NEWSLETTER

Endpoint

SOCIETY OF ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY AUSTRALASIA

(SETAC AU)

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CONTENTS

SETAC AUSTRALASIA

SETAC

Message from the Editor

Welcome to the first edition of Endpoint for 2018. While we're only a few months into the new year, SETAC AU members have been busy and we have Regional Reports from New South Wales, Victoria, Northern Territory, South Australia and Tasmania, including some great photos of field work from Antarctic and Macquarie Island. This issue the SETAC AU Treasurer Munro Mortimer is featured in the General Member Profile, while Jon Habito is featured in the Student Profile.

Will Bennett, the 2017 SETAC AU Early Career Medal recipient, has provided a summary of his research career to date, as well as an update on some exciting future plans. Science meets Parliament was held in February and SETAC AU delegates Ceiwen Pease and Minna Saaristo have prepared a great report on the event including some helpful tips for future delegates.

While there won't be a SETAC AU conference in 2018, there are plenty of events on this year and you can find details about the What's in our Water Symposium in Canberra and SETAC-AP 2018 in Daegu, South Korea in the What's Happening? section. Abstract submission is open now for both events.

To support members to attend the SETAC-AP conference in South Korea, SETAC AU has two new travel awards for both student and non-student members. Details can be found in the Awards and Prizes section. Applications for these awards, along with the annual SETAC AU Postgrad Research Publication Award and SETAC AU Thesis Prize, close on the 18th June.

As always, I would like to thank everyone who has taken the time to contribute material to this edition of Endpoint. Happy reading!

Best wishes

Peta Neale (p.neale@griffith.edu.au), Communications Officer

From the President

Selamat Datang from beautiful Indonesia! I'm writing this report whilst on holidays at the Gili Islands, which has been a bitter-sweet return. Our family has seen first-hand the huge changes in the marine ecosystem due to climate change and pollution since our last visit just three years ago. We have found hope in the wonderful marine life that is surviving and it has reminded me of the important work that we all do to protect fragile ecosystems. It has also re-emphasised the challenges of our nearby neighbours in Asia-Pacific and how we have the expertise to help with some of the issues of the broader region.

In February the SETAC AU council conducted a face-to-face meeting at the Ecosciences Precinct in Brisbane. In recent years we've been using these opportunities for longer discussions regarding our mission, our communications, our direction and significant projects for the chapter. This recent meeting was very productive and I wish to thank all the people who donated their time to attend, especially Munro, Tom, Kath, Katelyn and Peta. An extra big thanks to Susi and Reinier for taking the time to attend but also for playing fantastic hosts for the day. A number of key actions have resulted from the meeting.

A key focus of the council will be strengthening our relationships with our Geographical Unit (GU) of Asia-Pacific, the other GUs and the SETAC World Council (WC). Some of our members might not realise that SETAC is a significant global network, which is divided into five GUs and that these GUs have chapters within them. Australasia is a chapter within the larger Asia-Pacific GU, which is why we should all be paying our membership through this GU! Being a part of this global network has many advantages that the council wants to help maximise. For example, we have undertaken a review of the SETAC AU awards and have revamped them in order to send some of our student and non-student members abroad to build ties with Asia-Pacific and the other GUs. See the Awards and Prizes section for more information.

I've also been joining the SETAC-AP board meetings and additional strategic discussions with the SETAC-AP and SETAC-WC board members regarding membership dues, registration administration and systems. SETAC-WC has been recently

focusing on membership dues across all the GUs and they have been meeting with SETAC-AP/AU representatives to understand the specific challenges of the GU and our chapter. We have presented our ideas and issues to SETAC-WC and they have been very receptive. The SETAC-AP board is also sending Munro Mortimer abroad to meet with WC and other GU representatives and he will continue to advocate on behalf of our GU and our chapter. We are aiming to ensure that any changes will strengthen our membership retention and benefit members that stay with us.

The Global Horizon Scanning Project is progressing and I've been helping the local SETAC AU project leaders, Sally Gaw and Vin Pettigrove, and the project leader for SETAC-WC, Bryan Brooks. We now have a number of authors busily writing the context for the top 20 priority questions that were derived from the Nelson workshop. The plan is to publish this work in a manuscript and use it for discussions with stakeholders in our region. The project is an initiative that provides a global view of our fields of science, which we hope will have benefits to our local environments. I'd encourage you to read this piece in the Globe newsletter by Mary Reilly, which describes the progress and successes of the project across other GUs.

In Australia we are continuing to participate in the fantastic events that Science & Technology Australia (STA) are organising.

