

ENDPOINT

Newsletter

**A publication of the Australasian chapter of the
Society of Environmental Toxicology and Chemistry**

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From the editor

Darren Koppel (darren.koppel@curtin.edu.au)
Communications Officer



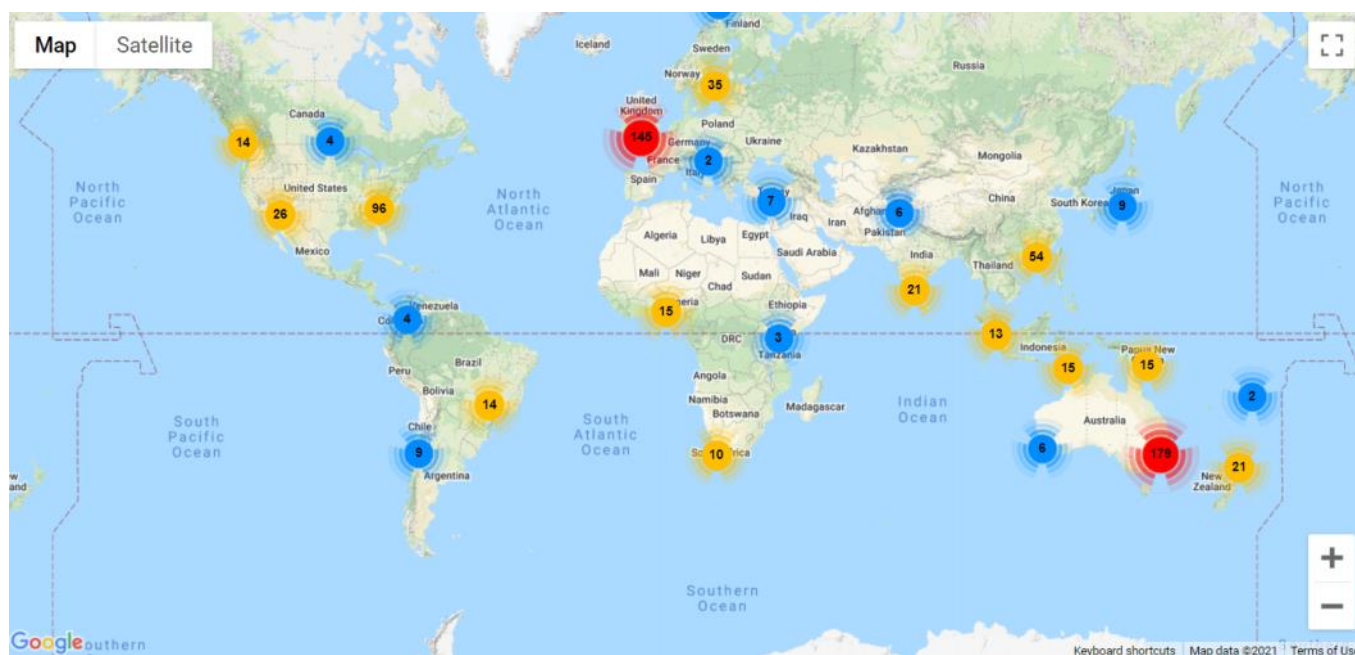
Hello all and happy Volume 28 Issue 1 of SETAC AU's Endpoint. This edition contains updates from nearly all our regional representatives, citations of our 2020 and 2021 SETAC award winners, and updates about the SETAC AU conference and other events.

We are now fully online with our Society's new website. I hope you have had the opportunity to check out the various news, events, and opportunities that we have been posting there. We hope to continue to expand the use of the website to better showcase our members research and the impact we have in our respective fields of research. The ANZTOX database and Our Science portal are two examples which will continue to be refined and improved over time.

Why does this matter? Our reach is via social media and our website is global (I checked—see where our followers are in the map below). Our twitter account has the 3rd largest following of all SETAC accounts and routinely gets >10,000 impressions a month. Our followers are found all around the world, meaning SETAC AU can be a platform to extend your research impact or network. This is a member benefit that I hope we can grow in the future. To achieve this, the SETAC AU council and the next Communications Officer will need your help! Content for stories and posts are sometimes hard to come by—so keep SETAC AU in mind when you have an event, publish a paper or report, or have an interesting story to tell.

Stay safe and don't forget to like, share, and subscribe!

Darren



Map of the location of our twitter followers

From the President

Andrew Harford (andrew.harford@awe.gov.au)
President



At the halfway mark of 2021, the year continues to be a challenge for our members and the society. Despite these challenges, I've great pride in witnessing how SETAC has adapted through the pandemic and I'm confident that we will soon be at the other side of this drama and that we will be stronger than before. I've the greatest admiration and appreciation for Kath Hassel and her local organising committee as they continue to forge ahead with the Melbourne conference. It gives me comfort that they wisely chose a hybrid model for the event and that we will be able to have the much-needed scientific discussion regardless of if we can be in the same room. However, I'm also hopeful that we will be able to join the Melbourne crew at the end of August to celebrate their hard work. Today I also had my first dose of the Pfizer vaccine, which is also one very small step towards ending this pandemic!

In the last few months the council have been busy assessing and awarding numerous prizes. I'm sure you've heard that this year's ECR prize went to Michael Bertram and the winner of the MCR prize was Oliver Jones. Both are amazing practitioners of SETAC-AU science and it was great to review their high-quality applications. They both have had exemplary careers that deserve celebration and there was an awesome stream of congratulations and support flowing through our social media pages after the announcement.

This year's thesis prize was awarded to Amy Macintosh for her work entitled, "*Marine ecotoxicological effects of offshore petroleum infrastructure-associated contaminants: A systematic review*". Amy wrote a comprehensive synthesis of the current understanding of contaminants associated with offshore infrastructure, and has published her work in *Critical Reviews in Environmental Science and Technology*. I'd encourage you to [grab a copy here](#) as it's a great piece of work.

We have had a huge response to the postgraduate publication award with 10 high-quality papers received! It is the biggest response we've ever had, and I appreciate all those postgrads that have taken their time to apply. We are now carefully assessing the papers to find the best, which is a terribly hard task! We hope to be able to announce the winner very soon.

Keep a look out for the inaugural *Peter Teasdale memorial award*, which we are looking forward to announcing soon. The aim of this award is to give a new-starter a bit of extra support in the early phase of their project, in order to take some pressure off and help them be successful. Such support for our new PhD and ECRs seems all the more important right now.

You may have also noticed the SETAC-AU ecotox database has been added to the website and has been badged [ANZTox](#)! This was a big milestone for the council but also marks what is the only end of the first phase of this database project. The council has been discussing how we manage the upload of data that becomes available when new Default Guideline Values are released. We recently held a meeting with key stakeholders and end-users to seek their opinions on what would be of use to them. We are currently forming the plan to enable the addition of data to database and what will be an important resource for our members.

I'm very excited that we will be bringing the ANZG (2028) Water Quality Guidelines "roadshow" to Perth on 20 July, which is thanks to support from the Department of Water and Environmental Regulation. These workshops have been highly-appreciated educational events and so far we have held events in Sydney, Melbourne, Brisbane and Darwin prior to the pandemic. I'm happy to see these workshops again gain momentum as they are still highly relevant and will increase the knowledge of all stakeholders that need to know how to apply the WQGs effectively. We've also had early discussions to hold a workshop in Adelaide.

We've had some great two-way engagement with the Chemical Management Branch of the Department of Agriculture, Water and the Environment. A key activity is to increase SETAC-AU's engagement with international activities. Olga Furman has recently taken on the role of managing Australia's engagement with OECD chemicals programme and she has kindly written a piece for Endpoint. It highlights the opportunity for us to engage with these international initiatives that are often used to set the standards in Australia and New Zealand.

The SETAC-AU council has been productively engaging with SETAC Asia Pacific, of which Mandy Reichelt-Brushett is the new president, and our new global Executive Director Bart Bosveld. We have set-up excellent lines of communication with Bart and the Pensacola office and we are leveraging the efforts of our bigger Geographic Units. There have been several changes occurring in the central office and they are looking to provide better services to our region. SETAC-AP is currently seeking sustainable support for an Executive

From the President

Andrew Harford (andrew.harford@awe.gov.au)
President



Director for the GU, with the aim to increase activities in the region.

