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Endpoint

SOCIETY OF ENVIRONMENTAL TOXICOLOGY
AND CHEMISTRY AUSTRALASIA
(SETAC AU)

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Message from the Editor

Hello everyone and welcome to another edition of the Endpoint newsletter, the last for 2015. In this edition we welcome some new faces to SETAC Council (including myself in this role) and the introduction of a new Student Team to assist our newly elected student reps and regional reps. We have the first report from the newly elected SETAC AU President, Anthony Chariton, as well as a farewell message and summary of some of the many great achievements made within the Society by our Immediate Past President, Dianne Jolley. You will also see that this edition is jam packed with regional reports that reflect a very productive year for Australasian SETAC members.

We have a report from Louis Tremblay on the SETAC AU Conference, which was held in Nelson, New Zealand during August, complete with photos of award winners and of course, the all-important conference dinner dancefloor! There is also a report by Jill Woodworth from the STA-organised Science meets Business which was held in Sydney in October. In 2016 there are several events coming up, including Science meets Parliament (see details of the SETAC AU Ambassador Award below), as well as domestic and international conferences that will be of interest to SETAC members. Please check out the 'What's Happening' section of the newsletter for more details including important dates and other relevant information.

In the Student Corner you will see information about the formation of the Student Team and a summary of Phillip Scott's recent publication which earned him the SETAC AU Postgraduate Research Publication Award earlier in the year. Well done Phil!

As mentioned by Anthony and Di in their reports, in 2015 a buddy system and mentoring programme was again run at the SETAC Nelson meeting, following its success at last year's conference. Subsequently, Tom Cresswell and Andrew Harford have been working hard behind the scenes to formalise this into the official SETAC AU Mentoring Programme. A brief description of the programme can be found in this newsletter.

It's my great pleasure to be taking over the role of Newsletter Editor from David Everett, who has done an excellent job producing Endpoint newsletters over several years. So, thank you David, and also thank you to Erik Prochazka for staying on in the role of Associate Newsletter Editor. I am very much looking forward to providing the SETAC membership with a newsletter that can help us maximise interaction and communication within the Society, and I welcome any suggestions that you might have on how we can improve this for you all.

Finally, I would like to wish everyone a safe and happy festive season, and all the best for 2016!

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

Sustaining Member



Office of
Environment
& Heritage

NSW Office of Environment and Heritage
<http://www.environment.nsw.gov.au>

From El Presidente

It is my great privilege to be serving as the new President for SETAC AU. For those of you who may not know me, I am a long time SETAC member who has been actively involved in SETAC's activities in Australia both prior and since the formation of SETAC AU. Professionally, I am the Team Leader for Molecular Ecology and Toxicology for CSIRO Oceans and Atmosphere, with my research focussing on the development, application and integration of 'omic' technologies and traditional ecology for the monitoring and assessment of aquatic systems.

Firstly I would like to introduce the 2015 SETAC AU Council:

Di Jolley (Immediate Past President); Andrew Harford and Tom Cresswell (Vice Presidents); Munro Mortimer (Treasurer); Peta Neale (Secretary); Will Bennett (Membership Officer); Reinier Mann (Bulletin Editor); Kathryn Hassell (Newsletter Editor); Francesca Gissi (Student Representative); Ben Kefford (ACT Rep), Lisa Golding (NSW Rep), Melanie Trenfield (NT Rep), Amie Anastasi (QLD Rep), Mike Williams (SA Rep), Cath King (TAS Rep), Kathryn Hassell (VIC Rep), Tristan Stringer (WA Rep), Trudy Geoghegan (NZ N Island Rep) and Sally Gaw (NZ S Island Rep).

Last week we had our first meeting, and I have to say that I was delighted with both the enthusiasm and drive of the Council. Furthermore, I am extremely pleased that consistent with previous years, the Council contains a balanced mix of new faces, experienced members and gender. It is evidently clear that the Council are up for the challenge of ensuring that SETAC AU continues to provide a range of opportunities and activities for all our members.

With regards to news, at the recent Science and Technology Australia (STA) Science meets Business in Sydney, SETAC



AU was represented by GHD's Jill Woodworth and Advanced Analytical Australia's Andrew Bradbury. We have also signed our first Kindred Societal Agreement with the Australasian Land & Groundwater Association (ALGA). This reciprocal arrangement provides discounted rates to conferences, shared publications and newsletters, cross-promotion via websites. Importantly, the agreement does not permit direct access to member email addresses, with each party also respecting the ethical standards and requirements of the other. More information on ALGA can be found at landandgroundwater.com, including details about their 2016 Ecoforum conference in Fremantle. The agreement with ALGA is part of a series of initiatives to increase industry representation within SETAC AU, which is currently less than 20%. Tristan Stringer is also spearheading a campaign to rejuvenate the SETAC AU logo, additional details regarding potential designs will be available shortly.

Over the next few months there will be numerous opportunities for SETAC members to get involved. This includes nominations for Science Meets Parliament,

From El Presidente

with submissions due by the 18th December, details can be found in this issue of Endpoint. Under the guidance of Tom Cresswell and Andrew Harford a new Mentor Programme is also being established. In addition, in the New Year we will be sending out a call for SETAC AU's Travelling Fellowship Award. The awards are a wonderful opportunity for both senior and early-career members to promote SETAC AU in universities and workplaces around Australasia, through dynamic cutting-edge science, recent developments and current research in environmental toxicology and chemistry.

I would like to give me deepest thanks to both David Everett (Endpoint Editor) and Fred Leusch (Vice President) for their commitment to SETAC AU over the years. Both have had a profound and positive influence on shaping the Society. Finally, I wish to thank Di Jolley, whose enthusiasm, dedication and passion has been a driving force behind SETAC AU for many years. Thankfully Di will still be actively involved for another year, with Di continuing her role of mentoring me which started 19 years ago when she was my tutor.

Wishing everyone a fantastic and safe Christmas and New Year.

Warmest regards,



Anthony

Anthony Chariton, CSIRO Oceans and Atmosphere

Message from Immediate Past President

It has been a great pleasure to serve as the SETAC AU President during this past year. It has definitely been very enriching and a fantastic year at many levels! I want to give a big thank you to the SETAC AU Council members for their commitment and dedication with which they have worked for SETAC. They made the implementation of many proposed activities possible, while proactively developing new ideas and goals.

This past year, we had three main priorities: first, to action items raised by members in the SETAC AU survey, and develop strategic directions within SETAC AU; second, to increase the support for younger members and encourage their participation in SETAC activities; and third, to strengthen SETAC AU tripartite interactions.

Priority 1: Strategic directions action

In response to this survey we trialled a Buddy System at the 2014 Adelaide conference and again this year at the 2015 Nelson meeting. At these events, people new to SETAC AU meetings and early career members were paired up with more experienced SETAC AU members. The feedback shows that the Buddy System has been a huge success (thank you Tom Creswell and Andrew Harford), and we will maintain this for future meetings.

Andrew Harford (ERISS) has initiated a review of our societal communications strategy. This is an interesting process which we hope will be ready for discussion at the 2016 AGM. Also in response to the survey we have established a fortnightly email to society members, sent out by the society secretary Dr Peta Neale. This is designed to keep you informed of current activities, events, opportunities (relevant to our membership), and other information such as job advertisements, and yet, not bombard your inboxes with too much mail. Feedback has been very positive about this approach, so we will maintain this for the future.

Tristan Stringer (Intertek) has commenced a revamp of the SETAC AU logo, with a goal to make the logo more modern, yet retain the features that we have grown to love. Please watch this space as the progress continues.

Priority 2: Increase the support for younger members and encourage their participation in SETAC activities

Younger members have extraordinary abilities and energy to set actions in motion. The student representative, Mr Rhys Cartlidge (RMIT), has developed a new award for the Best Student Oral Presentation at a SETAC AU conference that enables the student to present their work at another national or international meeting, with \$2,000 support from us. He has started discussions with the Young Environmental Scientists (YES) series in Europe who have initiated a postgraduate conference over the past few years. He and Nicole McRae (Christchurch New Zealand) have also been pivotal in organizing the student networking event, among many other activities, at the SETAC AU annual meeting in Nelson.

We have also awarded 2 Honours Thesis Awards (Environmental chemistry to Megan Gillmore for her thesis on "Toxicity of Aluminium in seawater: diatom sensitivity", and in Ecotoxicology to Francesca Gissi for her thesis on "Ecotoxicity testing with Antarctic marine microalgae:

Investigating their sensitivity to metals"), and the best student publication award (Philip Scott, Griffith University, QLD) this year. We also awarded 10 conference travel awards (Hung Thi Hong Vu (University of Melbourne); Paulina Mikulic (Monash University); Timothy Remaili (University of Wollongong); Tiffany Reeves (Flinders University); Nicole McRae (University of Canterbury); Frances Alexander (Southern Cross University); Rodney Ubrihien (University of Canberra); Molly Hoak (University of Melbourne); Jessica French (University of Melbourne); Xuan Anh Nguyen (University of Newcastle)). Congratulations to you all!

Again, my deepest thanks to all society and council members who assisted with the assessment of applications. Younger members are the future of SETAC, so need our support and encouragement!

Priority 3. Strengthen the SETAC AU tripartite interactions

SETAC AU tripartite structure is our greatest strength, as it ensures a more balanced approach to our science, and leads to a stronger society with better outreach opportunities. One of our main goals is to better facilitate interactions and collaborations between the industry, government and academic sectors. In this space we have benefited greatly from our membership with Science Technology Australia (STA) in the past year. They have been relentless with their promotion of

Message from Immediate Past President

science to government during the Budget. We have also had SETAC members attend three major events this year: Science meets Policy in February (Tom Creswell, ANSTO); Science Meets Parliament in March (SETAC AU Ambassador Award winners: Kathryn Hassell and Francesca Gissi); and Science Meets Business in November (Jill Woodworth, GHD and Andrew Bradbury, Advanced Analytical Australia).

We periodically advertise expressions of interest for SETAC AU members to attend these events (with societal support), please engage in this if you are interested.

Additional activities.

We have two SETAC AU medals, early and mid-career medals, which were awarded for the first time this year at the conference in Nelson, NZ. They were awarded in recognition of excellence in scientific work in Australasia that has involved substantial environmental toxicology and chemistry, or for service to environmental toxicology and chemistry in Australasia. The early career medal was presented to Dr Melanie Trenfield (North Australian Marine Research Alliance, NT), and the mid-career medal to Prof Emma Johnson (University of New South Wales).

