Department of Nutrition and Dietetics
Top Up Phd Scholarships

Projects offered for ‘Top Ups’ 2015

Monash University Department of Nutrition and Dietetics, Be Active Sleep and Eat Facility (BASE), 1/264 Ferntree Gully Road, Notting Hill
Are you interested in taking on the challenge of a PhD?

In 2015, the department is offering Top Up scholarships for students who are successful in obtaining either an APA or equivalent scholarship for their PhD studies. The Top Up’s are worth $8000 per year and are tax free stipends. These will be awarded to those who are awarded an Australian Post Graduate Award or equivalent scholarship.

What areas are covered?

Projects are chosen from either clinical or community/population nutrition areas and are supervised by an experienced member of the Nutrition and Dietetics staff. Typical project areas include:

- Clinical dietetics including paediatrics
- Sport and exercise nutrition
- Functional foods
- Sleep, nutrition and metabolism
- Weight loss and maintenance
- Appetite regulation
- Community and population nutrition
- Health Profession Education

Where will I be located for my PhD?

The Department of Nutrition and Dietetics is located at the state-of-the-art ‘Be Active Sleep and Eat’ (BASE) Facility in Notting Hill (www.med.monash.edu/base). The BASE Facility is dedicated to advance translation of the science of nutrition, sleep and physical activity to enhance the health lifespan of all Australians. The facility comprises of a state-of-the-art iDXA for bone and body composition assessment, sleep laboratory, a commercial kitchen, exercise and fitness studio and consulting suites.

As a PhD student you will have a desk located at the BASE facility. As one of our PhD students you will utilise the equipment and facilities alongside highly qualified and experienced investigators. Opportunity to undertake some tutoring or marking in the second year onwards of your PhD program can be organised if your primary supervisor’s consent.
Introduction to the Department of Nutrition and Dietetics

Professor Truby, the head of department is a nutrition scientist and clinical dietitian with extensive experience in conducting dietary studies including randomized controlled trials and intervention protocols in adults and children. She is located at the ‘Be Active Sleep and Eat’ (BASE) Facility in Notting Hill, 3km from Monash Medical Centre. The BASE Facility is dedicated to advance translation of the science of nutrition, sleep and physical activity to enhance the health lifespan of all Australians. The facility comprises of a state-of-the-art iDXA for bone and body composition assessment, sleep laboratory, a commercial kitchen, exercise and fitness studio and consulting suites. The research areas in the department focus on: clinical dietetics including paediatrics; sport and exercise nutrition; functional foods; sleep, nutrition and metabolism; weight loss and maintenance; appetite regulation; community and population nutrition. These Top Up scholarships are designed for top ranking graduates of a dietetic / nutrition / biomedical sciences courses; or those who have completed a science-based degree with substantial nutrition content to enable them to concentrate on their PhD studies and complete in a timely 3 year period.

Research Leaders in the department include:

Left to right, Professor Helen Truby, Dr Maxine Bonham, Dr Lisa Ryan, Dr Ricardo Costa, Dr Kate Huggins, Dr Claire Palermo. Researcher profiles can be found at: http://www.monash.edu.au/research/people/profiles/

Project areas chosen for Top Up support:

Projects are chosen for these Top Ups support the research endeavours of the academic staff and often have already external grant funding that further supports the work. This does not mean that other projects will not be supported or supervised by staff members and you should feel free to discuss other projects with them, however, we cannot guarantee to support every proposal. but from either clinical or community/population nutrition areas and are supervised by an experienced member of the Nutrition and Dietetics staff. Typical project areas include:

- Clinical dietetics including paediatrics
- Sport and exercise nutrition
- Functional foods
- Sleep, nutrition and metabolism
- Weight loss and maintenance
- Appetite regulation
- Community and population nutrition
Applying for a Post Graduate Award at Monash

Please follow the link below to the Monash Institute of Graduate Research pages which contains all the information relating to procedure and application process. Applications need to be lodged in full by the 30\textsuperscript{th} October 2014. It is timely that potential applicants contact the supervisors of the projects they are interested in to seek further information as soon as possible. You will need to allow at least 3 weeks between contacting the supervisor and submitting the application. PhD Top Up awards will be given to those successful applicants after they have been accepted into the Monash Phd program and accepted their APA or equivalent.