Finally, it's with a tinge of sadness that I note that this will be my last Endpoint report as President of SETAC-AU. I fell into this role due to my love of ecotoxicology and environmental chemistry but, more so, I've done it to support the amazing people that make-up this society. I have had thoroughly enriching experiences during my participation, and I'd encourage members to offer their precious time to support this worthwhile cause. I'll be forever grateful of the support from members and the amazing council that has been by my side. I'd like to thank the current executive team Kath, Tom, Susi, Darren and Munro (especially Munro!), as well as those from the past such as Peta. I'll be handing the reigns to Kath Hassel at the next GSM and I know she is going to do a great job for us. However, we are also looking for new people to step into important roles, so please look out for the election notifications and step-up to help this great society.

Regional Report | Tasmania

Cath King (cath.king@aad.gov.au)
Tasmania Representative



In early May we welcomed Professor Nicole Webster, previously from AIMS, as the new Chief Scientist of the Australian Antarctic Division. Nicole has a strong background in leadership and scientific outreach, and a wealth of knowledge in marine microbiology and metagenomics. We are excited to have Nicole join us, and know that she will be of great value in the promotion of Australia's Antarctic Science Program.

The Australian Antarctic Division's Environmental Protection Program is now bedded down well under Catherine King's leadership. The program has been working to define its research priorities for the coming years and will be focusing its efforts in three main areas: Antarctic biodiversity conservation, Clean-up of contaminants, and the provision of evidence-based advice to Antarctic policy and operations. The clean-up work in particular will form a large growth area for us in the coming years, as we fast track our assessments of existing contaminated sites across the Australian Antarctic Territory. This will include development of site assessment tools to facilitate efficient and effective prioritisation of sites to target for the next phase of on ground clean up and site remediation. This work will have a strong risk assessment and ecotoxicology basis, and we will utilise a range of methods to assess risk, including traditional single species tests, community-based assessments and metagenomics.

We are looking to establish new partnerships and collaborations in these areas, as well as building capacity with early to mid-career scientists including co-funded post-docs and research scientists within our program. For those looking for a "cool" change, watch this space as we're soon to advertise for 2 new Research Scientist positions in ecotoxicology/environmental risk assessment and in spatial ecology/area protection. Please contact Cath if you or someone from your networks might be a good fit for our team as we work to improve our evidence-based environmental protection of Antarctica.

Our program continues to be heavily occupied with providing advice to the [comprehensive environmental assessment](#) of a proposed aerodrome at Davis station, with Kathryn Brown and Cath King providing specialist input to the assessment of likely impacts to lake and soil microbiota in particular. We continue to maintain cultures of Davis lake and soil biota in our AAD laboratories and hope to begin new test development with rotifers, tardigrades and nematodes over the coming year, in collaboration with Suzie Reichman and CAPIM at the University of Melbourne.

An Antarctic tardigrade being cute.



Regional Report | Tasmania

Cath King (cath.king@aad.gov.au)
Tasmania Representative



We continue to work toward development of robust ecotoxicological tools for the assessment of soils that have been remediated after fuel spill events. This work directs our on-ground decisions regarding soil reuse on site at our Antarctic stations. Kath and Jane Wasley have recently finished a major piece of experimental work in this area using the nematode *Plectus murrayi* to assess toxicity of diesel-spiked soils as they age and degrade. This work provides the first estimates of sensitivity for an Antarctic microinvertebrate exposed to fuel contaminated soils and provides insights into the complexity of hydrocarbon fuel chemistry dynamics as hydrocarbons degrade to polar metabolites during ageing.

Bianca Sfiligoj is returning to our team and will also use the *Plectus murrayi* test that Kath has developed to determine sensitivity of this species to nutrients, including ammonia and various forms of nitrogen that we find in our remediated Antarctic soils. This work will help guide other aspects of our soil reuse decision matrix.

Finally, we are preparing a desktop study on the current status of contamination and waste in the Mawson station area. Lisa Meyer has joined our team to capture documented contamination information into a GIS product that can be used to direct our field assessment program. Antarctic logistics pending, we are planning for a field season at Mawson next year, where we will conduct a full site assessment as a first phase of our Antarctic clean-up work.

From us here in Tasmania, we hope you are all well and staying safe.

Regional Reports | Western Australia

Monique Gagnon (m.gagnon@curtin.edu.au),
Western Australia Representative



Francis Spilsbury (PhD candidate at Curtin University) has completed the experimental phase of his research on oil fingerprinting in fish, and has moved to beautiful Tasmania to complete data analysis and write up of the experimental work. Damian Lettoof (PhD candidate at Curtin University) is close from completing his PhD on tiger snakes as bioindicators of ecological health. Damian is also busy completing his publications and establishing collaborations. As for Monique Gagnon who is now Discipline Lead of Ecology, most of her time is dedicated to service and leadership of the discipline, and teaching – fortunately she has productive graduate students!

Darren has been busy getting settled into Curtin University working with a team to develop a risk assessment framework for naturally occurring radioactive materials and mercury contaminants in subsea oil and gas infrastructure. The work is being done in collaboration with the ANSTO crew (headed by Tom Cresswell). The project connects a consortium of oil and gas operators with academics, government regulators, and businesses to look at all aspects of contaminant risk, regulation, and monitoring technologies. Darren also joined Gwilym Price and Anthony Evans on their natural water collecting trip to Western Australia. Waters were collected from the Blackwood and Moore Rivers in WA which offers unique (salty and hard) freshwaters compared to the rest of the country. These waters will be used in toxicity tests to understand how zinc toxicity is affected by different water chemistries reflective of the freshwater systems around Australia.

Monique and Darren have been also been busy preparing for the upcoming ANZG Water Quality Guideline Workshop which will be held at Curtin University. Check out the events section of this endpoint edition to learn more.

Regional Report | South Australia

Peter Bain (Peter.Bain@sa.gov.au)
South Australian Representative



Metals in Port Pirie recreational seafood

David Simon and Peter Bain have been working on a human health risk assessment of recreationally caught seafood in Port Pirie waters. David's team from SA Health is leading the risk assessment, which is being conducted by an inter-departmental SA Government working group made up of teams from SA Health, PIRSA and SA EPA. Initial screening has identified lead and cadmium as priority metals, with a detailed human health risk assessment currently in progress.

Wealth from woofer waste

SA SETAC member and CQU PhD candidate Emily Bryson has been working on developing ecotox testing methods using the earthworm *Eisenia fetida* as part of her PhD project on canine faecal decomposition (otherwise known as "dog poo composting"!). Improving the management of dog poo through better composting has the potential to provide a low-cost resource for soil health improvement while reducing landfill and plastic bag use. Emily has received quite a lot of media attention for her project of late – you can find out more about her work in an interview on ABC Radio National (<https://www.abc.net.au/radionational/programs/lifematters/can-dog-poo-be-used-to-grow-our-food/12850924>) and an article in Cosmos magazine (<https://cosmosmagazine.com/earth/sustainability/odd-jobs-dr-dog-poo/>).



Regional Report | New Zealand

Karen Thompson (Karen.Thompson@niwa.co.nz)
New Zealand Regional Representative



The NZ region has continued with its virtual get togethers, SETAC Sessions – Quarterly Catchups. Our most recent presentation was from **Camille Baettig**, a PhD student at the University of Auckland and who we featured in the previous Endpoint issue (Volume 27, Issue 2). Camille presented her PhD proposal 'Characterization of the mechanisms of toxicity of emerging organic contaminants in two mussel species' which looks to investigate whether select emerging organic contaminants pose a risk to New Zealand's unique aquatic ecosystems and endemic species. These catchups are organized by the NZ council representative, **Karen** Karen.Thompson@niwa.co.nz, so if you are interested in presenting or would just like more information, please get in touch.

Melanie Kah and **Emma Sharp** (University of Auckland) have recently launched Soilsafe Aotearoa, a nationwide community oriented programme focusing on the quality of domestic soil. The launch of Soilsafe was supported by **Mark Taylor** and his team at Macquarie University, where a similar programme, Vegesafe, has been running since 2013, facilitating the analysis of over 4000 Australian home soils for metals and metalloids. Melanie and Emma are supported by a group of post grad students to develop the programme for our local communities in New Zealand. Soilsafe Aotearoa works at the intersection of environmental and human sciences, studying the soil and the people that interact with it. In addition to the soil testing programme, Soilsafe includes a strong social science component. Check it out at: <https://soilsafe.auckland.ac.nz/>

Regional Report | New Zealand

Karen Thompson (Karen.Thompson@niwa.co.nz)
New Zealand Regional Representative



Kia mōhio ki o oneone

Melanie Kah (left) and Emma Sharp (right) collecting a soil sample.