Plus, the first two volumes are out!! The Australasian Bulletin of Ecotoxicology and Environmental Chemistry (ABEEC) is the official bulletin of SETAC AU (Editor-in-chief Dr Reinier Mann; Associate editor Dr Anne Colville). The bulletin welcomes Original Research Papers, Short Communications, Review Papers, Commentaries and Letters to the Editors. The first two issues are available on our website (<http://ww2.setac.org/sapau/publications.html>), and are fantastic. Please consider sharing your work with us, as it focuses on original research that is undertaken on the systems and organisms of the Australasian and Asia-Pacific region, has a rapid turn-around, and is free to access.

It has been a busy year for SETAC AU, full of activities such as workshops, meetings, and more, thanks to the active membership efforts and this strongly engaged society. The SETAC AU 2015 Conference was held at the Rutherford Hotel in Nelson NZ 26-28th August 2015 with the theme *System Approach to Environmental Management*. SETAC events are renowned for promoting high-quality science, and this conference upheld this tradition. The conference was chaired by Louis Tremblay (Cawthron Institute, NZ). The meeting offered a platform for all of us to network, integrate, and transfer knowledge and expertise. The program was very exciting with a broad range of presentations from both experienced scientists and younger members. And the conference dinner was great fun too!

There is a big 12 months of meetings approaching, so please put placeholders in your calendars! The Asia-Pacific Unit is hosting a meeting in Singapore from 16-19 September 2016 (yes, during the Grand Prix!), and we are hosting our Australasian meeting in Hobart from 05-07 October 2016. In addition, there is an Emerging Contaminants/What's in Our Water meeting in Sydney from 20-23 September. All promise to be fantastic events.

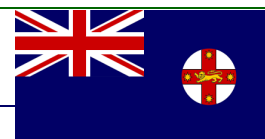
Lastly I would like to thank to David Everett (QLD) who has been our dedicated Endpoint Editor over the past many years with the Associate Editor Erik Prochazka. David is no longer able to continue in this position, but I wanted to acknowledge that he has worked quietly behind the scenes to ensure the success of this exciting and dynamic publication for SETAC AU. David has made a valuable contribution to our society, and I wish him all the best with his other pursuits. As I mentioned earlier, it has been a great pleasure to serve as the SETAC AU President during this past two years. Thank you for the enjoyable experience and especially to Peta Neale (secretary) and Munro Mortimer (treasurer) who have been brilliant support, and kept me on track.

Best wishes,
Dianne

Dianne Jolley, University of Wollongong

Regional Reports

New South Wales



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

We have all been very busy within the group with lab and field work. Tom Cresswell, Mat Johansen and Emma Davis have recently returned from the Montebello Islands off the Pilbara Coast, WA. We spent a very hot week in the islands collecting marine and terrestrial biota samples to better understand the impacts of nuclear weapons testing in the 1950's on the local ecology. The Montebellos offer a unique opportunity to study the effects of radiation on a range of organisms in relative isolation from other anthropogenic effects.



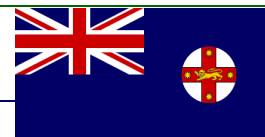
Pictures taken from the Montebello Islands field work. The plinth marking the site of the weapon test on Alpha Island in 1956 (left); Mat Johansen and Tom Cresswell in Tyvek suits ready to take soil depth profiles near old turtle nesting sites (top right); Mat Johansen, Emma Davis and Tom Cresswell at the north Trimouille Island test site (bottom right).

Work on the radionuclide (^{85}Sr and ^{134}Cs) uptake studies from estuarine water and food using local mangrove crabs is progressing well with the results pointing to some very interesting impacts of moulting on Sr and Cs uptake. Post moult crabs significantly increased their Sr accumulation for at least 5 weeks while similar crabs actually lost Cs post moult despite continuous exposure to the aqueous element. We had some beam time on the XFM beamline at the Australian Synchrotron in late September and analysed some thin sections of crabs to better understand the impact of moulting on Sr and Cs internal localisation.

Our microplastics research is progressing slowly with a lack of Cs and Sr adsorption to 50 μm polyethylene beads likely being due to a lack of biofilm associated with the plastic spheres. Our plan is to deploy the beads in an estuarine environment for two weeks to allow for bacterial and micro algae biofilm colonisation to aid in the adsorption of the radionuclides. We are also planning on investigating the microplastics and associated biofilms with the synchrotron XFM beamline.

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Divya Vinod, a PhD student from UTS, has been working with us for the last 3 months investigating Se phytoremediation and biofortification by crops. Divya is using selenium salts representing Se^{4+} and Se^{6+} that have been neutron activated at ANSTO to produce the gamma-emitter ^{75}Se . The salts have been added to culture media and we are currently underway with a pilot study using *Brassica rapa* 'vitamin greens' and *Helianthus annuus* 'sunflowers' to investigate the bioaccumulation of Se. Samples will be grown in the radioactive culture media for 3 weeks then harvested for whole-plant autoradiography (to image which part of the plant is concentrating the Se), subcellular fractionations and DNA, RNA, protein separations. Divya recently gave her first conference presentation at the SETAC North America conference in Salt Lake City, Utah and her talk was very well received.



Refrigerated incubator with vitamin greens and sunflowers growing in culture media spiked with ^{75}Se as part of Divya Vinod's PhD research

We have been having some very productive planning meetings with two PhD students who will be starting some studies at ANSTO in January. Chantal Lanctot from the Smart Water Research Centre at CQU will be using radioisotopes of Cd, Se and Zn to investigate the bioaccumulation of metals from coal mine discharges/runoff by tadpoles. Chantal will be investigating the changes in biodistribution and accumulation kinetics of the metals during metamorphosis of the tadpoles. Rebecca Hull from the University of Melbourne will be studying the bioaccumulation of metals by bryozoans and ascidians representing colonial and solitary invertebrates using radioisotope tracers. Rebecca will use the radiotracers to better understand whether environmental stressors (i.e. metals) adversely affect modular organisms to the same degree as unitary organisms. Rebecca is a recipient of the AINSE Post Graduate Research Award, which will enable her to come to ANSTO to perform this research.

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

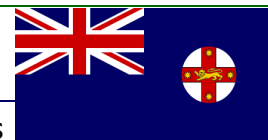
It has been a busy winter in the ecotox lab at Macquarie. Ingrid Errington returned from a long summer on Macquarie Island where she continued her research on the impact of residual hydrocarbons on soil biota. Ingrid ran a number of earthworm and community-level toxicity tests using hydrocarbon mixtures. Ingrid is now working through the samples she collected and setting up further lab tests using cultures of worms she brought back with her from the Island. Ingrid has the assistance of Sarah Houlihan who is working on the analysis of the hydrocarbons in the soils. Sally Crane (UNSW) is working on the genomics of field mesocosms samples from Macquarie Island, and Sarita Pudasaini (UNSW) is doing similar work and has recently finished spiking and sampling soils from Casey Station, Antarctica. This work is all part of an ongoing AAD funded project being undertaken by Grant Hose, Simon George (Macq Uni), Belinda Ferrari (UNSW) and Cath King (AAD).

Tracy White has just joined the group to undertake her Masters of research project on salinity tolerances in groundwater fauna, particularly focussing in the saline mixtures produced by mining activities. Her work will include tests on invertebrates and fungi, using tests recently developed by Josie Lategan.

Josie has been extending the range of toxicants she has tested with her yeast and fungal toxicity tests, including developing a test for a surface water fungal species, based on her earlier

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groundwater work. In collaboration with Ben Kefford (Uni Canberra), Josie has been testing the effects of fungicides on the fungi responsible for leaf litter breakdown in streams. Josie will be flying the flag for the team at the New Zealand SETAC AU Conference. William Klare (now USyd) has been assisting Josie with this work, and particularly focussing on hydrocarbon effects on the groundwater fungi.

Brodie Sutcliffe is continuing her work on metal toxicity to sediment microbial assemblages. After her earlier work on Uranium, she is now progressing on to copper effects using the experimental ponds on campus. Brodie is well supported in terms of supervision, with Anthony Chariton and Dave Midgely (CSIRO), Andrew Harford (ERISS) and Ian Paulsen and Grant Hose (Macq Uni).

Grant has been busy validating his groundwater invertebrate toxicity tests, and writing up this work for publication. He has also recently completed a major review of coal mining impacts on groundwater ecosystems with colleagues from CSIRO. Other ongoing work includes collaborations on metagenomics with Anthony Chariton at CSIRO.

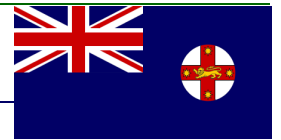
Applied Marine and Estuarine Ecology Lab, UNSW – Dr Katie Dafforn (k.dafforn@unsw.edu.au)

The Applied Marine and Estuarine Ecology Lab (formerly SEE) has had a recent name change to reflect the increasing diversity of projects within the lab. We've had an exciting first half of 2015 with new arrivals to the lab, new projects firing up, publications and awards. Professor Emma Johnston is a finalist for the Department of Industry and Science Eureka Prize for Promoting Understanding of Australian Science Research. Stay tuned on 26th August when the winners will be announced. Emma is sure to be meeting and tweeting on the night @DrEmmaLJohnston! Emma's recent publications together with Dr Mariana Mayer Pinto have focused on the effects of chemical contaminants on ecosystem functioning with a book chapter (Johnston & Mayer Pinto (2015) *Pollution: effects of chemical contaminants and debris*. In [Marine Ecosystems: Human Impacts on Biodiversity, Functioning and Services](#). Cambridge University Press, Cambridge), and journal manuscript (Johnston et al. (2015) [Chemical contaminant effects on marine ecosystem functioning](#). *Journal of Applied Ecology* 52:140-149) now published.

We've had several new members join the lab recently. Dr Mark Anthony Browne joins us as a senior research associate working on an ARC Discovery grant about the fate and effect of microplastics in the marine environment. He brings a wealth of international experience having worked as a postdoc in Australia, Ireland and the United States and has published extensively about the impacts of human activities (priority pollutants, plastic debris, urbanization) on marine biodiversity and rehabilitating affected habitats (ecological engineering). His most recent publications include "Browne et al. (2015) [Spatial and temporal patterns of stranded intertidal marine debris: is there a picture of global change?](#) *Environmental Science & Technology* 49:7082-7094"; "Browne et al. (2015) [Linking effects of anthropogenic debris to ecological impacts](#). *Proceedings of the Royal Society B* 282: 20142929"; and "Browne et al. (2015) [Organophosphorous biocides reduce tenacity and cellular viability but not esterase activities in a non-target prosobranch \(limpet\)](#). *Environmental Pollution* 203: 208-213"; and Browne (2015). [Sources and pathways of microplastic to habitats](#). In M. Bergmann, L. Gutow, & M. Klages (Eds.) *Marine anthropogenic litter* (pp. 229-244), Springer, Berlin. He was also an invited panelist at the Taronga Zoo Science Week event "Oceans of Plastic" (August 2015). Jen Halstead joins the lab to do an honours project with Mark and Emma looking at microplastic contamination in fish guts.

