LA TROBE UNIVERSITY

Apply Now $1,500 - Joss Family Fellowship for Future Researchers

Project booklet | Albury-Wodonga Campus

RESEARCH PROJECT OPPORTUNITIES

A selection of paid fellowship projects available to undergraduate students.

LA TROBE UNIVERSITY

The Projects

Project 1:	**Love in the Aftermath of War: A history of romance in a regional 'garrison' town**
Project 2:	**Investigating the onset of liver cancer in vitamin A signaling deficient mice**
Project 3:	**Ecology and health of turtles in arid Murray-Darling Basin**
Project 4:	**Comparing Youth Acute Inpatient Mental-Health Need and Service Access Across Metropolitan and Regional Victoria**
Project 5:	**Building a Regional Eating Disorders System of Care**
Project 6:	**Comprehensive Assessment and Tailored Treatment for Eating Disorders in a Regional Context**
Project 7:	**Measurement of neutral-sugars and amino-sugars in freshwaters**

About the Fellowships

Apply Now - $1,500 Fellowships for Bachelor students interested in a hands-on research role

Joss Family Fellowship for Future Researchers

Six research projects, under the supervision of Albury-Wodonga Campus researchers, are on offer, covering disciplines such as:

- Australian History, Military History, Gender History, History of Religion
- Biomedical Science
- Ecology and Evolutionary Biology
- Social Work
- Psychology

Toward the end of the research period, the Fellows and their supervisors will present their research project at a campus Research Symposium in February 2027.

Fellowship: $250 per week (tax-free), $1,500 total. Two payments of $750: one on commencement and one in January/February 2027, subject to satisfactory progress confirmed by the supervising researcher.

Tenure: Six weeks, weekly hours to be negotiated with supervisor. Supervisors will endeavour to design flexible research schedules that fit with part time work. This is designed to be a taste of research!

Commencement and completion: Dates will be negotiated with the supervising academic staff member. All projects will be completed by February 2027.

Selection: Project supervisors will make the final decision.

Application: Students are required to submit their resume and the fellowship application form.

Eligibility: Undergraduate students from La Trobe University with a minimum of 180 credit points are eligible to apply, however, preference will be given to students based at the Albury-Wodonga Campus.

Designed to provide a taste of research experience to undergraduate students, this program will not be offered to Honours students who will be undertaking research as part of their Honours program.

Submission Closes: 11.59pm on 20 September 2026, by email to hoc.aw@latrobe.edu.au

The Joss Family Fellowship for Future Researchers, Award
The two most outstanding students (as determined by a selection committee including one senior independent researcher) will each receive an additional $2,000 funding to continue involvement in the research project.

La Trobe University thank the generosity of the Joss Family who sponsor this program.

Project 1

Love in the Aftermath of War: A history of romance in a regional 'garrison' town

Academic Supervisor(s): Associate Professor Jennifer Jones

Discipline Area: Australian History, Military History, Gender History, History of Religion

Project Overview:

This project will investigate the long-term impacts of Albury and Wodonga's status as 'garrison' towns through the lens of romance between local citizens and transient enlisted personnel. The project will focus upon a newly donated archive of 600 love letters (circa 1944-1947) the Burkitt-Kerr Letters, which provide significant insight into the WWII home front experience in Albury-Wodonga, from the perspective of long-term local residents and transient enlisted personnel. These border towns were of strategic importance to the military, and the presence of the military was of significance for the local community, especially for local families who incorporated transient soldiers into their ranks through romance and marriage. Soldier-civilian romance and settlement in the early post-war period therefor provides a unique and as yet un-examined lens through which to understand the Army's ongoing status as a major stakeholder in the Albury-Wodonga district and other regional settings across Australia. The project will provide deeper understanding of the local impact of the armed forces and give opportunity to communicate the shared past to residents and current service personal, enhancing understanding of the local importance of the armed forces, boosting engagement with history and support for the local GLAM sector. The project can also contribute the military education of military members by shaping understanding of to the Army's impact on garrison communities.