Officially a free agent, **Chris Hickey** retired at the end of 2020, after 41 years' with NIWA and its predecessor organisations (Ministry of Works and the Department of Scientific and Industrial Research) in the environmental chemistry and ecotoxicology field. Chris' contributions to both NZ and NIWA have been very significant. From establishing the NIWA Ecotoxicology Laboratory, developing and implementing many of its current bioassays to providing expert evidence in Environment Court and contributing to the ANZECC (2000) and current ANZGs for fresh and marine water quality. Chris isn't quite ready to be completely free and so has joined a consultancy, RMA Science and continues to work collaboratively with NIWA.



Chris Hickey at his retirement celebration wearing a T-shirt designed by his children.

Regional Report | New South Wales

Lisa Golding (lisa.golding@csiro.au),
New South Wales Regional Representative



ANSTO Radiotracing and Ecotoxicology (Francesca Gissi; francesca.gissi@ansto.gov.au and Tom Cresswell; Tom.Cresswell@ansto.gov.au)

Experimental work is ramping up again in the Radiotracing and Ecotoxicology labs at ANSTO. **Amy MacIntosh** successfully completed her Masters last year (see publication from thesis below) and has commenced her PhD research assessing the impacts of radioactive material from subsea pipelines on marine organisms. This involves characterising material from deep sea oil and gas pipelines and investigate the effects of these materials on relevant organisms like prawns, polychaetes and clams.

Francesca Gissi recently joined the team as a Postdoctoral Research Fellow and her project involves understanding the risks associated with contaminants from deep sea oil and gas infrastructure. **Francesca's** research will investigate the potential for mercury from decommissioned oil and gas pipelines to methylate and the risk that this poses to marine organisms and the human consumer. The goal of this research is to better inform industry of any potential risks associated with decommissioning oil and gas infrastructure *in situ* (i.e. abandonment).

Dr Chantal Lanctot from Griffith University has returned to carry out more experiments with tadpoles, this time investigating the biokinetics of mercury using the methylmercury radiotracer (MeHg-203) produced at ANSTO. Tadpoles have been exposed to a dietary form of MeHg-203 and Chantal will be monitoring them over the coming weeks to understand uptake, distribution and depuration kinetics of methylmercury in tadpoles through metamorphosis into frogs.

Working alongside Chantal is PhD student, **Danielle Hill**. This year **Danielle** will investigate the bioaccumulation and biodistribution of caesium, strontium and mercury in metamorphosing frogs, using radiotracers Cs-134, Sr-85 and Hg-203. This experimental work will tie in with **Danielle's** experimental work next year where she'll be travelling to the US to investigate the effects of radionuclides on the ecology of the Savannah River Site. **Danielle** will be visiting the US with her Fulbright Scholarship. Congratulations **Danielle**! We're very proud of her and wish her every success in the US. Fingers crossed borders are opened by 2022!

Sarah MacDonald (PhD student; University of Melbourne) recently visited the ANSTO labs to complete her final set of data collection measuring concentrations of inorganic components in storm water samples. **Sarah** is now in a self-imposed lock down in Melbourne while she writes up the final chapters of her thesis. Good luck **Sarah**! The final push, we know you can do it!!

As well as doing some awesome research, **Amy** is also keeping herself busy as a recently appointed representative of the SETAC Asia Pacific Student Advisory Council (APSAC) and as the President of Australasian Nuclear Early Career Researchers. **Amy** has been working hard to connect Early Career Researchers across ANSTO and beyond through social networking events and science presentations. We really appreciate all of **Amy's** hard work, thank you **Amy**!

Tom Cresswell, our fearless leader, has been keeping busy with all the projects running in the lab. In June, **Tom** will head over to Perth to present at the APPEA conference on ANSTO's recent work on characterising pipeline scale. **Tom** will also be preparing some manuscripts for journal submission on recent subsea pipeline scale characterisation work in the coming months so keep your eyes open for some new papers on this topic.

Recent publications from the team:

- McDonald, S., Cresswell, T., Hassell, K., Keough, M. 2021. Experimental design and statistical analysis in aquatic live animal radiotracing studies: A systematic review. *Critical Reviews in Environmental Science and Technology*. <https://doi.org/10.1080/10643389.2021.1899551>
- MacIntosh, A., Dafforn, K., Penrose, B., Chariton, A., Cresswell, T. 2021. Ecotoxicological effects of decommissioning offshore petroleum infrastructure: A systematic review. *Critical Reviews in Environmental Science and Technology*. <https://doi.org/10.1080/10643389.2021.1917949>

Regional Report | New South Wales

*Lisa Golding (lisa.golding@csiro.au),
New South Wales Regional Representative*



CSIRO Land and Water, Lucas Heights, Aquatic Contaminants Group (Jenny Stauber; jenny.stauber@csiro.au; and Lisa Golding lisa.golding@csiro.au)

Megan Gillmore submitted her PhD thesis in March 2021!! Supervised by **Lisa Golding, Jenny Stauber and Dianne Jolley**, **Megan** investigated the risk of sediment nickel exposure to benthic marine biota in the Southeast Asia and Melanesia region with funding from the Nickel Producers Environmental Research Association (NiPERA). This project involved developing bioassays with species relevant to the region and filling toxicity data gaps for nickel in marine sediments. It required field work in New Caledonia for metabarcoding analyses of benthic communities and work on coral responses to nickel associated with suspended sediment at the National Sea Simulator (Seasim) facility in Townsville. **Megan** has had two manuscripts published in ET&C in the last 6 months. For those interested in the diffusive gradients in thin films (DGT) or environmental omics techniques for threshold derivation consider checking them out ([DOI: 10.1002/etc.4971](https://doi.org/10.1002/etc.4971) and [10.1002/etc.5039](https://doi.org/10.1002/etc.5039)). **Megan** has recently been promoted to Senior Scientist, Ecotoxicology in the Environment Protection Science Branch of Department of Planning, Industry and Environment (DPIE), NSW.



Congratulations to Megan Gillmore for submitting her PhD thesis!

Lisa Golding has been leading a team from CSIRO Land and Water Lucas Heights (**Merrin Adams, Monique Binet, Kitty McKnight and David Spadaro**) as well as Adelaide (**Anu Kumar, Adrienne, Gregg and Bhanu Nidumolu**) in determining safe dilutions of flowback and produced waters from shale gas exploratory wells in the Northern Territory. We have completed the chronic direct toxicity assessments of wastewaters from two hydraulically fractured wells and also quantified the contribution of major ion toxicity to freshwater biota as salinity is an important stressor in these chemically complex wastewaters. The findings will be published soon so keep a look out in the next SETAC-AU Endpoint. **Lisa** is also working with **Anu** and a post-doctoral fellow **Dr Gaurangi Anand** at using machine learning and artificial intelligence techniques to predict toxicity of chemicals where only limited toxicity data for similar chemicals exist to assist with chemical risk assessments that have sparse data.

The Metals Environmental Research Associations (MERA), a consortium of international metals associations, are funding a team led by **Jenny Stauber** to develop of a risk assessment framework for Deep-Sea Tailings Placement (DSTP). DSTP involves the discharge of tailings at depth (usually >100 m) at the edge of an extended drop off, with ultimate deposition of the tailing solids on the deep-sea bed (>1000 m), well below the euphotic zone. DSTP is controversial, as ecological impacts associated with DSTP have been difficult to characterize because of the remote nature of the process and a lack of understanding of deep-sea ecosystems. Currently there are about 15 large mining operations around the world using DSTP, mainly in Chile, France, Turkey, Indonesia, Papua New Guinea (PNG) and Norway. The project team is a partnership between CSIRO Land and Water (**Merrin Adams, Simon Apte, Graeme Batley, Lisa Golding, Jenny Stauber,**

Regional Report | New South Wales

*Lisa Golding (lisa.golding@csiro.au),
New South Wales Regional Representative*



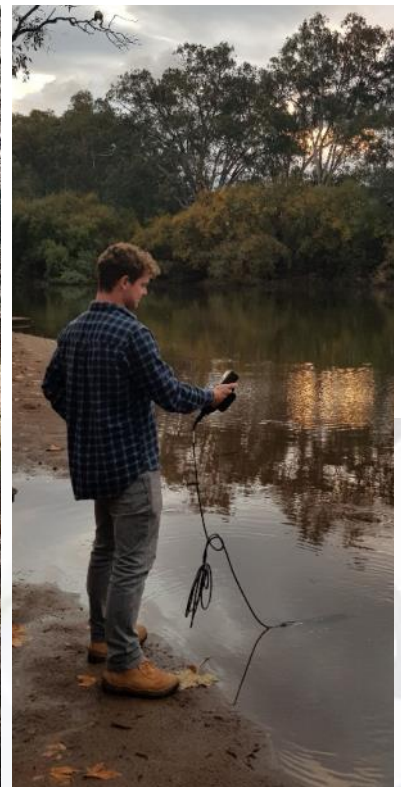
Stuart Simpson), Oceania Sciences International (**Ian Hargreaves**) and Southern Cross University (**Mandy Reichelt-Brushett**). The framework will assist decision makers to better understand the likelihood, severity, spatial extent and duration of impacts associated with exposure to tailings in the marine environment.