Please follow the instructions on this MIGR website.
The impact of sleep during the last trimester of pregnancy and birth weight

Supervisors: Prof Helen Truby; Dr Sean Cain (Senior Lecturer in Psychology)
Email: helen.truby@monash.edu

We know that women who gain either excess or lack than optimal weight during pregnancy have offspring with a higher risk of childhood obesity. Pregnancy-related sleep disruption is nearly ubiquitous, even in those without prior sleep problems. Most women report increased sleep disturbance during pregnancy, with the peak concentration of sleep disturbances surfacing in the third trimester. Recent research has demonstrated that disturbed sleep has a powerful influence on both food choice and metabolism. Sleep disruption has been found to result in poorer food choices (higher carbohydrate and fat-containing foods), decreased signals to stop eating and a lowered metabolism, resulting in overall weight gain. Weight gain in pregnancy can be a health risk for the mother, however, recent findings in animals suggest that unhealthy eating habits in the mother may lead to increased risk of obesity and life-long tendencies to make poorer food choices in offspring, a phenomenon called metabolic imprinting. The results of this study will help to inform pregnant mothers on the lesser-known effects of poor sleep on diet and metabolism during pregnancy and help to avoid potentially permanent vulnerabilities to obesity and cardiovascular disease in their children.

Weight management in the neuromuscular disorders

Supervisors: Dr Zoe Davidson; Prof Helen Truby
Email: zoe.davidson@monash.edu or helen.truby@monash.edu

Duchenne muscular dystrophy (DMD) is the most common and severe muscular dystrophy of childhood. Affecting 1 in 3,500 boys, the natural history of the disorder is characterised by progressive muscle weakness with many boys losing the ability to walk independently by age 10 to 13 years. Up to 50% of boys with DMD are obese at age 10 years. The effects of increased weight can be extremely debilitating and contribute to the progression of the disease. This aim of this PhD project is to design and test the efficacy of a weight management intervention for boys with DMD. The intervention will be run in conjunction with the Neuromuscular clinic at the Royal Children’s Hospital in Melbourne. The candidate will also have access to the BASE facility at Monash University which includes an iDXA and calorimeter. The work will be informed by current studies in the department investigating energy expenditure in DMD and potential opportunity to establish interest in other neuromuscular disorders such as spinal muscular atrophy.
Extending the evidence in hospital foodservice research

Supervisors: Dr Judi Porter
Email: judi.porter@monash.edu

The evidence for the provision of food services in hospitals is limited, but continues to evolve. A recent unpublished systematic review identified that little research has been conducted regarding the effect of different menu designs in the hospital setting. Further gaps exist, including the exploring the effect of decreasing time between ordering and receiving ordered meals, and the effect of different menu strategies (cycle versus a la carte) on patient satisfaction and clinical outcomes.

In the hospital setting, malnutrition remains a key priority with 30% of all inpatients at risk or already malnourished. For these patients particularly, provision of a foodservice system that meets their nutritional requirements underpins successful treatment and discharge. Eastern Health, a health network providing services across the continuum of care will be the setting for the study. Extending from metropolitan Melbourne across the Yarra Valley, Eastern Health provides care for 700,000 residents.

In the proposed study, the doctoral student will identify key outstanding gaps in foodservice research, and will undertake an interventional study in the clinical setting. Working with dietetic and food service staff, the intervention will be designed to enhance the foodservice available to all patients, particularly those who are malnourished.

A good time to eat: Assessing dietary eating, food choice and barriers to healthy eating in shift workers

Supervisors: Dr Maxine Bonham; Dr Kate Huggins; Dr Lisa Ryan
Email: maxine.bonham@monash.edu

Shift workers by virtue of their profession are at a greater risk of chronic diseases such as type 2 diabetes, cancer and cardiovascular disease. It remains to be determined what factors associated with shift work contribute to the increased risk of chronic disease and the aetiology is likely to be multifaceted but altered eating times, snacking behaviour and food choice may play a role. We propose a holistic approach to assess eating behaviour in shift workers with the aim of providing evidence for the development and implementation of dietary guidelines for shift workers. The proposed PhD program will integrate four separate studies each building on the previous study. Study one will utilise the Australian Health Survey (2013) to examine associations between shift work, eating patterns and chronic disease in an Australian population. Outcomes from this study will be used to run focus groups in occupational health professionals in identified sectors with significant requirements for shift work to identify current practice in relation to nutrition and shift work.
dietary and physical activity survey will be subsequently be undertaken in a representative sample of shift workers to elucidate dietary patterns on and off shift work and factors that may drive changes in eating behaviour. Lastly a dietary intervention will be undertaken in a cohort of shift workers. It is anticipated that the intervention will focus either on food avoidance during particular hours or adoption of healthier food choices at night. The intervention will be driven by the findings from parts one, two and three.

