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Hello everyone, we have another jam-packed edition of Endpoint for you here, with plenty of interesting reading about what the many different research groups across Australia and New Zealand have been up to over the last few months.

Congratulations are in order for some of our award winning members, including Dr Katelyn Edge (OEH) for winning the 2016 Bright Spark Award as part of NSW Fresh Science, James Hitchcock (PhD student, UTS) for winning the 2016 Tony Roach Prize (SIMS/OEH) and to Chantal Lanctôt (PhD student, SWRC, Griffith University) for being selected as a finalist for the 2016 Women in Technology (WiT) Career Start Award. Well done to all!

Once again our SETAC students have been very productive with a long list of new publications that you can find in the Student Corner. Also, for students that haven’t done so already, please make sure you fill out the 2016 Student Membership Survey, to provide feedback to SETAC so they know what can be done to help facilitate all your student needs.

Our student reps Francesca Gissi and Nicole McRae, along with several members of the Student Team will be running an exciting new session during the SETAC AU Hobart conference. Reddit Science Ask Me Anything (AMA) is a platform that provides the general public an opportunity to ask scientists all kinds of questions about environmental science, and has been quite successful at previous SETAC NA and SETAC EU conferences. The students will be running this AMA session on Thursday 6\textsuperscript{th} of October 12:30-4:30 pm and are currently seeking volunteers to help answer questions. More details can be found in the Student Corner section of the newsletter below, including links to previous AMA series to give you an idea of the breadth of questions that get asked. If you will be attending the Hobart conference, we strongly encourage all members to consider getting involved and participating in this great incentive to increase our engagement with the general public.

Speaking of communication and engagement, our social media presence is increasing, which is great to see, with more than 300 Twitter followers and an active Facebook page. We encourage all members to use these media tools for communication and research dissemination through your networks.

Lastly, there will be lots of conference activity over the next few months with several local and international meetings taking place. Check out the “What’s Happening?” section of the newsletter for more details, including a list of the confirmed speakers for our SETAC AU conference in Hobart 4-7\textsuperscript{th} October.

Happy reading!

Kathryn Hassell (khassell@unimelb.edu.au)
Newsletter Editor
From El Presidente

I can’t believe that the Hobart conference is almost upon us! Organisation for the Hobart meeting is going exceptionally well. Cath King, Kate Kiefer and all the committee members have been doing a brilliant job organising the conference. It will undoubtedly be an exceptional event, however, the more attendees the merrier, so please do your best to support the conference. As an R-user, it is wonderful to see such a large number of people who have registered for Christian Ritz’s Statistical Methods in Ecotoxicology pre-conference course. If you are attending, I also strongly recommend getting involved in the Buddy system which Tom Cresswell has done a brilliant job of driving.

Speaking of conferences, we need to have a think about when and where the next SETAC AU conference should be? Clearly, next year (2017) is too close, and in the case of 2018 we need to ensure that the timing is right to minimise any issues with AP, NA and Europe. I am keen to open the discussion on this, and we’re looking for locations and facilities to put up their hands!!!!

We have also been asked by Ross Smith to put in a bid for the World Congress 2020. I am currently working with the Brisbane Convention Centre on the bid which will be submitted to the World Council at the end of August. There may also be an option to align it with World Science Week which runs in Brisbane. I shall keep you posted on this exciting prospect.

As many of you are aware Tristan Stringer has been working hard on the design of the new SETAC AU logo. The overall consensus from our members’ survey was in support of the new logo. Tristan is finishing off the final touches and it will be ready for discussion at the Hobart AGM. Speaking of the AGM, if you are attending Hobart it would be great to see you there, details regarding the AGM and nominations for Council positions will be sent out shortly. However, please feel free to contact me if there is anything you wish to raise or if you wish to discuss the roles and commitment associated with Council positions.

Finally, as you are aware, numerous awards and prizes have been recently granted. Firstly I just want to say a huge thanks to Tom Creswell and a cast of millions for taking these on, it is a mammoth task, and after reviewing the applications, I am truly astounded by the quality and breadth of research currently being performed in Australasia. The winners of the awards will be formally announced in Hobart, another great reason to come along to the conference.

I look forward to seeing you all in Hobart.

Regards,

Anthony Chariton
NSW Regional Representative Report for Endpoint August 2016, Lisa Golding (lisa.golding@csiro.au)

Aquatic Ecosystems group, ANSTO Environmental Research – Tom Cresswell (tom.cresswell@ansto.gov.au)

We have had another busy quarter with lots of activity in the lab. Chantal Lanctôt joined us for 2 months from the S.mart Water Research Centre (Gold Coast) to study the bioaccumulation of metals associated with coal mining by native amphibians. Chantal exposed striped marsh frog (Limnodynastes peronei) tadpoles to $^{109}$Cd, $^{75}$Se and $^{65}$Zn in solution as a mixture and as individual metal exposures. Individual tadpoles were radioanalysed daily to quantify the bioaccumulated concentration of each metal over four days of exposure and three days of depuration. A separate study exposed tadpoles to $^{75}$Se for one week followed by several weeks of depuration in metal-free water. Tadpoles were removed from the depuration at key stages of metamorphosis and either dissected into major organs or embedded, whole-body cryosectioned and these sections were used for autoradiography. Results from that study will provide insights into the changes in Se organ distribution during metamorphosis. Chantal’s final study at ANSTO saw the exposure of tadpoles to the two main oxidation states of Se in solution (i.e. SeIV and SeVI) using $^{75}$Se as the radioisotope tracer. The study compared the bioaccumulation and retention kinetics of the two forms of Se, as well as determining any differences in organ distribution. Chantal worked tirelessly and has a great data set, some of which she will be presenting at the SETAC AU conference in Hobart in October.

Tom Cresswell, Mat Johansen and Emily Prentice have been progressing well with the spotted shore crab (Paragrapsus laevis) radionuclide exposure study and now have a data set of bioaccumulation and retention kinetics of $^{134}$Cs and $^{85}$Sr from solution, diet and labelled sediment exposure. The results will be used to assess the uptake of radionuclides released from nuclear accidents (e.g., Fukushima) by near-shore benthic crustaceans, which often form the base of the food chain of aquatic and terrestrial organisms. Tom will be presenting the results of the study at the Hobart conference.

ANSTO Graduate Program member Emily Prentice has been leading a study on the adsorption of radionuclides to microplastics. Emily deployed three types of plastic in freshwater and estuarine environments for four months to allow biofilm (algae and bacteria) colonisation. The plastics were recovered from the environment and a standard partitioning test was conducted with 134Cs and 85Sr over two days. While it is not believed that there will be major adsorption of each element on to the plastics, the study will compare any adsorption to plastics in the presence of biofilms and in their absence.
Debashish Mazumder has been working with Department of Primary Industries (Fisheries) and Macquarie University and use stable carbon and nitrogen isotopes to determine the impact of water regulations through the construction of a dam on aquatic food web. Debashish analysed the stable carbon and nitrogen isotope ratios of common species of fish residing upstream and downstream of Tallowa Dam on the Shoalhaven River in New South Wales. The data reflected a significant reduction in niche space among predator/prey species residing in upstream habitat, implying limited dietary opportunity of species in the upstream. The study has been recently published in Hydrobiologia (771, 195–206; DOI 10.1007/s10750-015-2630-5).

CSIRO Land and Water, Lucas Heights, Aquatic Contaminants Group, Monique Binet (Monique.Binet@csiro.au)

Monique Binet, Lisa Golding, Merrin Adams and Graeme Batley have been working on a number of commercial desktop projects developing new or revised guidelines for a range of contaminants in fresh and marine waters. Monique has also been putting to the test the new semi-automated method that her recent Masters student Chloe Trinh Quy developed to assess copepod larval development using image recognition software. The method is proving useful at generating highly qualitative data, with endpoints that are proving more sensitive than those achieved through traditional microscope-assessment.

Kitty McKnight continues in her support role of research and commercial activities in the group. Kitty and Francesca Gissi have generated high quality microalgal toxicity data with copper and nickel and Kitty is currently writing the work up for publication. Kitty has also been working with Simon Apte, Lisa Golding, Monique Binet, Merrin Adams on assessing the toxicity of some geogenic contaminants that arise from coal seam gas production. This project has had some very interesting results, which will be presented at the upcoming SETAC-AU (Hobart) and EmCon (Sydney) 2016 conferences.