Objectives:

The project will provide deeper understanding of the local impact of the armed forces and give opportunity to communicate the shared past to residents and current service personal, enhancing understanding of the local importance of the armed forces, boosting engagement with history. The project can also contribute the military education of military members by shaping understanding of to the Army's impact on garrison communities.

Methods:

- Assisting the researcher to identifying primary source quotes that connect to themes identified by the researcher in the letters
- Transcribing additional selected letters
- Preparing a literature review in relevant historical fields
- Possibly accompanying the researcher to conduct oral history interviews and transcribing the interviews

Project 2

Investigating the onset of liver cancer in vitamin A signalling deficient mice

Academic Supervisor(s): Dr Cathryn Hogarth

Discipline Area: Biomedical Science

Project Overview:

Vitamin A is essential for many different cellular processes in the human body. Inhibition of vitamin A activity causes significant defects in normal development and function, including embryonic errors, deregulation of immune function, impacts on metabolism, and blocking reproduction. However, the effect of blocking vitamin A activity on disease processes is less understood. It is especially difficult to study the effects of inhibiting vitamin A activity following birth given that vitamin A is essential for fetal development. Vitamin A is usually sourced via the diet and can be stored for very long periods by the liver. This makes creating vitamin A deficient animals a time-consuming and expensive process. As a result, genetic modification technology has become the preferred technique for investigating how vitamin A affects cell function following birth.

My laboratory has very recently observed that preventing vitamin A signalling within the liver using a genetically modified mouse line results in these animals' developing signs of hepatocellular cancer, or cancerous changes in their liver cells. These cancerous changes are also being detected very early in life, by approximately 28 days of age, so unusually fast for this type of cancer. Changes to vitamin A metabolism have previously been thought to have anti-cancer effects and drugs containing chemicals with structures similar to Vitamin A, i.e. retinoids, have been tested as chemotherapies, indicating that further investigation of vitamin A regulation of cancer is warranted.

Project Objective:

Assess the early protein and genetic changes in liver cells in mice with a genetic modification that prevents vitamin A activity.

Methods:

Analysis of genetically modified mouse liver tissue, RNA extraction, quantitative RT-PCR analysis for effect on the expression of genes associated with cancer. Livers from genetically modified mice will also be analysed by immunohistochemistry and ELIZA for expression of proteins known to cause cancer.

Project 3

Ecology and health of turtles in arid Murray-Darling basin

Academic Supervisor(s): Associate Professor James Van Dyke

Discipline Area: Ecology and Evolutionary Biology

Project Overview:

We have two overlapping major projects planned for this year, which aim to broadly assess the health and ecology of freshwater turtles in the Murray-Darling Basin. First, we are surveying turtle populations across much of western NSW, including the Lachlan and Darling Rivers, and artificial wetlands near Griffith and Broken Hill. Student projects here would focus on comparing turtle abundance, body size, and habitat use across a range of locations.

At the same time, we will be sampling turtle claws from the same areas, as well as additional sites in Victoria, to determine what the rate of heavy metal accumulation is in turtles. Turtles are important consumers in freshwater systems, and as a group they eat just about everything present in a river, from small invertebrates and algae up to carrion from kangaroos that falls in the water. This means they are at risk of ingesting a range of potential contaminants, and they are particularly susceptible to accumulating metals like Mercury. This project will sample turtle claws (which are excellent indicators) to see if there are hotspots of heavy metal accumulation in turtles from different locations. Given their biology, turtles are excellent indicators for pollution in those hotspot areas.

Objectives:

- Assess turtle abundance, habitat, and health in a range of areas in western NSW, where they are poorly studied
- Identify hotspots of heavy metal contamination in turtle populations.

Methods:

Most of the project would involve fieldwork trips of 1-2 weeks at a time, where traps would be used to capture turtles, measure and sample them, and release them. Claw samples would also be taken, and these will be brought back to the lab in Wodonga for chemical analyses. Joss project students would be invited to select which focus they would like to engage with, whether more field-based, or more lab-based.

