



Charles Sturt
University

Gulbali Institute
Agriculture Water Environment

Gulbali PhD scholarship prospectus 2025

Challenge Project: Shared Water
Landscapes

Charles Sturt University

Who we are

Charles Sturt University is Australia's leading regional university – with a global perspective.

Our history of innovation and educational empowerment reaches back as far as 1895 with the establishment of the Bathurst Experimental Farm. That was the first step in connecting people, communities and industry to make a real difference. Professionally. Socially. Economically.

Formally incorporated in 1989, we are Australia's largest regional university. We have campuses across New South Wales, and teaching partnerships in Canberra, Goulburn and Wangaratta.

We also have diverse international partnerships and provide online education nationally and across the globe.

Our university is grounded in the qualities we draw from our regional roots – our sense of community, our will for hard work, and our resilience when times get tough. We have turned the challenge of connecting multiple campuses across hundreds of kilometres into an opportunity – to apply the lessons we have learned to connect students across Australia and the world.

Our student body – numbering some 43,500 – stretches from the banks of the Murrumbidgee River

to the oceans in Port Macquarie. And our alumni – 220,000 strong and counting – are applying their learning everywhere too, from the red centre and the white wilds of Antarctica, to the heart of the world's megacities.

And that's not just the case for our students. We have research and industry partnerships that reach across the nation and around the globe – sharing knowledge, driving change, fostering growth.

Yindyamarra winhanganha

It means the wisdom of respectfully knowing how to live well in a world worth living in. And it's what we strive for. Every day. How? By making connections.

Connecting our students with the knowledge and wisdom to shape the world and reach their potential.

Connecting our research to real-world issues.

Connecting new technologies with traditional wisdom to protect ecosystems and forge a more sustainable future.

And connecting people, industry and government to share ideas, build knowledge and find innovative solutions to today's – and tomorrow's – challenges.

Our vision

Our vision as Australia's leading regional university, is to advance the careers of our students, inspire research excellence and drive regional outcomes with global impact.

We seek to empower the leaders of tomorrow through innovative education and applied research, and we have a strong commitment to learning from and working with Australia's First Nations Peoples.

It's why we are committed to the transformative University Strategy 2030. It's our commitment to our communities. To our partners. To our students. To our regions. A long-term strategy deepens our relationships, enabling us to build a stronger tomorrow together.

| Students | Research | People | Social responsibility |
|---|---|--|---|
|  |  |  |  |
| We connect our students with the knowledge and wisdom to shape the world | We collaborate with our partners on research with impact | We are capable, inspired and empowered to deliver excellence | We engage regionally and globally to drive sustainable prosperity |

Studying in Australia

An experience like no other

At Charles Sturt, we're geographically gifted. We have five campuses across regional Australia in Albury-Wodonga, Bathurst, Wagga Wagga, Orange and Port Macquarie.

Our campuses are safe, close-knit communities. Your lectures, tutorials, practical workshops, cafés, gym and the all-important library, are just a short walk from one another.

Our PhD Supervisors have small student cohort sizes which means targeted and specialised tuition.

At Charles Sturt, we have a strong student community. You'll study alongside students from across the country and the world - 24% of our students are international students from 113 countries - making lifelong friends along the way.



Gulbali Institute

Agriculture, Water and Environmental Research

We acknowledge and pay respect to our Wiradjuri First Nations people by using their native language in the naming of this research institute.

“Gulbali ngurambang” is Wiradjuri which translates to “to understand country”. After consultation with First Nations people, we use this phrase respectfully as the name of our research institute.

The Gulbali Institute creates impactful integrated agriculture, water and environment research, grounded in Charles Sturt’s footprint across the Murray-Darling Basin, but with impact across Australia and globally.

We emphasize return on investment to increase productivity for farmers, improve natural environments, and reduce risk in agricultural and environmental management.

The Gulbali Institute will maintain Charles Sturt’s existing research program and its strong relationships, particularly with Research Development Corporations, key State and Commonwealth departments and agencies, and private industry to achieve outstanding outcomes.

The Institute will undertake multi- and interdisciplinary research and innovation, focusing on large scale programs in the field of:

- Biosecurity
- Agricultural Innovation,
- New Food and Beverages,
- Sustainable Aquatic Systems
- Cultural Connection and Environmental stewardship

Find out more

→ <https://www.csu.edu.au/research/gulbali>

The Gulbali PhD program

Details and rationale

The Gulbali PhD program is a range of prestigious scholarships for both domestic and international research candidates. In most cases, these scholarships are available to Australian or New Zealand citizens or Australian permanent residents. We are seeking highly talented researchers who are global thinkers, seeking to address grand challenges, which align with the key Gulbali research institute focal areas.