Brad Angel has been investigating the ability of turbid freshwaters to mitigate dissolved metals present in mining effluents through adsorption onto suspended particulates and complexation by natural organic matter. The importance of factors that affect these processes are currently being assessed. Brad recently submitted a manuscript describing findings of recent work investigating the effects of pulsed copper exposures on freshwater algae and the ability of time-averaged concentrations to predict toxicity of different types of exposures. The study found that time-averaged concentrations of dissolved copper derived from continuous exposure toxicity tests were good predictors of toxicity elicited from pulsed exposures. Brad has also recently taken on Brett Knowles as a PhD student. Brett’s PhD project involves investigating transformations, fate and
toxicity of silver nanoparticles in aquatic systems, with an emphasis on functionalised and silver / metal composite nanoparticles”. Brad has been assisting Brett with the techniques required to undertake his PhD, and work to date has involved assessing the factors affecting hetero- and homoauggregation.

The sediment lab has been a hive of activity this winter. Outside of commercial toxicity testing, David Spadaro has been working on developing/optimising a chronic whole-sediment algae bioassay using chlorophyll extraction. Congratulation to Tim Remali, who succeeded in receiving an APA scholarship and is very relieved to no longer be self-funding his project. His PhD project investigating the effects of bioturbation in contaminated sediments on benthic chemistry and toxicity is also taking a new and exciting direction, through additional supervisors Will Bennet and David Walsh at Griffith University on the Gold Coast. Also researching in the sediment laboratories is visiting scientist, Xiaoyi Yi from the Guangzhou Institute of Geochemistry in China, who is here for 6 months on a Chinese-Australian Government scholarship. Xiaoyi’s project is focused on developing a chronic whole-sediment TIE method with Melita plumulosa and has a series of experiments underway to understand the effects of coconut charcoal on Melita reproduction. Megan Gillmore, has also been working with Melita, establishing reproduction effect thresholds to dissolved nickel as part of her PhD. Megan has been conducting field work in sunny tropical Queensland where she collected some silty and sandy coastal sediments. These sediments will be spiked with nickel and equilibrated for at least 10 weeks before she will use them in toxicity testing with amphipods, copepods and snails, to generate high quality chronic nickel sediment toxicity data.

CSIRO Oceans and Atmosphere, Lucas Heights, Molecular Ecology and Toxicology Team, Anthony Chariton (Anthony.Chariton@csiro.au)

Francesca and Anthony spent a week in Townsville with Amanda Reichelt-Brushett (SCU) at the Australian Institute of Marine Science’s National Sea Simulator (SeaSim). This is a world class facility for culturing and research with tropical marine organisms. Francesca, Anthony and Mandy were at the SeaSim to run experiments investigating the toxicity of nickel and copper to adult corals and to assess how these metals altered the structure and function of the coral microbiome (i.e. symbiotic zooxanthellae and bacteria). The SeaSim was the ultimate place to run this experiment with access to a flow through system, temperature controlled aquaria and lots of nifty tools and gadgets. The experiment was a success, and Francesca is now keeping very busy with all the analyses following on from that experiment.

Francesca, Mandy and Anthony (left) introducing their corals into the exposure chambers (right).
The high-tech experimental set up designed by the team at SeaSim. Test chambers were connected to a flow through system which maintained water quality throughout the exposure. The lights were set to a day night cycle which also simulated sunrise and sunset. The water baths within which the chambers were held maintained temperature to within 0.5°C. And the chambers also included magnetic stirrers which were controlled by water pressure.

Sarah, Anthony and Francesca recently completed a project for South32/Illawarra Coal using metabarcoding to monitor the freshwater benthic communities in the Upper Georges River NSW. The team is also collaborating with DSITI (Michael Warne and Ryan Turner) in North Queensland, using ecogenomics to track community changes along flood plain plumes into the coastal fringes of the Great Barrier Reef. We also have a new Honours student working in the omics laboratory this month, Courtney Evans-Turner from UOW has joined us. Courtney, who is supervised by Andy Davis, and is applying metabarcoding to monitor the rehabilitation of acid sulfate sediments.

Anthony has recently been in the extraordinarily beautiful Newfoundland (Canada) presenting to the Oil and Gas industry and is just about to go to China to teach at his fourth Metabarcoding Spring Schools.

Environment Protection Science, Office of Environment and Heritage, Katelyn Edge (Katelyn.Edge@environment.nsw.gov.au)

Fresh faces and award winning science! It’s been a busy period for the OEH Environment Protection Science team. Our ranks have been bolstered over the last few months with Chris Doyle and Dr Janina Beyer-Robson joining us. Chris is busily expanding our ecotox capabilities while Janina will primarily work with Karl Bowles on PFAS-related projects and issues. The immediate focus is on historical contamination around Williamtown. Janina and Karl will also be involved in the PFAS Strategy, an initiative being undertaken by the NSW EPA to investigate the broader extent of PFAS contamination across NSW.

Among the fresh faces, established guru John Chapman has also been gracing us with his presence, mysteriously appearing at Lidcombe from time to time. John is mostly working from home (when not enjoying his semi-retirement!), as well as visiting the NT every couple of months as a member of the NT EPA board. John has been busy reviewing and preparing water quality guidelines (fluoride and dioxin), conducting coal seam gas reviews and generally assisting as needed on OEH issues and projects.

Fleur Pablo, Kate Langdon, Keith Osborne, John Chapman and Moreno Julli have been researching the effects of material produced by alternate waste technology (AWT) on soil biota thanks to funding by the Environmental Trust. The results from this project will contribute to a broader AWT Research Program currently being undertaken by NSW EPA.

Meanwhile Katelyn Edge won the 2016 “Bright Spark” award as part of NSW Fresh Science. Competing against 12 other finalists Katelyn had to describe her research on oysters and resuspended contaminated sediments in the time it takes for a sparkler to burn out, all whilst standing in a crowded pub. Now that’s science worth listening to!
We are a team of about 15 researchers supervised by Susan Wilson and Matt Tighe, based in the School of Environmental and Rural Science, UNE. Our research focuses on pollutants in soils: their processing and cycling, interactions, their effects, managing risks and remediation, with a specific interest in comparative arsenic and antimony ecotoxic effects and biogeochemistry. Some of our current projects include pesticide weed management on sub-Antarctic Macquarie Island soils, ancient soil contamination in Thailand, food-chain effects of oil pollution in the Niger Delta, composting bioremediation of MGP soils and effects of antimony and arsenic pollution in the mining contaminated Macleay River Catchment, NSW.

Over the last year, teaming up with the Aquatic Ecology Research Group UNE and Institute of Applied Ecology at University of Canberra we have significantly progressed our research in understanding antimony in the environment with a combination of ecotoxicity experiments on native fish and sampling expeditions in the Macleay Catchment. Some of this work was presented at the 4th International Antimony Workshop in Leipzig, Germany, last October. We have also helped to inform the remediation of antimony and arsenic contaminated mine tailings material at Urunga processing plant.

PhD student Sara Bayat successfully completed in July with her research informing NSW policy for managing risks with applying municipal waste derived compost onto our NSW soils. Laura Williams, our PhD student investigating Poa annua management on Macquarie Island has also completed, and we were successful in a follow-up project with Australian Antarctic Division on another weed, Stellaria media. Two new PhD students have joined the team: Sajanee Gunadasa from Sri Lanka on an Endeavour Scholarship to work on the cadmium and arsenic pollution links to chronic kidney disease in her country, and Atefah Esmaeili from Iran to work on PAH bioavailability assessment. Five of us are presenting at Hobart and looking forward to catching up with other groups there.
Simon Mitrovic’s group at the University of Technology Sydney is working on a variety of freshwater projects, looking at cold water pollution, environmental flows and dissolved organic carbon, nutrients, herbicide toxicity and cyanobacterial toxins, and algal blooms.

James Hitchcock was recently awarded the 2016 Tony Roach prize for best paper from his PhD, looking at the bioavailability of allochthonous carbon in high flow events published in Biogeochemistry. Enjoy spending the $1500 prize James!

Laura Michie is continuing the research on the effectiveness of a “thermal curtain” to ameliorate the effects of cold water pollution downstream of Burrendong Dam. Burrendong Dam was built with the offtake from the cold lower strata of the dam, resulting in low water temperatures for many kilometres downstream. The thermal curtain has been constructed to direct warmer waters from the upper levels down to the offtake. The dam has just filled to over 70% so she will be able to test the curtain under more typical conditions.

Ellery Johnson has finished his honours into the importance of freshwater inflows and their allochthonous subsidies in estuarine ecosystems with Simon, James Hitchcock and Wade Hadwen (Griffith Uni). Sarah Meoli has also recently completed her honours with her supervisors Simon Mitrovic and Anne Colville. She examined the effects of strains of cyanobacteria that had previously been considered non-toxic on plants, zooplankton and human cell lines, and found that they may potentially be toxic. Congrats to both Sarah and Ellery on achieving first class honours!

