



UNSW
SYDNEY



Nature-Based Water Management: Treatment, Reuse and Planning

Helping to create water resilient and efficient food production by optimising sustainable water consumption, reusing rain and waste water, treating agricultural runoff and waste, and water resource planning.

Competitive advantage

- Working at the intersection of plant science and water engineering; developing and applying low-cost and low-energy nature-based water treatment solutions
- Technologies that are easily implemented into food precincts, increasing water reliability while also promoting no-energy cooling and social amenity
- Creating water solutions for urban food production, including smart horizontal and vertical irrigation, water recycling and risk management

Impact

- Low-cost, low-maintenance water treatment solutions that are nature based and custom designed for specific water-reuse needs
- Production of plans to optimise water resources
- The design of water-wise food precincts

Successful applications

- Research commercialised into the industry-leading Biofiltration adoption guideline, contributing to the mainstreaming of technologies in Australia
- Large number of nature-based water treatment systems constructed and monitored across Australia (with industry and government)
- Tools for catchment-wide water management planning (UrbanBEATS), suitability mapping (SSANTO), and urban flood rapid evaluation (CA-ffe)

Capabilities and facilities

- State-of-the-art passive water treatment technology design, including smart monitoring, risk assessment, and socio-technical modelling
- Research greenhouse facility for developing and testing plant-based technologies
- Water chemistry and safety analysis facilities

Our partners

- Melbourne Water
- EPA Victoria

More Information

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- Jiangsu Industrial Technology Research Institute, China