Jolley Research Group (Gwilym Price, Gwilym.Price@csiro.au)

It's been a busy last few months for all the students based at CSIRO Land and Water, Lucas Heights, with Sarah Stone (supervised by **Di Jolley**, **Stuart Simpson** and **Monique Binet**) publishing two fantastic papers, one from her Honours thesis looking at [herbicide mixture toxicity in a multispecies microalgal bioassay](#) and the second and first of her PhD, investigating the [effects of pulse exposures of metals to a tropical copepod](#). Sarah gave virtual presentations on this latest work at SETAC YES, SETAC NA SCICON2, and EnviSMART hosted by University of Melbourne.

Gwilym Price and **Anthony Evans** (supervised by **Aleicia Holland**, **Jenny Stauber** and **Di Jolley**) have finally been able to get some much-needed field work done, starting with work in southern Western Australia and the Victorian Alpine region! The aim is to collect natural waters with different physico-chemical properties that will alter the bioavailability of zinc to a freshwater microalga and *Ceriodaphnia* c.f. *dubia*. The trip to Perth meant friend/colleague/supervisor **Darren Koppel** was able to lend a hand! The Victorian trip also meant a stop into **Aleicia Holland's** Labs at La Trobe University's Wodonga Campus. **Aleicia** provided expert local knowledge as well as expert 4WDing.

In addition to the recent publications from Megan and Sarah reported above, **Darren** recently published a paper on the [Metal lability and environmental risk in anthropogenically disturbed Antarctic melt streams](#) from his postdoc and Gabriella published a paper from her PhD on the [Effect of Dissolved Organic Matter Concentration and Source on the Chronic Toxicity of Copper and Nickel Mixtures to *Chlorella* sp.](#)!



Left: Darren takes water quality measurements on the Moore River, north of Perth. Right: Anthony checking the water quality down in Wodonga, Victoria.

Regional Report | New South Wales

*Lisa Golding (lisa.golding@csiro.au),
New South Wales Regional Representative*



Environmental Protection Science, Department of Planning, Industry and Environment (DPIE)

(Kate Cussen Kate.Cussen@environment.nsw.gov.au and Kate Langdon Kate.Langdon@environment.nsw.gov.au)

Environmental Forensics Team Update

Since the last newsletter, our Ecotoxicology team welcomed two new staff members, **Lakmini Egodawatta** and **Kate Cussen**. **Lakmini** recently completed a PhD in terrestrial/plant ecotoxicology and has since traded in her spade for a snorkel, diving headfirst into the world of aquatic Ecotoxicology where she's learning the ins-and-outs of aquatic invertebrate culturing and testing. **Kate's** an Ecotoxicology frequent flyer. She's come, gone and returned after a year of working with our Analytical Chemistry team. We're glad to have **Kate** back onboard and applying her organic chemistry skills in our current pesticide monitoring projects.

As we welcomed **Lakmini** and **Kate**, we temporarily farewelled **Anneke Coomans** and **Amanda McDonald** who are on secondment with the EPA. We've missed their presence in the team, however we're happy to see them broaden their horizons, gain new skills, and expand their professional networks.

On a more permanent note, **Ron Patra** has decided to hang up the waders and is retiring after more than twenty years of service. One of our longest standing staff members, **Ron** began his journey with the organisation back in the days of the NSW EPA/UTS Centre for Ecotoxicology. He remained a dedicated member of the Ecotoxicology team through the many iterations the organisation has gone through and has been a valuable member of the Environmental Forensics team since its inception. **Ron** will look back over his career and the contributions and friendships he made with great fondness and we wish him all the best in this new season of life.

We also bid farewell to **Francesca Gissi** as she took up a post-doctoral research fellowship with the Australian Nuclear Science and Technology Organisation (ANSTO). **Francesca** was with the Ecotoxicology team for two years, during which she spearheaded some significant pollution investigations. A highlight, **Francesca** recalls, was investigating the cause of a mysterious blue colouration in the Molonglo River which led to a collaborative research project examining how microorganisms survive at physiological extremes and which we will continue to work with **Francesca** on in her new role at ANSTO.

After many changes and an unusual 2020, the Ecotoxicology team is feeling reenergised and taking on new frontiers. In 2021 we've dusted off the field kit, donned waders and we're shaking up our analytical prowess by examining the world of passive sampling and applying the technique for monitoring pesticide use and exposure in various mediums across NSW. **Megan Gillmore** has been championing the technique and enjoying time in the field deploying samplers and collecting data with collaborators from Southern Cross University and the EPA.



Megan and Brendan Pearson deploying passive air samplers in Dubbo; Megan, Endang Jamal and Mandy Reichelt-Brushett (behind the camera) in Ballina; and Megan, Kate and Chris Doyle (behind the camera) in Coffs Harbour deploying passive water samplers.

Regional Report | New South Wales

Lisa Golding (lisa.golding@csiro.au),
New South Wales Regional Representative



Contaminants and Risk Team Update

The Contaminants and Risk Team (C&R) has also had several staff movements since the last newsletter. We farewelled **Manish Jha**, our resident groundwater expert, at the end of 2020. **Manish** has taken up an exciting role with Amazon, and we wish him all the best with his new endeavours. In his place we'll be welcoming a new Senior Scientist into the C&R team very soon. Stay tuned for an exciting reveal!

Janina Beyer has been on secondment with the NSW EPA since October 2020 and has been working to develop their emerging contaminants program. While **Janina** has been away, we have been very lucky to have **Olivia Patterson** join us on secondment from the EPA. These secondment opportunities for staff are a great way to expand expertise, share knowledge and strengthen networks across agencies.

In the last few months, C&R also welcomed **Gaby Macoustra** into the team as a contractor. Many of you may know Gaby as a former PhD student from CSIRO Lucas Heights. **Gaby** has been great to have around to support us on some projects and to help us sort out our literature library.

In terms of projects, C&R has been working hard on a wide range of projects to assist state and federal governments understand issues surrounding risks to human health and ecosystems from environmental contaminants. A small snapshot of some of the key things we have been working on include:

Keith Osborne and **Kate Langdon** have represented C&R on Enquiry By Design workshops for two proposed developments in NSW – the Williamstown Special Activation Precinct (SAP) and Camellia-Rosehill Precinct. Both of these sites are proposed to be developed into commercial/industrial precincts but are heavily impacted by a range of contaminants, including PFAS and hydrocarbons. C&R has provided input at workshops around risks from exposure to contamination and potential remediation/mitigation options.

Olivia Patterson, Timothy Remaili, Mega Ng and **Paolo Abballe** have been out and about doing field work at several sites across NSW. Most of this work has involved investigating groundwater contamination impacts at different types of sites, including, landfills and areas where industrial fill has been used historically.

Keith Osborne has been working with other NSW Government Agencies to provide advice to the Australian Government Office of the Gene Technology Regulator on the Risk Assessment and Risk Management Plans for genetically modified (GM) organisms. **Keith's** advice focusses on deliberate release of GM organisms to the environment, including potential risks if there are incidental environmental releases. He has recently been involved with reviewing two of the commercially produced COVID-19 vaccines.

Janina Beyer and **Kate Langdon** has been busy working with the National Chemicals Working Group (NCWG), which sits under the Heads of EPA Australia and New Zealand (HEPA). **Janina** and **Kate** have been leading the Theme 4 (Soils) future work program along with representatives from Qld, Vic, WA and the Commonwealth.