Selection Criteria

- a) Previous Academic Performance: This assessment considers the level of the applicant's highest, relevant, qualification in line with CSU entry requirements for PhD courses (See note** on Page 6).
- b) Research and/or Professional Experience: Evidence of an applicant's research achievements and relevant professional experience. This includes such aspects as peer-reviewed research outputs, high esteem academic awards and prizes, relevant research and/or professional experience.
- c) Research Alignment and Supervisor Capacity at Charles Sturt: Alignment with both CSU and/or industry strategic research priorities and strengths. This includes the strength of alignment with the Charles Sturt 2030 Research strategy: the supervisory capacity, FoR alignment with Coaldrake, and the expected impact and end user engagement of the proposed research.
- d) Degree of support from Gulbali projects, teams and/or supervisors.
- e) Research Question and proposed methodology.

Who is eligible?

- Prospective PhD students interested in joining Gulbali projects and/or teams and/or propose a project with a strategic link to the Gulbali institute mission/objectives
- High quality international and domestic students meeting minimum requirements for Charles Sturt University
- Students considering entry into a PhD program into session 2 2025.

How to apply?

Gulbali will run a two-stage EOI process which will be advertised on the Charles Sturt University scholarships page and through national media.

The first stage will require applicants to complete an online form and submit, along with a professional CV and transcripts.

Candidates will then be shortlisted and top applicants, and supervisors, will be invited to complete the Charles Sturt admissions process.

Closing date for EOIs is **8th February 2025**.

Shortlisting will take place in late February, with highly ranked students invited to submit enrolment applications by **2 March 2025**.

Key Details

Commencement:

Students must commence in session 2 **2025**.

Study load:

Only full-time applicants will be accepted for shortlisting.

Stipend:

This scholarship is valued at \$35,000 per annum, payable in fortnightly instalments. First Nations applicants will have a stipend valued at \$50,000 per annum.

Top Ups:

Various industry and university top ups of up to \$10,000 per year are available, by application, following acceptance of enrolment. The principal Supervisor will advise eligibility.

Tuition Fees:

Domestic candidates: Fee exemption for a period equivalent to four years (eight sessions) for PhD at full-time study.

International candidates: Fee exemption for a period equivalent to three years (six sessions) for PhD at full-time study.

Operating Funds:

Scholarship candidates are allocated an allowance to assist with the reimbursement of costs associated with a candidate's research. The annual amount reflects whether the project is linked to specific field or education codes, lab-based, non-lab based and/or First-Nations focused.

Selection:

A weighting system will be established to rank candidates. Shortlisting will take place by an expert committee of research active academics.

Visa:

International students will require a valid student visa and insurance to commence. Processing can take up to 4 months. Limited relocation funds (up to \$5,000) are available.

English language proficiency:

Shortlisted International students must upload evidence of English language proficiency, as part of the enrolment process, in line with any of the following minimum CSU standards:

1. Providing evidence of having completed a sufficient standard of study in English.
2. Having obtained an Academic IELTS (or equivalent) within the last 2 years with a minimum overall score of 6.5 and no individual score below 6.0
3. Written evidence of a degree that was conducted and examined solely in English.
4. Level 109 of the ELS examination with a score above B (reading and writing) and above P (speaking and listening) in the last 12 months
5. Applicants can request (in writing) that alternative evidence be considered. These are individually decided by the Pro Vice Chancellor (Research and Innovation).

Charles Sturt University Doctor of Philosophy entry requirements:

****Note on CSU Doctor of Philosophy entry eligibility:**

Applicants must have achieved at least one of the following:

- a. Qualified for the award of a master by research with an acceptable level of performance.
- b. Completed a bachelor degree followed by a one-year honours degree with class 1 or class 2(1) honours, specialising in the same discipline or a closely similar discipline.
- c. Gained class 1 or class 2(1) honours in a bachelor degree of at least four years full-time duration, specialising in the same discipline or a closely similar discipline.
- d. Commenced a masters by research at the University and shown exceptional ability in a research project that is clearly capable of being extended to a doctoral level.
- e. Qualified for the award of a coursework masters:
 - i. including a research component subject or research component subjects totalling at least 16 Charles Sturt University points, or equivalent; and
 - ii. normally with a grade average equivalent at class 2(1) honours or better.
- f. Completed another appropriate combination of undergraduate and postgraduate qualifications (such as relevant graduate diplomas) and research experience that demonstrates capacity for research at a doctoral level.