Project 4

Comparing Youth Acute Inpatient Mental-Health Need and Service Access Across Metropolitan and Regional Victoria

Academic Supervisor(s): Associate Professor Corina Modderman and Adjunct Associate Professor Heather Downey

Discipline Area: Social Work

Project Overview:

Young people in regional and remote communities can experience higher rates of suicide and intentional self-harm hospitalisation than those living in major cities. National data indicate that rates generally increase with remoteness and that adolescents and young adults experience particularly high rates of intentional self-harm hospitalisation (AIHW, 2021; 2025). Despite this level of need, dedicated acute inpatient mental-health services for children and adolescents aged 12–17 years are concentrated in metropolitan Melbourne.

This raises an important question about whether the geographical distribution of services reflects the geographical distribution of need. Young people who cannot be safely treated at a lower level of care may require acute inpatient treatment. Where an age-appropriate local unit is unavailable, the project will investigate the extent to which regional pathways rely on emergency departments, adult inpatient units, transfers to metropolitan services or other alternatives.

There is currently no consolidated Victorian comparison bringing together regional youth mental-health need, acute inpatient service capacity and geographical access. The Australian Youth Self-Harm Atlas demonstrates substantial geographical variation in youth suicidality and self-harm and emphasises that detailed regional data are important for service planning. It also notes that administrative datasets often fail to distinguish between different forms of self-harm and suicidality, supporting the need to draw on multiple sources of evidence (AIHW, n.d).

This project will compare indicators of youth acute mental-health need with the geographical distribution and accessibility of youth acute inpatient services in Victoria. The Hume region will be examined as a

regional case study and compared with selected metropolitan Melbourne catchments (Metropolitan comparison areas will be selected based on youth population size, socioeconomic characteristics, available data and alignment with defined mental-health service catchments).

The project will assess whether service availability is proportionate to need, identify gaps in available evidence and determine what additional data are required to evaluate geographical inequity in access to youth acute inpatient care.

Intended Audience:

The proposed research will be intended for decision-makers and stakeholders responsible for the planning, funding, delivery and oversight of youth mental health services in Victoria. This will include Victorian Government ministers and elected representatives, relevant government departments, public health services, mental health commissions, independent inquiry and oversight bodies, clinicians, service planners and youth mental health organisations. The findings may inform future policy, funding and service-planning decisions relating to equitable access to age-appropriate acute inpatient mental health care for young people across metropolitan and regional Victoria.

Objectives:

The project aims to:

- Compare indicators of youth acute mental-health need in regional Hume and selected metropolitan Melbourne catchments.
- Map the location, capacity, eligibility criteria and catchments of youth acute inpatient services.
- Compare access to age-appropriate inpatient care across metropolitan and regional settings.
- Examine indicators of unmet need, including emergency department stays, adult-unit admissions, transfers away from home and discharges home.
- Identify gaps and inconsistencies in available service-use data.
- Assess whether the current distribution of services reflects geographical equity and need.

Methods:

The project will involve:

- Reviewing academic literature, government reports, policy documents and published lived-experience evidence.
- Mapping youth acute inpatient services and referral pathways across Victoria.
- Comparing publicly available data on suicide, self-harm, emergency presentations, youth population and service availability.
- Comparing the Hume region with selected metropolitan Melbourne catchments.
- Develop and, where feasible, submit targeted data-access or Freedom of Information requests for information that is not publicly available.
- Preparing a report identifying patterns of need, service distribution, access inequities and priorities for further research, data collection and service planning.

