WESTERN SYDNEY
UNIVERSITY

POSITION DESCRIPTION

Position Title:	**Research Fellow – Data Analytics and Participatory Groundwater Management (MARVI)**
Position Number(s):	New Position
Classification:	Academic Level A (TBC)
Supervisor:	Director - Australia India Water Centre
School/Office:	School of Science
Division:	Faculty of Engineering, Computing and Science

ABOUT WESTERN SYDNEY UNIVERSITY

Western Sydney University is a modern, forward-thinking, research-led university in the heart of Australia's fastest-growing, economically significant region. The University has 11 campuses in Sydney, as well as campuses in Ho Chi Minh City, Vietnam, and Surabaya, Indonesia. Two campuses are planned in India. The University has over 200,000 alumni, almost 50,000 students and approximately 3,500 staff. In 2022 and 2023, the University was placed 1st worldwide and in Australia for its commitment to the United Nations' Sustainable Development Goals in the Times Higher Education (THE) University Impact Rankings.

The Australia India Water Centre (AIWC), hosted by the School of Science, is a leading research and education hub dedicated to addressing critical water challenges facing Australia and India. Through collaborative research projects, innovative education programs, and strong partnerships with government, industry, and communities, the AIWC fosters transdisciplinary approaches to sustainable water management. The Centre plays a vital role in developing and sharing knowledge, building capacity, and informing policy to ensure water security for present and future generations in Australia and India.

Our Strategic Plan stipulates that, starting in Western Sydney, our students will succeed, our research will have impact and our communities will thrive through our commitment to excellence, sustainability, equity, transformation and connectedness.

The mission is driven by four strong values:

1. Boldness
2. Integrity
3. Fairness
4. Excellence

ABOUT THE SCHOOL

The School of Science is a large and comprehensive school with learning, teaching and research excellence encompassing a wide range of biological, chemical, environmental, food, forensic, medical, nutritional and physical sciences, including agriculture and astronomy.

The School is educating tomorrow's graduates in an environment that is contemporary, challenging, and adaptive to a rapidly evolving world. It offers a range of bachelor, master, and doctoral degrees using the excellent teaching, laboratory, and fieldwork facilities at the Campbelltown, Hawkesbury, Parramatta, and Penrith campuses and online activities.

The School's research-led teaching is supported by state-of-the-art educational technologies. Its researchers make major contributions to the University's high ERA (Excellence in Research for

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ABOUT THE SCHOOL

Australia) rankings and collaborate with other schools, University Research Institutes, and external partners in Australia and overseas. The School's bachelor's degrees include a wide range of majors, minors, interdisciplinary offerings and elective subjects, with access through pathways programs and opportunities for further study in Master of Research, PhD and coursework masters degrees in Science and Forensic Science Work-integrated learning prepares graduates to flourish and succeed in society and the rapidly evolving world of work, both in Australia and internationally.

The School's vision is to be recognised as one of Australia's engaged research leaders, producing high-quality and high-impact research outcomes with local and international collaborators. With a large and growing body of graduates, the School aims to continue building its partnerships in Western Sydney, engaging with schools and other educational providers, industries, community organisations, and Local, State and Commonwealth Government partners. Through its educational, research and engagement activities the School supports the University's role as an advocate and champion for Greater Western Sydney and its people.

POSITION PURPOSE

The Research Fellow will play a pivotal role in supporting the next phase of the MARVI (Managing Aquifer Recharge and Sustaining Groundwater Use through Village-level Intervention) project, which aims to promote participatory groundwater management through community engagement, data-informed decision-making, and applied research. The position is designed to build on a decade of work conducted in rural India and to consolidate findings into high-impact outputs for national and international policy and practice.

The primary focus of this role is on groundwater data analysis, dashboard and app development, use of advanced tools such as AI, and academic publishing, with an emphasis on real-world applications. The successful candidate will work on data analytics for groundwater and socio-economic datasets collected through participatory methods by Bhujal Jaankaars (local citizen scientists) and other stakeholders from past MARVI phases. They will help design and operationalise a live MARVI Dashboard that integrates real-time well monitoring data via the MyWell platform and serves as a decision support tool for local communities and policy agencies.

The role requires a strong understanding of the application of data analytics in groundwater systems, including hydrological processes, recharge dynamics, well monitoring methods, and community-level groundwater sharing practices, or a demonstrated ability to acquire this domain knowledge rapidly. The appointee must be ready to engage with the data and research objectives from day one and contribute substantively to journal papers, technical briefs, and stakeholder reports.