Matt Balzer is continuing work in the inland Namoi River, examining the effects of allochthonous carbon, from terrestrial sources such as flood events and river freshes, on
Angus Rawle is currently investigating the effects of different sources of allochthonous dissolved organic carbon (DOC) on microbial community structure, with a specific focus on bacterivorous protozoa.

Ann-Marie Rohlfs has submitted her thesis examining the effects of hydrology and organic carbon supply regime and on benthic microbial community structure in the Snowy River. Lloyd Werry is finalising his PhD looking at effects of climate change-induced warming on the Snowy Mountains alpine stream macro-invertebrate groups working with Ben Kefford, Richard Lim and Simon Mitrovic.

Jordan Facey, has joined the group with a project with Simon Mitrovic and Simon Apte, assessing how different metals influence growth, bloom formation and toxin production in some cyanobacteria.

Lisa Golding (Lisa.Golding@csiro.au)
NSW Regional Representative
New tools to detect ecological effects of contaminants in estuaries
This ARC-funded project commenced in early 2015 and involves both metabarcoding and metabonomics to detect the effects of sediment contamination in estuaries at both the individual and community-levels of biological organisation. The team is led by Mick Keough (School of BioSciences and Centre for Aquatic Pollution Identification and Management, University of Melbourne) and Malcolm McConville (Metabolomics Australia and Department of Biochemistry and Molecular Biology, University of Melbourne), Anthony Chariton (CSIRO, Lucas Heights) and Rhys Coleman (Melbourne Water) with postdocs Allyson O’Brien and Sara Long. At present both techniques offer great promise, but they are rarely combined and need to be cross-validated against existing methods to derive the best “toolbox” for assessment of contamination in estuaries. The project will involve laboratory exposures as well as field experiments in estuaries around Victoria.

Georgia Sinclair has recently started her Masters research on this project at CAPIM, under the supervision of Mick Keough, Allyson O’Brien and Sara Long. Georgia’s project is to identify biomarkers of pollution exposure in the estuarine worm Simpilsetia aequisetis, using metabonomics techniques. Sara and Allyson are also working on their components of this project. Sara is comparing small metabolite responses in worms and snails to metal and fungicide exposure to see if metabolites from the same pathways are responding in the same way to pollutants irrespective of organism. Sara will be presenting results from this study at the SETAC/EIOS joint focussed topic meeting on Environmental and (Eco) toxicological Omics and Epigenetics meeting in Ghent, Belgium next month. Allyson is working closely with Anthony Chariton and Sarah Stephenson from CSIRO in Lucas Heights using DNA metabarcoding to identify estuarine community level responses to pollution. Allyson will be presenting her work at the Coast to Coast conference in Melbourne and the U21 Early Career Researcher workshop on Big Data in Edinburgh. Sara and Georgia presented data from their research at the first Australia New Zealand Metabolomics conference at La Trobe University in March this year.

Dr. Vin Pettigrove and one of his PhD students, Tyler Mehler, recently visited institutions in China. The first stop of their trip was the Institute of Geochemistry, CAS in Guangzhou, China. Meeting with Dr. Jing You (Professor) and Dr. Huizhen Li (Associate Professor) who just recently accepted positions at Jianan University. It was a busy week, with many presentations and discussions regarding aquatic pollution in South China, the trip concluded with an amazing boat cruise down the one of the largest rivers in China, the Pearl River.

The next stop was Shenyang, China where their were hosted by Dr. Li Xiaojun (Associate Professor) of the Institute of Applied Ecology, CAS as well as Dr. Fu Jinxian (Professor and Dean) of Shenyang Jianzhu University. Similar to our first visit many presentations and discussions regarding aquatic pollution in South China, the trip concluded with an amazing boat cruise down the one of the largest rivers in China, the Pearl River.
Tyler went on Nanjing University, where he was hosted by Dr. Hongling Liu. Presentation were given by all (Tyler, Dr. Liu, as well as each of her students). After the presentation – Tyler was given a detailed tour of the laboratories facilities as well as an environmental emergency response van, which implemented techniques that Tyler has been working on as part of his PhD.

The trip was a huge success and much was gained for all parties involved. Tyler plans to head back to China at the beginning of 2017 to collaborate with his new network of Chinese colleagues on much of what was discussed during Tyler and Dr. Pettigrove’s visit.

School of Life & Environmental Sciences, Deakin University – Jules Mondon (julie.mondon@deakin.edu.au)

Dr Trish Corbett continues to work on Antarctic rock cod health indicators as a research scientist with Dr Jules Mondon’s ecotoxicology research group at Deakin Warrnambool. This project has been very strongly supported over several years and involves Dr Cath King from the Australian Antarctic Division. Ms Emily Armstrong, who completed her Honours through Deakin on oxidative stress in fish, working closely with Dr Anu Kumar’s CSIRO team in Adelaide in 2015, has just started her PhD investigating transcriptomics in prawns exposed to crude oil. Em will also be working closely with CSIRO scientist Dr Sharon Hook. Ms Jing Song has been working with the team as a visiting exchange graduate student from Nagasaki University, Japan for 6 months. Jing has been working on a variety of Antarctic fish health and oil exposure biomarker responses including EROD at Warrnambool, and Vtg analyses with Dr Kathryn Hassell from CAPIM.

Kathryn Hassell (khassell@unimelb.edu.au)

VIC Regional Representative

Frances Alexander, Trish Corbett, Jules Mondon, Jing Song and Emily Armstrong
Andrew Harford, Ecotoxicology team leader for eriss in Darwin has been busy developing the workplan for the Ecotox program for the next few years in order to meet the knowledge needs for the closure phase of the Ranger Mine in Kakadu National Park.

In relation to mine closure, Mel Trenfield has been investigating the magnesium concentrations and Mg:Ca ratios in site water from the Ranger mine to determine the likely water quality (and its capacity to ameliorate Mg toxicity) that will be leaving the mine site. This will help to assess whether the current site-specific guideline value for magnesium (2.5 mg/L) providing 99% protection of species is appropriate.

Tom Mooney has been working on the site-specific Water Quality Guideline Values for ammonia in Magela Creek. He will be validating the models used to adjust ammonia toxicity estimates to different pH and temperature. The aim is to set a WQGV for ammonia in billabongs throughout Alligator Rivers Region (which tend to have more elevated pH and temperature than the creeks in this area).

Ceiwen Pease has been turning our acute 4-d survival test for the Northern Trout Gudgeon into a chronic 7-d test with a growth endpoint based on length. This change in method involved introducing feeding and using a shiny new high-powered camera microscope to measure fish length! Trials have been going well so far and 7-d exposures to uranium and also ammonia have been successful.

PhD candidate Linda Kleinhenz (RMIT) has been developing an acute 24-h and chronic 14-d toxicity test using the larval stage (glochidia) of the freshwater mussel *Velesunio angasi*. These tests will be used to assess toxicity of ammonia and metals that are contaminants of concern for Ranger mine such as uranium, magnesium and manganese. Linda recently had mussels from a range of sites across the NT analysed genetically and these results show that what we thought was a single species occurring across the NT are actually multiple species within the genus *Velesunio* (one of which may be a new species!)

Melanie Trenfield  
*NT Regional Representative*
Greetings from the in vitro tox group at Smart Water Research Centre (SWRC) at Griffith University on the Gold Coast!

Dr Jason van de Merwe and Associate Professor Fred Leusch have been leading research into ethical alternatives for assessing the exposure and effects of chemicals in wildlife. This research focuses on the establishment of cell lines from marine megafauna, and the development of species-specific toxicity bioassays, including endpoints such as cytotoxicity, endocrine disruption and oxidative stress. PhD student Kimberly Finlayson and Honours student Hannah Allan are using marine turtle cell lines to assess the toxicity of chemicals known to accumulate in these endangered species. PhD student Stephanie Chaousis is discovering new non-destructive biomarkers of chemical exposure in marine megafauna. Earlier this year we presented the first results of this work at the 36th Annual Symposium on Sea Turtle Biology and Conservation in Lima, Peru (Jason and Kim), the 3rd Australian Sea Turtle Symposium in Darwin (Kim), and the 8th International Conference on Marine Pollution and Ecotoxicology in Hong Kong (Jason and Steph). Hannah will be at the SETAC-AU conference in Hobart, so look out for her work there.