Reference list:

Australian Institute of Health and Welfare. (n.d.). *Australian Youth Self-Harm Atlas: Suicidality and self-harm among young people by region*. Retrieved July 21, 2026, from https://www.aihw.gov.au/suicide-self-harm-monitoring/population-groups/young-people/youth-self-harm-atlas

Australian Institute of Health and Welfare. (2021). Australia's youth: Mental illness. In *Australian Institute of Health and Welfare*. Australian Government. https://www.aihw.gov.au/reports/children-youth/mental-illness

Australian Institute of Health and Welfare. (2025). Suicide and intentional self-harm hospitalisations among regional and remote communities. In *Aihw.gov.au*. https://www.aihw.gov.au/suicide-self-harm-monitoring/population-groups/regional-remote-communities

Project 5

Building a Regional Eating Disorders System of Care

Academic Supervisor(s): Dr Rachael Cronin, Dr Hugh Bidstrup & Chloe Vinnicombe

Discipline Area: Psychology

Project Overview

Eating disorders are serious psychological disorders associated with substantial mental and physical health complications, impaired functioning and reduced quality of life. Although effective treatments are available, access remains uneven, particularly for people living in rural and regional communities. Rural populations may experience limited specialist services, workforce shortages, long travel distances, fragmented referral pathways and reduced continuity of care. However, relatively little research has examined how these challenges interact or how regional systems of eating disorder care could be strengthened.

This project forms part of program of research that aims to build the evidence needed to improve eating disorder care in rural and regional communities. The program includes: (1) a scoping review mapping the existing evidence on rural eating disorders and care; (2) a qualitative study exploring the perspectives of consumers, carers, clinicians and service providers; and (3) establishment of a rural eating disorder advisory group to ensure that the research is informed by lived experience, clinical expertise and regional knowledge.

The Joss Family Scholarship student will contribute across these interconnected activities. Depending on project timing, they may assist with literature screening and data extraction, qualitative data preparation and analysis, recruitment and communication, and the establishment and coordination of the advisory group. Through these activities, the student will gain practical experience across several stages of the research process and learn how evidence, lived experience and stakeholder expertise can be integrated to address a complex health-system problem. The student will join the Body Image, Eating and Weight Clinical Research Team (BEWT; www.bewtresearch.com.au) and participate in relevant research meetings and broader team activities.

This opportunity would be particularly suited to a psychology student interested in clinical research, rural mental health, health equity, qualitative methods or research translation.

Objectives

- To provide an undergraduate psychology student with meaningful experience across multiple stages of collaborative, applied research.
- To map and synthesise existing research concerning eating disorders and eating disorder care in rural and regional communities.
- To contribute to research examining the experiences and priorities of rural consumers, carers, clinicians and service providers.
- To support the development of a rural eating disorder advisory group that can guide the broader program of research.

The Joss Family Scholarship student will:

- Assist with title and abstract screening, full-text review, data extraction and evidence mapping for the scoping review.
- Support recruitment, interview preparation, data management, coding and preliminary thematic analysis, as appropriate to the project stage.
- Assist with identifying and engaging potential advisory group members and preparing accessible meeting materials.

- Attend relevant BEWT meetings and participate in wider team activities.

Significance

Rural and regional communities face substantial inequities in access to timely, evidence-based eating disorder care, yet the evidence needed to design responsive regional systems remains limited and fragmented. By integrating published evidence with the perspectives of consumers, carers, clinicians and service providers, this project will identify service gaps, regional strengths and priorities for system improvement. Establishing an advisory group will also ensure that subsequent research remains grounded in the realities of rural communities. The scholarship will support a coordinated program with strong potential to inform service development, future research and policy, while giving an undergraduate student hands-on experience in evidence synthesis, qualitative research, stakeholder engagement and collaborative research practice.

References:

Fairburn, C. G., & Cooper, Z. (2011). *Stepped care for eating disorders: A rational and realistic approach to service provision. International Journal of Eating Disorders*, 44(4), 301–307.

Hamilton, A., Mitchison, D., Basten, C., Byrne, S., Goldstein, M., Hay, P., ... & Touyz, S. (2022). Understanding treatment delay: perceived barriers preventing treatment-seeking for eating disorders. *Australian & New Zealand Journal of Psychiatry*, 56(3), 248-259.

Hart, L. M., Granillo, M. T., Jorm, A. F., & Paxton, S. J. (2011). Unmet need for treatment in the eating disorders: a systematic review of eating disorder specific treatment seeking among community cases. *Clinical psychology review*, 31(5), 727-735.

