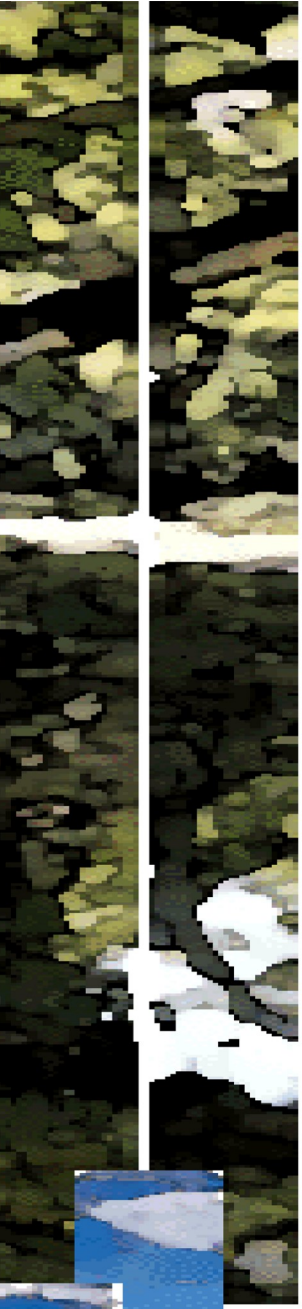


NEWSLETTER

Endpoint

SOCIETY OF ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY AUSTRALASIA
(SETAC AU)

Volume 23 Number 1

April 2016

CONTENTS

Message from the Editor

Welcome to another edition of Endpoint. It's been a busy period for our active SETAC membership and there have been two regional meetings in recent weeks. The Victorian members met to hear Professor Allan Jensen (Nordic Institute of Product Sustainability, Environmental Chemistry and Toxicology Copenhagen, Denmark) present a seminar entitled *'Are the short-chain polyfluoroalkyl substances (PFAS) safe alternatives?'* which was followed by a networking lunch. Similarly, in NSW there was a regional meeting at which Graeme Batley (CSIRO) received the 2015 SETAC Fellows award and Emma Johnston (UNSW) received the 2015 SETAC-AU mid-career medal. Reports for both events can be found in the regional reports section of this newsletter.

There is also a report on Science meets Parliament, which recently took place in Canberra. SETAC was represented by PhD student Molly Hoak (University of Melbourne/CAPIM) and current *El Presidente*, Anthony Chariton (CSIRO). It sounds like both Molly and Anthony had a great time rubbing shoulders with policymakers and parliamentarians in the nation's capital, and you can read all about it in Molly's detailed report below.

As many of you would be aware, CSIRO recently released a new handbook, *Sediment Quality Assessment: a practical guide* (Editors: Graeme Batley and Stuart Simpson). Graeme has kindly provided a synopsis of the handbook, along with details of how you can get yourself a copy (hard copy or E-book). Related to this, CSIRO will be running a one day workshop on sediment quality assessment during May, so check out the details which are advertised in the Conferences and Workshops section of the newsletter.

Details of the official SETAC-AU Mentoring Programme are included and Tom Cresswell would like to encourage all members to consider participating in this wonderful incentive. The Mentoring Programme partners SETAC members at all stages in their careers, including early-, mid-, late- or even post-career tracks. There are mutual benefits for both mentees and mentors, from career development and professional experience to networking and other opportunities, and we envisage it will be particularly valuable for members from remote or isolated locations, to enhance their participation in the Society. One point to clarify is that it is a separate incentive to the Buddy Programme, which is specifically designed to link mentors with mentees (buddies) at SETAC Conferences.

Check out the student profile of our NZ Student Rep, Nicole McRae along with other news from the Student Corner. The new Student Team has recently been established, which includes a student member from each state or territory. The role of these students' is to assist the regional reps with planning of local events and activities, and as a support team to assist the Student Reps (Francesca Gissi and Nicole McRae) with planning and organisation of other student activities and incentives. The Student Corner also has a list of recent student publications, and it is really great to see that they are such a productive bunch!

There are some new items that will be included in this and future editions of Endpoint, such as a general member profile, much the same as the student member profiles, as well as a section on 'social media stats' to show you how the SETAC membership is faring in the use of communication (and networking) tools such as Twitter and Facebook. Watch this space for more to come in future newsletters.

Finally, we have details of upcoming international and regional SETAC and SETAC-supported conferences including details of confirmed plenary speakers and special workshops that are being offered. Details including important dates and submission deadlines can be found in the 'What's Happening' section of the newsletter. Happy reading!

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

From El Presidente

Well it's hard to believe that we are already a quarter of the way into the year! In February we had an extremely productive Council meeting in Sydney. Some of the key areas we discussed and are currently working on include: an Indigenous Engagement Strategy; a revised and refreshed logo (led by Tristan Stringer); and examining the viability of setting up and maintaining an Australasian Ecotoxicology Database (AEB) (led by Reinier Mann). The original AEB was published over a decade ago by Scott Markich, Michael Warne, Anne-Maree Westbury and Cathy Roberts (http://www.ecotox.org.au/aje/v8n1.html), and was designed to be a single comprehensive compilation of chemical toxicity data for aquatic or soil biota from Australia, New Zealand, Papua New Guinea, Indonesia, Malaysia, the Philippines and the smaller islands of the South Pacific Ocean. While the AEB was extremely useful and comprehensive, capturing 2407 data points from 205 studies and covering 21 metals and 299 species, there has been no mechanism to officially update the database and make the data more accessible. Given the increasing pressure on our regional ecosystems and the breadth of high quality data being produced across the region we thought it would be timely and of great benefit to re-establish and update the AEB. I look forward to talking more about this exciting initiative over the next few months.

In addition to the main Council meeting, adjacent meetings were steered by the Vice Presidents (Andrew Harford and Tom Cresswell) to both develop our communication strategy and initiate our mentoring program. Collecting data from members and using a range of tools (including SWOT and PEST analysis), Andrew has put an exceptional amount of work into the Communication Strategy which ultimately needs to reflect the Chapter's overall organizational plan. Consequently, the Council has been

reviewing SETAC-AU's overall vision and core aims and objectives and identifying the best approaches for disseminating information and maximising value and opportunities for all members. The overall process is quite ambitious, but essential for ensuring SETAC-AU's relevance to both its members and the wider community. Andrew will keep you posted as the process further develops.

This year Molly Hoak (Melbourne University) and I had the pleasure of attending Science and Technology Australia's Science Meets Parliament. This annual event brings together 200 working scientists to Canberra for a two-day program of professional development and networking aimed at helping them better communicate their science to the media, policymakers and parliamentarians. As highlighted by several of the keynote speakers, this year may be the most challenging year on record for scientists given the broad changes to the science and academic communities via the Government's National Innovation and Science Agenda. Given the rhetoric of the dinner speeches by the Hon. Christopher Pyne and Hon. Bill Shorten, there was little

From El Presidente

doubt that this year is an election year. Personally, I had the pleasure of a meeting with Labor MP Julie Owens, who was extremely passionate about soil and water and social issues in general. I look forward to follow-up meetings with Ms Owens and ANSTO's Dr Suzanne Hollins.

Three Gel Jockies at Science meets Parliament: (left to right) Hannah Osborn (ANU PhD Candidate and ex-member of Anthony's Team), Anthony and Carly Rosewarne (CSIRO). Photo: Mark Graham.

As most of you are aware there is a lot going on in the conference space this year. Importantly, our Geographical Unit (Asia-Pacific) conference is being held this year in Singapore (16-19th September). The 2016 biennial Conference will be leading the Geographical Unit towards its 20th Anniversary with the theme "Managing Environmental Quality in the Asian Century", as the community strives to advance the knowledge needed to protect environmental quality and resources, and develop platforms to provoke and exchange multi-disciplinary ideas and approaches in the tri-partite community. Later in the year there is the SETAC AU conference in Hobart (4-7th October). In the case of the Hobart conference, Cath King and the other organizers are doing an exceptional job preparing for the conference, and it's bound to be a brilliant event. Early bird registration and abstract submission are now open. In addition, in Sydney there will be the SETAC AU sponsored EmCon2016 and WiOW2016 combined meeting (Sydney, 20-23rd September). Finally, the combined SETAC World Congress/North American meeting is being held in Orlando, Florida (6-10th November).

On a final note, I wish to welcome to the fold SETAC Japan, the newest and only second chapter of SETAC Asia Pacific.

Warmest regards,

Anthony

Regional Reports

New South Wales

SETAC-AU NSW Regional Meeting 10 March 2016 held at University of Technology Sydney – Lisa Golding (lisa.golding@csiro.au)

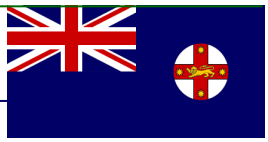
We had a great evening of inspiring science with the opportunity to acknowledge and celebrate the enduring service and research contributions of two of our members to SETAC and the wider scientific community. Graeme Batley (CSIRO) was the 2015 recipient of the SETAC Fellows award while Emma Johnston (UNSW) was the 2015 recipient of the SETAC-AU mid-career medal. The evening began with light refreshments and socializing, catching up with familiar faces and welcoming a large contingent of non-members with a good mix of students and professionals. Graeme presented an overview of the components that contribute to a successful career in science research along with how involvement in SETAC has contributed to that success. Emma served up cocktails of contaminants and how Sydney Harbour is dealing with such impacts. Tweets were flying during the event and videos of the presentations will be uploaded onto SETAC-AU website and facebook for those members that couldn't attend. The evening moved on to more socializing at a local bar with cocktails of a different kind! Thanks to all that were involved to make it a successful night!

Emma received her 2015 SETAC-AU mid-career medal from SETAC-AU President Anthony Chariton.

Graeme Batley received the 2015 SETAC Fellows award.