Dr Steven Melvin was recently awarded a 2016 Griffith University Postdoctoral Fellowship to study how emerging contaminants influence integrated sub-lethal toxicity endpoints in aquatic vertebrates. Steve is approaching the topic from various angles, to contribute to a broader understanding of the fate and effects of common environmental pollutants. As a first step, Steve and Fred published a meta-analysis in Environment International aimed at identifying the best sewage treatment technologies for eliminating common pharmaceuticals and endocrine disrupting compounds from domestic sewage. The study includes a global comparison of leading sewage treatment technologies, and a key finding is that the widely used conventional activated sludge (CAS) technology offers relatively poor removal for a range of important contaminants. The study sheds some light on how effectively emerging contaminants are being removed from wastewater, and helps to reveal why such compounds present a risk to wildlife.

Another aspect of Steve’s research is aimed at understanding how pharmaceuticals and other widespread pollutants influence physiological and biochemical pathways in a range of aquatic animals, and how such outcomes might ultimately scale-up to influence the overall health, fitness, and behaviour of these organisms. One interesting development (which Steve will be presenting in Hobart) includes a novel approach to quantify circadian rhythms in fish. Using this technique, Steve’s research reveals that environmental concentrations of common antidepressants can completely upset these fundamental behaviours.

Chantal Lanctôt has submitted her PhD thesis and is now working on minor revisions from her examiners! She successfully published all four chapters of her thesis in 2016, and has been invited to interview for the Brisbane Times Gold Coast and Environmental Health News about the findings of her research.
Chantal was also recently selected as a finalist for the 2016 Women in Technology (WiT) Career Start Award and will be attending the award gala in Brisbane in September where the winner will be announced. Congrats Chantal!

Chantal and Erik Prochazka have both been awarded a SETAC student travel award to attend SETAC AU 2016 in Hobart. Dr Peta Neale, Hannah and Steve will also be in Hobart, while PhD student Shima Ziajahromi will be presenting her work on microplastics in wastewater at EmCon2016.

Other exciting collaborations have been happening on the Gold Coast! Steve, Chantal and Dr Tom Cresswell were awarded an Australian Institute of Nuclear Science and Engineering (AINSE) Research Award in 2016, with funding for Chantal to spend two months at the Australian Nuclear Science and Technology Organisation (ANSTO). Chantal was very productive, performing three separate experiments using the nuclear tools available at ANSTO to study changes in bioaccumulation kinetics and tissue distribution of trace elements (Cd, Se, Zn) in developing tadpoles. The short project resulted in some exciting findings—look out for Chantal’s presentation on the topic at the Hobart meeting.

Amie Anastasi (a.anastasi@cqu.edu.au)
Queensland Regional Representative
Here at the Australian Antarctic Division head office in Hobart, Cath King has returned from her temporary role as Acting Manager for Science Planning and Co-ordination and is happily back full time heading the ecotoxicology research team and busily planning as the SETAC-AU 2016 conference chair. Preparations for the upcoming conference in Hobart are powering along and the organising committee led by Kate Kiefer is bringing together an exciting scientific program, including some great guest speakers. Program details will be finalised soon so keep an eye on the conference program page http://www.setachobart2016.com.au/program/ for full details. Pre-conference workshops run on 3-4 October including “Oil spill response monitoring”, “Statistical Methods in Ecotoxicology Using R” and “Strategies for scientific writing: how to write, get published, and cited” with the full program running from 4-7 October. It’s going to be a great conference, and has a big focus on developing and mentoring our student members, so we hope to see you in Hobart soon!

Cath, Jane Wasley and Tania Raymond are continuing working on getting a number of papers published that will contribute to our teams overall focus of developing site specific risk assessments for Australia’s Antarctic and subantarctic contaminated sites and will contribute toward providing data for our environmental guidelines and remediation targets. Research activities are also continuing including toxicity test protocol development with the Antarctic soil nematode Plectus murrayi. Kathryn Brown is working with cultures in the laboratory gaining further understanding of reproductive cycles and establishing optimal methods for obtaining age-synchronised individuals of this species for toxicity test organisms. Work continues with soil test protocol development to ultimately test the sensitivity of these microscopic worms to Antarctic terrestrial contaminants, including fuel spills and metals. Kathryn is also progressing with her PhD and completed revisions for the second paper from her thesis, on behaviour of fuels in cold seawater, which has just been published in the journal Marine Pollution Bulletin. She is now focussed on getting the third manuscript ready for submission and completing thesis on toxicity of fuels to Antarctic marine invertebrates.

Jess Holan has recently submitted her thesis on metal contaminants in the subantarctic environment (well done Jess!). After a brief sojourn to Europe to celebrate, she has now turned her attention to working on the final two chapters that need tweaking for publication – ‘Comparative sensitivity of different life stages of common subantarctic marine invertebrates to copper’ and ‘Increased sensitivity of marine invertebrates to copper under climate change.’ Jess is also currently looking for work and/or post doc positions.

Abigael Proctor, our courageous statistical modelling PhD candidate is finishing up the last edits on her first manuscript detailing a method which provides a standardised analysis technique for multiple stressor data. Currently Abigail is travelling to Denmark where she will take a course in DEBtox modelling with Tjalling Jager. Upon her return she is eager to dive into her second manuscript on NEC estimates for Antarctic data and the benefits of using time series data for slow-growing long-lived species. Abigael is looking forward to bringing what she’s learned at the DEBtox workshop back to the team and her own work.

That’s it from down south for now. We are really excited to be hosting our upcoming conference in Hobart, and if you haven’t already, we really would like to encourage you to register and come along for what promises to be a super fun and informative and engaging conference! And there will of course be dancing!

Catherine King (cath.king@aad.gov.au)
Regional Reports

New Zealand (South Island)

University of Canterbury – Sally Gaw, sally.gaw@canterbury.ac.nz (SI representative); Nicole McRae, nicole.mcrae@pg.canterbury.ac.nz (Student representative)

Professor Peter Teasdale, from Griffith University is currently a visiting Erskine Fellow hosted by Dr. Sally Gaw in the Chemistry Department at the University of Canterbury. Sally and Peter are working on a project to develop teaching materials for environmental chemistry.

We have three new SETAC members from South Island, NZ to introduce: Prof. Islay Marsden is a member of the School of Biological Sciences at UC. Her research interests include physiological ecology of marine invertebrates. She specifically looks at understanding the mechanisms of adaptation used by animals to survive in intertidal habitats. More recently her research focus has been to look at the impact of environmental factors on the metabolism, survival and reproduction of sand beach bivalves; the factors that impact metal uptake in invertebrates; and the use of marine and estuarine species as indicators of environmental stress.

Phil Clunies-Ross, is a PhD student supervised jointly by Prof. Jenny Webster-Brown and Dr. Sally Gaw at the University of Canterbury, and Dr Adam Hartland (University of Waikato). He is enrolled through the Waterways Centre for Freshwater Management. Phil is investigating the characteristics of glacial rivers in New Zealand and how fine sediments interact with dissolved chemical species. He is also the founder of the website microplastics.science. Phil’s research from his honours project, looking at microplastics on Canterbury coastlines was recently featured on the cover of the New Zealand Journal of Marine and Freshwater Research.

Nuwan De Silva, is a PhD student jointly supervised by Prof. Islay Marsden and Dr. Sally Gaw. Nuwan is looking at how *Amphibola crenata* can be used as a bioindicator of trace metals and nutrients in New Zealand estuaries. He has been investigating the short and long-term responses of the NZ mud snail to aquatic trace metal (cadmium) exposure in the laboratory, as well comparing mud snail biomarker attributes in mud snail populations exposed to different contaminant loads in the field. The research uses multiple biomarkers including biochemical, physiological and behavioral endpoints. Nuwan’s research is the first ever-detailed biomarker study on a marine gastropod species and provide useful information for new environmental monitoring, and management practices for estuarine and marine ecosystems.

Work is progressing on the new Rutherford Science and Innovation Centre. This building is part of the rebuild project following the Canterbury Earthquakes. The new facilities will provide teaching, research and support space for five of the seven departments or schools in the College of Science including the School of Biological Sciences, the departments of Chemistry, Geography, Geological Sciences and Physics and Astronomy. Included in the building are specialist research facilities for environmental chemistry and toxicology research. There are two dedicated research laboratories for environmental chemistry related research along with metal free clean rooms to support the ICP-MS. We are scheduled to move into the research labs in Spring 2017.