Hay, P., Mitchison, D., Collado, A. E. L., González-Chica, D. A., Stocks, N., & Touyz, S. (2017). Burden and health-related quality of life of eating disorders, including binge eating disorder, in the Australian population. *Journal of Eating Disorders*, 5(1), 21.

Stein, K. F., Wing, J., Lewis, A., & Raghunathan, T. (2011). An eating disorder randomized clinical trial and attrition: profiles and determinants of dropout. *International Journal of Eating Disorders*, 44(4), 356-368.

Project 6

Comprehensive Assessment and Tailored Treatment for Eating Disorders in a Regional Context

Academic Supervisor(s): Dr Rachael Cronin, Dr Hugh Bidstrup & Chloe Vinnicombe

Discipline Area: Psychology

Project Overview

Eating disorders are complex psychological disorders associated with significant mental and physical health complications, functional impairment and reduced quality of life. Although evidence-based treatments are available, treatment response varies considerably between individuals. Improving outcomes requires better ways of assessing each person's needs, monitoring their progress and tailoring intervention when initial treatment is insufficient.

The Australian Eating Disorders Research and Translation Centre (AEDRTC) Signature Studies are evaluating approaches to comprehensive assessment and personalised eating disorder treatment. At the Wodonga site, this work also provides an important opportunity to ensure that major eating disorder research includes participants from rural and regional communities. Regional research sites can improve access to research participation, generate evidence relevant to regional care and build local clinical research capacity.

The Joss Family Scholarship student activities may include promoting the studies, responding to expressions of interest, assisting with recruitment and screening processes, entering and checking research data, maintaining study records, and supporting participant follow-up and research administration. All participant-related activities will be undertaken within approved protocols, with appropriate training and supervision. The student will join the Body Image, Eating and Weight Clinical Research Team (BEWT), attend relevant research meetings and participate in broader team activities. They will gain direct exposure to the conduct of a large, collaborative clinical research program and learn how rigorous research is translated into more personalised care.

This opportunity would be particularly suited to a psychology student interested in clinical psychology, eating disorders, psychological assessment, intervention research and rural mental health.

Objectives

- To provide an undergraduate psychology student with supervised experience in the practical conduct of collaborative clinical research.
- To support effective recruitment, screening, data collection and participant follow-up at the Wodonga site of the AEDRTC Signature Studies.
- To assist in maintaining a complete, accurate and high-quality research dataset.
- To strengthen the inclusion of rural and regional participants in eating disorder research.

Methods

The Joss Family Scholarship student will:

- Assist with study promotion, participant recruitment and management of expressions of interest.
- Support initial screening and enrolment processes in accordance with approved study protocols.
- Assist with participant communication, appointment coordination and follow-up.
- Complete data entry, data checking and routine quality-assurance activities.
- Maintain accurate study documentation and assist with general research administration.
- Attend relevant BEWT and Signature Study meetings and participate in wider team activities.

Significance

People living in rural and regional communities are frequently underrepresented in clinical research, limiting both their access to research opportunities and the relevance of resulting evidence to regional settings. Supporting the Wodonga site will help ensure that regional participants are included in nationally significant research examining comprehensive assessment and tailored eating disorder intervention. Accurate recruitment, follow-up and data management are essential to the integrity and impact of these studies. The scholarship will therefore contribute directly to research that could improve the precision, effectiveness and accessibility of eating disorder care, while providing an undergraduate student with a valuable introduction to clinical research, multidisciplinary collaboration and research career pathways.

References:

Fairburn, C. G., & Cooper, Z. (2011). *Stepped care for eating disorders: A rational and realistic approach to service provision. International Journal of Eating Disorders*, 44(4), 301–307.

Hamilton, A., Mitchison, D., Basten, C., Byrne, S., Goldstein, M., Hay, P., ... & Touyz, S. (2022). Understanding treatment delay: perceived barriers preventing treatment-seeking for eating disorders. *Australian & New Zealand Journal of Psychiatry*, 56(3), 248-259.