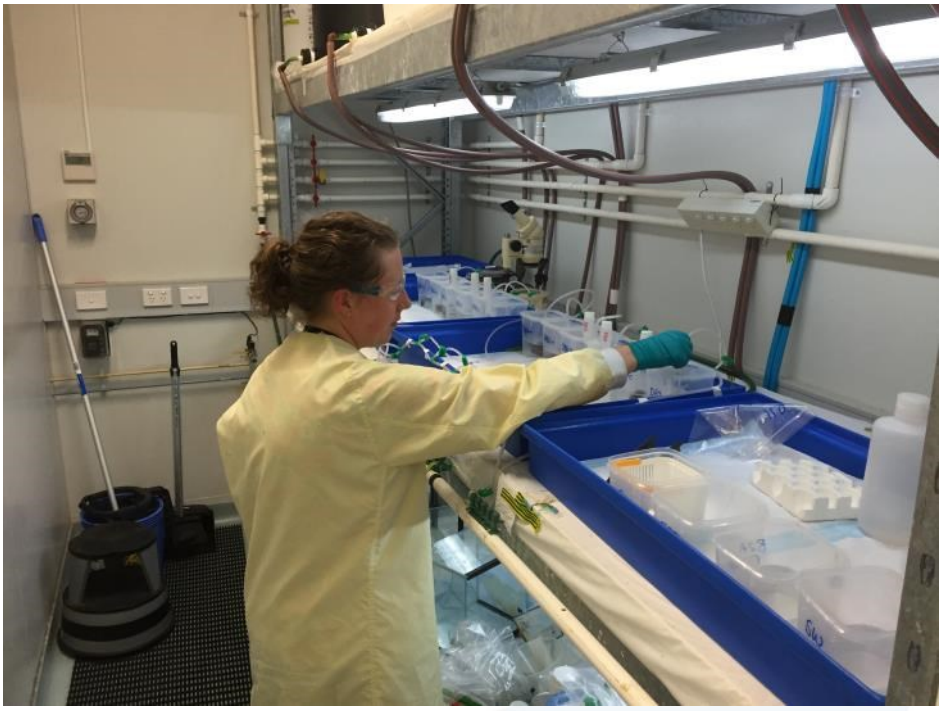
Regional Reports

New South Wales



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

The group has been very busy over the last three months with several PhD students coming to ANSTO to use our radioisotope tracing facilities. Divya Vinod, a PhD student from UTS started working with us 7 months ago investigating pattern of Se uptake in plants suitable for phytoremediation and biofortification by analysing results from autoradiography and sequential cell fractionation. Using selenium salts representative of Se^{4+} and Se^{6+} that were neutron activated at ANSTO to produce the gamma emitter ^{75}Se, the salts were added to tissue cultures of vitamin green and sunflowers for a pilot study. Audioradiography on the vitamin greens showed that selenite in both plants mostly was mostly associated with the roots of the plants while the selenate was associated with the aerial portions of the plants which were reflected in the results of the protein fractionation from the leaves, stems and root segments of the plants. The data collected during this time was presented by Divya at her first conference, the SETAC-USA 36th Annual Meeting in Salt Lake City and to the Elizabeth Pilon-Smits Lab at Colorado State University. Upon her return, full scale experiments commenced with the addition of two more plants, potatoes and salt bush. Once these are complete Divya will be returning to UTS to start the final proteomics stage of her PhD to identify the proteins, if any, selenium has effected and/or incorporated with plant protein, directed by findings of these radiotracer experiments.



Rebecca Hull working in the radiation area exposing ascidians to radioisotopes of cadmium and zinc

PhD student Rebecca Hull from the University of Melbourne recently received an Australian Institute of Nuclear Science and Engineering (AINSE) Post-Graduate Award which enabled her to work with Tom Cresswell at ANSTO for two months. Rebecca's research on bryzoans and other sessile marine invertebrates to date has quantified the physical response of individuals – survival, growth and reproduction – to metal exposure without a good understanding of the way in which metal is taken up and handled internally. During Rebecca's time at ANSTO she studied the uptake and loss of the radio-isotopes Cd and Zn following a dissolved exposure from food in the sea-squirt *Styela clava* (ascidian). We have coupled this kinetics data with autoradiography, allowing the visualisation of the internal accumulation of each radio-isotope. Cd and Zn have differed both in kinetics (with Cd and Zn accumulating more quickly in the dual exposure) and internal accumulation (Cd has accumulated in the outer body wall or test while Zn has not).

Regional Reports

New South Wales

We also had a brief 3 week visit by PhD student Harsha Fowdar from Monash University, who conducted a radio-phosphorous study with her grey-water biofilters with Tom. Harsha is investigating the uptake and distribution of phosphorous in her native sedge-planted biofilter columns. We used ^{32}P to compare vegetated vs. non-vegetated columns for their efficacy in removing phosphorous from simulated bathroom grey water. The data is still being analysed but it looks like we'll have some really interesting results. The autoradiographic images produced on the plants from the bottom of the roots to the tips of the leaves confirmed that the majority of the ^{32}P was accumulated within the leaves, which has important implications for ongoing phytoremediation projects.

Harsha Fowdar working in the ANSTO greenhouse applying ^{32}P to her biofilters

ANSTO Graduate Emily Prentice has been working with the Life Sciences Radiochemistry team for the past four months as part of her rotation from our group, synthesising deuterated PBR111 ligands. The [^{18}F]PBR111 radioligand is used in positron emission tomography (PET) to measure neuroinflammation associated with diseases such as Alzheimer's, Parkinson's, Huntington's and multiple sclerosis. Use of deuterated [^{18}F]PBR111 is hoped to improve metabolic stability of the compound *in vivo*, decrease the radiation burden on the patient and ultimately provide better quality PET images. Now that the compound has been successfully synthesised, its metabolic stability will be assessed in a series of in vitro binding and bio-distribution studies.

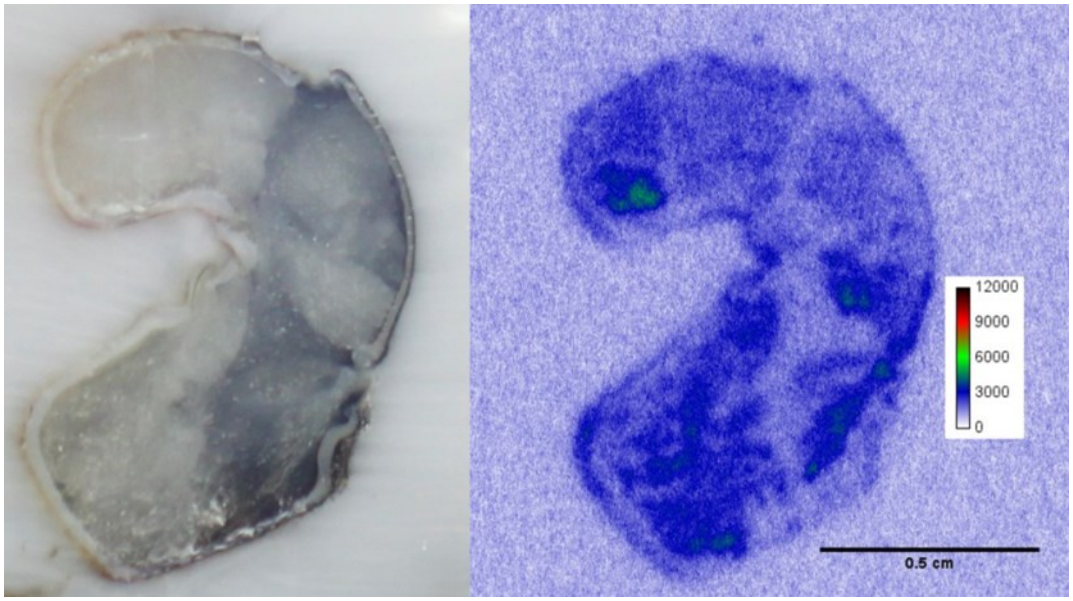
Debashish Mazumder has been working with Prof. Niel Saintilan at Macquarie University and Dr. Suzanne Hollins from ANSTO to use stable carbon and nitrogen isotopes to monitor the uptake of anthropogenic nitrogen by biota in estuarine ecosystems. Debashish analysed the stable carbon and nitrogen isotope ratios of a range of biota collected across estuaries in NSW. The data reflected the degree of anthropogenic modification and nitrogen pollution in the estuaries, and corresponded to population density within the catchments. The study has been recently published in Marine Pollution Bulletin (**100**, 217-223).

Tom, Mat Johansen and Nick Howell have been working with the crab models and the Sr and Cs uptake study. We have some extra beam time at the Australian Synchrotron in mid-March, when we'll be investigating crab sections to better understand why we see a heterogeneous distribution of Cs in crab tissues. We will also be imaging microplastics on the XFM beamline that have been deployed in a local mangrove in an attempt to image the constituents of algal biofilms associated with different types of microplastic.

Regional Reports

New South Wales

Tom is nearly ready to submit a paper on methods of live animal radioanalysis that he has been working on with colleagues from the University of Salford (UK), the IAEA Radioecology Lab in Monaco and Lisa Golding at CSIRO. The paper includes detailed descriptions of QAQC issues related to the live animal radioanalysis technique. These methods are rarely described in detail in the literature, which makes replicating reported studies and verifying associated QC methods very difficult. It is hoped that the paper will form the basis of a standard operating procedure for the field.



Cross section of mangrove crab claw with corresponding autoradiographic image of tissue distribution of ^{134}Cs. Calibration bar is in intensity units/cm^2

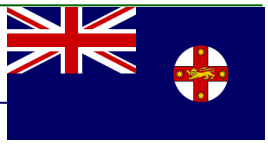
CSIRO, Lucas Heights – Lisa Golding (Lisa.Golding@csiro.au)
Land and Water Flagship, Aquatic Contaminants Group
Oceans and Atmosphere Flagship, Molecular Ecology and Toxicology Team

The summer has flown by and we've had lots of fruitful collaborations with students coming and going (sadly for us!).

Chloé Trinh Quy, a Masters student from AgroParisTech in Paris, finished up her 5-month Internship with Monique Binet in February. Chloé's project was to investigate the use of scanning and image recognition technology in chronic copepod toxicity tests. She successfully set up a semi-automated method that allows us to analyse larval development in the tropical estuarine/marine copepod *Acartia sinjiensis*. The method analyses each copepod for 50 different size measurements, in addition to identifying its larval development stage. Further work is still needed to identify the most sensitive and relevant endpoint measured by this method for use in routine chronic copepod toxicity tests.

PhD student Megan Gillmore has been investigating the tolerance of the native freshwater snail *Austropeplea lessoni* to various water-quality parameters including pH, salinity, hardness and ammonia. This work will contribute to the development of chronic sediment bioassays for tropical species and focus on nickel contamination in sediments as part of the NiPERA funded project with supervisors Lisa Golding, Di Jolley and Jenny Stauber. Megan has also been visiting Katelyn Edge at the Office of Environment and Heritage (OEH), Lidcombe to learn the technique for the lysosomal membrane stability assay - a common cellular biomarker. Megan's honours research on the toxicity of dissolved and precipitated aluminium to marine diatoms was recently published in the journal *Aquatic Toxicology*.

Lisa Golding has been working with a Southern Cross University internship student for 8 weeks who was very productive with research on chronic dietary uptake of nanoparticulate cerium dioxide in a freshwater snail. It was an opportunity to develop new methods and connect results to previous work conducted by Lisa with assimilation efficiency of radiolabelled nano-ceria in the same snails. Otherwise, Lisa has



been involved in commercial projects in deriving and revising water quality guidelines and chemical and ecotoxicity assessments of oil/gas produced formation waters.

Welcome back to Sarah Stone who kicked off her honours project early this year with Merrin Adams, Jenny Stauber(CSIRO), Ryan Turner, Olivier King, Michael Warne (DSITI & Coventry University) and Di Jolley (UOW). Sarah is investigating the toxicity of herbicides to tropical freshwater microalgae by developing a multispecies algal bioassay which will then be used to assess the toxicity of herbicide formulations and natural waters impacted by herbicide run-off in Northern Queensland. We also welcome Nick Whitelaw to the team, an honours student from UOW working with Di, Cath King (AAD) Darren Koppel and Merrin. Nick will be investigating the influence of freshwater ice melt (i.e. varying salinity) on the toxicity of metal mixtures to Antarctic microalgae. This project supplements Darren's PhD project (also with Di, Cath and Merrin) who is currently assessing the influence of DOC on metal toxicity in Antarctic waters. Darren has also been busy optimising and trialling DGT to predict metal bioavailability in polar waters. Merrin has also been working with Bec Hull (University of Melbourne) and Tom Cresswell (ANSTO) on the dietary uptake of metals (Zn and Cd) in ascidians. With the CSIRO Group, Merrin has been working on revising water quality guidelines, initiating ecotox studies on chemicals related to CSG operations and establishing environmental report cards for the mining industry.