UC PhD student and SETAC AU student representative, Nicole McRae, has spent the last 2.5 months conducting research at Baylor University, under the supervision of Dr Bryan Brooks. Her research has been focused on investigating the impact of diclofenac on model North American fish species, zebrafish and fathead minnows. She has completed a sublethal exposure to fathead larvae and zebrafish embryos, and investigated the impacts this of exposure on oxidative stress, behaviour, and gene expression. She also conducted a 48 h uptake study with adult fathead minnows. This work will be presented at the SETAC AU meeting in Hobart and at SETAC World Congress in Florida.

Sally Gaw (sally.gaw@canterbury.ac.nz)
New Zealand (South Island) Regional Representative
Current Employer:

I’m a research scientist in aquatic ecotoxicology/chemistry at the Commonwealth Scientific and Industrial Research Organisation (CSIRO), Land and Water, Lucas Heights, New South Wales (NSW), Australia. Currently, I’m also the SETAC-AU Regional representative for NSW.

Research Background/Degree:

Both my BSc and Masters degrees were awarded from the University of Auckland in my home country of New Zealand. I worked for an environmental consultancy before joining the aquatic ecotoxicology team at the National Institute of Water and Atmospheric Research (NIWA) in Hamilton, NZ. During that time I collected a wide range of skills in analytical chemistry of metals and organics, measuring biological responses of algae, invertebrates and fish to toxicants and whole community responses in the field and artificial stream mesocosms as well as project management skills for commercial ecotoxicology projects. I narrowed my focus a little more when I did my PhD at the University of Waterloo, Ontario, Canada in conjunction with Environment Canada under the supervision of Dr George Dixon and Dr Uwe Borgmann. This work focused on modelling the biokinetics of dietary versus waterborne cadmium in the freshwater amphipod Hyalella azteca. My publications covered the development of a predictive model that linked cadmium bioaccumulation from food and water to chronic toxicity in Hyalella in the lab with model validation in the field. I gained skills in mathematical modelling, biokinetics and working with radioisotopes. Following the completion of my PhD, I moved back down-under for a post-doctoral position at the Centre for Aquatic Pollution Identification and Management (CAPIM), University of Melbourne, Australia. I contributed to developing bioassays with snails and amphipods and applying in situ caging techniques to investigate aquatic pollution sources within the Dandenong Catchment.

Current Research Interests:

Since joining CSIRO in 2012, I’ve worked on mechanisms of toxicity from cerium dioxide nanoparticles and the transfer kinetics of radioactive nano ceria in a freshwater food chain through collaboration with the Australian Nuclear Science and Technology Organisation (ANSTO). I’ve also been involved with deriving water quality guidelines for aluminium, arsenic, iron and manganese in marine waters and ammonia and iron in freshwaters. I continue to develop bioassays that can be used as tools in ecological risk assessment. All of these tools can then be applied in a commercial context for clients in industrial sectors including off-shore oil and gas, metal mining and refining, and regulators of emerging contaminants.

Ultimately, my science interests are driven by a curiosity to find out why things work the way they do in the natural world. I enjoy opportunities to collaborate on research and applied science solutions and give back to the scientific community through student supervision and participating in SETAC. I’ve met many wonderful and inspiring people in science and look forward to meeting many more!!
**Student Profile**

**Erik Procházka**

**Name:** Erik Procházka  
**Degree:** Doctor of Philosophy (PhD) in Environmental Toxicology  
**Institution:** Griffith University (GU), Gold Coast  
  A/Prof Frederic Leusch  
  Prof Beate Escher  
  Prof Michael Plewa  
  Dr Nicole Knight  
**Est. Compl.:** December 2016  
**Thesis Title:** Investigation of Potential Health Effects of Selected Drinking Water Disinfection By-products Using Toxicogenomic Methods

**Email:** erik.prochazka@griffithuni.edu.au or e.prochazka@griffith.edu.au

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**How did you get involved in environmental toxicology and chemistry research?**

I started my academic career at the Charles’ University in Prague medical school wishing to be a medical doctor, following in the footsteps of several of my family members. I quickly realised that the hospital setting is not the one for me, however I did love the science behind it. After a bit of soul-searching, I decided to move to Australia in the pursuit of adventure and wonders of the Australian natural environment. That was in 2004. The original 3 months turned into a year...and now it is 12 years and counting.

My background in human biology/health and environmental science have quite naturally lead me to environmental chemistry and later to toxicology. I have always been passionate about both, so when I met Professors Darryl Hawker and Glen Shaw in my second year of undergraduate at GU, I knew immediately that what I was looking for was environmental chemistry and toxicology. My undergraduate project, done in conjunction with Queensland Health, under Glen’s supervision was to review an information booklet on poisonous plants in Queensland, which I enjoyed immensely but needed something more hands-on, and hence decided to enrol in a MSc programme in environmental chemistry looking at removal of cyanobacterial microcystin toxins from drinking water by adsorption onto an inexpensive natural clay material.

After finishing my master’s degree, I landed a job with Dr Fred Leusch at Smart Water Research Centre working on a variety of exciting projects, such as developing an ELISA method for the detection of vitellogenin in Australian bass, or setting up an online information system for chemical risk assessment in urban waters. This further widened my horizons as to the breadth of the topics and research questions still out there for picking.

**What lead you to your PhD and what is the importance of your work?**

After a couple of years working as a senior research assistant in Fred’s lab, I realised that I really enjoyed my job but I also liked teaching and training as well. It seemed like a natural progression for me to enrol in a PhD programme.

My work focuses on one of the essential goods we provide to the public, drinking water. It has been known for decades that some of the disinfection by-products may be carcinogenic, along with other potential unwanted health effects. I think that we ought to know as much as we can about something that we are supposed to drink 2L of every day – it better not be poisonous!

**What lab techniques have you acquired during your PhD?**

I have been very lucky to get the opportunity to look after Fred’s lab on my
own for a little while. This has provided me with general lab management skills on top of the *in vitro* toxicology techniques (e.g., mammalian cell culture and maintenance) needed for the job. In addition to these, I learned techniques such as qPCR (and everything around it!), microarray data analysis and interpretation, large data-set management; and finally, various *in silico* methods, such as QSAR, and gene enrichment and pathway analyses.

**Where to from here with your work?**

Since along research, I enjoy teaching and training, I would like to stay in academia at least for a little while.

**What are your plans for the future?**

My skills and interests are transferrable into any *in vitro* toxicology setting. I am passionate about reducing the use of live animals as well as animal products in our work, hence I would like to focus on development, validation, and use of methods that are completely animal-free.

So far, I have not had a chance to plan anything concrete, but short-term post-submission I will likely keep helping out in Fred’s lab. Later on, I would like to focus on the couple of research questions that popped up towards the end of my PhD, where I did not have any more space or time to fit them in. Hence, a lab space and an operating budget would be ideal, but in saying that, I do keep my mind open. Learning new things is always exciting, so I would not be opposed to a post-doc opportunity or a position in the private or government sector.
Our students have been very busy these last few months; please see the list below of great student publications. For any further information on student related events/issues feel free to contact your SETAC-AU student reps, Francesca Gissi (Francesca.Gissi@csiro.au) or Nicole McRae (nicole.mcrae@pg.canterbury.ac.nz).

SETAC Europe
Francesca, Nicole and Molly Hoak (VIC student rep) attended the SETAC Europe meeting in May. Along with presenting and sitting in on talks, we also attended the European Student Advisory Council meeting, were involved in the running of the Reddit Ask Me Anything session, and sat in on Advisory Group meetings.

Student Membership Survey 2016
This survey was designed to address a gap in knowledge about one of the largest groups of people within SETAC, students. Students are the future of all fields represented by SETAC and as such, it is important for SETAC to gain insight from those members. This survey was designed by students for students. It is our effort to let SETAC know what we as students would like to see come from SETAC. Results from this survey will be used to influence decisions that benefit students from all major geographic units. Surveys similar to this have been used recently to influence the types of vendors and short courses at the Orlando World Congress.

All student members will have received an email from Laura Swanson in the SETAC office regarding the 2016 Student Membership Survey. If you did not receive this email you can use the link below to access the survey.

https://www.surveymonkey.com/r/TPQ6Z82

This year at our conference in Hobart the students will be running a Reddit Science Ask Me Anything session (online platform). Reddit provides an opportunity for the general public to ask questions in relation to environmental science which can then be answered by our experts. This platform is a great way to encourage discussion and facilitate outreach between practising scientists and the general public. Additionally, it is a way to increase the visibility of SETAC-AU and to advertise who we are and the great work we do as a society.

We will run the AMA on Thursday the 6th of October between 12.30 and 4.30pm. The session will be live during this time and we request volunteers to help answer questions. We will have a station set up with computers during lunch time and we are asking SETAC members to volunteer as little or as much of their time as they like. Volunteers can also continue to contribute to the session on their own devices throughout the day (a link will be provided at the conference).