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Dr Mark Browne sampling microplastics from estuarine sediment (left) and Sydney Harbour after "stormageddon"!

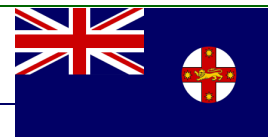
Dr Luke Hedge is currently working on a project in collaboration with Transport for NSW that aims to examine how recreational boating facilities interact with marine ecosystems. Luke has been leading a team of divers to survey the sea floor as part of the first comprehensive study of the impact of boating infrastructure on marine habitats in Sydney Harbour. Their high tech equipment includes sub-sea positioning equipment and underwater communications to enable highly accurate fine scale spatial sampling. Susan Macolino and Peter Tran join the lab as honours students with Luke, Emma and Katie looking at the impact of mooring fields on soft sediment assemblages of Sydney Harbour.



Dr Luke Hedge sampling sediments to study the impact of boating infrastructure on marine habitats in Sydney Harbour

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The Sydney Stormchasers have finally hung up their rain-coats. Sydney had some early downpours in late January (100 mm in 48h) and in April we felt the power of a decadal storm (225mm in 48h) and we finally had a real stormaged-don to sample! Newbie stormchaser, Dr Mark Browne took the opportunity to join our sampling team in April for a survey of microplastics from inner to outer harbour. We also had international assistance with Shuozhao Sun interning from China via the Netherlands. The team continues to process samples to look at the impacts of these events on sediment macro and micro assemblages as well as the recovery. During the downtime, Dr Katie Dafforn helped facilitate a Multiple Stressors workshop that was led by Prof Donald Baird, Prof Emma Johnston, Dr Anthony Chariton and Prof Paul van den Brink. Papers from the workshop will be published in a special issue for Marine and Freshwater Research and Katie's paper is in the final proofing stages ([Dafforn et al. \(in press 20/07/15\) *Big data opportunities and challenges for assessing multiple stressors across scales in aquatic ecosystems*. *Marine and Freshwater Research*](#)). PhD student Vivian Sim published a paper from her honours year looking at impacts of boating infrastructure on soft sediments (Sim et al. (2015) [Sediment contaminants and infauna associated with recreational boating structures in a multi-use marine park](#). *PloS One* 10: e0130537). PhD student Simone Birrer has been jetsetting around to conferences is currently in Montpellier, France attending the International Congress for Conservation Biology. She most recently attended "AMSA 2015: Estuaries to Oceans" in Geelong (July) where she won the CAPIM prize for best student oral presentation that relates to contamination in the marine environment for her study "Heavy metals and organic enrichment affect greenhouse gas production pathways in sediment microbial communities".

The AMEE Lab has recently been celebrating two more successful PhD thesis completions by members Jaz Lawes and Melanie Sun. Jaz's thesis was titled: "Contaminant cocktails: identifying direct, indirect and interactive effects of contaminants on two fouling communities" and Melanie's thesis was titled: "Impacts of anthropogenic modification on the taxonomic and functional structure of estuarine



Melanie Sun celebrating her PhD thesis completion.



PhD student Simone Birrer (left) and Dr. Katie Dafforn (right) at the AMSA conference in Geelong in July where Simone won the CAPIM prize for best student oral presentation.

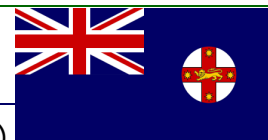


Jaz Lawes celebrating her PhD thesis completion.

sediment communities". Jaz has taken up a combined teaching and technical role at the University of New South Wales. She has also submitted a paper to review in Marine Ecology Progress Series "Contaminant cocktails: Interactive effects of nutrients and metals on marine invertebrate settlement and mortality". Melanie has been keeping busy by hosting a "From Sample to Sequence" workshop for UNSW postgraduates and building an estuary process model for Sydney Harbour.

Regional Reports

New South Wales



School of Life Sciences, UTS – Rebecca Wood (Rebecca.Wood@uts.edu.au)

At University of Technology Sydney (UTS), School of Life Sciences we are busy working on a broad range of topics including environmental flows, herbicide and metal toxicity and algal blooms.

Simon Mitrovic and Anne Colville are working 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. Rebecca Wood is writing up several chapters from her PhD for publication on the relative sensitivity of benthic diatoms to herbicides co-authored with Simon, Richard Lim and Ben Kefford. Ann-Marie Rohlf is writing up the final chapters of her PhD thesis examining the effects of hydrology and organic carbon supply regime on benthic microbial community structure and metabolic activity. Rachel Gray is finishing up her Masters thesis on the impacts of Burrendong Dam on nutrients, algae and cold water pollution along the Macquarie River. Sarah Meoli is beginning an Honours project with Simon and Anne looking at the effects of extracts of the cyanobacteria *Microcystis* and *Anabaena* on a range of organisms such as alfalfa, Lemna and cladocerans. Chung Nguyen from Engineering is working with Richard and Anne writing up the results of her PhD research into the toxicity of road dust. Chung has been combining chemical analyses with measurements of biological effects to get an overall picture of potential effects in waterways. She recently spent a week in Queensland visiting the Smart Water Research Centre at Griffith University, to do bioassays on her samples.

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

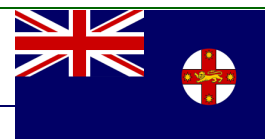
The ecotoxicology team has been celebrating the arrival of a new flow cytometer (FACSVerse, Becton Dickinson) that will increase the capacity for sample analysis and expand the range of fluorescent probes that can be used. Sarah Stone from the University of Wollongong was one of the first people to christen the new flow cytometer and has now completed her 12-month placement with us. Sarah excelled in her work during her time at CSIRO but it's not goodbye forever as we are happy to announce that following a 5-month placement in Colorado (which starts next month), Sarah will be returning to us to complete an Honours project with Jenny Stauber and Di Jolley, Michael Warne, Merrin Adams and Rachel Smith as co-supervisors.

Sarah also helped Monique Binet with experiments to develop a chronic toxicity test using the estuarine/marine copepod *Acartia sinjiensis*. The test assesses larval development over 72 h from embryo to copepodites. The copepods were very sensitive to culture and test conditions and also proved to be highly sensitive to a range of contaminants resulting in a bioassay that will be a useful tool in tropical ecotoxicology and risk assessment. Monique will be presenting the work at the SETAC AU conference in Nelson, NZ. Later in the year, Monique will be supervising a Masters student, Chloe Trinh Quy, from AgroParisTech Institute in France, who will be further developing this test, and identifying additional sensitive endpoints for different contaminant types.

Francesca Gissi has continued working in the Environmental Omics team at CSIRO, Lucas Heights, part-time, while conducting her PhD with CSIRO and University of Wollongong under co-supervision of Jenny Stauber and Di Jolley. Francesca escaped the Sydney winter for Darwin where she was working in the AIMS labs for 2.5 months with Mel Trenfield and Joost Van Dam investigating the toxicity of nickel to the tropical snail *Nassarius dorsatus* and the barnacle *Amphibalanus Amphitrite*. Recently, Francesca and Jenny Stauber returned from Heron Island working with Amanda Reichelt Brushett and Peter Harrison (SCU), where the team had many late nights running fertilisation and larval survival experiments with corals. Francesca is also keeping busy in her new role as SETAC AU student rep, along with Nicole McRae from the University of Canterbury. See the student section for more information on their profiles and plans for SETAC AU students.

Regional Reports

New South Wales



Coral *Acropora* spawning

Brad Angel and Josh King recently travelled to the Batu Hijau copper/gold mine in Sumbawa, Indonesia, to investigate the footprint of the deep-sea tailings placement (DSTP). Samples collected included marine waters and sediments, tailings solids and liquid, and filter feeder and demersal fish so that a comprehensive assessment of the footprint can be performed. Brad recently published a paper on pulsed copper exposures to the marine alga, *Phaeodactylum tricornutum*, which showed toxicity was predicted by time-averaged exposures and different pulsed exposure profiles resulted in the same toxicity as continuous exposure. Brad has also been conducting research on the solubility and precipitation of metals in marine waters, focusing on metals with relatively low solubilities which are likely to have been exceeded in previous toxicity

tests. These metals include aluminium and lead. For both of these metals the concentration of dissolved metal decreased as the total concentration was increased above the solubility limit, and both metals had interesting precipitation dynamics. A paper detailing this work for aluminium is in press and another for lead has recently been submitted.

Lisa Golding has been collaborating with ANSTO in imaging effects of cerium dioxide nanoparticles on algal cell membrane permeability to delve into mechanisms of nanoparticle toxicity. Some of this work will be presented at the upcoming SETAC AU conference in Nelson, NZ. She has also been contributing to updating the water quality guidelines and reporting on the chemical characterisation of produced formation water discharged from oil/gas/condensate producing facilities on offshore platforms. Lisa has been part of the team (Merrin Adams, Monique Binet, Jenny Stauber, Graeme Batley) reviewing the ANZECC water quality guidelines

PhD students Megan Gillmore and Tim Remaili have been conducting field work in the Sydney area searching for some local freshwater snails for Megan to use in her investigations of the application of freshwater snails in sediment bioassays. Three species have been collected so far and Megan is currently working on optimising conditions for culturing these organisms in the lab.

Visiting scientist Maria Vicenta Valdivia Santib   ez from Chile has continued her research work on arsenic toxicity in seawater, as she begins her second year appointment under the Becas Chile program. She's been conducting algal bioassays and exposure tests with aquatic invertebrates, in order to address the toxic effects of arsenic in marine ecosystems. This research will provide a new guideline value for arsenic (V) that will be particularly useful for coastal areas of Chile influenced by metal mining.

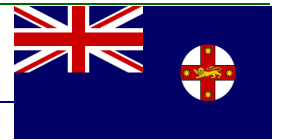
Congratulations go to Graeme Batley who was awarded a SETAC Fellows Award (announced at the SETAC-NA meeting in Salt Lake City, USA). These awards recognise the longer-term and significant scientific and science policy contributions of SETAC members. The identification and appointment of



The 2015 Coral Spawning Team, from left to right: Dr. Elisabeth Deschaseaux (UTS); Francesca Gissi (UOW, CSIRO); Dr. Amanda Reichelt-Bruschett (SCU); Dr. Steve Whalan (SCU); Prof. Peter Harrison (SCU); Dr. John Baptiste (UTS); Katy Horan (Honours student, SCU); Dr. Jenny Stauber (CSIRO); Dexter Dela Cruz (SCU).