Kitty McKnight and Francesca Gissi have been generating high quality toxicity data for nickel and copper with tropical microalgae for use in deriving water quality guidelines for tropical freshwater and marine ecosystems.

David Spadaro has been busy managing our sediment ecotoxicity testing (acute and chronic) with *Melita plumulosa* and *Nitocra spinipes* which has dominated our external projects over the last few months.

CSIRO's new facility at Watermans bay.

Sharon Hook has had a busy summer! She is very pleased to announce that the oil spill handbook is at CSIRO publishing. It was written for the Australian Maritime Safety Authority to replace the 2003 version with help from Graeme Batley and many others both here at CSIRO and in other agencies, and contains practical advice for response phase and environmental impacts monitoring following an unplanned discharge. For those of you who are interested in this sort of thing, there will be a workshop before the annual meeting in Hobart.

She also ran some experiments on the interactive effects of UV and PAH on developmental cardiac toxicity in yellowtail kingfish embryos. These studies were performed in collaboration with Aaron Roberts and his team at the University of North Texas as part of the Gulf of Mexico Research Initiative. They were performed at CSIRO's new facilities at Waterman's Bay (Perth) (pictured below). We got some great data, since as you would expect, there was no shortage of UV in Perth in January! We are hoping to present that at Hobart too.

Regional Reports

New South Wales

She also spent two weeks at SARDI in Adelaide performing some controlled laboratory exposures of prawns and flat fish (in this case, the very well named spotted stinkfish) to oiled sediment, as part of the ongoing Chevron Deepwater marine projects in the GAB. It was great to work in collaboration with Jules Mondon and Trish Corbett from Deakin! Hopefully, more of this work will be presented at Hobart too.

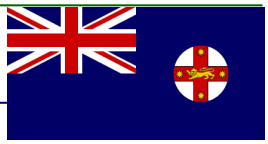
Spotted dragonets, aka the stink fish, and greasy back prawns, the two test organisms used for the Chevron project at SARDI

Now that she's back in Sydney, she's hoping to catch up on writing up her barramundi RNAseq papers. More about that at the EmCon/WiOW conference in September…
Francesca has been keeping busy working on commercial projects in the genomics group with Sarah, Anthony and Sharon. Francesca is also preparing to attend the SETAC-EU conference in May this year where she will be receiving an award and presentation research from her PhD project. In her spare time Francesca is busy in her role as SETAC-AU student rep. Francesca and Nicole have formed there student team (see the Student Corner) and Francesca has also been helping Lisa and Tim organise the SETAC NSW regional meeting.

Anthony and Sarah have been down at CAPIM working with Allyson O'Brien on metabarcoding sediments. Anthony has also had a changing in the guard for some of his post grad students. The wonderful Richard Stafford-Bell has just submitted his PhD on the ecology of the seagrass *Zostera muelleri* (well done Richard) and Anita Perkins (MU) has just commenced her Masters. Anthony is also currently working with Peter Bayliss (CSIRO), David Williams (AIMS) and Max Finlayson (CSU) on special issue on Kakadu for Marine and Freshwater Research.

Regional Reports

New South Wales



Ecotox lab, Macquarie University – Grant Hose (grant.hose@mq.edu.au**)**

Well the winds of change have blown hard at Macquarie University and have seen Scott Wilson back in Sydney from the wilds of Central Queensland. Scott will be continuing his micro-plastic impact research and will also be working with Damian Gore looking at mine metal leachate toxicity. Look out for the dynamic duo of Hose and Wilson or is that Wilson and Hose at a conference venue near you!

Ingrid Errington is looking forward to another short trip to Macquarie Island and hoping to catch worms. Ingrid is running earthworm toxicity tests using *Eisenia* and the native Macca *Macroscolex* on aged fuels and their components. Ing is proudly supervised by Cath King at the AAD and Grant Hose and Simon George at Macq Uni. Also associated with this project are Sally Crane and Sarita Pudisaini who are working on microbial aspects of aged fuel contamination along with Belinda Ferrari. In a similar vein, **Kostas** Kotzakoulakis is working with Simon and Cath and others at the AAD on predicting the weathering and bioavailability of fuel spills in polar marine environments.
Brodie Sutcliffe is in the second year of her PhD looking at changes in microbial communities in metal contaminated sediments, particularly focusing on copper and uranium with the support of Andrew Harford at ERISS, Anthony Chariton at CSIRO and Grant Hose and Ian Paulsen at Macq Uni.

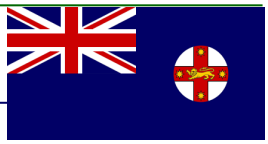
As Scott moved south from the Sunshine state. Josie Lategan has relocated north to redress the balance. While she remains affiliated with the Macquarie groundwater ecology and ecotox group, Josie is teaching at the University of the Sunshine Coast and will be looking to establish her research program there. Still on things groundwater. Grant and Tracy White are looking at the effects of NaCl and bicarbonate salinity on groundwater organisms through a detailed meta analysis and toxicity testing. The groundwater team have a PhD scholarship available for a domestic or international student (see http://www.mq.edu.au/research/phd-and-research-degrees/scholarships/hdr-scholarships-for-domestic-and-international/expandable-content-5/fse-biological-sciences-groundwater-ecology-and-human-impacts

Freshwater Applied Ecology Group, University of Technology Sydney – Anne Colville (anne.colville@uts.edu.au**)**

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 in rivers, dissolved organic carbon, nutrients, herbicide toxicity and cyanobacterial toxins, and algal blooms.

Rachel Gray has completed her Master's thesis 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. Now that Rachel has finished, **Laura Michie** is continuing the research, looking at nutrients, algae and cold water pollution along the Macquarie River.

Ellery Johnson is continuing his investigations into the importance of freshwater inflows and their allochthonous subsidies in estuarine ecosystems with Simon, James Hitchcock and Wade Hadwen (Griffith Uni). He will be investigating the changes in zooplankton community structure and basal energy sourcing in a sense of autochthonous vs. allochthonous supply. **Matt Balzer** is beginning a project comparing the effects of allochthonous carbon, from terrestrial sources such as flood events and river freshes, and algal-derived carbon, on food webs within rivers.



This will help to predict the effects of environmental flows on planktonic food webs in inland rivers. **Angus Rawle** is using mesocosms to determine how differing sources of dissolved organic carbon affect microbial communities and food webs.

We have several people working on cyanobacteria and their toxins. **Anne Colville** is working with Simon on the effects of mixtures of cyanobacterial extracts and other toxins such as metals or herbicides on alfalfa seedlings, to investigate potential effects of contaminated irrigation water on crop plants. She presented her latest results at the 2015 SETAC Australasia Conference in Nelson, New Zealand. **Sarah Meoli** is continuing her Honours research, working with Simon and Anne Colville, examining the effects of toxin-producing and non-toxin-producing cyanobacteria on plants and zooplankton. **Kate Samardzic** spent her Honours year in 2015 working with Ken Rodgers' group and Anne Colville, investigating the toxicity of the cyanobacterial toxins BMAA and DAB on the crop plant, alfalfa. Both compounds have been linked to human disease, and BMAA is capable of bioaccumulating in human food chains. She found that BMAA and DAB inhibit root growth in the alfalfa. She is now fronting up for a PhD, with a project to further understand the mechanisms involved in the toxicity observed. **Holly Hofland** is beginning her Honours project looking at cyanobacteria in soil crusts. Later in the year, we hope to be joined by **Jordan Facey**, who is planning a project with Simon Mitrovic and Simon Apte, assessing how metals influence growth, bloom formation and toxin production in cyanobacteria.

Ann-Marie Rohlfs is writing up her thesis examining the effects of hydrology and organic carbon supply regime on benthic microbial community structure and metabolic activity.
Lloyd Werry is also writing up his PhD looking at effects of climate change-induced warming on the Snowy Mountains alpine stream macro-invertebrate groups. He recently spent several weeks visiting Ben Kefford's labs in Canberra, completing his data collection.

University of Wollongong: Environmental Toxicology and Analytical Chemistry Group – Aleicia Holland (aleicia@uow.edu.au**)**

It has been a great start to 2016, with the Jolley group welcoming five new members: Dr Aleicia Holland (DECRA), Gabriella Macoustra (PhD), Brett Knowles (PhD), Sarah Stone and Nicholas Whitelaw (honours). Aleicia joined the group in February after returning to Australia from a year post-doc in Brazil and successfully obtaining a Discovery Early Career Researcher Award. Aleicia's project aims to characterise dissolved organic carbon (DOC) from a variety of freshwaters around Australia and investigate whether differences in DOC quality affect metal toxicity. Gabriella Macoustra will work on the ecotox aspect of this project while Aleicia will focus on the characterisation. This project is a joint project between UOW, CSIRO (Jenny Stauber) and University of British Columbia (Prof. Chris Wood).

Brett Knowles will begin his PhD this month, into nanoparticle toxicity with UOW and CSIRO (Brad Angel and Simon Apte). Lien Ngo is a PhD candidate under the supervision of Dianne Jolley at UOW and Will Bennett and Peter Teasdale (Griffith Uni). Her research focuses on the development of a rapid assessment tool for As and Sb bioavailability in contaminated soils and their accumulation and toxicity in commercially important agricultural plants. Diffusive gradients in thin films (DGT) technique coupled with sequential extraction procedure provided a good understanding about biogeochemical behaviour of As and Sb in contaminated soils and showed the usefulness of these techniques in measuring bioavailable As and Sb to root vegetables. She is also busy investigating the distribution and phytoavailability of As and Sb in historically and freshly contaminated soils and their accumulation by leafy vegetable, water spinach

to establish whether the performance of DGT's is observed for a variety of plants and soil types. Lakmini Egodawatta is currently busy analysing samples for her master's project which investigates the mobility and availability of metalloids on physiological properties of agricultural plants and the impacts of soil- P levels on the bioavailability of As and Sb to leafy vegetables. See the CSIRO report for news about Sarah Stone and Nicholas Whitelaw.

Tim Remaili is currently based at CSIRO (co-supervised by Stuart Simpson), and after completing his first experiment which examined the impacts of secondary bioturbation by the amphipod (*Victoriopisa australiensis*) on metal exposure and toxicity to a target organism (*Tellina deltoidalis*), Tim is currently in the process of writing a new publication relating to the influence of secondary bioturbation on the outcomes of toxicity tests: chronic toxicity (*Melita plumulosa*, reproductive success) when exposed to legacy contaminated sediments containing metals and mixtures of metals and hydrocarbons. Research currently underway is investigating the impacts of these processes on other degraded sediments impacted by multiple stressors and contaminants.

Introducing: Gaby Macoustra

Hello, my name is Gabriella Macoustra and I am a newly enrolled PhD student with the environmental toxicology research group at the School of Chemistry, University of Wollongong. My research focus will be investigating the toxic effects of copper and zinc to freshwater organisms in the presence of different Australian DOC. This research will be carried out under the supervision of Aleicia Holland (UOW), Dianne Jolley (UOW) and Jenny Stauber (CSIRO).