Past participants have enjoyed these AMA sessions and this was a great success at SETAC North America last year and SETAC Europe in May (see the links below).
https://www.reddit.com/r/science/comments/3r7844/science_ama_series_we_are_the_society_of/
https://www.reddit.com/r/science/comments/4ktee3/science_ama_series_ask_the_society_of/
Student Corner

An email will be sent out to conference attendees closer to the time with more details. If you have any questions or if you’d like to volunteer during the AMA feel free to contact Francesca or Nicole.

Student Team
We hosted a conference call with the student team in March 2016. We talked about the goals of the team, heard from our members who had helped host regional meetings, and talked about the Hobart Conference. Members of the student team attending the Hobart conference will be running the Reddit AMA session, so feel free to pop along and be involved. It is also a great opportunity for you to meet the team. If you have any questions feel free to contact your student rep from your region.

We are still missing a student rep from Queensland and would very much like to find someone to join us. We understand it’s difficult as our members in QLD are widespread, however we’ll keep looking and asking around. If you’re a student in QLD and you’re interested in being involved please contact Francesca or Nicole.

<table>
<thead>
<tr>
<th>Student</th>
<th>Region</th>
<th>Institution</th>
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<tbody>
<tr>
<td>Tim Remaili</td>
<td>NSW</td>
<td>CSIRO/UOW</td>
</tr>
<tr>
<td>Abigail Proctor</td>
<td>TAS</td>
<td>AAD/UTAS</td>
</tr>
<tr>
<td>Linda Kleinhenz</td>
<td>NT</td>
<td>ERISS</td>
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<tr>
<td>Molly Hoak</td>
<td>VIC</td>
<td>Uni Melb (CAPIM)</td>
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<tr>
<td>Phillippa Adamson</td>
<td>WA</td>
<td>Intertek</td>
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<tr>
<td>Rod Ubrihien</td>
<td>ACT</td>
<td>Uni Canberra</td>
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<tr>
<td>Emma Knight</td>
<td>SA</td>
<td>Uni Adelaide</td>
</tr>
<tr>
<td>Diana Montenegro</td>
<td>NZ Nth</td>
<td>Uni Auckland</td>
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<tr>
<td>Olli Laroche</td>
<td>NZ Sth</td>
<td>Cawthron Institute</td>
</tr>
</tbody>
</table>

New Student Publications


Chávez-Capilla, T., Maher, W., Kelly, T., Foster, S. Evaluation of the ability of arsenic species to traverse cell membranes by simple diffusion using octanol-water and liposome-water partition coefficients, *Journal of Environmental Sciences*, 2016. Accepted.

Chávez-Capilla, T., Beshai, M., Maher, W., Kelly, T., Foster, S. Bioaccessibility and degradation of naturally occurring arsenic species from food in the human gastrointestinal tract, *Food Chemistry*, 2016, 212, 189-197.


Kleinhenz, L.S., et al., ‘Toxicity of an herbicide and adjuvant to saltmarsh invertebrates in the management of invasive grass; Comparative laboratory and field tests’, *Marine Pollution Bulletin* (2016), http://dx.doi.org/10.1016/j.marpolbul.2016.05.061


Lewis A, King CK, Hill NA, Cooper AC, Townsend AT, Mondon JA, 2016. Seawater temperature effect on metal accumulation and toxicity in the subantarctic Macquarie Island isopod, Exosphaeroma gigas. Aquatic Toxicology 177. 333-342. DOI: 10.1016/j.aquatox.2016.06.002


Ubrihien RP, Taylor AM, Maher WA. Bioaccumulation, oxidative stress and cellular damage in the intertidal gastropod Bembicium nanum exposed to a metal contamination gradient. Published online 18 July 2016. http://www.publish.csiro.au/?paper=MF16026


Social Media

For those of you that are savvy with social media, SETAC AU has both a Facebook page and Twitter handle. We encourage all members to use these media tools for communication and research dissemination through your networks.

Facebook Page - Society of Environmental Toxicology and Chemistry Australasia - SETAC AU

# People who like this page: 81

Twitter Handle - @SETAC Australasia

Following: 748
Followers: 349

Profile visits: ↑ 7.8% (in last 28 days)
SETAC Australasia Mentor Programme

Why a SETAC AU Mentor Programme?

The Society of Environmental Toxicology and Chemistry (SETAC) Australasia Mentor Programme aims to foster a collegiate society by improving the technical and career development of members by establishing mentor relationships.

Who is eligible to join the programme?

Any financial member of SETAC AU may take part in the Mentor Programme. All members from early-, mid-, late- or even post-career tracks are welcome to register for the programme.

What are the benefits for the mentee?

- Assist in the transition from study to work
- Obtain guidance with regards to career direction
- Learn from your mentor’s professional and personal experience and knowledge
- Grow your professional network

What are the benefits for the mentor?

- Exposure to students as potential employees
- Give back to your professional community by sharing your insights and experience
- Stay on top of emerging science through engaging in research-based discussions with your mentee

How do I find out more?

For a Mentor Programme outline or a registration form, please contact Tom.Cresswell@ansto.gov.au
SETAC AU Mentor Programme

Feedback from the SETAC-AU membership in 2013 indicated that there was a strong desire for mentoring systems in the Society. This resulted in the establishment of the Buddy System mentor programmes at the 2014 and 2015 annual SETAC-AU conferences, which proved successful (26 and 27 participants in each year respectively) with 85% of surveyed participants feeling the program benefited their experience at the conference. Some partners have remained in contact after the conference and the continuation of these partnerships is encouraged and the SETAC-AU Council will assist where possible. The vast majority of surveyed participants in the Buddy System indicated they would be interested in being involved in a longer-term mentoring scheme.

The SETAC-AU Mentor Programme aims to foster a collegiate society by improving the technical and career development by establishing mentoring activities for SETAC members at all stages in their careers, including early-, mid-, late- or even post-career tracks. It is expected that mentees will benefit from the technical and professional experience of their mentors while mentors are expected to gain valuable insights into new research areas. It is also expected that this programme will benefit members in remote locations or where SETAC-AU membership numbers are low, therefore increasing membership participation in the society.

SETAC Australasia Mentor Programme Overview and Responsibilities

Scope

This document describes the aims of the SETAC Australasia (AU) Mentor Programme and outlines the eligibilities and responsibilities of programme participants. The programme is coordinated by a SETAC-AU Vice President.

Background

Feedback from the SETAC-AU membership in 2013 indicated that there was a strong desire for mentoring systems in the Society. This resulted in the establishment of the Buddy System mentor programmes at the 2014 and 2015 annual SETAC-AU conferences, which proved successful (26 and 27 participants in each year respectively) with 85% of surveyed participants feeling the program benefited their experience at the conference. Some partners have remained in contact after the conference and the continuation of these partnerships is encouraged and the SETAC-AU Council will assist where possible. The vast majority of surveyed participants in the Buddy System indicated they would be interested in being involved in a longer-term mentoring scheme.

Programme aims

The SETAC-AU Mentor Programme aims to foster a collegiate society by improving the technical and career development by establishing mentoring activities for SETAC members at all stages in their careers, including early-, mid-, late- or even post-career tracks. It is expected that mentees will benefit from the technical and professional experience of their mentors while mentors are expected to gain valuable insights into new research areas. It is also expected that this programme will benefit members in remote locations or where SETAC-AU membership numbers are low, therefore increasing membership participation in the society.

Benefits to the mentee

- Assist in the transition from study to work by discussing with your mentor how the expectations may differ between employers and industries
- Provide guidance with regards to career direction by discussing with your mentor their experience in these areas
- Learn from your mentor’s professional and personal experience and knowledge
- Grow your professional network
SETAC AU Mentor Programme

- Gain advice from the mentor to enhance your resume and job search knowledge
- Gain insights into employment within the environmental toxicology and chemistry industry sector
- Gain technical advice from your mentor's professional experience.

**Benefits to the mentor**
- Share your passion for your profession with a motivated student/early career researcher
- Gain exposure to students as potential future employees and collaborators
- Improve your skills in coaching and mentoring
- Give back to your professional community by sharing your insights and experience
- Stay on top of emerging fields of research through engaging in research-based discussions with your mentee
- Provides an opportunity for you to reflect on your own knowledge and work practices before advising others
- Learn fresh perspectives from the next generation of environmental toxicologists and chemists.