C&R undertaking field work investigating groundwater impacts

Regional Reports | Northern Territory

Ceiwen Pease, (Ceiwen.Pease@environment.gov.au),
Northern Territory Representative



Claudia Tanneberger has started a collaborative masters project between Charles Darwin University and ERISS titled "The use of bioassays to validate the diffusive gradients in thin films technique for measuring the bioavailability of uranium". She will be exploring DGTs as an advanced biomonitoring tool in the Alligators Rivers region of the Northern Territory. Claudia is off to a flying start having already won the Barbara Singer Environmental Studies Scholarship for her project.

The water and sediment quality team at eriss have just wrapped up a busy biomonitoring fieldwork season which occurs annually at the end of the wet season. Invertebrates and fish were surveyed using very different techniques (invertebrates using manual sampling methods and fish using videography) but as you can see from the photos the backdrop for both sets of fieldwork is picturesque.



New publications

Pease, C.J., Trenfield, M.A., Mooney, T.J., van Dam, R.A., Walker, S., Tanneberger, C., Harford, A.J. (2021). Development of a sublethal chronic toxicity test for the Northern Trout Gudgeon, *Mogurnda mogurnda*, and application to uranium, magnesium, and manganese. *Environmental Toxicology and Chemistry* 40(6): 1596-1605. <https://doi.org/10.1002/etc.5005>.

Trenfield, M., Pease, C., Walker, S., Humphrey, C., van Dam, R., Markich, S., & Harford, A. (2021). Assessing the toxicity of mine-water mixtures and the effectiveness of water quality guideline values in protecting local aquatic species. *Environmental Toxicology and Chemistry*, DOI: <https://doi.org/10.1002/etc.5103>.



Regional Reports | Queensland

Jason Dunlop (jason.dunlop@des.qld.gov.au),
Queensland Representative



Elissa O'Malley has recently stepped away from the Qld Regional Representative role and Jason Dunlop will continue on in this capacity. On behalf of all the Queensland SETAC-AU members, we wish to thank Elissa for the great effort that she put into role which was particularly challenging during COVID restrictions. A great example of the Elissa's contribution was through the coordination of a local event last year that brought students and supervisors together to give presentations on their research. This provides us with a great model for collaboration among SETAC members going forward.

Susi Vardy's team from the Science & Technology Division, from the QLD Department of Environment and Science have released the QLD Ambient PFAS Monitoring Program Report. 55 sites from across the state were monitored every two months for a year. Biota and sediment were also collected at a subset of sites. Data is presented in an interactive portal and can be supplied on request. The report and data portal can be found here: <https://www.qld.gov.au/environment/pollution/management/disasters/investigation-pfas/monitoring-program-report>.

Reinier Mann's team from the Science & Technology Division, from the QLD Department of Environment and Science are proud to announce their Pesticide Reporting Portal is now live and can be accessed at <https://arcg.is/19rnf8>. The Pesticide Reporting Portal displays pesticide concentrations for water samples collected along the eastern coast of Queensland. The Portal is updated daily and concentration data are published within the context of guidelines for the protection of three different environmental values – aquatic ecosystems, irrigation water and drinking water.

The Pesticide Reporting Portal is currently restricted to 24 priority pesticides for Queensland that:

- represent a known risk – i.e. there are published guideline and there is potential for exceedances of the guidelines,
- can be detected using routine analytical methods, and
- are frequently detected in Reef catchments or SEQ catchments.

Dustin Hobbs at Hydrobiology

Hydrobiology has been busy in 2021 with some new projects and continued service for some long standing clients. These include:

- WQ sampling program for a local council with regards to risks to human health during a water and light show,
- WQ monitoring data assessment for a local council to assess the effectiveness of a number of real time monitoring stations,
- Development of monitoring programs for the a major recycling park development,
- Update of site-specific Water Quality Objectives for a legacy gold mine in Queensland,
- Delivered a Masterclass for the Australian Federal Government on deriving site specific guideline values for large coal mines and coal seam gas developments
- Update of site specific Water Quality Objectives for the rehab of a legacy mine for the Northern Territory Government, including consideration of cultural and spiritual values in the guideline values,
- Monitoring the recovery of a major river in South America after the collapse of an iron ore tailings dam, which includes assessing metal bioaccumulation in the tissues of the local freshwater and marine biota, benthic assemblage changes due to tailings deposition in the estuarine and marine areas, and human health risks associated with consumption of fish collected from local markets, along with a number of other programs.

We are looking forward to seeing what the remainder of 2021 brings.

Regional Reports | Victoria

Jackie Myers, (Jackie.myers@rmit.edu.au),
Victoria Regional Representative



School of Biological Sciences, Monash University – Professor Bob Wong (bob.wong@monash.edu, bobwonglab.org)

Research activities in the Behavioural Ecology Research Group have returned to normal following the easing of COVID-19 restrictions in Victoria. Over the Summer, members of the Group completed several major projects, including an outdoor mesocosm study investigating the effects of the antidepressant fluoxetine on fish behaviour and community structure. This research, which forms part of Bob's ARC Future Fellowship, is being carried out in collaboration with Dr Marcus Michelangeli and Prof Tomas Brodin from the Swedish University of Agricultural Sciences. Members of the Group have also completed data collection for several experiments investigating the effects of fluoxetine on collective behaviour and reproductive traits in fish, and life history traits in daphnia. Over the past few months, PhD student Jack Orford and research associate Dr Jake Martin have also been busy testing the effects of the androgenic endocrine disrupter 17B-trenbolone and UV stress on tadpole behaviour and physiology. Jack and new Honours student Siobhan Roberts are now investigating whether exposure of these stressors lead to carry over effects in the newly metamorphosed froglets. Finally, PhD student Hung Tan recently completed experiments examining the effects of caffeine on fish behaviour, and will soon be embarking on a project investigating the effects of caffeine on fish circadian rhythms and sleep, in collaboration with Dr John Lesku from Latrobe University.

The Group recently welcomed several new PhD students. Rhiannon Eastment is studying the evolution of parental investment and the unique maternal-foetal relationship in the redtail splitfin. As part of her project, Rhiannon also plans to investigate how endocrine disrupters might impact the reproductive biology of these unusual live-bearing fish. Kate Fergusson will be investigating the effects of fluoxetine on cognition and learning in guppies.

Finally, a big congratulations to Honours student Shiho Ozeki, who was awarded the Margaret Clayton Award for best overall achievement in Biology Honours in 2020, and Dr Michael Bertram (currently a Research Fellow at the Swedish University of Agricultural Sciences), who was recently announced as the recipient of the SETAC Australasia early-career medal. Michael's award is the 6th major SETAC award won by research group members since 2018 (and the second SETAC Australasia early career medal awarded to a lab alumni, following Dr Minna Saaristo's award in 2019).



Michael Bertram, former PhD student and recipient of the 2021 SETAC Australasia Early-Career Medal

Regional Reports | Victoria

Jackie Myers, (Jackie.myers@rmit.edu.au),
Victoria Regional Representative



Recent relevant publications (lab affiliated members in bold)

Tan, H.*, **Bertram, M.G.***, **Martin, J.M.**, **Ecker, T.E.**, **Hannington, S.L.**, **Saaristo, M.**, O'Bryan, M.K., **Wong, B.B.M.**, 2021. The endocrine disruptor 17 β -trenbolone alters the relationship between pre- and post-copulatory sexual traits in male mosquitofish (*Gambusia holbrooki*). Sci. Total Environ. 790, 148028. *co-lead

Ford, A.T., Ågerstrand, M., Brooks, B.W., Allen, J., Bertram, M.G., Brodin, T., Dang, Z., Duquesne, S., Sahm, R., Hoffmann, F., Hollert, H., Jacob, S., Klüver, N., Lazorchak, J., Ledesma, M., Melvin, S.D., Mohr, S., Padilla, S., Pyle, G., Scholz, S., Saaristo, M., Smit, E., Steevens, J.A., van den Berg, S., Kloas, W., **Wong, B.B.M.**, Ziegler, M., Maack, G. 2021. The role of behavioral ecotoxicology in environmental protection. Environmental Science and Technology. 55, 5620–5628.

Polverino, G., **Martin, J.M.**, **Bertram, M.G.**, Soman, V.R., **Tan, H.**, **Brand, J.A.**, **Mason, R.T.**, **Wong, B.B.M.** 2021. Psychoactive pollution suppresses individual differences in fish behaviour. Proceedings of the Royal Society B: Biological Sciences. 288: 20202294.