Critical dates

Dates are fixed and tied around the need to allow sufficient time for proposals, assessments, enrolment, screening, and (if applicable) visa applications.

The timeline below is targeting census date 2025 teaching session two.

- By 20th December 2024: Call of EOI's opens.
- By 8th February: EOI's due to be submitted to challenge program lead.
- By 28th February: Challenge program lead submits three preferred students to Gulbali.
- By Thu 2nd March: Gulbali Leadership team review recommended candidates.
- By Fri 3rd March. Challenge program lead makes verbal offer to students.
- By 15th March. CSU issues written offer and student accepts.
- By 31st March. Student submits Visa application (if applicable).
- By 8th August. Student commences in second session.

Challenge Project : Shared water landscapes

Preserving the ecological values of freshwater ecosystems in flow managed landscapes

Project Summary

Freshwater environments are under significant threat. Over 70% of freshwater turtles, 30% of freshwater fishes, and 70% of migratory waterbirds are threatened with extinction. The Murray-Darling Basin (MDB) is Australia's largest river system, supporting people from over 50 First Nations, Ramsar and other nationally significant wetland systems, and over 30 federally listed threatened and migratory species. It is also Australia's most significant agricultural area, growing over 40% of Australia agricultural produce. The protection of ecological values within shared water landscapes presents significant challenges. It demands holistic, integrated knowledge frameworks capable of conceptualising the diverse ways of knowing and understanding ecosystems, along with concurrent threats and opportunities.

The Gulbali Institute's Shared Water Landscapes Team is recognised as a leader in the protection of ecosystems and biodiversity in shared water landscapes. Working closely in partnerships with State and Commonwealth environmental water managers, First Nations people and Irrigation communities, the teams is focused on developing high impact on-ground solutions to critical environmental challenges. Our extensive research network will place you at the centre of efforts to protect threatened species, freshwater ecosystems and to promote social justice. The integrated nature of the program provides a high level of support and opens opportunities for career development and network building well beyond the Gulbali supervisor team.

Project outcomes and outputs

The pathway to real change from these three projects lies in integrating ecological health, species conservation, and community wellbeing into freshwater ecosystem management.

Research on environmental flows and community wellbeing will provide evidence that water allocations benefit not only ecosystems but also social and cultural wellbeing, particularly for First Nations communities, informing more inclusive water management policies.

The fish conservation seeks to develop actionable insights through predictive models, enabling targeted water interventions to promote species recovery and ecosystem health.

The applied acoustic ecology project will introduce innovative, scalable monitoring methods to continuously track ecosystem responses to water management, making interventions more adaptive and effective.

Together, these projects will promote a holistic approach to water management, integrating environmental, social, and cultural dimensions. They emphasise the importance of community engagement, especially with First Nations stakeholders, ensuring that policies are aligned with cultural values. This combination of scientific innovation, community involvement, and evidence-based policymaking fosters more sustainable, adaptable, and inclusive management strategies for freshwater ecosystems, leading to long-term biodiversity conservation and improved wellbeing that are applicable to water management challenges around the world.

PhD Project: 01

Research Question

Applied acoustic ecology to protect freshwater ecosystems.

Principal supervisor

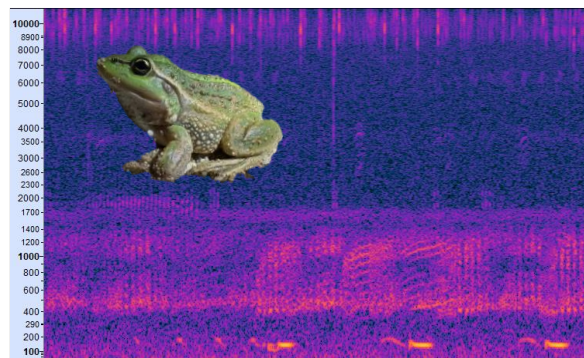
Skye Wassens

Faculty/institute

School of Animal, Environmental and Veterinary Sciences

Proposed campus

Albury/Wodonga



PhD project abstract

Wetland ecosystems are dynamic in space and time, yet our understanding of these dynamic systems is often limited to discrete survey events. The project employs novel approaches in acoustic monitoring to gain insights into biodiversity and ecosystem health, showcasing an advanced, interdisciplinary method to address environmental challenges. You will develop your skills in applied acoustic ecology, with the opportunity to build on existing datasets and undertake targeted field-based experiments to link vocalisations of indicator species to climate, the biophysical environment and hydrological regime. The project will represent a mix of field-based deployment and computer-based data analysis. Working closely with a dedicated field research team and Industry partners your work will directly support conservation of freshwater wetland ecosystems and threatened species.