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**Should women with iron deficiency be assessed for cardiovascular risk?**

**Supervisors:** Dr Kate Huggins; Dr Tracy McCaffrey  
**Email:** [kate.huggins@monash.edu](mailto:kate.huggins@monash.edu)

For women in Australia, cardiovascular disease is the number one killer. Women are just as likely to suffer a heart attack as men. However following an acute cardiac event, younger women (pre-menopausal) have worse outcomes. Why? This is still relatively unknown. There is some emerging evidence that iron deficiency (with or without anaemia) is linked with poor recovery from acute cardiac events. Pre-menopausal women are a high risk group for iron deficiency. Could this explain the poorer prognosis of pre-menopausal women following an acute cardiac event? This PhD will explore the association between low iron status and cardiovascular risk in pre-menopausal women.

First study: Do iron deficient women consume a dietary pattern consistent with increased cardiovascular risk? (e.g high salt, high saturated fat). Using a secondary data set you will identify dietary patterns of young Australian women with and without iron deficiency.

Second study: Observational study assessing cardiovascular risk profile of women with iron deficiency.

Third study: This will largely be informed by the findings of the first and second studies. It could involve a dietary intervention to assess if dietary advice to improve iron status can also improve women’s cardiovascular risk profile.

To ensure the successful completion of this research program within University timelines, a candidate for this PhD program would be expected to develop relationships with stakeholders to facilitate recruitment into the second and third study (this may include organisations such as the pathology services, general practitioners, and health services). Therefore key skills required include high level interpersonal skills, autonomy and organisational skills. Knowledge of statistical analysis is required and experience with factor analysis is desirable but not essential.

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**Investigation of the anti-obesity effects of polyphenol-rich extracts**

**Supervisors:** Dr Lisa Ryan; Dr Maxine Bonham  
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For many individuals obesity is an intractable problem. Rather than simply focusing on weight loss, strategies should consider mechanisms to reduce the onset of obesity-related co-morbidities such as cardiovascular diseases (CVD), type II diabetes and certain cancers.
Central to this issue is the identification of food components that are able to modulate some of the negative metabolic responses associated with obesity (e.g. hyperglycaemia, decreased insulin sensitivity, hyperlipidaemia and an increase in pro-inflammatory mediators) and thus prevent the development of chronic illnesses. The potential of phenolic phytochemicals (polyphenols) to modify some of the negative metabolic effects associated with obesity is an exciting and emerging area of food and nutritional science research.

To date, the scientific evidence to support the ability of polyphenol compounds to alter carbohydrate digestion and absorption and to attenuate postprandial hyperglycaemia and hyperlipidaemia is promising. However, there is a significant lack of research into the applied effects of polyphenols and into extrapolating the results from in vitro studies into relevant recommendations for individuals or health campaigners. For substantiation of the effects of polyphenols on postprandial glycaemic, lipaemic and inflammatory responses, more human trials involving overweight and obese subjects are required.

Therefore, this PhD will seek to improve our understanding of how polyphenols may modify the glycaemic, lipaemic and satiety response to carbohydrate-rich foods which will have important implications for control of blood glucose and weight management.

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**Competency based assessment in dietetics**

**Supervisors:** Dr Claire Palermo; A/Prof Margaret Hay  
**Email:** claire.palermo@monash.edu

Producing a competent nutrition and dietetics workforce is essential to maintain and improve the health of Australians. The Dietitians Association of Australia National Competency Standards for entry to the profession (May 2009) provide a framework for the preparation of dietitians for entry into the workforce in Australia. Australia’s education of dietitians is unique to other health professionals in that students are professionally prepared to practice across three settings: individual patient management, food service management using quality improvement activities in institutional settings; and community/public health nutrition, which includes health promotion, nutrition policy and improving the food supply. Students must demonstrate competence and be assessed in all three settings in order to successfully graduate from accredited dietetics programs. Current assessment is based on history rather than evidence and while it may be producing a workforce that is competent, there is a need to create assessment methods and a system that are feasible and more student centred yet have educational effect. This project will build on work that is aiming to build the capacity of assessors to apply best practice in competency-based assessment. The research will gather evidence of the feasibility, reliability, validity and acceptability of innovative assessment systems with the aim of creating a body of evidence to inform assessment practice in dietetics.
The role of external and internal body cooling on exertional-heat stress induced gut perturbations