Saaristo, M., Craft, J.A., Tyagi, S., Johnstone, C.P., Allinson, M., Ibrahim, K.S., **Wong, B.B.M.** 2021. Transcriptome-wide changes associated with the reproductive behaviour of male guppies exposed to 17 α -ethinyl estradiol. Environmental Pollution. 270: 116286.

Students Corner

Gwilym Price (Gwilym.A.Price@student.uts.edu.au),
Student Representative



RACI Mentoring program

Following a SETAC student survey, SETAC AU have agreed to partnering with RACI to offer SETAC-AU student and recent graduate members places on the RACI Mentoring program.

What does the program involve?

The program includes, webinars, videoconferences and podcasts; through to lectures, workshops, exclusive networking opportunities, useful resources and online learning. Mentees are paired one-on-one with mentors, most of whom are members of RACI. More information can be found here: <https://www.raci.org.au/RACI/Web/Careers/Career-Development-Program.aspx>

The program will cost \$100 for SETAC-AU student/recent graduate member participants and spaces are limited!

Conferences and workshops

ALEC EnviSMART Student Forum

The Australian Laboratory for Emerging Contaminants is running a lunch-time event specifically for post-graduate students ('*EnviSMART Student Forum*'). Each month 3-4 student speakers from across the country will present their environmental science work. They are also establishing a volunteer student committee to organize these events. For more information please go to (alec.science.unimelb.edu.au) or contact Dr Brad Clarke (brad.clarke@unimelb.edu.au).

SETAC AU Student Travel Awards

Student Travel Scholarships for the SETAC AU 2021 conference in Melbourne close June 25. There are 9 awards valued at \$750 each. Head to <https://australasia.setac.org/notice/setac-au-student-travel-scholarships> for details.

Recent graduate membership

SETAC AU offers discounted membership rates to all recent graduates. The rate is AUS\$65 for your the first year after graduation, AUS\$95 for the second year and AUS\$130 for your third year.

SETAC AU Award Winners

Congratulations to all the winners of SETAC AU awards in the last year. Below are citations for the early and mid career medallists for 2020 and 2021, the winner of the 2021 Thesis Prize, and the winners of the 2020 Postgraduate Research Publication Awards.

2020 Early Career Medal Recipient: Dr Aleicia Holland

This prize is sponsored by Hydrobiology.

Dr Holland is leading a high-impact career, having achieved much in a short period of time. Currently a Senior Lecturer at La Trobe University, Dr Holland's research explores the role of dissolved organic carbon (DOC) in aquatic ecosystems, its characteristics and influence on the toxicity of contaminants such as metals. To date she has achieved 27 research papers and over \$2,000,000 in research income. She is recognized as an emerging leader, due to her important academic contributions, national and international collaborations, linkages with industry, training HDR students and mentoring. Dr Holland's research is recognized both nationally and internationally by both academia and industry and has influenced both policy (water quality guidelines) and management decisions.



2020 Mid Career Medal Recipient: Dr Anthony Chariton

Dr Chariton a Senior Lecturer at Macquarie University and founder of the Environmental e(DNA) and Biomonitoring Lab. Prior to this he was the Research Team Leader for Molecular Ecology and Toxicology with CSIRO Oceans and Atmosphere. Dr Chariton is one of the early pioneers of environmental DNA metabarcoding, with his research focusing on the development, application and integration of 'omic' technologies and traditional ecology for the monitoring and assessment of aquatic systems. His other research interests include: seagrass ecology; biogeochemical cycling; ecotoxicology; network analysis; multiple-stressors; and understanding the ecological impacts of sea-level rise on coastal environments.

Dr Chariton has played and continues to play a pivotal role in the adoption of omic tools by both government regulators and industry in Australia and globally. He is a co-author of the revised Australian and New Zealand Sediment Quality Guidelines and was formerly President of the Society of Environmental Chemistry and Toxicology Australasia.



SETAC AU Award Winners

2021 Early-Career Medal Recipient: Dr Michael Bertram

This prize is sponsored by Hydrobiology.

Michael completed his Honours year in Prof Bob Wong's group at Monash University in 2013 and received a perfect GPA of 4.0. He then undertook a PhD in Prof Wong's lab in May 2014, co-supervised by Dr Minna Saaristo, and conferred his PhD in February 2019. Despite being just two years out from PhD conferral, Michael has already made an outstanding contribution to his field, having published 24 papers in leading international journals. Michael has also been remarkably productive at securing research funding (e.g. 13 grants totalling >AUD\$1.7M over the last three years) and has actively communicated his work to the scientific community (e.g. 22 conference presentations and seminars over the last three years). Michael's main research goal is to understand whether and how emerging forms of chemical pollution (e.g. neuroactive pharmaceuticals, hormonal growth promotants) disrupt complex traits and behavioural processes in wildlife, and what implications this may have for individuals, populations and communities inhabiting contaminated systems. Michael's research on agricultural pollution has been recognised by peak industry and regulatory bodies including the APVMA,

Animal Medicines Australia and the Cattle Council of Australia, with the APVMA and Department of the Environment and Energy currently reviewing risks posed by agricultural contaminants to Australia's vulnerable aquatic ecosystems as a result.



2021 Mid-Career Medal Recipient: Prof Oliver (Oli) Jones

Oli obtained his PhD in 2005 and since then has focussed his research on organic pollutants in the environment, tracking them from source to receptors. Most recently, Oli has been investigating how photochemically produced reactive oxygen species in wastewater lagoons help degrade contaminants in these systems. Oli pioneered the application of metabolomics to the environmental sciences, in particular to discover molecular markers that are predictive of exposure to mixtures of pollutants, and which indicate organism health and fitness for biological-effects environmental monitoring and chemical risk assessment. Oli's metabolomics papers (focussed on ecotoxicology) are widely cited (~90-100 times each in many cases). Oli was a member of the Australian Academy of Science National Committee for Chemistry and in 2019, was elected as fellow of the Royal Society of Chemistry (FRSC) and an Associate Fellow of the Institution of Chemical Engineers (AFICHEM). Oli was elected a Fellow of the Royal Australian Chemical Institution (FRACI) in 2016. In 2019 Oli was named 'Iridium' on the IUPAC periodic table of outstanding younger chemists (one of only 118 people worldwide to be honoured in this way). He is a recognised figure in the international metabolomics community, evidenced by him being twice



elected as member of the board of the International Metabolomics Society by their worldwide membership. Prof Jones' recent work in groundwater pollution with the Australian Water Industry has allowed the delineation of agricultural and wastewater contamination as well as separating out overlapping contamination plumes from different time periods. Oli was also the first to show that the metabolic profiles of soil communities change in response to pollution and thus have potential to be utilised for pollution assessment. This work led to a direct approach from EPA Victoria to explore the idea of the use of metabolomics in environmental monitoring, an area Oli is also working on with the CSIRO. Oli has been active in SETAC since he was a PhD student and was on the organising committee of the 2013 SETAC AU conference in Melbourne and is also on the committee for the SETAC AU conference currently planned for Melbourne in 2021. This will be a 3-4 day hybrid event incorporating the What's In Our Water Symposium on micropollutants.

SETAC AU Award Winners

2021 Thesis Prize winner: Amy Macintosh

Amy conducted her Master's research in a collaborative project between Macquarie University and the Australian Nuclear Science Technology Organisation. Her thesis, entitled "Marine ecotoxicological effects of offshore petroleum infrastructure-associated contaminants: A systematic review" highlights the current knowledge gaps in our understanding of what contaminants are present in offshore infrastructure, and importantly, how these contaminants may impact the marine ecosystem under different decommissioning scenarios. The thesis is being used as a road map for future supported industry-academic collaborations to develop a risk assessment framework for offshore infrastructure decommissioning.

The thesis was recently published in Critical Reviews in Environmental Science and Technology, Amy MacIntosh, Katherine Dafforn, Beth Penrose, Anthony Chariton & Tom Cresswell (2021) Ecotoxicological effects of decommissioning offshore petroleum infrastructure: A systematic review, Critical Reviews in Environmental Science and Technology, DOI: [10.1080/10643389.2021.1917949](https://doi.org/10.1080/10643389.2021.1917949).

Amy has also made great contributions to professional networking activities – being president of the Australasian Nuclear Early Career Researchers and Scientists and participating in the SETAC YES meeting in early 2021. As part of the thesis prize, Amy receives a travel grant and registration for the upcoming SETAC AU 2021 conference in Melbourne. We all look forward to hearing more about her work there.