Regional Reports

New South Wales

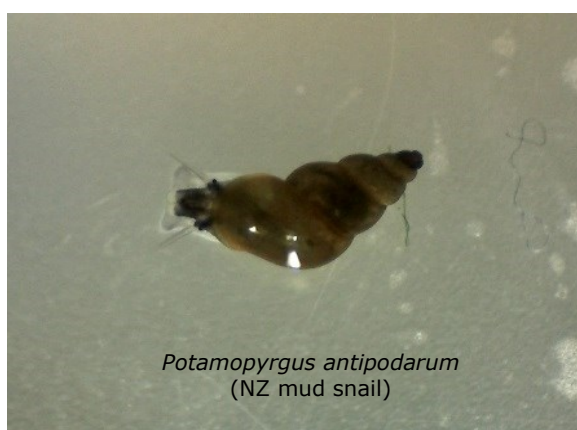


SETAC Fellows is intended to provide additional recognition of excellence, leadership and contributions of SETAC members to the sciences embraced by SETAC.

The Molecular Ecology and Toxicology folks are having a busy year. Since late last year, we have had the honour to host the Japanese Visiting Scientist Dr Shinya Hosokawa (Port and Airport Research Institute). Shinya is working with Anthony Chariton, Graeme Batley and Stuart Simpson on developing sediment quality guidelines for coastal Japan. Anthony has just returned from the magnificent Białowieża National Park in Poland, where between frolicking in the forest with the last population of wild European Bison found time to give some plenary lectures at the 5th DNA Metabarcoding Spring School. The Spring School host 25 researchers/students from around the world, and this year included CAPIM's Dr Allyson O'Brien. Those interested in attending future Spring Schools should keep an eye out at <http://www.metabarcoding.org/>. Speaking of metabarcoding, Anthony, Sarah Stephenson and others have a recent paper out illustrating the power of metabarcoding for monitoring and assessing the ecological conditions of estuaries, more information is available at <http://goo.gl/zpxxZK>.

A number of PhD students are beavering away and doing some wonderful research. This includes Brodie Sutcliffe (and her junta of supervisors, including Andrew Harford), who is using a range of cutting-edge 'omic' techniques to understand how uranium alters microbial composition and function; RMIT's Fee Moy Lee Nen That, who under the supervision of Nathan Bott is investigating marine invasive species; and Richard Stafford Bell (Victoria University) who under the supervision of Randall Robinson is providing some new and exciting insights into seagrass ecology. For the last few months the team has also had the pleasure of hosting Assoc. Prof Grant during his sabbatical. During his stay, Grant and his colleague Kathryn Korbel have initiated some interesting research which utilises metabarcoding to understand the relationships between land use and ground ecology.

The big news for the Team is that Francesca Gissi has just been awarded the Colgate Palmolive Environmental Toxicology and Chemistry Best Student Paper Award for the Gissi, Adams, King and Jolley (2015) paper titled "[A robust bioassay to assess the toxicity of metals to the Antarctic marine microalga *Phaeocystis antarctica*](#)". As part of the prize Francesca receives a complimentary registration to the SETAC Europe conference in Nantes, France 2016. We couldn't be prouder of Francesca on this momentous occasion.



Figures of some of Megan Gillmore's snail collection and a free-loading terrestrial snail

Lisa Golding (Lisa.Golding@csiro.au)
NSW Regional Representative

Regional Reports

Victoria



RMIT University - Rhys Cartlidge (rhys.cartlidge@rmit.edu.au)

Ecotoxicology Research Group

Since the previous edition of Endpoint the RMIT Ecotoxicology laboratory has expanded significantly with the addition of three PhD students and an honours student bringing the total group size to ten (including two students working off campus). These new additions include:

Charlene Trestrail (PhD candidate): Charlene will focus on climate change toxicology and ocean acidification, researching how local marine organisms respond to pollutants under changing temperature and acidity regimes.

Sam Lekam Ralalage (PhD candidate): Sam is working with Silver nanoparticles as part of his PhD project. He endeavours to shed light on how nanoparticles influence the toxicity of key contaminants to important aquatic organisms by giving special attention to different particle coatings.

Linda Kleinhenz (PhD candidate): Linda has returned to work under Dayanthi Nugegoda for her PhD after achieving a First class honours in 2015. Linda is based at ERISS in the NT and further information regarding her work can be found in the NT regional report.

Damien Moodie (Honours candidate): Investigating Bioaccumulation of Chemical Pollutants Adsorbed to Microplastics in the Terrestrial Environment. Damien will be investigating if bioaccumulation factors change for earthworms in POPs polluted soils following contamination with microplastics.

Rhys Cartlidge (PhD candidate): Since stepping down as SETAC Australasia Student Representative, Rhys Cartlidge has been elected to the SETAC Asia Pacific Student Representative position. In his role he will liaise with student representatives from neighbouring geographical units and attempt to increase student participation within the Society. Meanwhile, he continues his PhD with research into the automation of invertebrate toxicity tests and validation of behavioural endpoints such as swimming performance at sub-lethal exposures.

Dayanthi Nugegoda: Dayanthi attended SETAC Latin America in Argentina September 2015 as an invited speaker in the Microplastics session and found herself one of the minority English speaking presenters there. It was however an interesting conference and included an excellent keynote on perfluorinated compounds via the internet from John Geisy who was taken ill and not allowed to travel from Canada. Dayanthi now gets lots of email including from prospective PhD candidates in Spanish and Portuguese and she has expertise in the Tango! She is currently working on a Pesticide Advisory to review pesticide use in Timber Plantations for the Forest Stewardship Council.

University of Melbourne – Kathryn Hassell (khassell@unimelb.edu.au)

Several staff and students from the University of Melbourne (School of BioSciences and CAPIM) attended the recent SETAC AU conference in Nelson. Everyone agreed that it was a terrific meeting (as usual!) and we have all come away with fresh ideas, new contacts and a new found appreciation for the Macarena. Oliver Thomas, Hung Vu, Molly Hoak, Jessica French and Clare Death all presented excellent student talks, and overall the quality of all student presentations at the conference this year was exceptional. It was great to see that final year PhD Student, Clare Death won the prize "Best Student Presentation" for her talk, entitled "Industrial fluoride emissions and marsupials: pathology, epidemiology and biomarkers". Clare's research project was supported by Portland Aluminium (Alcoa) and she was co-supervised by Dr Jasmin Hufschmid from the Faculty of Veterinary and Agricultural Science and A/Professor Graeme Coulson from the School of BioSciences. In addition to recognition at the Nelson conference, the prize also provided her with travel, accommodation and registration support so she could present her research at SETAC North America in Salt Lake City. Congratulations Clare!

Regional Reports

Victoria



PhD Student, Clare Death – winner of Best Student Presentation at the SETAC AU conference in Nelson.

Shortly after returning from the Nelson conference, Kath Hassell was off overseas again, to attend a histopathology workshop in Switzerland. The “Short course on toxicologic pathology in fish” was held at the Centre for Fish and Wildlife Health (FIWI) University of Bern, 7th – 9th October 2015. It is an annual workshop run by Professor Helmet Segner, Dr Stephen Feist and Professor Jeff Wolf, which includes a series of lectures and practical sessions on histological methods for fish pathology and various examples of toxicant-induced changes in multiple types of fish tissue. The course was attended by veterinary pathologists and several researchers from across Europe that utilise histopathology in their ecotoxicological and environmental monitoring research.



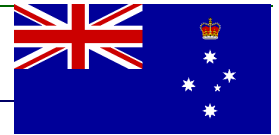
Short course on toxicologic pathology in fish, Centre for Fish and Wildlife Health (FIWI) University of Bern, 7th – 9th October 2015.

CAPIM (University of Melbourne) - Hung Vu, Tyler Mehler, Bryant Gagliardi

The CAPIM (University of Melbourne) contingent at SETAC North America 2015 (Salt Lake City, 1 - 5 November) was represented by PhD students Hung Vu, Tyler Mehler, Bryant Gagliardi and their supervisor, Vin Pettigrove. The week kicked off with Bryant attending the SETAC NA Birding Society's (who knew such a group existed!) tour of the Great Salt Lake's Antelope Island. Here he was treated to some expert local birding knowledge, and lots of cool bird and mammal (including bison!) sightings. The scientific program kicked off on Monday and featured much of the stimulating content we've come to expect from SETAC meetings. Sessions such as “Making Science Matter: Effective Science Communication and Outreach” and “Fostering Tripartite Research: Perspectives, Opinions and New Approaches” provided the opportunity to learn about and discuss tackling some of the key challenges facing environmental science in the 21st century. As freshwater ecotoxicology students, the meeting was a wonderful opportunity to interact with and gain insights from some leaders in our field, including scientists from the USEPA whose work and objectives in many cases are similar to our own.

Regional Reports

Victoria



Socialising and networking options were also plentiful. The “Tuesday Night Social” event was a particular novelty for the Aussies: “Duelling Pianos”! Quite fun, a highlight being one parochial Australian’s request of AC/DC’s *Highway to Hell*...not a track one often hears performed on the piano. The Student Mixer was also a blast. Both events featured much merriment and, of course, dancing of a quality we’ll choose to remember as “excellent”. After the conference, the students took the opportunity to visit a couple of US eco-tox labs: The Institute of Environmental Sustainability at Loyola University in Chicago, and the USEPA in Duluth Minnesota.



Bird and Mammal watching on Antelope Island, The Great Salt Lake, Utah.



CAPIM PhD students Hung Vu, Bryant Gagliardi and Tyler Mehler visiting the US EPA Ecotox labs in Duluth, Minnesota.

To assist with some of the projects that are currently underway at CAPIM, we recently hosted Joel Bowater from the Cawthron Institute. Joel helped out with a range of lab and field projects, including everything from sediment collection and invertebrate lab culturing, to fish sampling in gale force winds followed by hours of dissections and tissue collection! His assistance couldn’t have come at a better time, and we are all very grateful, with everyone busily trying to get their field and lab work wrapped up in time for Christmas. From everyone at CAPIM, we wish you all the best for the silly season - enjoy the company of friends and family, take a well-earned break and have a happy new year!



Joel Bowater (Cawthron Institute) assisting Jessica French (CAPIM) sampling fish during his recent visit to CAPIM.