My interest in ecotoxicology was first sparked in 2013 while completing my honours project, investigating the impact of fuel contaminated soils on the germination of subantarctic plant species. This project was a collaboration between the UOW and the Terrestrial and Near Shore team at the Australian Antarctic Division (AAD), under the supervision of Dianne Jolley (UOW), Cath King (AAD), Sharon Robinson (UOW), and Jane Wasley (AAD). From this I have become extremely interested in the field of ecotoxicology and look forward to furthering my knowledge throughout my PhD.

I also recently attended my first SETAC event, the NSW member's meeting held at UTS 10 March. I thoroughly enjoyed meeting other SETAC members and the presentations from Graeme Batley and Emma Johnston and hope to become much more involved with SETAC in the future.

Regional Reports

Victoria

SETAC-AU Victoria Regional Meeting 24 February 2016 held at University of Melbourne - Kath Hassell (khassell@unimelb.edu.au)

The Victorian branch of SETAC AU, with assistance from CAPIM recently hosted a networking day where Professor Allan Astrup Jensen (Nordic Institute of Product Sustainability, Environmental Chemistry and Toxicology Copenhagen, Denmark) presented a research seminar on short-chain polyfluoroalkyl substances (PFAS). His presentation provided an excellent overview of the topic, with a particular emphasis on the challenges of accurately measuring these compounds analytically. Short-chain PFAS are used in everything from textiles to fire-fighting foams and metal plating industries, but, are these alternatives any safer that other perfluorinated compounds (eg. perfluorooctane sulfonate - PFOS, perfluorooctanoate - PFOA) which have been banned in several countries due to their known hazardous nature? Prof Jensen discussed uptake in animals, sex-specific differences in body elimination and differences in the chemical behaviour and tissue distribution of PFAS in humans as compared to laboratory animals. He concluded his talk by stating the need for more ecotoxicological research for these compounds, since biological responses in terrestrial and aquatic organisms are not well characterised, yet the bioaccumulative and persistent nature of these compounds suggests that they might be an emerging threat to ecosystems (and human health!).

Professor Jensen is a co-author on a large report that was recently published by the Danish Government, which can be accessed online http://www2.mst.dk/Udgiv/publications/2015/05/978-87-93352-15-5.pdf.

Short-chain Polyfluoroalkyl Substances (PFAS). A literature review of information on human health effects and environmental fate and effect aspects of short-chain PFAS Environmental project No. 1707, 2015. (Eds. Jesper Kjølholt, Allan Astrup Jensen, Marlies Warming). The Danish Environmental Protection Agency, Denmark. ISBN no.978-87-93352-15-5.

Following Professor Jensen's seminar we had a networking lunch, and it was great to see so many Victorian SETAC members (and some non-members) come along and participate in the event.

Professor Allan Jensen during his recent visit to Melbourne, with Kath Hassell (Victorian Regional Rep) and Molly Hoak (Victorian Student Rep).

Regional Reports

Victoria

Monash University – Bob Wong (bob.wong@monash.edu.au)

Research in my group focuses on the evolution of animal mating systems and behaviour, and how investment in sex influences reproductive strategies and biological diversity.

In recent years, we have expanded our research to investigate the impacts of environmental change on animal behaviour and the evolutionary process. A primary focus of this research has been on the effects of endocrine disrupting chemicals (e.g. EE2, trenbolone acetate) and other pharmaceuticals (e.g. fluoxetine) on sexual selection and reproductive behaviour in fish. This work, carried out in collaboration with Dr Minna Saaristo (Academy of Finland Research Fellow), is being supported through several Discovery grants from the Australian Research Council. Together, Minna and I are co-supervising a number of PhD and Honours students (Michael Bertram, Jake Martin, Patrick Tomkins, Tiarne Ecker) and, in 2016, will also be hosting several overseas colleagues at Monash with expertise in the genomics and ecological consequences of EDC exposure, including Prof John Craft (Glasgow Caledonian University, Scotland), and Prof Tomas Brodin and Prof Jerker Fick (Umea University, Sweden).

Members of the Wong Lab, Monash University.

Lab website: **bobwonglab.org**

Regional Reports

Victoria

Representative group publications:

Tomkins, P., Saaristo, M., Allinson, M., and Wong, B.B.M. 2016. Exposure to an agricultural contaminant, 17B-trenbolone, impairs female mate choice in a freshwater fish. *Aquatic Toxicology*. 170: 365-370.

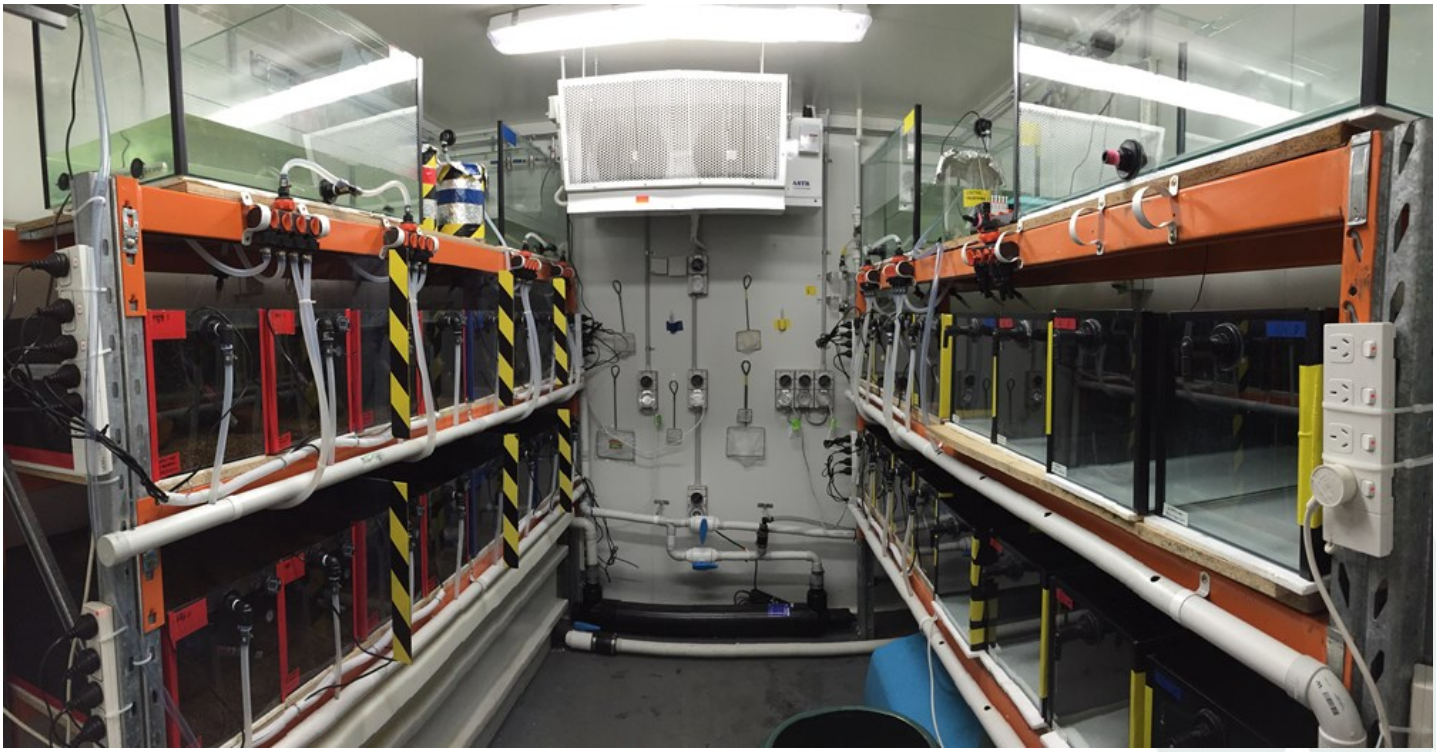
Wong, B.B.M., and Candolin, U. 2015. Behavioral responses to changing environments. *Behavioral Ecology*. 26: 665-673.

Bertram, M.G., Saaristo, M., Baumgartner, J.B., Johnstone, C.P., Allinson, M, Allinson, G., and Wong, B.B.M. 2015. Sex in troubled waters: widespread agricultural contaminant disrupts reproductive behaviour in fish. *Hormones and Behavior*. 70: 85-91.

Saaristo, M., Myers, J., Jacques-Hamilton, R., Allinson, M., Yamamoto, A., Allinson, G., Pettigrove, V., and Wong, B.B.M. 2014. Altered reproductive behaviours in male mosquitofish living downstream from a sewage treatment plant. *Aquatic Toxicology*. 149: 58-64.

Saaristo, M., Tomkins, P., Allinson, M., Allinson, G., and Wong B.B.M. 2013. An androgenic agricultural contaminant impairs female reproductive behaviour in a freshwater fish. *Plos One.* 8: e62782.

Candolin, U. and Wong, B.B.M. (eds). 2012. Behavioural responses to a changing world: mechanisms and consequences. Oxford University Press, Oxford.



Controlled temperature exposure room at Monash University for testing the effects of pharmaceuticals on sexual selection and reproductive behavior in fish.

Regional Reports

Australian Capital Territory

Institute for Applied Ecology, University of Canberra - Ben Kefford (ben.kefford@canberra.edu.au)

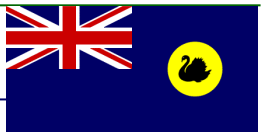
David Buchwalter (North Carolina State University, USA) visited the Institute for Applied Ecology (IAE) of the University of Canberra in May 2015. David gave a public seminar that SETAC AU members were invited to attend. David spoke on his labs research on metal uptake and efflux in freshwater insects, especially the EPT (*Ephemeroptera, Plecoptera* and *Trichoptera*) taxa. This is an important topic as freshwater insects comprise about 80-90% of invertebrate species richness in most running waters yet traditional toxicity assessments have concentrated on other groups. Moreover for freshwater insect physiology is different from other taxa like crustaceans and traditionally designed toxicity tests give a poor indication of the effects of metals on freshwater insects. The seminar was followed by a lunch on campus sponsored by SETAC AU. The public lecture and lunch were well attended with at least three SETAC AU members travelling from Sydney and others from elsewhere in the ACT. It was a pleasure to have David visit the IAE and I think that all that attended his seminar and the lunch got much out of it.

Ben Kefford (ben.kefford@canberra.edu.au)

Australian Capital Territory Regional Representative

Regional Reports

Western Australia



Intertek Ecotoxicology – Tristan Stringer (tristan.stringer@intertek.com)

At Intertek we have kicked the year off with a restructuring to be able to move towards a more cohesive group and better integration with the other Intertek sites both in Australia and Globally. Part of the restructuring was joining the Ecotoxicology and Environmental Chemistry Divisions of the Intertek Exploration and Production Australian business line. The newly formed Environmental Services and Ecotoxicology group is now overseen by Tristan Stringer. With the joining of the two divisions we incorporate the expertise of our world class chemists and ecotoxicologist together into a cohesive environmental assessment team allowing us to provide the best data to our clients.

Our method development with tropical Australian species has continued and we now have our sea urchin larval development and fertilisation bioassays with the tropical sea urchin *Echinometra mathaei* included on out NATA accreditation. *Echinometra* is a great species to work with as they are year round spawning and have a large distribution from South West Australia through the Northern Territory and Indo-Pacific to southern Queensland. They are also well suited to being held the lab and will stay in spawning condition for months as long as they have rocks to graze on.