Hart, L. M., Granillo, M. T., Jorm, A. F., & Paxton, S. J. (2011). Unmet need for treatment in the eating disorders: a systematic review of eating disorder specific treatment seeking among community cases. *Clinical psychology review*, 31(5), 727-735.

Hay, P., Mitchison, D., Collado, A. E. L., González-Chica, D. A., Stocks, N., & Touyz, S. (2017). Burden and health-related quality of life of eating disorders, including binge eating disorder, in the Australian population. *Journal of Eating Disorders*, 5(1), 21.

Stein, K. F., Wing, J., Lewis, A., & Raghunathan, T. (2011). An eating disorder randomized clinical trial and attrition: profiles and determinants of dropout. *International Journal of Eating Disorders*, 44(4), 356-368.

Project 7

Measurement of neutral-sugars and amino-sugars in freshwaters

Academic Supervisor(s): Professor Ewen Silvester, Dr Aleicia Holland and Dr Caitlin Gionfriddo

Discipline Area: Biogeochemistry / analytical chemistry

Project Overview

Dissolved organic matter (DOM) is present in all aquatic ecosystems globally, formed through the biogeochemical processing of natural organic material during transit from headwaters to receiving marine waters [1]. DOM plays an important role in aquatic ecosystems through effects on: light penetration, regulation of nutrient availability, control over the bioavailability of contaminants as well as serving as an energy source and/or a direct source of biomolecules. Over the past several decades, the biogeochemical community have developed a range of DOM characterisation methods that seek to describe key attributes of DOM, including its bioavailability. These techniques range from relatively simple optical (UV-visible) and fluorescence metrics, through a range of chemical spectroscopies (NMR, FTIR), size-based separations as well as targeted and untargeted mass spectrometry. Targeted mass spectrometry using tandem liquid chromatography coupled with triple-quad mass spectrometry (i.e., LC-MS/MS) is particularly informative, allowing quantification of specific molecular groups, including: amino acids (AAs), organic acids (OAs) and sugars. Our laboratory has developed unique sample analysis workflows for the quantification of AAs and OAs in natural waters and we are keen to extend this capability to the measurement of neutral- and amino-sugars. This enhanced capability will provide us with the capacity of characterising all major bioavailable molecular groups in DOM which we will then employ in our ecological and ecotoxicological studies. The skills developed in this project are directly transferable to a range of fields, including biotechnology and biomedical research.

Objectives

The objectives of this project are to adapt a recently developed protocol for the measurement of neutral sugars and amino sugars in biological materials [2] to the analysis of these same sugar compounds in water samples.

Experimental Methods

We will use solutions/suspensions of reference carbohydrate materials (e.g., cellulose, glucosamine, peptidoglycan), at concentrations similar to that observed in natural waters, to develop the analytical workflow (i.e., hydrolysis, derivatisation, analysis). The focus of the work will be the optimisation of the chromatographic separation and detection using the LC-MS/MS technique, with the objective of developing calibration ranges, limits of quantification (LoQ) and determining recoveries of target analytes.

References:

Kamjunke, N., et al., *Longitudinal dynamics and transformation of riverine dissolved organic matter from source to sea.* Water Research, 2025: p. 124613.

Salas, E., et al., *A rapid and sensitive assay to quantify amino sugars, neutral sugars and uronic acid necromass biomarkers using pre-column derivatization, ultra-high-performance liquid chromatography and high-resolution mass spectrometry.* Soil Biology and Biochemistry, 2023. **177**: p. 108927.

Hay, P., Mitchison, D., Collado, A. E. L., González-Chica, D. A., Stocks, N., & Touyz, S. (2017). Burden and health-related quality of life of eating disorders, including binge eating disorder, in the Australian population. *Journal of Eating Disorders*, 5(1), 21.

Stein, K. F., Wing, J., Lewis, A., & Raghunathan, T. (2011). An eating disorder randomized clinical trial and attrition: profiles and determinants of dropout. *International Journal of Eating Disorders*, 44(4), 356