Kathryn Hassell (khassell@unimelb.edu.au)

VIC Regional Representative

Regional Reports

Northern Territory



Supervising Scientist (Environmental Research Institute of the Supervising Scientist - eriss) – Tom Mooney (tom.mooney@environment.gov.au)

The ecotox team at ERISS has completed toxicity testing of ammonia, with our six routine species. This data will enable us to derive a site specific water quality guideline value which is needed for the Ranger uranium mine's closure criteria. Freshwater mussels have been shown to be particularly sensitive to ammonia. Therefore, we have brought on board a PhD student from RMIT, Linda Kleinhenz, to investigate the toxicity of ammonia to a freshwater mussel species native to the region.



Cladoceran
Moinodaphnia macleayi



Green Hydra
Hydra viridissima

We are constantly looking for ways to improve the ecotox laboratory QA systems. As part of this, our cladoceran's diet is receiving some much needed attention with the aim of developing an off-the-shelf bacterial food source. We are also researching the viability of altering our fish testing protocol to change it from an acute to a chronic endpoint, to achieve this we have acquired a new imaging microscope, which has the capacity to take some great photos of our critters.

Rick van Dam, Andrew Harford, Tom Mooney, Melanie Trenfield and Chris Humphrey all represented the Supervising Scientist at the recent SETAC AU conference, in Nelson NZ. Mel Trenfield was awarded the SETAC Early Career Medal. Prior to the conference both Rick and Chris participated in meetings regarding the revision of the Australian and New Zealand guidelines for fresh and marine water quality. Linda Kleinhenz (RMIT) started her PhD at *eriss* in October this year. Her project is looking at developing acute and chronic toxicity test methods for the mussel *Velesunio angasi* and using this test primarily to assess the toxicity of ammonia. With time the tests may also be used to further assess toxicity of uranium and manganese. This data will provide further information for deriving site-specific guidelines for these contaminants in the Kakadu National Park in relation to closure of the Ranger Mine.

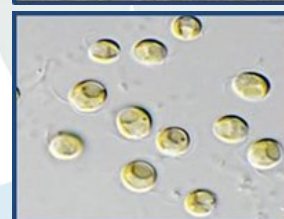
Australian Institute of Marine Science & Charles Darwin University

Developing tropical marine toxicity testing methods - Melanie Trenfield (melanie.trenfield@environment.gov.au)

Postdoctoral fellows Mel Trenfield (*eriss* & Charles Darwin University) and Joost van Dam (AIMS) are coming to the completion of a 3 year project developing chronic, sub-lethal tropical marine toxicity methods. The project is funded by Rio Tinto Alcan, North Australian Marine Research Alliance (CDU) and Northern Territory Research and Innovation Board. To date they have developed standardised toxicity testing protocols for five tropical marine species: 72-h growth inhibition of the microalga *Isochrysis galbana* (published), 96-h growth rate of dog-whelk larvae *Nassarius dorsatus* (submitted), 14-d asexual reproduction of sea anemone *Exaiptasia pulchella*, 96-h metamorphosis of purple acorn barnacle larvae *Amphibalanus amphitrite* and 6-d metamorphosis of hermit crab larvae *Coenobita variabilis* larvae.

The tests are being used to assess toxicity of aluminium, gallium and molybdenum which are signature metals in alumina refinery discharge. The results may be directly applied by industry and regulators and will guide discussions into the application of more environmentally relevant water quality guidelines.

Francesca Gissi was visiting AIMS from Sydney for 2.5 months. Francesca was here as part of her PhD project investigating the toxicity of nickel to tropical marine organisms. Francesca had lots of fun working in the AIMS labs with Mel Trenfield and Joost van Dam, running bioassays with the snail *Nassarius dorsatus* and the barnacle *Amphibalanus amphitrite*.



Regional Reports

Northern Territory



North Australian Marine Research Alliance (NAMRA) at AIMS Darwin by Diane Purcell (D.Purcell@aims.gov.au)

Diane Purcell recently joined SETAC here in the NT, and is a NAMRA Research Fellow based at AIMS in Darwin. For the first half of her NAMRA fellowship she has been working on sediment and water column metal content in Darwin Harbour, and assessing the effects on the primary producers. Project partners are; The Australian National University (ANU), The University of Canberra (UC), Charles Darwin University (CDU), The Australian Institute of Marine Science (AIMS), and The Aquatic Health Unit (Department of Land Resource management, Darwin).



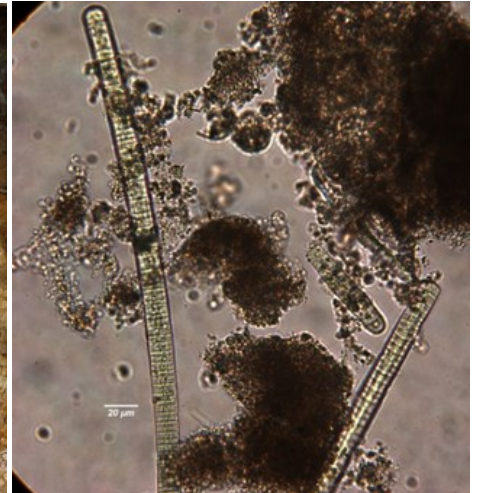
AIMS RV Solander used for field sampling Sept. 2013



3 ways field site on the Finniss River, NT



Exposed sediment on Finniss River bank



Trichodesmium sp. bloom in Darwin Harbour

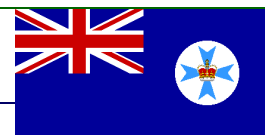
For the second half of her fellowship, Diane started a new project working on adding new field biota and sediment data to archived Rum Jungle uranium/copper mine sediment data that was previously collected through CDU. These findings were presented at SETAC, Nelson, New Zealand, and a paper will be submitted on this work later in the year.

Melanie Trenfield (melanie.trenfield@environment.gov.au)

NT Regional Representative

Regional Reports

Queensland



NRA Environmental Consultants – Alicia Hogan (alicia@natres.com.au)

Alicia Hogan swapped her lab coat for a pair of waders when she moved from ERISS to NRA Environmental Consultants early in 2015. In between assisting the aquatic ecology team with receiving environment monitoring programs (fish, macroinvertebrate, zooplankton, water and sediment chemistry indicators), Alicia has been able to squeeze in some ecotox work. In collaboration with Rick van Dam and Andrew Harford, Alicia recently derived default freshwater guideline values for uranium and manganese. These values will be included in the national water quality guidelines revision via the third-party contribution system.

The Litter Lab – Scott Wilson (scott@litterlab.com.au)

The Litter Lab is a new research consultancy, led by Dr Scott Wilson, specialising in litter, marine debris and micro-plastic research, audits and impact assessments. Scott was recently in Venice, Italy conducting research with Prof. Giulio Pojana from the Ca' Foscari University into micro-plastics in commercial species of fish and shellfish. The word on the street is to stay clear of the local sardines! And if you weren't already avoiding the bivalves, you can add micro-plastics to the list of contaminants they concentrate. The LL also currently has a visiting French intern, Manon Robin, who is exploring similar micro-plastic issues in local Queensland species. Stay tuned for updates.



Don't eat the sardines; Scott Wilson in the Venetian labs; micro-plastics in tissues (left to right)

CQUniversity – Amie Anastasi, Cassie Jones, Vicky Vincente-Beckett

Cassie Jones, one of our PhD students (supervised by Vicky Vicente-Beckett), has recently visited the Entox laboratories at UQ on a Health Collaborative Research Network grant. This visit enabled her to form research relationships with the Metals and Metalloids Research team at Entox, UQ. During this time she also undertook further ICP-MS training and analysed her water and sediment samples. Cassie's PhD project is examining water, sediments and suspended particulates from Mackenzie River and tributaries. She is also conducting simulation experiments of the mixing of mine-affected waters and natural river waters. Needless to say, Cassie is knee deep in data at the moment (but loving it)!

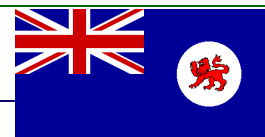
Amie Anastasi has recently (and finally...) completed her PhD and is in the process of publishing the marine guideline values for manganese as well as the regional ecological risk assessment for Port Curtis that she derived as part of her PhD studies. She continues her ecotox research at CQUniversity and is looking forward to what comes next for her.

In other CQUni news, the renovations on the shiny new ecotox labs at the Gladstone campus are well underway and expected to be completed in the New Year. With 2015 swiftly drawing to a close (too swiftly for our liking!), we at CQUniversity would like to wish everyone a safe and happy festive season!

Amie Anastasi (a.anastasi@cqu.edu.au)
Queensland Regional Representative

Regional Reports

Tasmania



Greetings from Hobart, the host city for next year's SETAC AU conference!

Things are busy here as always at the AAD, with this summer's season in full swing. Our remediation team is again working on fuel spill sites at both Casey Station and Macquarie Island, while back at head office we have just welcomed Kathryn Brown to our Ecotox group. Kathryn follows on Ashley Cooper, who is now working full time with our live krill and other marine invertebrate cultures in our Marine Research Facility. Kathryn will be working with us to develop toxicity tests with Antarctic nematodes and other micro invertebrates. These tests will form part of our risk assessment processes at contaminated sites in Australia's Antarctic Territory and will go towards providing data for our environmental guidelines and remediation targets. Jane Wasley continues to plug away at compiling our metadata records as well as working on a number of publications. Cath King has recently moved into a new work space at the AAD, acting as the Manager of Science Planning and Co-ordination over the next 3 months. So a bit of a step away from research and into Antarctic operations and strategic planning.

Our PhD students are as hard working as ever. Jess Holan is busy writing up her PhD, with her first paper on the toxicity of metals to a range of subantarctic marine invertebrates, soon to be submitted. Jess recently presented some of her PhD research at the AMSA Tasmania awards night and was joint-winner, securing funding to attend a conference in 2016. Fran Alexander is also now in the write up phase of her PhD which she is doing from her new home base in Melbourne. Abigael Proctor is knee deep in data, as always, and is writing up her first chapter on the model for LC50 estimation which she presented at the conference in Nelson (which won her best student poster!). Amanda Dawson (supervised by Susan Bengston Nash at Griffith University) was recently here conducting experiments on the impacts of micropollutants to krill and is now planning her next set of experiments on the interactive toxic effects and biodynamics of DDE and microplastics in krill.

