

AQUEST Aquatic Environmental Stress research group - 2021 Update



Dr Claudette Kellar, Monica Tewman and Dr Kathryn Hassell attending Oz Water 2021 in March.

Who would have thought that we'd have two years in a row like these ones! We're all getting so good at working from home and attending conferences virtually, rushing into the lab and office at the first opportunity! Although a few of us did manage the trip to OzWater2021 in Adelaide, manning a booth.

Our laboratory technical team really shined with Hung Vu, Milanga Walpitagama, Rebecca Reid, and James Oliver receiving the RMIT STEM College Team Award! Keeping our ecotoxicology labs maintained, running toxicity tests & preparing over 700 passive samplers for deployment as we moved in and out of lockdowns! Well done!





We were so proud to be hosting the SETAC AU, aptly named Resilience and Recovery Amidst Global Environmental Change this year and got so close to it being in person!

Lead by Kath Hassell and Vin Pettigrove with a host of AQUEST members on the organising committee, thanks to ASN Events and Anabelle- a fantastic result with record numbers of attendees, high satisfaction rates and much interest in our art spin off.

As a part of our partnership with Melbourne Water (A3P) we've been presenting on our research that directly feeds into the Healthy Waterways Strategy and will continue to influence the direction of this strategy as the mid-term review unfolds in 2022. The forum was split over 4 weeks with AQUEST researchers presenting seven talks across pollutants of concern, new methods for detecting and Page | 1 quantifying impact, protecting areas of biodiversity, alternative practices for vegetation management, improving methods for monitoring and managing litter and looking at the major pollution issues for the bays. These will be available in the new year on the Melbourne Water Healthy Waterways Strategy site and on our You Tube channel.



Prof Vin Pettigrove presenting virtually on pollutions of concern

Dr. Claudette Kellar as part of our involvement with the long running Enhancing Our Dandenong Creek Project has been leading educational sessions in local schools talking about pollution prevention. See https://fb.watch/cjcOMgP4XQ/



Dr Claudette Kellar presenting to a school group on the banks of Dandenong Creek

Congratulations to several of our students who completed their studies with us, Ashley Clifford completed his Honours Project on Impacts of pesticides on Victorian frogs, attaining a HD and various Master of Biotechnology students undertook literature reviews and lab projects on pesticides, monitoring with macrophytes, the relationship between algae and macroinvertebrates and the impacts of pollution.



The Aquatic Environmental Stress Research Group identifies and addresses the ecological impacts of pollution in aquatic environments.



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Student in our lab

While Pulasthi Serasinghe who's study focusses on the identification and detection of emerging pesticides of concern to aquatic ecosystems and Tanya Paige, whose work is in analytical and environmental chemistry involving the qualification and quantification of emerging organic contaminants, such as personal care products and PFAS, have both converted their Masters projects to PhDs.



Pulasthi Serasinghe collecting samples at a wetland

Madara Ranatunga continues to look at how bifenthrin (a synthetic pyrethroid insecticide) is affecting local urban water bodies and their fauna, including Growling Grass Frogs and Dwarf Galaxias.

And we've have had many PhD commencements including:

- Ayman Abuameen looking at the efficiency of wetlands in reducing micro and macro plastic pollution,
- Viharika Gudavalli impacts of anthropogenic activities on Paratya australiensis,
- Emily Nguyen focusing on the impacts of an emerging pesticide of concern on the ecological health of instream invertebrates, and
- Haseena Bhullar investigating the various types of litter that endanger Victorian platypus populations.

Some recent and upcoming publications from the group include Book chapters in:

- Applied Environmental Metabolomics, by Dr. Sara Long https://www.elsevier.com/books/applied-environmental-metabolomics/beale/978-0-12-816460-0 and
- The Welfare of Fish https://doi.org/10.1007/978-3-
 Page | 2
 030-41675-1_20 by Dr Katherine Hassell, plus

Dayanthi Nugegoda editing Environmental Pollution.

Conference Proceedings:

 Dr Jackie Myers presented at 10ASM on stream frontage management monitoring on the Campaspe River: Myers, J.H., Kellar, C., Ahmed, W. and Pettigrove V (2021) Long-term monitoring to assess the benefits of stream frontage management to ecological condition of the Campaspe River, Victoria Australia. Proceedings of the 10th Australian Stream Management Conference 2021, Kingscliff, NSW

And papers:

- using the snail, Potamopyrgus antipodarum, as an ideal indicator for detecting pollution from different land uses https://doi.org/10.1016/j.envpol.2021.117563 and
- Work with Real-time ecotoxicological testing for mussels https://doi.org/10.1016/j.scitotenv.2021.150567 and bioaccumulation of toxicants in mussels https://authors.elsevier.com/c/1eBT37tGO~GTAjplus

See our Publications page for a full list http:rmit.edu.au/aquest/publications



Gina Mondschein setting yabby traps in the Goulburn River.

Great team work all! Wishing everyone a well earnt break and see you all in the new year!