We are currently working with Chris Rawson at Curtin University and honours student, Pippa Adamson, to develop a larval development bioassay with the tropical oyster, *Saccostrea mordax,* from North Western Australia. We have begun trials with developing the larvae to the D-larvae stage and will hopefully be able to start exposures in the coming months.

Curtin University – Chris Rawson (C.Rawson@curtin.edu.au)

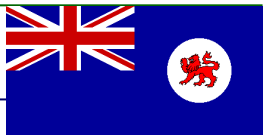
The Curtin ecotox group has been diversifying recently. Congratulations to Jarrad Baker and Shenae Blakiston on completing their honours programs. Jarrad's project was a collaborative effort between Curtin (under Monique Gagnon) and CAPIM looking at biomarkers of fish health in Port Phillip Bay flathead. Jarrad is starting a PhD under Monique's supervision this year and is looking forward to a productive few years. Shenae worked on establishing markers of endocrine health in tropical rock oysters. Phillippa Adamson is working on an honours project flowing from Shenae's work and looks particularly at the impact of complex mixtures on rock oysters. Her work connects Curtin with Tristan at Intertek, a relationship that will hopefully grow in the coming years. Monique and Chris Rawson continue working closely with the oil and gas industry in WA establishing biomarker baselines in demersal fishes as part of the development of oil spill monitoring programs. The group has a new honours student and an MSc student starting interesting projects in the near future.

Tristan Stringer (tristan.stringer@intertek.com)

Western Australia Regional Representative

Regional Reports

Tasmania



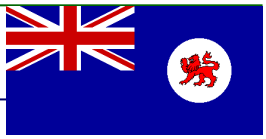
Hello from Hobart – host city for this year's SETAC-AU conference! The website has gone live – check it out at: http://www.setachobart2016.com.au/. Kate Kiefer and the organising committee have been working hard to kick off all the behind the scenes arrangements to make this a fabulous event for you. A great selection of pre-conference workshops are lined up, topics include "Oil spill response monitoring", "Statistical Methods in Ecotoxicology Using R" and "Strategies for scientific writing: how to write, get published, and cited". Please register and get your abstract in early – so we can start putting together a great science program for you!

At the Australian Antarctic Division (AAD), we are coming toward the end of our summer field season, with most teams now wrapping up and returning home to warmer climates. One last voyage to Macquarie Island is left to go, which will see Ingrid Errington returning to the island for a few days to collect earthworms for tests back at Macquarie University, where she is working with Grant Hose on determining the toxicity of residual fuel compounds (remaining after fuel spills become weathered) on subantarctic invertebrates. Ingrid has over recent months been carrying out toxicity assays for a range of petroleum hydrocarbons, and has identified a few surprising trends in her data (along with some less surprising ones). She will be spending the next few months wearing her chemist hat before writing up her PhD thesis later this year. Emphasising the importance and environmentally relevant nature of Ingrid's research, this season our remediation group had field teams continuing fuel spill remediation work at both Casey and Macquarie Island stations. The team was also working with chemical engineers from the University of Melbourne to develop new technologies for capture and removal of metal contaminants from frozen ground environments. On an unfortunate and unexpected note, this season saw a bit of a dramatic event with our supply ship the *Aurora Australis* spending a few precarious days grounded in the harbour at Mawson station. For those scheduled to return home on the ship, other arrangements were made to get them out by air, this included a large team of marine scientists who had just completed a busy and successful six weeks of marine science aboard and were no doubt looking forward to getting home!

Back at head office in Hobart, Cath King has had a very busy summer, continuing in her role as Acting Manager for Science Planning and Co-ordination – while also keeping her research team and progress on track (and planning the conference in her spare time!). Cath's temporary role includes managing the Australian Antarctic Science grant scheme, which provides research funding for projects that contribute toward the Australian Antarctic Science Strategic Plan 2011-12 to 2020-21. Cath's team are working toward the next round of grants opening in May. If you are interested in applying, feel free to touch base with Cath prior to applying to discuss where your work might best fit.

Other head office activities include the progress Kathryn Brown, who joined our team late last year, has been making on test development for the Antarctic nematode *Plectus murrayi*, which we maintain cultures of in our Hobart laboratories. Kathryn has made a great start successfully running chronic tests, using reproductive endpoints including hatching success. She has optimised conditions for aqueous tests with metals and will now work toward adapting protocols for use with fuels and soils. Kathryn, who is in the final stages of PhD write up, has one paper now in review (on the chemical behaviour of three commonly used fuel types in cold seawater) and another manuscript in preparation for submission, on the effects of these fuels on various life stages of an Antarctic amphipod (*Paramoera walkeri)*. These are following a paper on the reproduction and growth of *P. walkeri* published in Polar Biology. Frances Alexander, also in the thick of PhD write up, visited AAD for a week in March and had productive meetings with the team. She is currently writing up her thesis which investigated the toxicity of a range of chemical dispersant options for the treatment of marine fuel spills in Antarctic waters.

Whilst fuel contaminants dominate much of our current research focus, Jessica Holan is making fast headway with her PhD write up in which she is working on metal contaminants in the subantarctic environment. She has had one manuscript recently published in ET&C, on the sensitivity of a range of subantarctic marine invertebrates to metal contaminants, this work provides the first published data on subantarctic marine invertebrate sensitivity to metal contaminants. Well done Jess! Jess

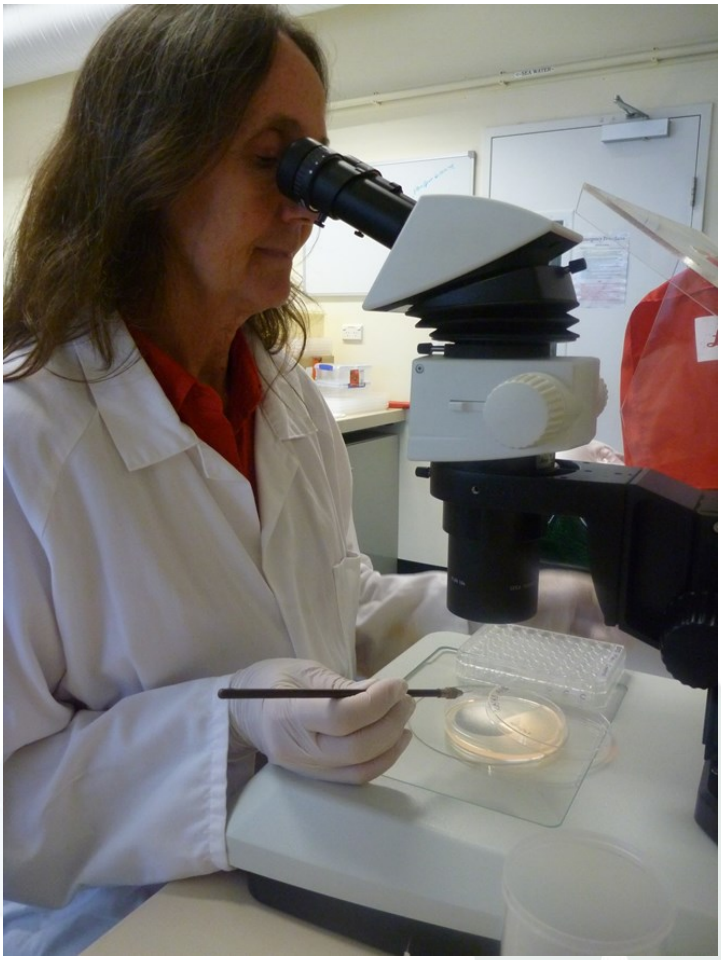


has another three manuscripts now in preparation for publication, with the remaining focus on toxicity of copper to this system and also includes assessment of interacting effects of climate change variables.

Abigael Proctor, who has courageously taken on a statistical modelling PhD project, is working toward finalising her PhD introduction and literature review and is on track for PhD confirmation at UTAS in the coming months. Abigael has also been busy with course work but is aiming to get back to progressing her model for LC50 estimation manuscript soon.

Our mainland-based students are also progressing well. Sally Crane is in the midst of writing up her Master of Philosophy thesis in which she describes how she successfully developed and validated a high throughput array for assessing soil health. She plans to continue this research as a PhD candidate at UNSW under Belinda Ferrari's supervision to continue on with her interest in microbial ecotoxicology. Amanda Dawson continues her research at Griffith Uni with Susan Bengston Nash on the impacts of micropollutants to krill. She is currently analysing krill samples for plastics and working on her first paper which will explore the detoxifying capacity of krill exposed to DDE. On the Antarctic microalgae and DGT front, Darren Koppel continues his PhD research with Di Jolley at UOW and Merrin Adams at CSIRO. He has recently been joined by Nick Whitelaw who has started an honours project at UOW investigating how different polar water characteristics affect metal toxicity to Antarctic microalgae.

We are lucky to have had Tania Raymond recently join our team. Tania is a co-convenor of the scientific writing pre-conference workshop at SETAC-AU conference in Hobart in October. Tania is assisting us with preparing some of our Antarctic papers for publication. Jointly with Jane Wasley, she is currently working on a series of papers including zooplankton sensitivity to metal contaminants and moss sensitivity to metals and fuels. These publications (along with the long list of student papers previously mentioned!) 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.



Kathryn Brown working in the AAD Kingston laboratories, running a test with the Antarctic nematode *Plectus murrayi*.

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

Tasmania Regional Representative

General Member Profile

Dr Tristan Stringer

Current employer:

I am currently the Principal Ecotoxicologist and Manager of the Environmental Services and Ecotoxicology Division at Intertek based in Fremantle, Western Australia

Research background / degree:

I completed my PhD in 2011 at the University of Canterbury in Christchurch, New Zealand with Dr Louis Tremblay, Dr Chris Glover, and Dr Vaughn Keesing. My research focused on evaluating the ecological impacts of pollution on New Zealand estuaries using bioassay approaches with the marine copepod *Quinquelaophonte sp*. The main focus of this research was validating a 14-day partial lifecycle chronic sediment toxicity bioassay using a native New Zealand copepod with three reference contaminants. My thesis also included studies on the ecological distribution of several candidate bioassay species, evaluation of the toxicity of estuarine sediments from around New Zealand, and the population level effects of multi-generation exposures to toxicants.

Before commencing my PhD I completed my BSc at the University of Washington in Seattle, USA with my honours project investigating the toxicity of Imidacloprid, an insecticide, to juvenile salmonids. This included overt toxicity (LC_{50} tests) with several different sizes of juvenile fish and investigating olfactory inhibition after a 96-hrs of exposure. After I graduated from the University of Washington, I worked at the National Oceanic and Atmospheric Association (NOAA) North West Fishery Science Center, in Seattle. I worked on a variety of research projects which included: examining the expression of apoptotic genes in the ovaries of Chinook salmon with different levels of ovarian apoptosis induced by varying feeding regimes. I also examined the sexual differentiation during larval development of Chinook salmon.