At Macquarie University, Ingrid Errington (supervised by Grant Hose) continues investigating the effect of weathered diesel spills on subantarctic soil invertebrates and currently has all the mid-PhD balls in the air at once. She is now focused on starting up a new battery of toxicity tests using a worm species endemic to Macquarie Island. Darren Koppel at the University of Wollongong and CSIRO (supervised by Merrin Adams and Di Jolley) is investigating use of in-situ water samplers in toxicity bioassays and writing his first manuscript, which investigated the toxicity of a range of metals and metal mixtures to a polar microalgae. In the coming year he will explore changing water conditions on metal toxicity to Antarctic microalgae. And last but not least, Sally Crane at UNSW (supervised by Belinda Ferrari) is close to the end of her studies in which she has developed a microbial community assay for assessing soil health at Macquarie Island.

From all of us here in Tassie, all the best for summer... and if you haven't already, please put in your diaries the not to miss event of 2016, the SETAC AU conference from the 4-7 October at the Hotel Grand Chancellor in Hobart! We are working hard to ensure it's a great conference for everyone, both scientifically, and of course socially, and will really be focusing on our student membership engagement and creating even more opportunities for them. Our website is soon to go live at www.setac.org/sapau/hobart2016

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

Tasmania Regional Representative

Student Profiles

Francesca Gissi

Name: Francesca Gissi

Institutions: CSIRO Oceans and Atmosphere (Lucas Heights, NSW) and University of Wollongong (NSW).

Supervisors: Dr Jenny Stauber (CSIRO Land and Water), A/Prof Dianne Jolley (UOW). Co-advisors: Dr Anthony Chariton (CSIRO Oceans and Atmosphere), Dr Amanda Reichelt-Brushett (SCU), Dr Ross Smith (Hydrobiology).

Estimated time of completion: June 2018

Thesis topic: Assessing the impacts of nickel in tropical marine environments

Background

Since childhood I have had a love for animals and the environment and throughout school, science was my favourite subject. I did a Bachelor of Science in Environmental Forensics at UTS. This degree introduced me to the field of aquatic ecotoxicology and in 2008 I was lucky enough to be given an internship with the ecotox team at CSIRO Lucas Heights. I learnt so many new skills within that 1 year internship. I realised the importance of ecotoxicology in environmental monitoring and protection and discovered that this was to be my future career. I have been fortunate to continue working with the group at Lucas Heights in both the ecotoxicology and environmental omics teams. I have been able to acquire skills in both areas whilst also continuing my studies. In 2014 I completed my Honours degree part time. My project developed toxicity test protocols with Antarctic marine microalgae and I utilised these protocols to investigate their sensitivity to metals. The overall aim of the project was to produce ecotoxicity data for microalgae which could be used to develop water quality guidelines for the Antarctic marine environment. This project was a collaboration between CSIRO (Supervisor, Merrin Adams), the Australian Antarctic Division (Supervisor, Cath King) and UOW (Supervisor, Di Jolley). There were many challenges including running growth rate inhibition bioassays with very slow growing microalgae at $<2^{\circ}\text{C}$. Nonetheless I enjoyed the challenge, loved the research and wanted to continue down this path. This year I was very happy to publish a paper from my



thesis (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*. ET&C 34: 1578-1587), which won the SETAC Colgate Palmolive Best Student paper award for 2015.

Another career highlight for me this year was to be elected to the SETAC AU council as the student representative. I feel very privileged to have been chosen by my peers to take on this roll from Rhys Cartlidge who has done an excellent job. He has given us big shoes to fill. I particularly look forward to working with my co-student rep, Nicole McRae from the University of Canterbury.

Asides from science, other passions of mine include food and anything to do with the ocean. I grew up by the beach and most of my time as a child was spent in the water. I also have a new found love for diving. Last year my partner and I went on holiday to Vanuatu where we learnt to dive, we both fell in love with it and are planning our next dive holiday. My parents had Italian restaurants and I have always enjoyed cooking and sharing meals with family and friends.

PhD research:

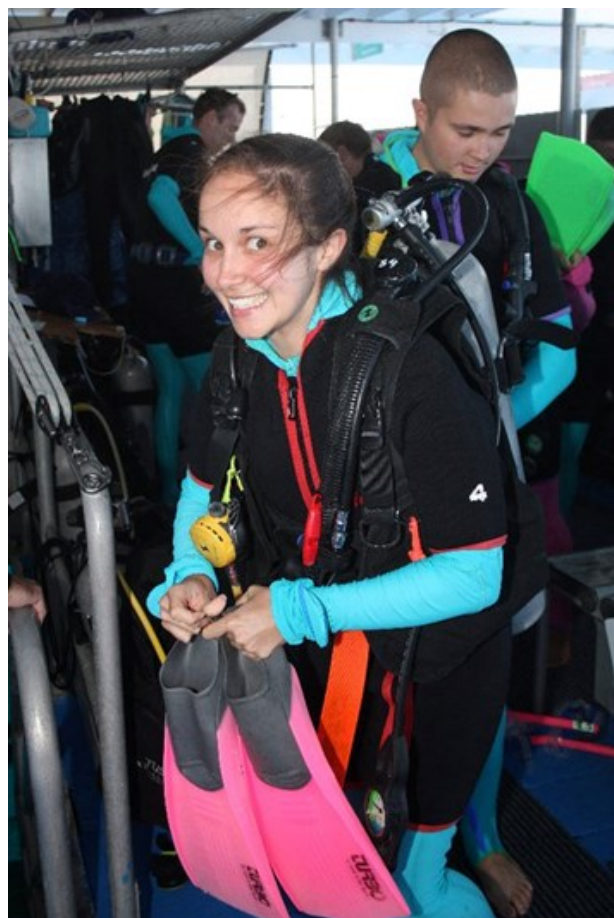
At the beginning of this year, I was fortunate to be given the opportunity to pursue a PhD working with Jenny Stauber (CSIRO) and Dianne Jolley (UOW). This project is a collaboration with the Nickel Producers Environmental Research Association (NiPERA). NiPERA is currently leading a research program to develop and apply risk assessment

Student Profiles

Francesca Gissi

tools to support the sustainable development of lateritic nickel deposits in the tropical region of South East Asia and Melanesia. In recent years, the exploitation of lateritic nickel ores, predominately found in coastal areas in this region, has increased. Currently there is little information on the impacts of nickel on tropical marine ecosystems. The primary focus of my PhD is therefore to gain an improved understanding of the environmental effects and exposure to nickel in tropical marine ecosystems of South East Asia and Melanesia.

The initial part of my research will include an investigation of nickel toxicity to tropical marine species, relevant to the South East Asia Melanesia region. I will also investigate the factors (e.g. DOC, temperature, salinity) that influence nickel toxicity and its mechanisms to tropical marine biota. Results from this part of the study will contribute to the refinement of a tropical marine Biotic Ligand Model (BLM) and the derivation of a region specific water quality guideline. I also hope to investigate the use of biomarkers and explore contaminant bioavailability, bioaccumulation and ecological effects in tropical coastal systems. The final stage of the project will involve field work and the development of regionally relevant biomonitoring tools using ecogenomics techniques.



So far...

I spent some time in the labs at the Australian Institute of Marine Science in Darwin working with Dr Melanie Trenfield and Dr Joost Van Dam looking at the toxicity of nickel to the marine snail *Nassarius dorsatus* and the barnacle *Amphibalanus amphitrite*. In November I headed back to the tropics to Heron Island with Jenny. We worked with Amanda Reichelt-Brushett and Peter Harrison (SCU) investigating the effect of nickel on fertilisation and larval survival in several species of corals. For the final part of this year, I'll be using a new chronic bioassay with a tropical marine copepod (developed by Monique Binet, CSIRO) looking at the effect of nickel on its development from egg to copepodite. I have really enjoyed the first part of my PhD working with great scientists around Australia - I have learnt so much from all of them.

Future plans...

I look forward to continuing on this exciting research journey both in my PhD and my work at CSIRO. I hope to continue to do great quality research that will assist in minimising human impact on the environment, and I am keen to learn as many new skills as I can throughout this time. I'm excited to be attending SETAC-EU next year in France (May 2016) to present my PhD research and also to be involved in the SETAC AU council and assisting with the SETAC AU conference in Hobart (October 2016).

Student Corner

The SETAC AU Student Team

The newly elected student representatives Francesca Gissi (CSIRO, Uni of Wollongong) and Nicole McRae (Uni of Canterbury) will be forming a student team within SETAC AU. The aim of the student team will be to increase student membership to SETAC AU and also encourage interaction amongst our students throughout the year. The student team will meet as required to discuss ways to encourage students to join SETAC AU and to organise student events at conferences but also throughout the year. We will be approaching the regional representatives to nominate one student from each state/territory to form the team. This way members of the student team can act as an assistant rep to the state/territory, PNG and NZ in organising local functions. Students who are interested in being involved in the student team should get in touch with their regional rep. We believe that students will benefit from the opportunity to interact with their peers throughout the year as well as at the annual SETAC AU conference, as it encourages peer support and networking opportunities. We look forward to working with our fellow students and will keep you posted on our activities.

New Student Publications

McRae, N. K., Gaw, S. and Glover, C. N. (2015). Mechanisms of zinc toxicity in the galaxiid fish, *Galaxias maculatus*. *Comparative Biochemistry and Physiology Part C: Toxicology & Pharmacology* 179: 184-190.

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. (2015). 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

Remaili, T.M., Simpson, S.L., Amato, E.D., Spadaro, D.A., Jarolimek, C.V., Jolley, D.F., The Impact of sediment bioturbation by secondary organisms on metal bioavailability, bioaccumulation and toxicity to target organisms in benthic bioassays: Implications for sediment quality assessment, *Environmental Pollution* (2015).

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.

Prochazka, E., Escher, B.I., Plewa, M.J., Leusch, F.D.L. (2015) *In vitro* Cytotoxicity and Adaptive Stress Responses to Selected Haloacetic Acid and Halobenzoquinone Water Disinfection Byproducts, *Chemical Research in Toxicology*, 28(10), pp 2059-2068

Scott, P.D., Bartkow, M., Blockwell, S., Coleman, H., Khan, S., Lim, R., McDonald, J., Nice, H., Nuggeoda, 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.

SETAC AU Postgraduate Research Publication Award – Research Findings

The publication, "An assessment of endocrine activity in Australian rivers using chemical and in vitro analyses" (Scott *et al.* 2014) is part of an Australian-wide study on endocrine activity (my PhD project) carried out between 2010 and 2014. Previously, studies on endocrine activity in Australia have focused predominantly on wastewater effluents; however, it was essential to determine the extent of endocrine activity attributed to other point and non-point sources (e.g. agricultural, industrial or residential activities). This project is the largest of its kind carried out in Australia to-date,



Philip D Scott (philipscott@gmail.com)

with 73 unique river sites near agricultural, industrial or residential activities, wastewater effluent, or undeveloped areas. Samples were taken quarterly for one-year and were concentrated using solid-phase extraction (SPE) and analysed for 14 known endocrine active compounds (EACs) and six endocrine endpoints (estrogenic, androgenic, and progestagenic activities, in agonistic and antagonistic modes using CALUX assays).