**Eligibility and pairing**

Any financial member of SETAC-AU may take part in the Mentor Programme. Members wishing to be paired will be asked to complete a registration questionnaire, which will aim to gather information to enable pairing between mentees and mentors. The pairings will be conducted by at least two members of the SETAC-AU Council. Participants will be contacted with information about their prospective mentor/mentee and the decision to engage in a mentoring partnership will be at the discretion of the participants.

To be eligible to become a programme mentee, participants are required to have the following:
- a willingness to communicate in a professional manner with their mentor
- a commitment to invest time into the mentoring relationship (see participant responsibilities)
- a willingness to be open and frank with their mentor regarding their expectations of the programme; and
- an understanding that their mentor will not be taking on a supervisory role of their studies/employment. A mentor in this program is not a research collaborator.

To be eligible to become a programme mentor, participants are required to have the following:
- at least three or more years of professional workforce experience in a supervisory, management or leadership capacity
- a willingness to act as a resource by sharing expertise, experience and networking opportunities
- the ability to recognise and encourage the mentee’s strengths and areas for development
- a commitment to invest time into the mentoring relationship (see participant responsibilities); and
- a willingness to provide constructive and honest feedback.

**Participant responsibility**

It is expected that participants in the Mentor Programme contact their mentor/mentees at least once a month either in person or remotely (e.g. telephone, video conference) for at least one hour. If either participant is unable to attend a pre-organised meeting, they are to give their mentor/mentee at least 24 hours notice and re-schedule as soon as is acceptable for both partners.

If the mentor or mentee feel that the relationship is not progressing (due to diary clashes, or perhaps a mismatch of expected goals between mentor and mentee), and that an alternative partnership may be better they should contact the programme coordinator.
Timing and duration of programme

The Mentor Programme can be commenced at any time and is expected to continue for 12 months. Participants may extend their partnerships for longer than 12 months if both parties agree to the extension and inform the programme coordinator. It is natural for mentors to change over the course of the career of the mentee, as the mentees experience and directions will often change over time. A continuation of previous or future pairings resulting from the SETAC-AU conference Buddy System is welcomed.

For more information on the Mentor Programme including the programme outline and participant responsibilities document and/or programme registration form, please contact tom.cresswell@ansto.gov.au
## What’s Happening?

### Conferences and Workshops

*If you are aware of critical dates conferences or workshops that would be of interest to other members of SETAC – AU please email the details to the EndPoint Editor khassell@unimelb.edu.au.*

*Please include a link to the Webpage for the event and the critical dates SETAC – AU members should be aware of.*

<table>
<thead>
<tr>
<th>Conference</th>
<th>Date/Location</th>
<th>Key Dates</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>Early Bird Registration Deadline: 15 July 2016</td>
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<td>Advice of Acceptance to Authors: 1 August 2016</td>
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<td></td>
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<td>Final Program Available: 15 August 2016</td>
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<tr>
<td><strong>5th International Conference on Emerging Contaminants (EmCon2016) and Micropollutants (WiOW2016) in the Environment</strong></td>
<td>Sydney, Australia, 20-23rd September 2016.</td>
<td>Abstract acceptances announced: 15 May 2016</td>
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<td>Early bird registration closes: 15 July 2016</td>
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The goals of the conference are to gather scientists from around the world in Quy Nhon to share research results and management experiences, discuss environmental issues, and continue to strengthen collaborations for research and education between scientists in developed and developing countries.
Conference Announcements

SETAC AU Hobart, Tasmania 2016

4-7 October 2016 | Hobart, Tasmania

Final Program available - 15 August 2016
Registrations now open

Confirmed Speakers:

- Assoc. Prof. Christian Ritz
  University of Copenhagen, Denmark
- Assoc. Prof. Amy Ringwood
  University of North Carolina, USA
- Prof. Vance Trudeau
  University of Ottawa, Canada
- Assoc. Prof. Erica Donner
  University of South Australia, Australia
- Frances Bender
  Huon Aquaculture, Tasmania, Australia
- Dr Kathy Northcott
  Veolia Environment, Victoria, Australia
- Dr John Gorrie
  Tasmanian Environmental Protection Agency, Australia

Workshops:

- Statistical techniques in Ecotoxicology using R
  4 October 2016 with Christian Ritz
- Strategies for scientific writing: how to write, get published and cited
  3 October 2016 with Simon Wright & Tanya Raymond
- Oil Spill Response Monitoring
  4 October 2016 with Sharon Hook & Paul Irving

Abstracts are now invited for the 5th International Conference on Emerging Contaminants (EmCon2016) and Micropollutants (WiOW2016) in Sydney, Australia from 20-23 September 2016. This is your opportunity to contribute to three days of thought-provoking discussion, information-sharing, strategizing and problem solving.


This joint meeting will bring together scientists from across the globe to discuss the latest research on all aspects regarding emerging contaminants and their many degradation products. Special themes include emerging contaminants in megacities, mining exploration and fracking, microplastics and nanomaterials.

Our confirmed keynote speakers include Dr Judy Blackbeard, Melbourne Water, Dr Sherri Mason, State University of New York at Fredonia and Dr Kevin Thomas, Norwegian Institute for Water Research (NIVA).

Sydney is Australia’s oldest and largest city. Located on Australia’s East coast, the metropolis surrounds one of the world’s largest natural harbours, and sprawls towards the Blue Mountains to the West. Sydney offers a whole range of great tourist attractions from the world famous Sydney Opera House and Sydney Harbour Bridge to the sandy shores of Bondi Beach.

Key Dates:

Abstract submission opens: 15 October 2015
Abstract submission deadline: 1 March 2016
Abstract acceptances announced: 15 May 2016
Early bird registration closes: 15 July 2016

Further Information


Johnson AC, Sumpter JP. 2016. Are we going about chemical risk assessment for the aquatic environment the wrong way? DOI: 10.1002/etc.3441
Abstract: The goal of protecting the aquatic environment through testing thousands of chemicals against hundreds of aquatic species with thousands of endpoints while also considering mixtures is impossible given the present resources. Much of the impetus for studies on micropollutants, such as pharmaceuticals, came from the topic of endocrine disruption in wild fish. But despite concern over reductions in fish fertility, there is little evidence that fish populations are in peril. Indeed, fish biologists suggest that many cyprinid populations have been recovering for the past 30 to 40 yr. The central assumption, key to current risk assessment, that effects observed in the laboratory or predicted by models are readily transferrable to the population level, is therefore questionable. The neglect in monitoring wildlife populations is the key weakness in environmental protection strategies. If we do not know whether aquatic wildlife species are declining or increasing, how valuable are our other ecotoxicological activities? Environ Toxicol Chem 2016;35:1609–1616. © 2016 SETAC
http://onlinelibrary.wiley.com/doi/10.1002/etc.3441/full

Thomas RBO, Barbee NC, Hassell LK, Swearer SE. 2016. Smell no evil: Copper disrupts the alarm chemical response in a diadromous fish, Galaxias maculatus. DOI: 10.1002/etc.3371.
Abstract: Fish, at all life stages, utilize olfactory information in the decision-making processes essential to survival. Olfaction is a sensitive sensory process, and toxicants within urban aquatic environments can have destructive or depreciating effects. In the present study, the authors exposed Galaxias maculatus, a native fish commonly found in urban waterways throughout southeastern Australia, to 1 of 5 ecologically relevant copper (II) chloride concentrations (<1 μg/L, 1 μg/L, 6 μg/L, 8 μg/L, 18 μg/L) for 16 h. After exposure, the authors tested the response of individual fish to 1 of 3 stimuli: a conspecific skin extract containing a stress-inducing alarm chemical odor, a conspecific odor, and distilled water as a control. Stress responses were quantified through behavioral assays. The authors found evidence for distinct changes in behavioral response with increasing copper concentration and a marked difference in response between control fish and fish exposed to the alarm chemical odor. Copper, even at relatively low concentrations, can have a significant effect on the stress response behavior shown by G. maculatus. Environ Toxicol Chem, 35: 2209–2214. © 2016 SETAC
http://onlinelibrary.wiley.com/doi/10.1002/etc.3371/full
Standardised and efficient sample collection using the TECO Mucus Collection Set

- Designed for use with highly sensitive TECO Perch, Cyprinid and Salmonid Vitellogenin ELISA
- Non-invasive, non-destructive sampling method of choice in ecotoxicological and environmental monitoring programmes

TECObio Pty. Ltd. (www.tecobio.com)
Contact: britten@tecobio.com
Membership Details

How to join SETAC Australasia

Even if you are a SETAC member based in Australia, New Zealand or PNG, you may not be a member of SETAC Australasia. You can join SETAC Australasia by going to http://www.setac.org/. After logging in, go to the SETAC Australasia page and click ‘Request Membership’ (see below). 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.