General Member Profile

Dr Tristan Stringer

Description of your work (with relevance to SETAC):

At Intertek I run a commercial ecotoxicology laboratory that specialises in toxicity risk assessments for marine waters and sediments. The majority of assessments we conduct are under the ANZECC / ARMCANZ (2000) Water and Sediment Quality Guidelines, but we also do a significant amount of testing under other guidelines including: the National Assessment Guidelines for Dredging, the Drilling Fluids Management Guidelines (WA DMP), the UN GHS Guidelines for classification and labelling of chemicals and oil spill contingency testing. We test a large variety of samples including wastewaters, industrial effluents, ground waters, contaminated sediments, shipping cargo, mine waste, produced formation waters, crude oils / condensates, and site specific environmental monitoring of surface waters and sediments. Each assessment includes multiple lines of evidence and can include toxicity assessments with a range of bioassays, chemical characterisation, biodegradation, bioaccumulation, and bioconcentration assessments. We also have several research and development projects aiming to develop new commercial bioassays with Australian tropical marine species, as well improving bioassays with temperate species.

I have recently taken over the environmental chemistry branch of Intertek Exploration and Production Services in Australia and have joined it with the ecotoxicology division to form one integrated environmental division; this makes us the only commercial group in Australia to be able conduct full environmental and ecotoxicity assessments in house. We will be gradually expanding our capabilities, especially for oil spill response assessments, in the coming months and continue to be a leader in environmental risk assessments in Australia.

Student Profiles

Nicole McRae

Name: Nicole McRae

University: University of Canterbury (NZ)

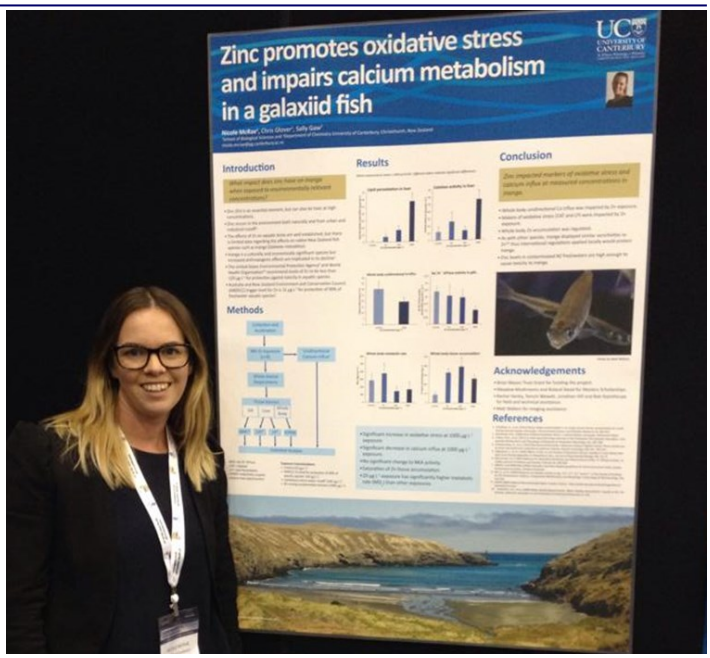
Degree: Ph. D. (Environmental Science)

Supervisors: Dr. Sally Gaw (UC), Dr Chris Glover (Athabasca University) and Prof. Bill Davidson (UC)

Completion Date: February 2017

Thesis topic: Assessing the impact of metal and pharmaceutical contaminants on native and model fish species.

Email: nicole.mcrae@pg.canterbury.ac.nz



About me

After completing high school I went to University, like many other 18 year olds, with very little idea of what I wanted to do or what I wanted to be when I "grew up". I enjoyed sciences at school so as a result I enrolled in a Bachelor of Science in Biology and Biochemistry at the University of Canterbury. After graduating in 2010, I spent 2011 and 2012 travelling and working in North and Central America. My time overseas made me appreciate and realise the abundance of natural resources we have in New Zealand, yet how little we are doing to protect it for future generations. This is the original reason why I set out to complete a Postgraduate Diploma in Environmental Science at the University of Canterbury. Sally, Chris and myself teamed up and designed a research project looking at the impact of zinc and diclofenac on *Galaxias maculatus* (inanga). This was originally supposed to be a MSc project, but things kind of snow balled. I fell in love with research, conference attendance (thanks SETAC Adelaide!), and the travel that was associated with my project, so at the end of 2014 I upgraded to a PhD and haven't looked back since.

Over the past two and a bit years, although there have been some lows, I have enjoyed the highs of research. In particular, publishing my first paper (McRae, N. K., Gaw, S., and Glover, C. N. (2016) Mechanisms of zinc toxicity in the galaxiid fish, *Galaxias maculatus*. Comp. Biochem. and Physiol. C. 179: 184-190), my research trip to Baylor University, and attending SETAC Australasia conferences in Adelaide and Nelson. I was lucky enough to be awarded a Claude McCarthy travel fellowship for 2016, which allows me to attend SETAC Europe in Nantes, and return to Baylor University to complete some more research with Professor Bryan Brooks. Being voted into the student rep position, alongside Francesca has also been a great honour. Rhys has certainly left big shoes to fill (lucky there are two of us!). One of our main goals is to increase student memberships and student involvement within the society. We have achieved our first goal of forming a student team and we look forward to making this a permanent feature of SETAC Australasia.

When I'm not studying, I can be found anywhere around the world. I have a love for travel and whenever I have spare time I try to explore new places, both in New Zealand and around the world. My partner and I recently spent a month travelling around South East Asia and he is coming to meet me in the USA at the end of my trip so we can do some more exploring. I am also an avid snow skier, am learning how to surf, and have just signed up to compete in my

Student Profiles

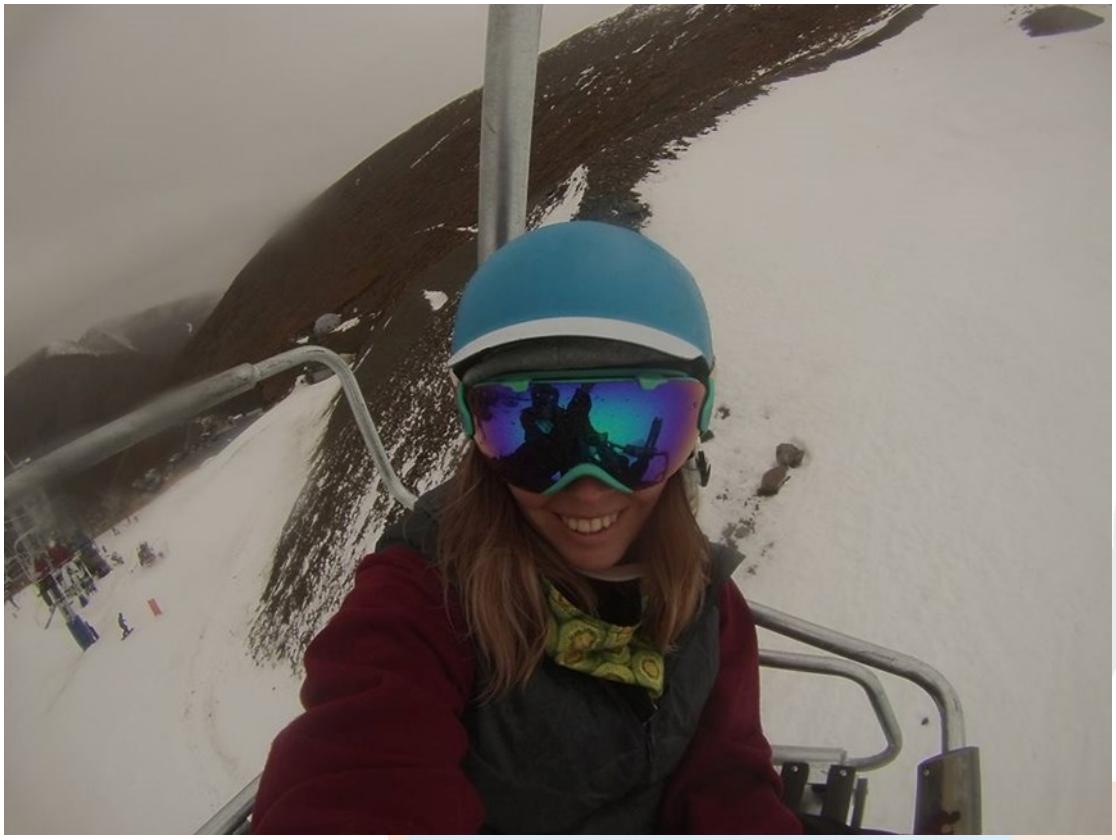
Nicole McRae

first half iron man in February 2017. I am the Project Director on the 180 Degrees Consulting Executive (UC). 180 DC is a student run volunteer international consultancy for social enterprise, charities and non-profits.

My research project assesses the overall impact that individual exposure to diclofenac, cadmium and zinc will have on a native NZ fish (inanga). I have also conducted a mixture exposure with diclofenac and cadmium. To achieve this I have been conducting laboratory exposures and measuring how exposure to these contaminants affects sublethal toxicity. To measure sublethal toxicity we have chosen a suite of biomarkers including oxygen consumption, ion flux, markers of oxidative damage, and oxidative stress enzymes. I am currently looking at how changing pH affects diclofenac uptake in inanga over time. At Baylor University I will be investigating the mechanisms of diclofenac uptake and toxicity in commonly researched Northern hemisphere model fish species (zebrafish and fathead minnow). This research will allow us to draw direct comparisons back to the inanga data and identify conserved mechanisms of toxicity, which will facilitate the development of predictive approaches.

Where to from here…

This year is jam packed with travel, experiments and writing. Before heading over to Europe/ USA I am setting up a system that will allow me to monitor and alter pH automatically 24 hours a day. This will allow us to investigate how pH impacts diclofenac tissue burden in inanga. I am planning a quick trip around Europe to catch up with friends before meeting up with Francesca and Molly in Paris where we will head to the SETAC Europe conference in Nantes. After SEATC I am heading straight to Baylor for 2.5 months to enjoy some Texas BBQ, sun and also do some research. I will be attending the SETAC AU conference in Hobart, and look forward to meeting up with our newly formed student team. The ultimate goal is to have my Ph.D. thesis written by the end of this year so I can start searching for a job!



Skiing at Porters Pass, New Zealand in 2015

Student Corner

The SETAC-AU Student Team

Francesca Gissi (Francesca.Gissi@csiro.au)
Nicole McRae (nicole.mcrae@pg.canterbury.ac.nz)

We now have our very first SETAC-AU student team, formed from student representatives around Australia and New Zealand. We are still looking for a rep from QLD, so any students interesting in joining our team please get in touch with Nicole or Francesca. So far the team have been communicating via email discussing ways to improve advertising and both internal and external communication of SETAC news. A couple of our team members, Tim Remaili and Molly Hoak have been busy helping their State reps to organise the SETAC regional meetings. We hope to hold our first student team meeting at the end of March. Student members can contact their Rep if they have any questions, comments and/or suggestions to pass on.

Team members are:

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

New Student Publications

Gillmore, M. L., Golding, L. A., Angel, B. M., Adams, M. S., and Jolley, D. F. (2016). Toxicity of dissolved and precipitated aluminium to marine diatoms. *Aquatic Toxicology* 174: 82–91.

Burkard, M., Whitworth, D., Schirmer, K. And Nash, S. B. (2015). Establishment of the first humpback whale fibroblast cell lines and their application in chemical risk assessment. *Aquatic Toxicology* 167: 240-247

Wood, R. J., Mitrovic, S. M., Lim, R. P. And Kefford, B. J. (2016). Influence of reduced light intensity on response of benthic diatoms to herbicide exposure. *Environmental Toxicology and Chemistry* DOI: 10.1002/etc.3379

Navarro, J., Bryan, B. A., Marinoni, O., Eady, S. and Halog, A. (2016). Mapping agriculture's impact by combining farm management handbooks, life-cycle assessment and search engine science. *Environmental Modelling and Software* 80:54-65

McRae, N. K., Gaw, S. and Glover, C. N. (2016). Mechanisms of zinc toxicity in the galaxiid fish, *Galaxias maculatus*. *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology* 179: 184-190.