EACs were detected in 88 % of samples; with bisphenol A being the most frequently detected compound overall (66 %), and estrone being the most frequently detected hormone (28 %). Predicted no-effect concentrations (PNECs) of three compounds (bisphenol A, estrone, 17 α -ethinylestradiol) were exceeded several times (24, 24 and 13 times, respectively). 17 α -Ethinylestradiol (LOQ = 0.05 ng/l) was detected in 10 % of samples at concentrations ranging from 0.05 to 0.17 ng/l. Surprisingly, there was no clear association between land-use and 17 α -ethinylestradiol concentration suggesting either leaking septic tanks, sewage overflow or low-level but widespread wastewater contamination.

Endocrine activity was detected in 28 % of samples. Nineteen percent of samples had estrogenic activity >0.1 ng/l 17 β -estradiol equivalent (EEQ) with seven samples exceeding the in vitro PNEC of 1 ng/l EEQ, and more than half of those had detectable concentrations of 17 α -ethinylestradiol (0.05 - 0.17 ng/l). While anti-androgenic activity was only detected in 2 % of samples, anti-progestagenic activity was detected in 16 % of samples; a first in Australian rivers, however, the causative compounds remain unknown and require investigation.

While EACs were detected in most water samples, their concentrations were usually below typical levels of concern; however, little information exists on the toxicology of the monitored EACs to Australian native species. Based on the available PNECs it is clear that while the risk is low for most compounds, endocrine disruption may occur intermittently at a small number of sites in Australian rivers.

Awards and Prizes

SETAC AU Ambassador Award - Science Meets Parliament

What is SmP?

Science meets Parliament (SmP) is the major event hosted by Science and Technology Australia (STA). This event was first hosted in 1999 and takes place in Canberra in mid-March during non-election years. Science meets Parliament (SmP) brings together about 200 of Australia's top scientists and puts them face to face with the decision makers in Canberra. Participants include parliamentarians, staffers, lobbyists and journalists plus scientists from all disciplines.

This setting provides scientists with the opportunity to interact with politicians, policy makers and the media and gives you an opportunity to look at your science from a different perspective. A range of topics are available including science in the media, the influence of science on policy making, the impact of science on Australia's economy and environment and its understanding in the broader community.

What to expect at SmP

Firstly we will need confirmation from Science Technology Australia (STA) that the event will proceed, as this is dependent on Parliamentary schedules. On day one, expect to get tips on how to successfully engage politicians and expand your professional development. Scientists get a feel for government policymaking by discussing policy material with lobbyists, parliamentary staffers, politicians and journalists, and become equipped with the knowledge, skills and networks that continue to serve them well into the future. In the evening, guests attend a formal dinner at the Great Hall in Parliament House. On the second day of the event more than 100 formal meetings between small groups of scientists and individual parliamentarians occur.

What's on offer

As a member society of STA, SETAC AU is able to nominate (up to) two delegates to attend. Typically one delegate will be a senior member and one will be early career, within 5 years of graduating the last degree. The nominated delegates will be awarded with complementary event registration (including the gala dinner), return economy airfares from the nearest capital city and accommodation.

Who should apply?

One of the main goals of the event is for the scientists to keep our parliamentarians informed on what we view as the big issues in our field. We encourage nominations from dynamic and motivated members who would like to fly the banner (no, not literally!) on behalf of our society and our disciplines, ecotoxicology and environmental chemistry. Nominees may be from government, industry or academia, and with all levels of experience are welcome to apply. Previously successful applicants will not be considered.

How should you apply?

Nominees should have been a SETAC member for a minimum of 2 years. Please submit a 1 page CV and a cover letter briefly stating:

- How attending the event will benefit you
- Why you want to attend SmP as a SETAC AU representative
- Any previous contributions that you may have made to SETAC AU

All applications must be electronic, and sent to australasia@setac.org. The Council will establish a selection panel after all entries are submitted and conflicts of interest will be managed appropriately.

Key Dates:

Applications due: 31st December, 2015

Notification of successful applications: 30th January, 2016

Science meets Parliament event: 1-2nd March, 2016

SETAC AU Mentor Programme

Introducing the SETAC Australasia 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.

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

[More information will also be available on the SETAC AU website soon!](#)

Conference and Workshop Reports

Nelson NZ 2015

SETAC Australasia 2015 conference in Nelson, New Zealand

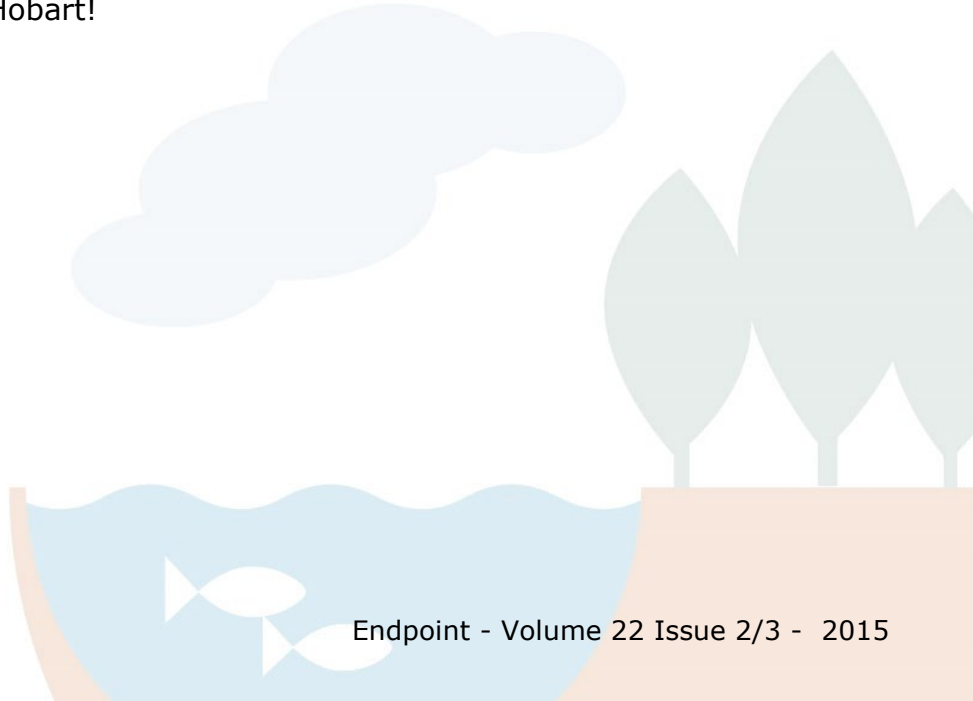
The SETAC Australasian chapter 2015 conference was successfully held in Nelson, New Zealand on 25-28 August. Nearly 200 government, academia and business delegates from Australia, China, UK, USA, Malaysia, Singapore and Japan attended the conference that offered three concurrent sessions packed with stimulating presentations. The conference had a challenging theme 'System Approach to Environmental Management' to encourage discussions to address the growing environmental issues we are facing both globally and locally.

Two workshops were offered including one coordinated by the New Zealand Environmental Protection Authority – Hazardous Substances Group to provide a practical overview of the regulatory requirements and processes related to research and development in New Zealand. We were very fortunate to host the Australasian workshop for the SETAC Global Horizon Scanning Research Prioritisation Project initiative which aims to collect and prioritise the most important future research questions as recognized by scientists from around the globe. The tri-chairs were Graham Sevicke-Jones (Greater Wellington Regional Council), Vin Pettigrove (Centre for Aquatic Pollution Identification and Management (CAPIM), Melbourne) and Sally Gaw (University of Canterbury who stepped in to replace Therese Manning from Environmental Risk Sciences who was unable to attend).

Alistair Boxall and Bryan Brooks from the SETAC project steering committee were there to ensure the process runs smoothly. The conference programme included special sessions such as the "System approaches to sustainable biowastes management" co-chaired by Jacqui Horswell (ESR) and Lisa Langer (SCION Research), a management of natural resource extractions co-chaired by Jo Cavanagh (Landcare Research) and one full day session covering various aspects of the revision process of the Australian and New Zealand Environment and Conservation Council (ANZECC) water quality guidelines chaired by Rick Van Dam of the Environmental Research Institute of the Supervising Scientist (ERISS) in Australia.

We had excellent keynote presentations from Alistair Boxall (University of York), Malcolm Rands (Ecostore), Gary Rielly (Methanex), Karen Lavin (NZ Parliamentary Commissioner for the Environment) and the Tony Roach Memorial Speaker Nicole Hill (University of Tasmania). We were lucky to have a good balance across academic, industry and regulatory sectors. As usual with SETAC AU conferences, we had some great social events and the students managed to organise extra activities to help build their networks. Hopefully everyone found the conference useful and see you all next year in Hobart!

**Louis Tremblay,
Conference Chair.**



Conference and Workshop Reports

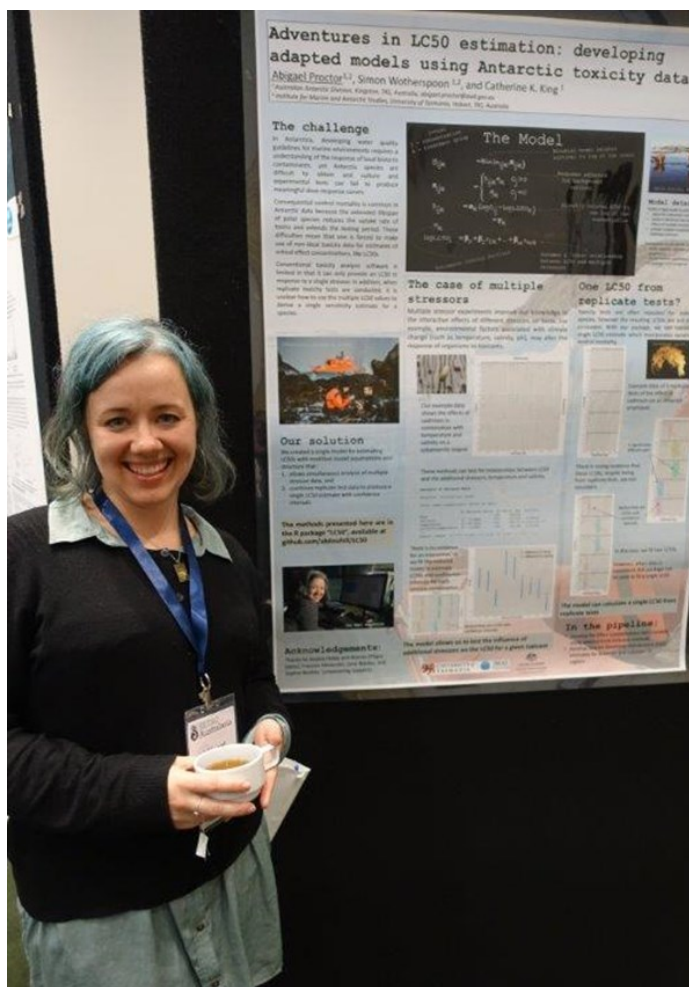
Nelson NZ 2015



Some enthusiastic delegates at the conference dinner



Dr Melanie Trenfield (North Australian Marine Research Alliance, NT), winner of the inaugural SETAC AU Early Career Medal, awarded in recognition of excellence in scientific work and service in Australasia that has involved substantial environmental toxicology and chemistry.