Given the community-centric nature of MARVI, experience in working within developing country contexts, especially in groundwater-stressed rural regions, will be highly valued. The role is ideal for a highly motivated researcher/data analyst/dashboard and app developer with a demonstrated track record to apply their expertise to support participatory water governance, sustainable aquifer management, and local empowerment through science.

KEY RELATIONSHIPS

This position reports to the Director of Australia India Water Centre.

This position has no supervisory responsibilities.

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KEY RELATIONSHIPS

Success in the role will be dependent on developing and maintaining positive relationships with:

1. Director, Australia India Water Centre (AIWC) and Centre Manager AIWC
2. Academic Colleagues in the discipline group, School and University
3. Professional and support colleagues within the School and wider University
4. Casual Academic staff
5. Research Services and Graduate Research School

MAIN DUTIES AND RESPONSIBILITIES

1. **Key Tasks**
   - Analyse historical and current datasets related to groundwater levels, rainfall, well yields, cropping patterns, and water usage from MARVI pilot sites, with a focus on supporting dashboards and digital decision tools.
   - Lead the design, implementation and ongoing refinement of the MARVI Dashboard, integrating advanced digital tools, such as AI, real-time groundwater monitoring data from MyWell.
   - Conduct assessments of aquifer recharge, groundwater use patterns, and socio-ecological linkages.
   - Collaborate with developers and end users to ensure dashboard usability and accuracy. Draft and co-author peer-reviewed journal articles, technical briefs, and stakeholder reports.
   - Engage with Bhujal Jaankaars, Village Groundwater Cooperatives, and MARVI partners to interpret findings.
   - Participate in meetings, workshops, and stakeholder dialogues to present findings.
   - Maintain documentation of data workflows, analysis, and engagement processes.

2. **External Engagement:**
   - Assist in building and maintaining strong relationships with industry partners, government agencies, and community organisations involved in water management in Australia and India.
   - Actively collaborate with MARVI partners in India and Australia to support the key tasks of this position.
   - Engage with farming communities to understand their water management needs and co-develop sustainable solutions.
   - Contribute to policy discussions and knowledge dissemination activities related to the MARVI work.
   - Assist in liaising with relevant government agencies to ensure research findings inform policy and practice.

QUALIFICATIONS, EXPERIENCE AND SKILLS

- A postgraduate degree (or equivalent) in groundwater hydrology, water resources management, data analytics, digital tool development or related field.
- Demonstrated experience in developing dashboards and apps and analysing natural resources data using quantitative tools.
- Demonstrated ability to contribute to peer-reviewed journal publications and high-quality technical or applied outputs.
- Ability to independently lead applied research, data analytics, or digital system components related to groundwater management..

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QUALIFICATIONS, EXPERIENCE AND SKILLS

- Strong scientific writing, data visualisation, and communication skills.
- Ability to work in transdisciplinary and cross-cultural teams.
- Experience with statistical software, GIS tools, or dashboards for data analysis.

Desirable:

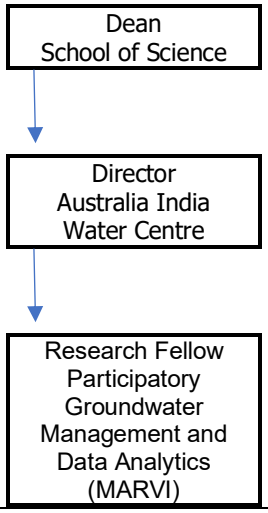
- Familiarity with the MARVI project or similar participatory initiatives.
- Experience in contributing to the development or deployment of digital platforms, decision-support tools, or environmental monitoring apps.
- Experience working in developing country contexts, especially in South Asia.
- Knowledge of aquifer recharge and community-based water management.
- Experience in stakeholder engagement in rural water governance.

UNIVERSITY EXPECTATIONS

Ensure you are aware of and comply with legislation and University policies and procedures relevant to the duties undertaken including, but not limited to:

- Code of Conduct;
- Work Health and Safety and Wellbeing Management System;
- Western Sydney University Academic Staff Agreement 2022;
- Anti-Discrimination principles, Equal Employment Opportunity and staff and student equity.

ORGANISATIONAL CHART



Position Description approved by:	Pro Vice-Chancellor (Research & Innovation)
Date:	07.01.2026
Position Description last reviewed by:	
Date:	