Student Corner

Gissi, F., Adams, M. S., King, C. K. and Jolley, D. F. (2015). A robust bioassay to assess the toxicity of metals to the Antarctic marine microalga *Phaeocystis antarctica*. *Environmental Toxicology and Chemistry* 34: 1578-1587.

Lanctôt C.M., Melvin S.D., Leusch F.D.L., Wilson S., Fabbro L. 2016. Locomotor and behavioural responses of empire gudgeons (*Hypseleotris compressa*) exposed to coal mine wastewater. *Chemosphere* 144:1560–1566.

Lee, J-H., Birch, G.F., Creswell, T., Johansen, M.P., Adams, M.S., Simpson, S.L. (2015). Dietary ingestion of fine sediments and microalgae represent the dominant route of exposure and metal accumulation for Sydney rock oyster (*Saccostrea glomerata*): A biokinetic model for zinc. *Aquatic Toxicology* 167: 46-54

Scott, P.D., Bartkow, M., Blockwell, S., Coleman, H., Khan, S., Lim, R., McDonald, J., Nice, H., Nugegoda, D., Pettigrove, V., Tremblay, L., Warne, M.J., Leusch, F.L., 2014. An assessment of endocrine activity in Australian rivers using chemical and in vitro analyses. Environmental Science and Pollution Research 21, 12951-12967. DOI: 10.1007/s11356-014-3235-7.

Gagliardi, B. S., Long, S. M., Pettigrove, V. J., & Hoffmann, A. A. (2015). The Parthenogenetic Cosmopolitan Chironomid, *Paratanytarsus grimmii*, as a New Standard Test Species for Ecotoxicology: Culturing Methodology and Sensitivity to Aqueous Pollutants. Bulletin of Environmental Contamination and Toxicology, 95(3), 350-356.

Anastasi, A. (2015). Ecological Risk Assessment of Manganese in the Subtropical Estuarine Harbour of Port Curtis, Queensland, Australia. PhD Thesis, Central Queensland University, Rockhampton.

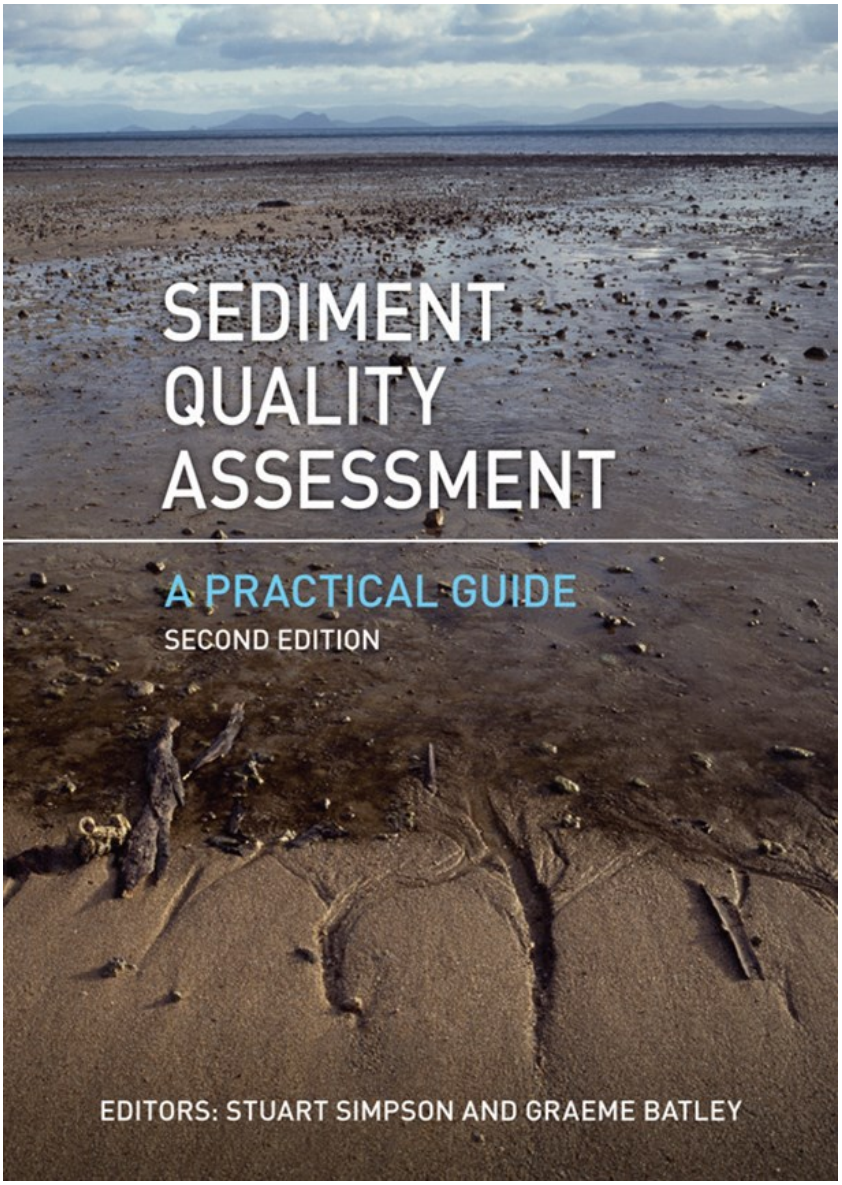
Social Media

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

Twitter Handle - @SETAC Australasia

Introducing the New Sediment Quality Handbook



Professor Graeme Batley (Graeme.Batley@csiro.au)

Sediments represent an ongoing threat to the health of aquatic ecosystems. The assessment of sediment quality is, therefore, a concern for environmental regulators. Sediment quality guidelines are now well established in regulatory frameworks worldwide, however, practical guidance that covers all of the key aspects of sediment quality assessment is not readily available. In 2005, CSIRO published its highly cited *Handbook of Sediment Quality Assessment*. In the ensuing period, the science has advanced considerably, especially with the use of weight-of-evidence approaches.

A much expanded and revised second edition, *Sediment Quality Assessment: a practical guide* has been prepared by Stuart Simpson and Graeme Batley and released this February by CSIRO Publishing. The book provides coverage of sediment sampling, sample preparation chemical analysis, ecotoxicology, bioaccumulation, biomarkers and ecological assessment. Authors include Bill Maher, Anne Taylor, Anu Kumar, Anthony Chariton, Donald Baird and Vin Pettigrove, together with Stuart Simpson and Graeme Batley. In addition, detailed appendices describe protocols for many of the tests to be used (authors of these include Merrin Adams, David Spadaro, Anu Kumar, Sharon Hook and Stuart Simpson).

The book is available in print or e-book from http://www.publish.csiro.au/pid/7383.htm

CSIRO Oceans and Atmosphere and the Society for Environmental Chemistry and Toxicology (SETAC) Australasia in association with the Australasian Land and Groundwater Association, are sponsoring a:

One-Day Training Workshop on SEDIMENT QUALITY ASSESSMENT

Where: The Auditorium, CSIRO Riverside Life Sciences Centre, Riverside Corporate Park, 11 Julius Avenue, North Ryde NSW
When: Monday May 30, 2016 (9.30 am - 3.30 pm).

Considerable advances have occurred in the science associated with sediment quality assessment in the past decade. These are the subject of a newly released book edited by Stuart Simpson and Graeme Batley, on *Sediment Quality Assessment: a practical guide,* featuring the latest practical guidance on assessment of sediment chemistry, ecotoxicology, bioaccumulation, biomarkers and ecology. In addition to the editors, chapter authors include Bill Maher, Anne Taylor, Anthony Chariton, Anu Kumar, Vin Pettigrove and Donald Baird.

At the same time, the Australian and New Zealand sediment quality guidelines have been revised, with the introduction of a weight of evidence approach that involves multiple lines of evidence. Workshop presentations will provide guidance for undertaking weight of evidence assessments, capturing the key areas of sediment chemistry, ecotoxicology, bioaccumulation, biomarkers, ecology and experimental design. The workshop would be suitable for environmental managers, consultants, environmental risk assessors, academics and postgraduate students.

A registration fee of $250 includes lunch, morning and afternoon teas and a copy of the book.

Registration and payment via credit card can be made via the following web site:

https://events.csiro.au/Events/2016/March/10/Sediment-Quality-Assessment-workshop

For any issues related to registration, please contact Shayne Burgess at CSIRO (Shayne.Burgess@csiro.au). Further details about the workshop can be obtained from Stuart Simpson (02 9710 6807) or Graeme Batley (02 9710 6830).

Awards and Prizes

SETAC-AU Ambassador Award – Science Meets Parliament

Molly Hoak (CAPIM, University of Melbourne)

On 1st-2nd March Molly Hoak (CAPIM, University of Melbourne) and Anthony Chariton (SETAC President, CSIRO) attended Science Meets Parliament in Canberra as representatives of SETAC-AU. This is an annual event hosted by Science and Technology Australia that brings together scientists from all over Australia and their politicians.

Meeting Adam Bandt, member for Melbourne at the cocktail event. Photo: Mark Graham

The first day of the event was designed with the attending scientists in mind, so that we could better understand how Science Meets Parliament was going to work and how best to convey our message to the politicians we'd be meeting the first day. The day ran as a series of panels and workshops where we learnt how politics, policy, and science mix. We heard from Prof Brian Schmidt, the Vice-Chancellor for the Australian National University, on how to talk to politicians about science and the best way to get our message across. He told us to "be positive" and to tell the story of our science with a positive outlook. We also had a Q and A with members of the media (Ms Kylie Walker, Australian Academy of Science; Paul Bongiorno AM, Network Ten; Alison Carabine, ABC) who spoke to us about how best to turn our science into news and the sorts of stories that are often covered by media outlets. There was also a very good discussion about the role the media plays in politics and how that voice can be good or bad, depending on the circumstances. It was a really interesting discussion, with lots of good questions coming from the audience!

Possibly the two most fruitful panels, however, were in the afternoon. There was a panel of "SmP Alumni" who gave us their experience of Science Meets Parliament in the past and a very good idea of what we could expect out of our meetings with the politicians the next day. This was a really great time for everyone to get their questions in and ask about how we could get

SETAC-AU Ambassador Award – Science Meets Parliament

the most out of our meetings. The other very useful panel was with Rod Lamberts and Will Grant from the Centre for the Public Awareness of Science, ANU. They gave us very specific ways to "tell our story" in 60 seconds, and an opportunity to rehearse these before our parliamentary meetings. Possibly the best piece of advice that we were given came out in this session and that was the "but/therefore" rule. That is, that when you are telling someone what you do and why it's important, those are the two most important words to make it interesting. It's very easy to get caught up into explaining the sort of science you do, but there needs to be a reason, and therefore something to do about it. It was a very good lesson in the best way to communicate anything, but especially science.