PhD candidate Abigael Proctor, winner of best poster presentation



SETAC AU Vice President, Dr Andrew Harford with the "Tweety Bird Award" for using Twitter most prolifically at the SETAC Conference. #Enthusiasm

Science Meets Business

Delegates' Report

Dr Jill Woodworth (SETAC member since 1994)
Principal Environmental Scientist – Ecotoxicology. GHD

I was lucky to be invited by SETAC to represent them at the Science Meets Business Forum in Sydney in October. The forum was run by Science & Technology Australia, who put together an amazing program filled with leading scientists, business representatives, universities and politicians. The Forum was held in the new Dr Chau Chak Wing Building at the University of Technology, Sydney which was opened earlier this year. A very apt location for such an innovative meeting.

The Forum was designed to bring together leaders in business, industry, science and politics to investigate issues surrounding the integration of innovative science into industry. Issues such as: is this integration actually happening, if not, then why? This integration will provide Australian business the ability to lead the world in many areas of science and technology.

Walking into the Auditorium, I felt my IQ rise 10 points by just being in the room with eminent scientists and business people. Professor Ian Chubb (former Chief Scientist for Australia), Dr Alan Finkel (current Chief Scientist for Australia), Ms Kathy Connell (Johnson & Johnson Innovation), Ms Leonie Walsh (Lead Scientist, Victoria) and Mr Peter Yates AM (Myer Family Investments) were just some of the 28 leaders involved in four separate panel discussions.

Panel topics included:

Diagnosing the problem and lifting our game

On the inside – scientists working in/with business

Getting to grip with the issues – growing solutions- what do we do well, what we do badly – how do we improve.

Start-ups and SMEs – are we doing our best by the new and the now? Are the issues the same for big and small business? Where does the money come from?

All the presenters spoke eloquently on their areas of expertise and provided much food for thought. One notable issue that was commented on by the panellists was that out of the 28 presenters only eight were female (this includes SETAC's own Professor Emma Johnston). This was one area that I think should be targeted for further discussion. The other area that was identified that I have personally been on the receiving end of is the way that Universities actively discourage graduates from entering or becoming involved in industry. Kathy Connell described how universities see industry as the "Dark Side" and this was confirmed when I approached an academic at a local university to provide recommendations for applicants to fill environmental scientist positions at the consulting company I am employed by, GHD. The academic refused and said that they would not recommend to any of their students to join a consulting company or industry, and that academia was the preferred option. This was further in evidence with the lack of high quality applicants for GHD's annual undergraduate scholarship. I am hoping that this lack of respect of industry by academics only applies to a few and is not wide-spread throughout universities in Australia.

Speaking as a consultant, I was surprised that not more consultants attended the Forum, as the networking opportunities provide plenty of chances to meet scientists promoting cutting edge technologies that are not currently used in mainstream environmental assessment. I was able to introduce new technology to several clients with difficult environmental issues. This new technology will provide answers that will assist GHD in validation of ecological risk assessments and provide more certainty in the results of the risk assessment.

I would like to thank SETAC for assisting me to attend the Science Meets Business Forum, the opportunity was very much appreciated. I hope that the conversations begun at the Forum will continue well in to the future and that we can all reap the benefits of collaboration between science and industry.



Science meets Business event in Sydney. SETAC AU was represented by GHD's Jill Woodworth and Advanced Analytical Australia's Andrew Bradbury. Photo courtesy Anna-Louise Howard (STA).

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.

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

Singapore, 16-19th September 2016.

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

Key Dates:

Session, workshops and short courses proposals open: **31 July 2015**
Session, workshops and short courses proposals due: **30 November 2015**

Abstract submission opens: **1 January 2016**
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 Open: **22 February 2016**
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**

Conference Announcements



JOIN US IN HOBART FOR SETAC-AU 2016

**HOBART, TASMANIA
4–7 OCTOBER 2016**

HOTEL GRAND CHANCELLOR

Named as Lonely Planet's
#4 "Must See Destination" for 2015,
Hobart is the gateway to Tasmania.

The city is nestled in an idyllic
location on the River Derwent, with
the iconic Mt Wellington a majestic
mountain backdrop. The city offers
a great range of activities, galleries
and museums that highlight the rich
heritage, arts and nature of the region.



SETAC-AU
HOBART 2016

KEY DATES

Abstract Submission Open	22 February 2016
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

Industry, Science and Environment – Towards a Sustainable Future

DETAILS SOON AT WWW.SETACHOBART2016.COM.AU

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](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.

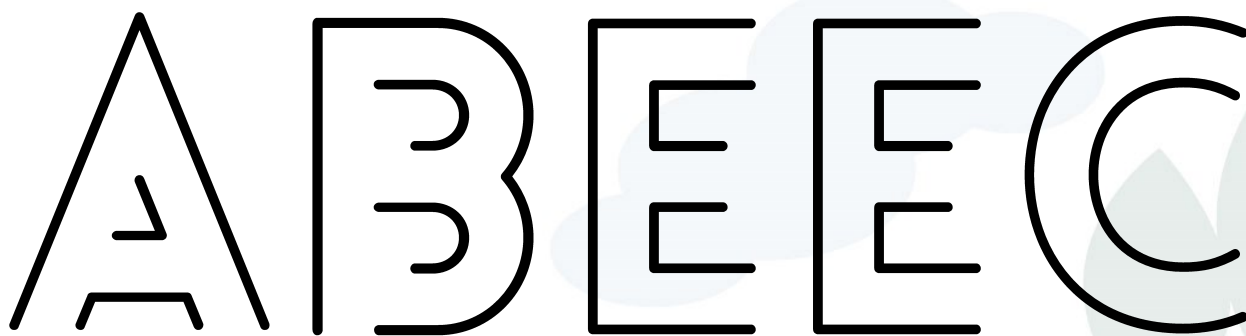
All papers published in ABEEC will be made freely available through the website for SETAC AU. It will be an online publication only.

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 your manuscripts.

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



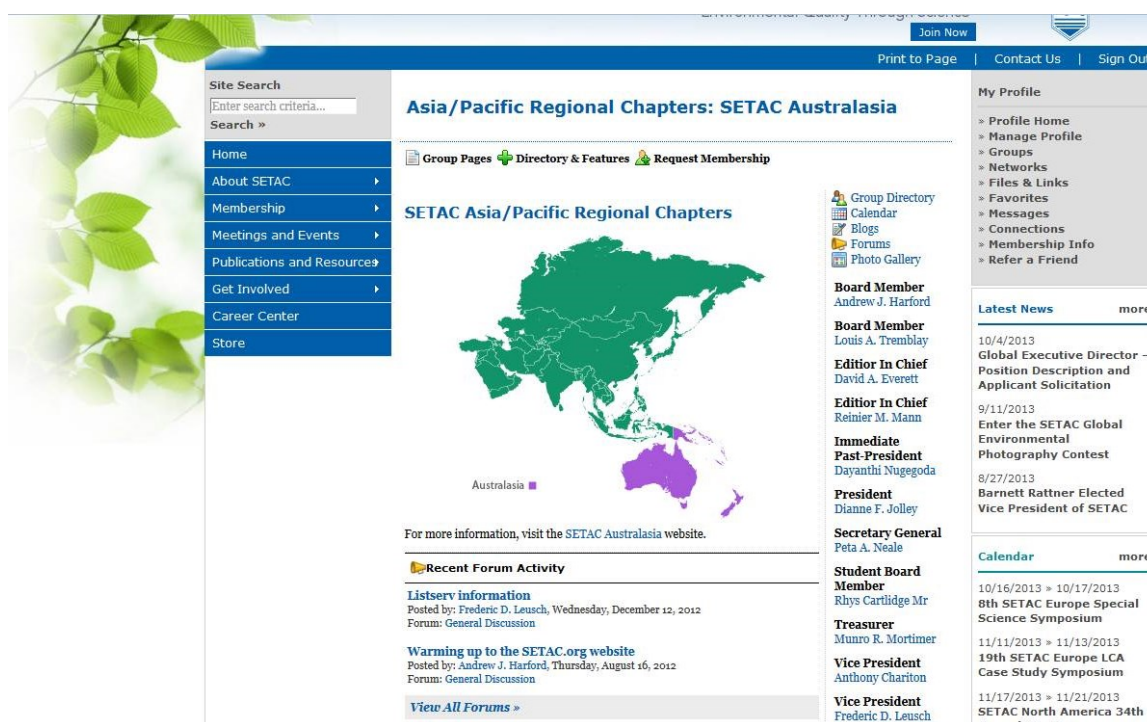
ABEEC

The logo for ABEEC is displayed in a large, black, outlined font. The letters are 'A', 'B', 'E', 'E', and 'C'. The background features a light blue wavy line representing water, with two white fish swimming. To the right, there are stylized green leaves. The bottom right corner has a light orange shape.

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@uq.edu.au)
SETAC AU Secretary

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 Toxicology and Chemistry (ET&C)* and *Integrated Environmental Assessment and Management (IEAM)*
- Annual acknowledgement as a SETAC Global Partner in journals.
- Listing as a SETAC Global Partner on SETAC website .
- Free advertising (1/8 page annually in one journal).
- Discount (25%) 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@uq.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@uq.edu.au)
SETAC AU Secretary

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@uq.edu.au)
Treasurer	Munro Mortimer (ase@hydrobiology.biz)
Membership Officer	William Bennett (w.bennett@griffith.edu.au)
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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)