From the President

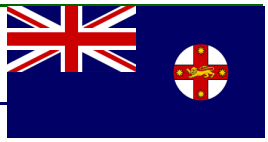
Ceiwen Pease and Minna Saaristo represented SETAC AU at the Science Meets Parliament (SmP) event in February and you can read their report in this edition of Endpoint. We have also been invited to a STA forum for the CEOs and Presidents of STA member societies. It should be a great networking opportunity and one of our VPs Kath Hassell will represent SETAC AU.

Finally, although we are not holding a large SETAC AU conference in 2018, we are progressing a number of focused meetings for the chapter in 2018 to keep members engaged. Of course, if you are interested in emerging contaminants and micropollutants, you cannot miss the What's in Our Water Symposium in Canberra, which will be in October. We are also planning small regional catch-ups and a microplastics meeting in Sydney. Sara Long will be presenting her final seminar as part of her SETAC AU National Travel Fellowship in Melbourne on the 29th April. This will be recorded for uploading to our YouTube site. Please look out for these events and participate if you are able. If you'd like to help out or have an idea for an event, please contact a council member.

Andrew Harford, President

Regional Reports

New South Wales



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

RMIT Honours student Sigrid Wilkens is visiting the Australian Nuclear Science and Technology Organisation (ANSTO) during March and April 2018 to undertake studies into the bioavailability of nano Zn particles by the amphipod *Allorchestes compressa*. Nano ZnO and $ZnCl_2$ have been neutron activated in the OPAL research reactor to produce the beta- gamma-isotope ^{65}Zn, which will be exposed to amphipods over a period of 2 weeks, followed by a 2 week depuration period. The study hopes to gain a better understanding of the potential risk of nano Zn to marine invertebrates.

University of South Australia researchers Thea Lund Read, Casey Doolette and Enzo Lombi will be using the same neutron activated ^{65}Zn products to increase crop quality (through Zn biofortification) and crop yield by improving current agricultural practices. Active nano, micro and soluble Zn will be applied to the leaves of crops and the foliar dispersion kinetics of Zn to the rest of the plant will be determined by gamma spectrometry and imaging techniques.

Plans are still underway to create microplastic radiotracers at ANSTO in collaboration with the University of Plymouth and the International Atomic Energy Agency (IAEA). Particles are currently being synthesised in the UK and will be sent to ANSTO where pre and post neutron activation characterisation of particles will occur before bioaccumulation studies with marine organisms are conducted.

Tom Cresswell attended the BRITE (Biomarkers of Radiation In The Environment) advanced research workshop in Yerevan, Armenia from the 28th-30th November 2017. The NATO funded workshop was attended by international experts from the Americas, Europe, Asia and Australia to evaluate currently available and developing radiation biomarker methods for environmental applications. The workshop identified several key biomarkers from the radioecology and human health fields that are very promising for identifying radiation effects as well as highlighting issues surrounding the effects from multiple stressors.

A PhD top up scholarship is available at ANSTO in southern Sydney for a potential PhD student affiliated with a partner university. Successful decommissioning of subsea oil and gas infrastructure requires an effective and safe approach of assessing and managing radiological residues. Scale residues frequently accumulate on the interior surfaces of pipes and other structures, and may persist long after extraction operations have ceased. Within such scale materials are a range of metal contaminants, as well as naturally occurring radioactive materials (NORM), dominated by the U-238 and Th-232 decay series. On older, uncleaned pipes, the resulting accumulation of scale can be substantial enough to reduce the internal diameter of a typical pipe by >20%.

Although the general issues of NORM scale in subsea oil and gas infrastructure are well known, there has been little work in defining detailed radiological uptake and dose parameters for subsea infrastructure conditions. Specifically lacking are uptake parameters (transfer factors) for U-238 and Th-232 decay series radionuclides and the types of organisms that typically colonise subsea infrastructure, especially with regard to Australian biota. Risk assessments require bulk transfer rates (e.g. ratios of scale-to-organism and water-to-organism transfer factors) and better dosimetry exposure geometries that match with the types of infrastructure. For example, the standard dose assessment software does not include a scenario of an organism exposed on a curved pipe surface. Further lacking are NORM scale bioaccumulation factors that will predict how the scale behaves into the future, and thus providing an ongoing source of radionuclides to organisms. Risk assessments also require greater understanding of cumulative impacts on aquatic organisms from both radiological and chemical stressors.

Please see the project outline for more details of the project. For further information, please contact Dr Tom Cresswell (tom.cresswell@ansto.gov.au); (02) 9717 9412.