Supervisors: Dr Ricardo Costa
Email: ricardo.costa@monash.edu

Physical exhaustion has a profound negative impact on the gastrointestinal system. Exercise-induced splanchnic hypoperfusion, hypoxia, and mechanical jarring have the potential to damage and disturb normal functioning of the gastrointestinal tract; especially if the exercise is performed in hot environmental conditions. Such gastrointestinal disturbance has been linked to intestinal inflammation, increased permeability, and symptoms that can lead to episodes of sub-clinical and clinical significance. To date limited research has been conducted on investigating prevention and management strategies of exertional-heat stress induced gut perturbations. Taking into account the association between core body temperature and mechanisms that induce gut disturbances in response to exertional-heat stress; this novel PhD research program aims to determine if external cooling prior to exertional-heat stress and internal cooling during exertional-heat stress may contribute towards prevention and management strategies.
Conditions of Award

Faculty of Medicine, Nursing and Health Sciences
Department of Nutrition and Dietetics Postgraduate Research Top Up Scholarship
Conditions of Award 2014/2015

These conditions should be read in conjunction with Faculty of Medicine, Nursing and Health Sciences 2014 Scholarship Conditions of Award Faculty Postgraduate Research Scholarship.

- The award is offered to pursue internal, full-time candidature in a higher degree by research (HDR) program in the Department of Nutrition and Dietetics (org unit 50053649), Faculty of Medicine, Nursing and Health Sciences, Monash University.

- The awardee must be eligible for admission as a candidate for a HDR program as above and in receipt of a APA or equivalent higher degree research scholarship.

- The stipend of the Top Up scholarship shall be paid at the rate of $8,000 per annum which is in addition to the APA or equivalent award.

- The Top Up scholarship shall be tenable for a maximum of 3 years (doctorate) subject to the scholarship holder making progress to the satisfaction of his or her supervisor and the Head of Department reported annually. Satisfactory progress will be defined documenting minutes of supervision meetings, completing tasks in agreed timeframes and completing requirements of confirmation as defined by MIGR. The scholarship may be suspended if the candidature has not made satisfactory progress or breeched any conditions of the APA or equivalent research scholarship.

- The duration of the award will be reduced by any periods of prior study undertaken towards the degree prior to the commencement of the award. A maximum of 4 weeks recreational leave may be taken in any one calendar year. Other types of leave as documented in 4.1.2 MIGR Research Degrees Handbook apply. The scholarship will not be paid and may not be reinstated after a period of approved leave.

- The scholarship holder shall make monthly reports on his or her work to his or her supervisor, and participate actively in the academic life of the academic department.

- A candidate making satisfactory progress may apply for an extension if both the Department and the academic unit are agreeable and if funding is available. An extension will normally only be approved where research has been delayed by circumstances beyond the candidate’s control and where such delays could not have been reasonably anticipated at the commencement of candidature. The grounds for an extension must be related to the study itself and not of a personal nature.
• Should the awardee subsequently be offered another Scholarship, the departmental top up scholarship may be terminated. The candidate is required to notify the Faculty’s Research Degrees Office immediately of any change to their enrolment or scholarship which renders them ineligible to continue receiving the award. Failure to do so will result in the candidate being required to return any overpaid amounts to the Faculty.

• An award holder is permitted, with the approval of his/her main supervisor, to undertake a strictly limited amount of paid employment throughout the year, being no more than 15 hours of work on average in any one week. Up to a maximum of 8 hours only on average of this employment may be undertaken during normal working hours (9 am – 5 pm, Monday to Friday).

• An award holder is required to conform to Monash’s regulations and statutes (see www.monash.edu.au/pubs/calendar/statutes). Attention is drawn in particular to Statutes 4.1 (‘Discipline’), 5.2 (‘The university library’), 5.3 (‘The Computer Centre’), 6.3 (‘Exclusion for health reasons’) and 11.2 (‘Intellectual property’) and regulations made thereunder.

• While every effort has been made to comply with the Income Tax Assessment Act 1997 (Cth) so that the stipend is not taxable in the hands of the recipient, no further guarantee can be given by the University. It is the responsibility of scholarship awardees to seek their own taxation advice.

**STUDENT AGREEMENT**

I have read these conditions carefully and agree to abide by them and any subsequent amendments which may be made during the tenure of my award.

Name:

Signature: __________________________ Date: ________________

Please return this page only to the Department of Nutrition and Dietetics. Electronic copies are acceptable.