleep and circadian dysfunction.

NeuroSleep brings together a collaborative team of chief investigators with a breadth of research expertise from the Woolcock Institute of Medical Research; Monash University; Neuroscience Research Australia; Royal Prince Alfred Hospital; University of Sydney's Brain & Mind Research Institute (BMRI), Sydney Nursing School and School of Physics. Positions are mainly available in Sydney and some are available in Melbourne. Applicants must be an Australian or New Zealand citizen or an Australian permanent resident to be eligible to apply.

Postdoctoral Research Fellowships are available for outstanding researchers with expertise in core methodologies relevant to NeuroSleep's research themes such as neuroimaging, circadian investigation, clinical phenotyping or neurophysiology. Successful candidates would work across research themes and coordinate projects prioritised by the chief investigators. The duration of the fellowship is one to two years depending on the applicant. Salary will be dependent on experience and track record and commensurate with NHMRC personnel support packages. Part-time and full-time positions are available.

Postgraduate Research Scholarships are available for research towards a higher degree commencing 2014 supervised or co-supervised by a NeuroSleep investigator/s (listed below) at the participating institutions. Preference will be given to exceptional candidates enrolled, or intending to enrol, in a PhD. The award will be issued on the terms and conditions of the current NHMRC postgraduate scholarship and the stipend will be equivalent. It is expected that scholarship holders will apply for other scholarships for which they are eligible (e.g. NHMRC postgraduate scholarships, Australian Postgraduate Awards) during the first year of tenure of the CRE scholarship. Successful applicants who are subsequently awarded an NHMRC or other postgraduate scholarship will relinquish their CRE scholarship and be eligible to receive a CRE top-up scholarship.

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Applicants are required to submit a covering letter (specify part-time or full-time for the fellowship, and include your proposed start date in 2014), CV and a 2-3 page research proposal for consideration. Please address the following points in your research proposal:

- The proposed research project/s you will undertake during the fellowship. Outline how your proposed research aligns with the research theme/s and outcome/s of the CRE (*refer to page 3 for further information about the research themes*);
- Your skills and expertise relevant to the research themes of the CRE;
- Your proposed supervisor/s (you must be supervised or co-supervised by a NeuroSleep CRE chief investigator, see below) and location;
- Names and contact details of two academic / professional referees.

For further information please contact Angela D'Rozario at cirus@sydney.edu.au / 02 9114 0435.

Please submit your fellowship application in one pdf document to the CRE Interim Research Manager, Angela D'Rozario at cirus@sydney.edu.au by 5pm Friday 28th February 2014. Late applications will not be considered.

NeuroSleep CRE Chief Investigators:

Name	Research Field	Institution
Professor Ronald Grunstein	Sleep medicine, neurobiology	Woolcock Institute of Medical Research; Royal Prince Alfred Hospital; University of Sydney
Professor Shanthakumar Wilson Rajaratnam	Chronobiology	School of Psychology and Psychiatry, Monash University
Associate Professor Sharon Naismith	Neuropsychology, imaging	Brain and Mind Research Institute; University of Sydney
Doctor Danny Eckert	Respiratory physiology	Neuroscience Research Australia; UNSW
Associate Professor Simon Lewis	Neurology	Brain and Mind Research Institute, University of Sydney
Professor Nicholas Glozier	Psychiatry	Brain and Mind Research Institute, University of Sydney
Professor Peter Cistulli	Sleep and respiratory medicine	Royal North Shore Hospital; University of Sydney
Doctor Keith Wong	Sleep and respiratory medicine	Woolcock Institute of Medical Research; Royal Prince Alfred Hospital; University of Sydney
Doctor Nathaniel Marshall	Clinical trials	Sydney Nursing School; Woolcock Institute of Medical Research
Professor Peter Robinson	Biophysics	School of Physics, University of Sydney

NeuroSleep, the Centre for Translational Sleep and Circadian Neurobiology: Research Themes

	THEME 1 **Improving alertness and cognition in patients with sleep apnea**	**THEME 2** **Neurobehavioural and neurometabolic effects of sleep loss and circadian misalignment - the unhealthy shift worker**	**THEME 3** **Translational neurobiological strategies for insomnia management**	**THEME 4** **Neurodegenerative and neuropsychiatric disorders in later life – sleep and circadian dysfunction**
Outcome 1	Characterise the respiratory neurobiological phenotypes we have identified (e.g. respiratory arousal threshold and respiratory control stability; loop gain) and assess how these predict treatment effectiveness.	Apply novel biomathematical and biomarker approaches to predict neurocognitive and cardio-metabolic vulnerability to sleep loss and circadian misalignment in experimental and field settings.	Determine neurobiological correlates of insomnia phenotypes using neuroimaging, neurocognition, neurophysiology, circadian physiology and autonomic markers.	Evaluate the efficacy of targeted sleep-wake interventions (e.g. CPAP, pharmacotherapy, bright light and behavioural programs) in at-risk patients and those with neurodegenerative disease.
Outcome 2	Utilise novel neuroimaging and neurophysiology techniques to identify patients vulnerable to poor neurobiological outcomes (e.g. motor vehicle crashes, dementia and depression).	Investigate the interactive effects of sleep loss, circadian misalignment and sleep disorders on neurocognitive and cardio-metabolic outcomes.	Investigate the interactive effects of sleep loss and circadian misalignment on neurocognitive performance and mood in patients with insomnia.	Examine the ability of sleep-wake interventions to ameliorate the longitudinal course of neurodegenerative disease and LLD.
Outcome 3	Optimise treatment adherence via targeted behavioural interventions and conduct comparative effectiveness randomised controlled trials (RCTs) to inform novel combination therapies.	Evaluate effectiveness of single and combined interventions such as light, melatonin and dietary manipulation to reduce neurocognitive and metabolic dysfunction in shift workers at both individual and organisational levels.	Evaluate effectiveness of novel treatments for insomnia in at-risk populations.	Determine clinically useful biomarkers for the robust prediction of disease development in at-risk populations to enable early intervention.