2020 Postgraduate Research Publication Award joint winners:

2020 saw two winners for the postgraduate research publication award. The 2021 submissions are currently under review and will be announced shortly.

Atinuke Favour Ojo, University of Queensland

For the paper: Combined effects and toxicological interactions of perfluoroalkyl and polyfluoroalkyl substances mixtures in human liver cells (HepG2). Atinuke F. Ojo, Cheng Peng, Jack C. Ng, (2020). *Environmental Pollution*, Volume 263, Part B, [10.1016/j.envpol.2020.114182](https://doi.org/10.1016/j.envpol.2020.114182)



Jake Martin, Monash University

For the paper: Antidepressants in Surface Waters: Fluoxetine Influences Mosquitofish Anxiety-Related Behavior at Environmentally Relevant Levels. Jake M. Martin, Michael G. Bertram, Minna Saaristo, Jack B. Fursdon, Stephanie L. Hannington, Bryan W. Brooks, S. Rebekah Burket, Rachel A. Mole, Nicholas D. S. Deal, and Bob B. M. Wong (2019). *Environmental Science & Technology* 53 (10), 6035-6043 DOI: [10.1021/acs.est.9b00944](https://doi.org/10.1021/acs.est.9b00944)



Getting involved with OECD test guidelines

Olga Furman (Olga.Furman@awe.gov.au),

Australian National Coordinator for the OECD Test Guidelines Programme, Department of Agriculture, Water, and Environment

I have recently commenced in the role of Australian National Coordinator for the [OECD Test Guidelines Programme](#). Many of you would be familiar with OECD Test Guidelines (TGs), which are internationally accepted standard methods for assessing chemical effects on human health and the environment. The TG Programme develops TGs and Guidance Documents with the assistance of experts from international government agencies, academia, industry and environmental organisations. This provides an exciting opportunity for me to work with you as experts in your respective fields. My role involves submission of national proposals for new or revised Guidelines, coordinating regulatory and scientific input on draft TGs, and nomination of Australian representatives to Expert Groups. Expert Groups of global leaders are established to support development of TG in areas such as physical-chemical properties, environmental fate and behaviour, in-vitro toxicology, ecotoxicology, Adverse Outcome Pathways, endocrine disruptors, nanomaterials, and other areas.

Examples of ongoing TGs projects that might be of interest to SETAC members include:

- Guidance Document on Determination of solubility and dissolution rate of nanomaterials in water and relevant synthetic biological media
- Guidance Document on Identification and quantification of the surface chemistry and coatings on nano- and microscale materials
- TG on Determination of relative metal/metalloid release using a simple simulated gastric fluid
- Guidance Document on IATA for Fish Acute Toxicity Testing
- New Test Guideline on a Short-term Juvenile Hormone Activity Screening Assay using *Daphnia magna*
- New TG on Growth Inhibition Test for the Rooted, Emergent Aquatic Macrophyte, *Glyceria maxima*
- New Test Guideline on Zebrafish Extended One Generation Reproduction Test (ZEOGRT)

Lead: Germany

Expert group: Validation Management Group for Ecotoxicity Testing

Call in April 2021 for additional laboratories to take part in the validation

- Inclusion of thyroid endpoints in OECD fish Test Guidelines
- New TG on Acute Contact Toxicity Test for the solitary living Mason Bee (*Osmia* spp.)
- REACTIV (Rapid Estrogen Activity In Vitro) Assay
- New Test Guideline to determine the uptake of chemicals by plant roots
- Guidance Document Environmental abiotic transformation of nanomaterials
- New TG on *Hyalella azteca* Bioconcentration Test (HYBIT)
- Anaerobic Transformation of Chemicals in Liquid Manure Development of a new Guidance Document on the determination of concentrations of nanoparticles in biological samples for (eco)toxicity studies
- Revision of TG 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test relating to algal strains
- New TG for a marine biodegradation screening test for chemical persistence assessment (MaP test)

These are all relatively new projects led by European, US and Asian countries with assistance from Expert Groups. My priorities for this year are to expand our network of experts and increase Australia's participation in the international TG projects. Being part of our network of experts provides access to unique opportunities to gain international exposure, experience and expand networks.

Please send me an e-mail at Olga.Furman@awe.gov.au if you are interested in the Programme and would like to be included in our network.

What's Happening?

SETAC AU Conference 2021

Society of Environmental Toxicology and Chemistry Conference and What's in Our Water Symposium



Resilience and Recovery Amidst Global Environmental Change

30 August - 2 September 2021
Melbourne, Victoria

Post abstract submissions still open

Missed out on an oral presentation or have some late breaking science? Poster submissions are still open! Head to <https://www.setac-au2021.com.au/abstract-submissions> to submit your abstract now.

Registration flexibility

With COVID-19 still potentially impacting on your ability to travel, the Committee is promising a fully flexible registration process.

Delegates will have the opportunity to attend in person or online.

Delegates can change their face-to-face registration to a virtual registration if restrictions don't allow them to travel. You can register knowing regardless of the prevailing COVID-19 conditions in September 2021, you will be able to participate one way or another at the relevant registration cost!

Early bird registration

Early bird registration closes June 30 – register before then to save \$200 off all conference registrations!

Head to the conference website to register now <https://www.setac-au2021.com.au/registration1>

What's Happening?

Opportunities, conferences and workshops

Opportunities such as jobs, awards, and more are kept up to date on our [website](#). Follow SETAC AU on social media or keep an eye on our website's News tab to keep up to date.

ANZG Water Quality Guidelines Workshop—Perth WA



SETAC-AU is hosting a series of Water Quality Guidelines workshops with sponsorship from the Department of Water and Environmental Regulation (WA), and support of the Australian Contaminated Land Consultants of Australia (ACLCA) and Curtin University. The workshops will feature key authors of the Australian and New Zealand Governments Guidelines for Fresh and Marine Water Quality (ANZG 2018, <http://www.waterquality.gov.au/anz-guidelines>). The fifth workshop in this series will be held in Perth on the 20th July 2021 from 9:00 am – 5 pm at Curtin University's 137 St Georges Terrace in Perth.

Spaces are filling fast. Head to our website's [event page](#) to register. Early bird registration ends July 5.

This event has both in-person and online attendance options, so be assured that no matter the border restrictions

Job opportunity in Antarctic Ecotoxicology – Hobart TAS – 12 month contract

The Australian Antarctic Division is looking to hire a contractor for a 12 month position (4 day/week) to work in their Hobart laboratories. The position will work with Antarctic microbiota (e.g. microinvertebrates and microalgae) to develop cultures and new species-specific test methods to determine species sensitivity to environmental contaminants and stressors. Please circulate to your networks.

For more information please contact Cath King (Cath.King@aad.gov.au), (03) 6232 3515.

News from SETAC Asia Pacific

SETAC Asia-Pacific Student Research Grant

SETAC Asia-Pacific is providing an annual Student Research Grant of AUD2,500. This is an exciting initiative from SETAC Asia-Pacific Board of Directors purposed to provide support to the student membership of SETAC Asia-Pacific, and to broaden opportunities for research by students in all Asia-Pacific countries.

Research grant funds will be provided to the successful student applicant to assist with expenses incurred in carrying out a defined research project that is part of a program to meet the requirements of a recognized Masters or Doctorate (or equivalent) program at a university or institution of similar standing in the Asia-Pacific region.

The grant funds may be spent on project expenses including essential travel, equipment, laboratory, and field costs needed to complete the proposed research project. The grant funds provided by SETAC Asia-Pacific may be used to supplement project funding available to the student from other sources.

It is a requirement that any thesis or other publication resulting from the research project includes an acknowledgement of the assistance provided by the SETAC Asia-Pacific Student Research Grant.

Applications must be made in written form and address each of the Assessment Criteria listed in the Student Research Grant Application Form 2021 (available from ap@setac.org).

Applications will be assessed on merit by a selection committee appointed by SETAC Asia-Pacific Board of Directors, and based on the information provided in the written application made by a current student member of SETAC Asia-Pacific.

The application closing date for the first grant is 31 July 2021.