That evening was the Gala Dinner, where we got dressed up and went to Parliament House for a dinner with some of the Parliamentarians. We heard speeches from Minister Christopher Pyne and Opposition Leader Bill Shorten, each outlining their party's approach to science and research funding. As our host, Bernie Hobbs (ABC science) said, "[it] felt like a political debate." But it was a very good chance to meet some of the other parliamentarians and other scientists that were in attendance.

The last day was the day for meetings with parliamentarians, however there were some very important debates going on in the Senate on voting reform, which made the entire day a bit chaotic. Molly had two meetings with Senators cancelled before getting a chance to meet Jill Hall MP, the member for Shortland in New South Wales. She was very interested in water issues and the issues surrounding water pollution, as her electorate is on Lake Macquarie.

Throughout the rest of the day, there were several panels and Q and A sessions on science and how it intersects with policy. There was also an opportunity to go the National Press Club to hear Alan Finkel, the new Chief Scientist of Australia, give his first speech and outline what he'd like to achieve with his new position. It was a very well attended lunch, and was broadcast live on ABC1 throughout Australia.

The last panel of Science Meets Parliament was on how science and politics mix, and included members from the Liberal, Labor, and Greens parties, as well as Prof Aiden Byrne, the CEO of the ARC. It was a very well attended panel, as was the cocktail event immediately after, and provided a nice end to the time in Canberra.

Overall, it was a very worthwhile experience and one that both Molly and Anthony would encourage others to do. As a PhD student I felt incredibly lucky to be able to go and talk about my science to people who may not have otherwise heard about it, as well as give my perspective as a student. Hopefully next year will be just as good!

Molly Hoak (CAPIM, University of Melbourne)

Awards and Prizes

SETAC-AU Ambassador Award – Science Meets Parliament

Molly asking a question. Photo: Mark Graham

Meeting Christopher Pyne, Minister for Industry, Innovation and Science at the Gala Dinner. Photo: Mark Graham

Society of Environmental Toxicology and Chemistry (SETAC) Australasia Awards

SETAC AU Postgrad Research Publication Award

- Recognises the publication of high quality original research by higher degree research (HDR) students in the field of Environmental Toxicology and/or Chemistry
- Full-time or part-time HDR students eligible
- Cash award of $500

SETAC AU Early Career Medal

- Recognises excellence in scientific work or service to Environmental Toxicology and/or Chemistry in Australasia over last 5 years
- Applicants to be within 8 years of university graduation
- Includes $1000 towards travel to SETAC AU 2016 in Hobart

SETAC AU Mid Career Medal

- Recognises excellence in scientific work or service to Environmental Toxicology and/or Chemistry in Australasia over last 10 years
- Applicants to be within 15 years of university graduation
- Includes $1000 towards travel to SETAC AU 2016 in Hobart

SETAC AU National Travel Fellowships

- Awarded to promote SETAC AU in workplaces around Australasia by presenting dynamic cutting-edge science and current research in Environmental Toxicology and/or Chemistry
- Both early career and senior members eligible
- Up to $5,500 awarded per fellowship

- Only SETAC AU Members are eligible to apply
- Self-nominate or nominate a colleague
- All applications due 31st March 2016
- See http://ww2.setac.org/sapau/noticeboard.html for further information or contact australasia@setac.org

Opening soon: SETAC AU Student Travel Awards

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 Mentor Programme

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
- 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.

SETAC AU Mentor Programme

To be eligible to become a programme mentor, participants are required to have the following:

- at least three or more years' 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 parings 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.

OzWater'16 Australian Water Association "Water: For Liveable Communities and Sustainable Industries"

Melbourne Convention and Exhibition Centre, 10-12 May 2016.

http://www.ozwater.org/

Key Dates:

Early bird registration deadline: **31 March 2016**

SEDIMENT QUALITY ASSESSMENT One-Day Training Workshop

CSIRO Riverside Life Sciences Centre, North Ryde NSW, May 30th, 2016.

Further details can be obtained from Stuart Simpson (+61 2 9710 6807) or Graeme Batley (+61 2 9710 6830).

SETAC Asia/Pacific Conference "Managing Environmental Quality in the Asian Century"

Singapore, 16-19th September 2016.

http://www.setac-singapore2016.org/

Key Dates:

Registration opens: **1 March 2016**
Abstract submission deadline: **16 May 2016**
Early Bird registration closes: **15 July 2016**

SETAC AU Conference
"Industry, Science and Environment – Towards a Sustainable Future"

Hobart, Australia, 4-7th October 2016.

www.setachobart2016.com.au

Key Dates:

Abstract Submission Deadline: **1 July 2016**
Early Bird Registration Deadline: **15 July 2016**
Advice of Acceptance to Authors: **1 August 2016**
Final Program Available: **15 August 2016**

5th International Conference on Emerging Contaminants (EmCon2016) and Micropollutants (WiOW2016) in the Environment

Sydney, Australia, 20-23rd September 2016.

http://www.emcon2016.com.au/

Key Dates:

Abstract acceptances announced: **15 May 2016**
Early bird registration closes: **15 July 2016**

Conference Announcements

SETAC-AU
HOBART 2016

Industry, Science and Environment – Towards a Sustainable Future

4-7 OCTOBER 2016 | HOBART, TASMANIA

Registrations now open

Key dates:

Abstract submission open - **22 Feb 2016**
Student Travel awards deadline – **26 June 2016**
Abstract submission deadline - **1 July 2016**
Early bird registration deadline - **15 July 2016**
Advice of Acceptance - **1 August 2016**
Student Travel awards deadline – **26 June 2016**
Final Program available - **15 August 2016**

Image courtesy of Tourism Tasmania & Garry Moore

Image courtesy of Peppermint Bay

Confirmed Speakers:

Associate Professor Christian Ritz
NEXS, University of Copenhagen, Denmark

Associate Professor Amy Ringwood
University of North Carolina, Charlotte, USA

Workshops:

Strategies for scientific writing: how to write, get published and cited
Monday 3rd October 2016 with Simon Wright & Tanya Raymond

Statistical techniques in Ecotoxicology using R
Tuesday 4th October 2016 with Christian Ritz

Oil Spill Response Monitoring
Tuesday 4th October 2016 with Sharon Hook & Paul Irving

Full conference details and sponsorship opportunities available at: http://www.setachobart2016.com.au/

Conference Announcements

SETAC Asia-Pacific presents:

SETAC Singapore
September 16-19, 2016

NOTE: SETAC AU is a Chapter of SETAC Asia-Pacific. SETAC Singapore 2016 is the premier SETAC conference in your region this year. Support it if you can!

- **Abstract submission** deadline is **May 16, 2016**
  http://www.setac-singapore2016.org/submission.html

- Registration is now open.

  Register by **July 15** to save up to 25% at Early Bird rate
  http://www.setac-singapore2016.org/register.html

- Find out about exhibitor and sponsorship opportunities at
  http://www.setac-singapore2016.org/become_exhibitor.html

- More information at http://www.setac-singapore2016.org/index.html

Conference Announcements

EmCon2016/WiOW2016

20-23 September 2016

Sydney – Australia

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.

Please submit your abstract before the 1 March 2016 deadline at:
http://www.emcon2016.com.au/call-for-abstracts.html

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

More information at: http://www.emcon2016.com.au/
To receive regular updates sign up to our mailing list at http://www.emcon2016.com.au/register-for-updates.html

Australasian Bulletin of Ecotoxicology and Environmental Chemistry

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.

This is how the submission process works. 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 you manuscripts.

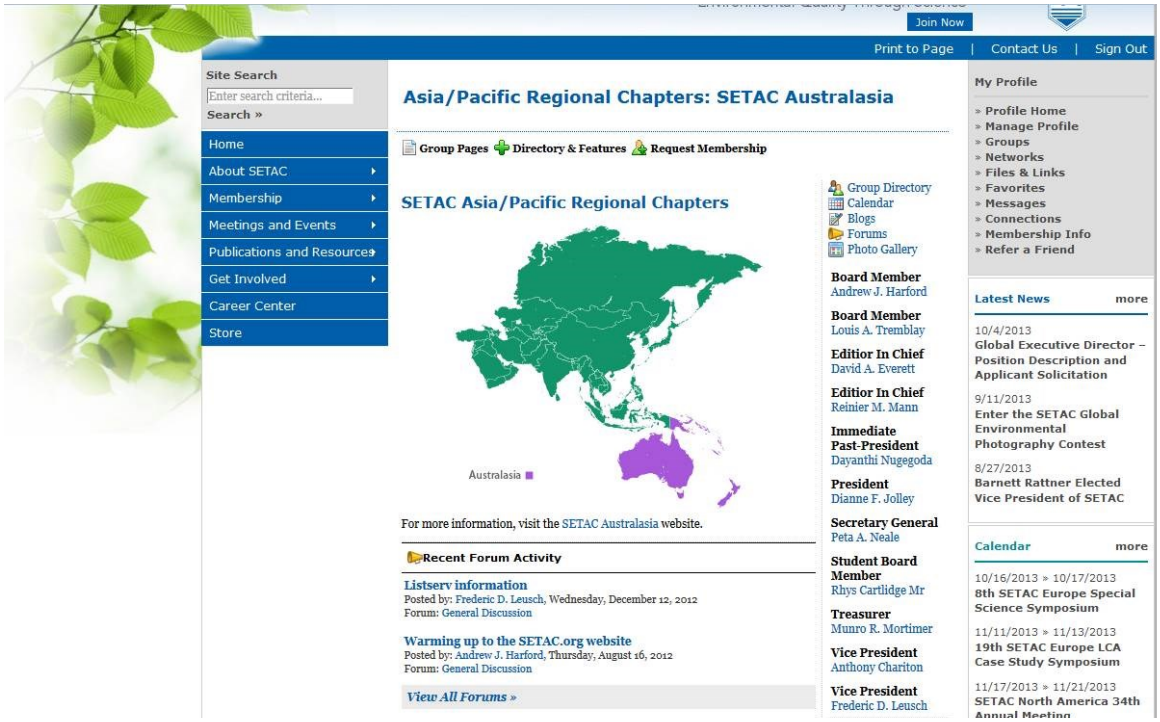
Reinier M Mann (reinier.mann@qld.gov.au)
Editor – *ABEEC*

ABEEC

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)

Affiliate and Sustaining Memberships

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)

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 Toxi cology 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%) on-line 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.

Affiliate and Sustaining Memberships

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

SETAC AU

Council Members

Position	Elected Member
President	Anthony Chariton (anthony.chariton@csiro.au)
Immediate Past President	Dianne Jolley (djolley@uow.edu.au)
Vice Presidents	Andrew Harford (andrew.harford@environment.gov.au) Tom Creswell (tomc@ansto.gov.au)
Secretary	Peta Neale (p.neale@griffith.edu.au)
Treasurer	Munro Mortimer (ase@hydrobiology.biz)
Membership Officer	William Bennett (w.bennett@griffith.edu.au)
Bulletin Editor	Reinier Mann (reinier.mann@science.dsitia.qld.gov.au)
Newsletter Editor	Kathryn Hassell (khassell@unimelb.edu.au)
Associate Newsletter Editor	Erik Prochazka (e.prochazka@griffith.edu.au)
Student Representative	Aus: Francesca Gissi (Francesca.Gissi@csiro.au) NZ: Nicole McRae (nicole.mcrae@pg.canterbury.ac.nz)

Regional Representatives

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