Current SETAC Australasia Members

To make sure you don’t miss out on attending SETAC get-togethers in your state or territory or contributing 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 http://www.setac.org/ and selecting ‘Manage Profile’, then ‘Edit Bio’.

Peta Neale (p.neale@griffith.edu.au)
SETAC AU Secretary
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.
- The Standing Committee may exempt any advert from fees on the basis that it is of sufficient interest to the general membership (decided by majority vote) or any other extraordinary circumstances as determined by the Standing Committee.
- Sustaining Members are entitled to two pages of free advertising per annum.

For further information please contact the SETAC AU Secretary Peta Neale (p.neale@griffith.edu.au)
Have you considered affiliate or sustaining membership or do you know an organisation that should? Affiliate memberships are suitable for not-for-profit organisations or academic institutions and sustaining memberships are suitable for for-profit organisations, government agencies, or individuals. They are cost effective means of covering membership and conference registrations as well as other benefits. Here are the details below:

1. **SETAC Global Partner** (see [http://www.setac.org/?page=SETACPartners](http://www.setac.org/?page=SETACPartners)) Annual fee US$10,000

   Benefits:
   - Annually –
     - Two complimentary full registrations at two SETAC meetings or conferences, OR
     - A free booth at one SETAC meeting or conference.
   - Free listing as a Global Partner on SETAC meeting/conference signage and programs.
   - Free attendance at reception functions for SETAC meetings/conferences.
   - Free access to the SETAC Membership Directory.
   - Free hard and online versions of the SETAC Journals – *Environmental Toxicology and Chemistry (ET&C)* and *Integrated Environmental Assessment and Management (IEAM)*
   - Annual acknowledgement as a SETAC Global Partner in journals.
   - Listing as a SETAC Global Partner on SETAC website.
   - Free advertising (1/8 page annually in one journal).
   - Discount (25%) online job advertisements.
   - Access to online newsletters.
   - Members discount on publications.
   - SETAC Global Member Wall plaque.
   - Can help organise special sessions on global issues at annual meetings.
   - Acknowledgement for other assistance such as student grants, etc.
2. SETAC Asia-Pacific Sustaining Member

Annual fee AU$2000

- Annually –

- Two complimentary full registrations at one SETAC Asia-Pacific meeting or conference,

OR

Four complimentary student registrations at one SETAC Asia-Pacific meeting or conference,

OR

One complementary full registration and two student registrations at one SETAC Asia-Pacific meeting or conference

- Free listing as a SETAC Asia-Pacific Sustaining Member on SETAC Asia-Pacific meeting/conference signage and programs.

- Free attendance at reception functions for SETAC Asia-Pacific meetings/conferences.

- Free hard and online versions of the SETAC Journals – Environmental Toxicology and Chemistry (ET&C) and Integrated Environmental Assessment and Management (IEAM)

- Annual acknowledgement as a SETAC Asia-Pacific Sustaining Member in journals (subject to SETAC World Council approval).

- Listing as a SETAC Asia-Pacific Sustaining Member on the SETAC Asia-Pacific web pages.

- Free advertising (1/8 page annually in one journal, subject to SETAC World Council approval).

- SETAC Asia-Pacific Sustaining Member Wall plaque.

- Can help organise special sessions on regional/global issues at annual meetings
Affiliate and Sustaining Memberships

3. SETAC Australasia Sustaining Member (only available to companies operating in Australasia)

Annual fee AU$1500

- Annually –

- Two complimentary full registrations at one SETAC Australasia meeting or conference,

OR

- Four complimentary student registrations at one SETAC Australasia meeting or conference,

OR

- One complementary full registration and two student registrations at one SETAC Australasia meeting or conference

- Free listing as a SETAC Australasia Sustaining Member on SETAC Australasia meeting/conference signage and programs.

- Free attendance at reception functions for SETAC Australasia meetings/conferences.

- Free access to the SETAC Australasia Membership Directory.

- Free hard and online versions of the SETAC Australasia publications.

- Annual acknowledgement as a SETAC Australasia Sustaining Member in SETAC Australasia publications.

- Listing as a SETAC Australasia Sustaining Member on the SETAC Australasia web pages.

- Free advertising in SETAC Australasia publications (subject to SETAC Australasia Council approval).

- SETAC Australasia Sustaining Member Certificate.

- Acknowledgment for other assistance such as student grants etc.

To follow up with these membership options please email me at p.neale@griffith.edu.au and also pass this information on to anyone or any organisation you think might be interested. Remember we now represent ecotoxicology and environmental chemistry.

Peta Neale (p.neale@griffith.edu.au)
SETAC AU Secretary
Council Members

<table>
<thead>
<tr>
<th>Position</th>
<th>Elected Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Anthony Chariton (<a href="mailto:anthony.chariton@csiro.au">anthony.chariton@csiro.au</a>)</td>
</tr>
<tr>
<td>Immediate Past President</td>
<td>Dianne Jolley (<a href="mailto:djolley@uow.edu.au">djolley@uow.edu.au</a>)</td>
</tr>
<tr>
<td>Vice Presidents</td>
<td>Andrew Harford (<a href="mailto:andrew.harford@environment.gov.au">andrew.harford@environment.gov.au</a>)</td>
</tr>
<tr>
<td></td>
<td>Tom Creswell (<a href="mailto:tomc@ansto.gov.au">tomc@ansto.gov.au</a>)</td>
</tr>
<tr>
<td>Secretary</td>
<td>Peta Neale (<a href="mailto:p.neale@griffith.edu.au">p.neale@griffith.edu.au</a>)</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Munro Mortimer (<a href="mailto:ase@hydrobiology.biz">ase@hydrobiology.biz</a>)</td>
</tr>
<tr>
<td>Membership Officer</td>
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</tr>
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<td>Kathryn Hassell (<a href="mailto:khassell@unimelb.edu.au">khassell@unimelb.edu.au</a>)</td>
</tr>
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<td>Erik Prochazka (<a href="mailto:e.prochazka@griffith.edu.au">e.prochazka@griffith.edu.au</a>)</td>
</tr>
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<td>Student Representative</td>
<td>Aus: Francesca Gissi (<a href="mailto:Francesca.Gissi@csiro.au">Francesca.Gissi@csiro.au</a>)</td>
</tr>
<tr>
<td></td>
<td>NZ: Nicole McRae (<a href="mailto:nicole.mcrae@pg.canterbury.ac.nz">nicole.mcrae@pg.canterbury.ac.nz</a>)</td>
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</tbody>
</table>

Regional Representatives

<table>
<thead>
<tr>
<th>Region</th>
<th>Elected Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australian Capital Territory</td>
<td>Ben Kefford (<a href="mailto:ben.kefford@canberra.edu.au">ben.kefford@canberra.edu.au</a>)</td>
</tr>
<tr>
<td>New South Wales</td>
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</tr>
<tr>
<td>Northern Territory</td>
<td>Melanie Trenfield (<a href="mailto:M.Trenfield@aims.gov.au">M.Trenfield@aims.gov.au</a>)</td>
</tr>
<tr>
<td>Queensland</td>
<td>Amie Anastasi (<a href="mailto:a.anastasi@cqu.edu.au">a.anastasi@cqu.edu.au</a>)</td>
</tr>
<tr>
<td>South Australia</td>
<td>Mike Williams (<a href="mailto:mike.williams@csiro.au">mike.williams@csiro.au</a>)</td>
</tr>
<tr>
<td>Tasmania</td>
<td>Cath King (<a href="mailto:cath.king@aad.gov.au">cath.king@aad.gov.au</a>)</td>
</tr>
<tr>
<td>Victoria</td>
<td>Kathryn Hassell (<a href="mailto:khassell@unimelb.edu.au">khassell@unimelb.edu.au</a>)</td>
</tr>
<tr>
<td>Western Australia</td>
<td>Tristan Stringer (<a href="mailto:tristan.stringer@intertek.com">tristan.stringer@intertek.com</a>)</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>TBC</td>
</tr>
<tr>
<td>New Zealand (North Island)</td>
<td>Trudy Geoghegan (<a href="mailto:trudy.geoghegan@epa.govt.nz">trudy.geoghegan@epa.govt.nz</a>)</td>
</tr>
<tr>
<td>New Zealand (South Island)</td>
<td>Sally Gaw (<a href="mailto:sally.gaw@canterbury.ac.nz">sally.gaw@canterbury.ac.nz</a>)</td>
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