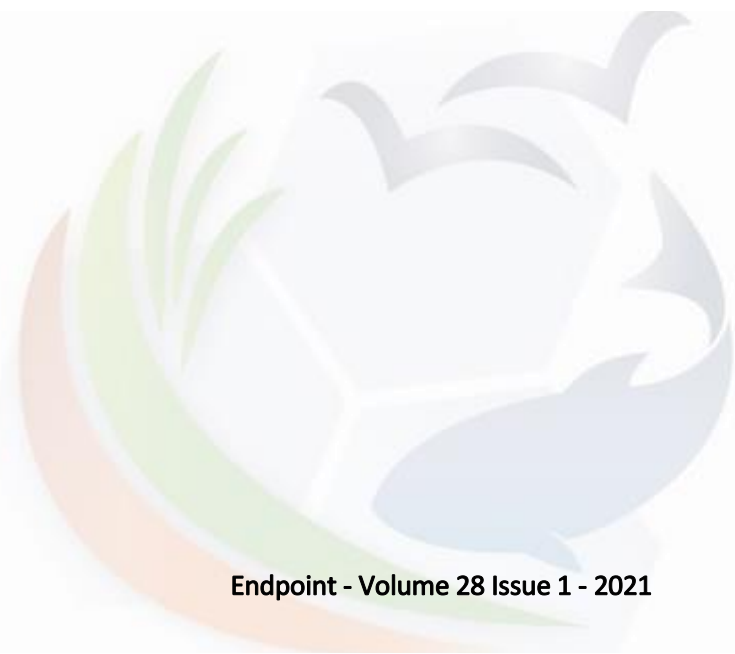
Are you a SETAC AU member with an interest in Science and Risk Communication?

Annegaaik Leopold, Chair of the now global SETAC Interest Group on Science and Risk Communication, has advised that to help ensure the Interest Group is truly global — there are one or two vacancies available for SETAC Asia-Pacific members on the Interest Group's Steering Committee.

Details on this Interest Group can be found on the [SETAC AP's website Meetings page](#)

Any member of SETAC Asia-Pacific interested in nominating to fill one of these Steering Committee vacancies should advise the SETAC Asia-Pacific office (ap@setac.org) of their interest, which can then be endorsed and on forwarded to Annegaaik Leopold.

Note: Even if you are not contemplating joining the steering committee, please consider joining the Interest Group by using the link "Join Group" on the IG web page.



Australasian Bulletin of Ecotoxicology and Environmental Chemistry (ABEEC)

New in Volume 7 of ABEEC: Dust as a vector for persistent organic pollutants

Dust samples, collected in the DustWatch monitoring project, hold important clues about the movement of persistent organic pollutants around Australia. DustWatch is a national citizen scientist program that sees volunteers collect dust from strategic locations around Australia. The program was established to maintain a dust collection service after many Bureau of Meteorology weather stations went automatic. The study, headed by Dr Julia Jasonsmith an Environmental Chemist and Director at Murrumbidgee Earth Sciences, used samples from a site near Mildura, Victoria, found families of POPs in the samples, which varied in concentration and through time. The study also highlighted the potential of DustWatch samples to identify long-term trends of contaminant transport around Australia. There are 4,300 samples in the DustWatch collection dating back to 1990, meaning that there are historical trends waiting to be uncovered!



Call for papers

We invite all SETAC AU members to submit new manuscripts to the *Australasian Bulletin of Ecotoxicology and Environmental Chemistry*. The *Bulletin* is a publication of the Australasian Chapter of the Society for Environmental Toxicology and Chemistry (SETAC AU), and is a regional publication dedicated to publishing original, scientifically-sound research dealing with all aspects of ecotoxicology and environmental chemistry relevant to Australasia. Papers published may be research reports, review papers, short communications, descriptions of new techniques and equipment, thesis abstracts, thesis literature reviews and comments on previously published papers.

All papers published in ABEEC will be made freely available through the website for SETAC AU. It will be an online publication only.

Contributions should be submitted to the editor as a manuscript in the same manner as you would for any other journal. You also need to provide the name(s) of at least one reviewer to assess the manuscript. All manuscripts will be sent out for review by at least two experts in the field. After the review process, manuscripts will be sent back to authors for final revisions prior to online publication.

If you wish to submit a manuscript to *ABEEC* or would like to discuss publication of a manuscript, then please contact the editor. A copy of *Instructions to authors* is also available from the editor.

We look forward to receiving your manuscripts.

Reinier M Mann (reinier.mann@des.qld.gov.au)

Editor – *ABEEC*

Membership Details

How to join SETAC Australasia

You can join SETAC Australasia by going to www.setac.org. After logging in, go to the SETAC Australasia page and click 'Request Membership'. You can find this page by either searching 'Australasia' or going to the 'Get Involved' tab on the left of the page, then 'Regional Branches and Chapters', then 'Asia Pacific Chapters'. There are no additional fees attached to the SETAC Australasia chapter.

Keeping your contact details up to date

To make sure you don't miss out on attending SETAC get-togethers in your state or territory or the opportunity to contribute your latest research to Endpoint, please update your SETAC profile to include your location so your regional rep can get in touch with you. You can do this by logging into www.setac.org and selecting 'Manage Profile', then 'Edit Bio'.

Suzanne Vardy (suzanne.vardy@des.qld.gov.au)
SETAC AU Secretary

Renewing your membership

SETAC AU offers discounted membership rates to all recent graduates. The rate is AUS\$65 for your the first year after graduation, AUS\$95 for the second year and AUS\$130 for your third year!

A reminder that all membership renewal payments for SETAC members in Australasia should be made to SETAC Asia-Pacific, and not to the SETAC North America office in USA. The link to renew your membership, which is provided in the reminder email as your renewal date approaches, is <https://setacap.site-ym.com>.

Around 25% of members are still paying through SETAC North America and this causes several administrative problems including:

- Charges by the USA office for their staff time handling these wrongly made payments
- Currency exchange fee losses for AUD (or NZD) to USD then back to AUD
- Foreign transaction charges on the member's credit card (charged to the member by their credit card provider)
- It can take up to a year for wrongly paid renewal payments to reach SETAC AU via SETAC North America
- Members' expiry dates for their next membership renewal date may be set wrongly when they pay North America instead of Asia-Pacific
- Members may not get automatic reminders next time (the North America office does not send automatic reminders)

If a member does log in at setac.org they can navigate to the Asia-Pacific payment page, but it is easier to use <https://setacap.site-ym.com>.

Also, a BIG NO NO is for a SETAC AU member to purchase a "combi-registration" at a SETAC Europe or SETAC North America conference (a "combi-registration" is a combined conference registration and membership payment). This causes total chaos in the membership system (all of the above plus others) and the membership fee may never reach AU, but instead is swallowed up in the conference.

Munro Mortimer (munro.mortimer@icloud.com), **Treasurer**

Advertise in Endpoint

Do you or your organisation have a product, service or upcoming event that might be of interest to SETAC members? For example: technical services, vacant positions, meetings and workshops or student opportunities?

If so, you should consider advertising in Endpoint and on the SETAC AU webpage. The Endpoint newsletter goes out to a readership of 300 SETAC members across academia, industry and government, providing a great way to reach your target audiences.

Details

- Advertising charges for Endpoint AND the webpage are \$100 half page, \$200 per full page.
- A Standing Committee with membership determined by Council will vet (by majority vote) all adverts on the basis of appropriateness of material relative to the aims & objectives of SETAC AU.

For further information please contact the SETAC AU Secretary **Suzanne Vardy** (suzanne.vardy@des.qld.gov.au)



Your SETAC AU Council

Council Members (2019-2021)

| Position | Elected Member |
|------------------------------|--|
| President | Andrew Harford (andrew.harford@environment.gov.au) |
| Immediate Past President | Anthony Chariton (anthony.chariton@mq.edu.au) |
| Vice Presidents | Kathryn Hassell (kathryn.hassell@rmit.edu.au) |
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Regional Representatives

| Region | Elected Member |
|------------------------------|--|
| Australian Capital Territory | Julia Jasonsmith (Julia.jasonsmith@murrang.com.au) |
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| Tasmania | Cath King (cath.king@aad.gov.au) |
| Victoria | Jackie Myers (jackie.myers@rmit.edu.au) |
| Western Australia | Monique Gagnon (m.gagnon@curtin.edu.au) |
| Papua New Guinea | Kundo Hundang (guba.hundang@gmail.com) |
| New Zealand (North Island) | Karen Thompson (Karen.Thompson@niwa.co.nz) |
| New Zealand (South Island) | Sally Gaw (sally.gaw@canterbury.ac.nz) |