Preferred candidate experience, skills and knowledge

Interest in acoustic ecology or conservation biology

Interest in developing skills in Acoustic ecology, statistical modelling, or machine learning metadata analysis

Ability to work with multidisciplinary teams, including ecologists, water managers, First Nations groups and other local stakeholders.

Campus location and place of work

Albury/Wodonga campus of Charles Sturt University. Study area Mid and lower Murrumbidgee floodplain, Southeastern Australia.

Direct enquiries to

Professor Skye Wassens – swassens@csu.edu.au or Dr Liz Znidersic eznidersic@csu.edu.au

PhD Project: 02

Research Question

Can environmental water prevent a fish extinction crisis?

Principal supervisor

Dr Gordon O'Brien

Faculty/institute

Gulbali Institute

Proposed campus

Albury/Wodonga



PhD project abstract

Australia's freshwater ecosystems are facing a crisis, with native species facing extinction, being impacted by habitat loss, environmental disruptions, and competition from invasive species. This project will focus on developing evidence-based risk frameworks to represent the middle and lower Murrumbidgee Basin ecosystems and their fish. The models will be used to determine environmental water needs and the socio-ecological consequences of alternative water resource management scenarios including, alternative water availability scenarios, non-flow stressor conditions such as barriers and climate-related ecological shocks. By employing adaptive, probabilistic modeling, the project aims to support the recovery of native fish populations. Ultimately, it seeks to provide recommendations for enhancing fish communities and promoting a healthy ecosystem in the Murrumbidgee River and floodplain.

Preferred candidate experience, skills and knowledge

Interest in fish ecology, freshwater ecology or conservation biology, field and office work.

Interest in developing statistical modelling skills such as Relative-Risk Modeling and Bayesian Networks.

Ability to work with multidisciplinary teams, including ecologists, water managers, First Nations groups and other local stakeholders.

Campus location and place of work

Albury/Wodonga campus of Charles Sturt University. Field work along the Mid and lower Murrumbidgee floodplain, South Eastern Australia.

Direct enquiries to

Dr Gordon O'Brien gordon.obrien@csu.edu.au

PhD Project: 03

Research Question

What is the role of environmental water in human wellbeing?

Principal Supervisor

Professor Troy Meston

Faculty/Institute

Gulbali Institute

Proposed campus

Albury/Wodonga



PhD project abstract

Water holds profound significance for First Nations peoples, intricately woven into identity, culture, and spirituality. The health of rivers, creeks, and wetlands is not just an environmental issue; it is central to the wellbeing of communities and Country. This PhD project invites a First Nations scholar to lead important social research on the cultural impacts of environmental water management, particularly focusing on the Murrumbidgee catchment. This research will explore how water management influence the physical, mental, social, cultural, and spiritual wellbeing of communities. It will focus on how access to water bodies, such as rivers and wetlands, is deeply connected to cultural traditions, community cohesion, and spiritual practices. Furthermore, it will consider how the degradation of these water bodies affects the holistic health of communities and Country. Central to this research is the understanding of the interwoven ecological and social values tied to water. First Nations perspectives on water management and environmental flows will be prioritised, recognising the spiritual role that water plays in nurturing Country and sustaining community life. The project aims to elevate the voices and views of First Nations people, ensuring that cultural knowledge and practices are integrated into water management decisions that shape both the environment and community wellbeing.

Preferred candidate experience, skills and knowledge

This a First Nations identified opportunity

The project approach will be guided by the specific interests of the selected student and could emphasise any combination of a number of experiences/skills/knowledges

Interest in developing qualitative and quantitative research skills, participatory approaches and collaborative methodologies and policy analysis

Cultural knowledge and competence in engaging Australian First Nations communities, and Indigenous methodologies.

Campus location and place of work

Based at the Albury campus of Charles Sturt University, with field work in the Murrumbidgee catchment (in districts including Balranald, Hay, Narrandera, Jerilderie). Flexible arrangements negotiable.

Direct Enquiries to:

Professor Troy Meston tmeston@csu.edu.au