Regional Reports

New South Wales

Seafood provenance and quality assessment research at ANSTO, Dr Debashish Mazumder (debashish.mazumder@ansto.gov.au)

With thousands of tons of seafood imported into and exported out of Australia every year, a growing worldwide market for Australia valued at $2 billion, and an increased desire by consumers to know the origins of their food, food provenance research is becoming an increasingly important field. This is largely due to concerns over food safety and the authenticity of products whether imported or home-grown. Food fraud has been estimated to cost the global food industry between $30 to $40 billion USD per year. Considering that this important problem requires solutions that can be drawn from Nuclear Technologies, Dr Debashish Mazumder is leading a research project, in collaboration with UNSW and Macquarie University, which focuses on the novel application of nuclear techniques in seafood provenance and quality assessment.

The overarching aim is to develop a quick analytical tool for seafood provenance and quality assessment. In the first feasibility study, two important high-value seafood products: tiger prawn and barramundi, collected from 7 different geographical locations (4 in Australia and 3 from Asia) have been analysed. The research team have applied stable isotope analysis, X-ray fluorescence using ITRAX, neutron activation analysis and used mathematical models to determine the samples' geographical location and whether they were farmed or wild-caught. The results suggest that nuclear-based techniques can effectively distinguish the geographical locations and their production types with 90% accuracy. ANSTO is currently exploring potential research partners and stakeholders to continue this research towards development of scientifically validated tools for seafood provenance detection.

For more information contact: Dr Debashish Mazumder, debashish.mazumder@ansto.gov.au

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

Jenny Stauber attended an invited SETAC technical workshop "Bioavailability-based Metals Water Quality Criteria" in Pensacola, Florida, US in December, 2017. Jenny co-chaired one of the five workgroups with Eric Van Genderen (International Zinc Association) looking at the use of bioavailability-based models in guideline derivation and regulatory applications. Workshop outcomes will be published as a series of journal papers in late 2018.

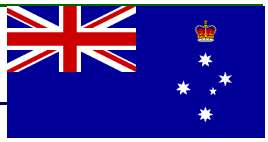
Jenny has just been appointed to another technical review panel by the Department of the Environment and Energy (DoEE) to review the new Geological and Bioregional Assessment Program. This joint program between DoEE, CSIRO and Geosciences Australia aims to provide baseline information on the geology, hydrology, water quality and ecology of several basins in which development of tight gas and shale gas may occur in the future.

Brad Angel has been supervising a French intern student, Romain Figuiere, over the last 5 months. The project has been investigating the toxic effects of pulsed exposures of neutralised mine effluents to a freshwater algae and the ability of time-averaged exposures to predict toxicity. The results build on our previous work with individual toxicants and more recently multiple toxicant/ stressor exposures.

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

Regional Reports

Victoria



Centre for Aquatic Pollution Identification and Management (CAPIM), University of Melbourne, Kathryn Hassell (khassell@unimelb.edu.au)

The CAPIM lab has recently completed a follow up study in the Dandenong Ck catchment (outer Eastern Melbourne) looking at urban pollution impacts on stream invertebrates and fish. A range of management options were implemented following the original study in 2010 and the effectiveness of these improvements was assessed in the current study. Water quality, sediment toxicity and fish bioassessment were amongst the methods used and a report is currently being prepared on the findings.

An example of a study site in a large urban catchment (Dandenong Ck) in outer Eastern Melbourne

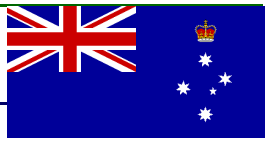
Fish fauna tends to be fairly depauperate in urban streams, but we can always count on finding some goldfish!

Congratulations to Tyler W. Mehler, who has just finished his PhD on developing and refining sediment toxicity bioassays. Whole-sediment toxicity identification evaluations (TIEs) use physical and/or chemical manipulations of the sediment to enhance or decrease the toxicity of a given chemical or chemical class. If the manipulation affects the toxicity of the media this confirms that the toxicant, which was being manipulated, is causing the given effects. This tool is still in its relative infancy, as guidance only became available in 2007 in the United States. To date, this tool has yet to be effectively developed or implemented in Australia. Tyler's dissertation provides the foundation for future whole-sediment TIE work in Australia. Additionally, this research expands on past work to make the technique more effective, and adapts it for various types of sediment contamination, such as mining sites. This research complements Northern Hemisphere whole-sediment TIE work, while providing additional techniques and modifications that will assist in making the use of the whole-sediment TIE method more user-friendly, cost-effective, and practical. Tyler just finished his dissertation and will be going to the University of Alberta for a post-doctoral position working with Dr Greg Goss on a variety of projects, including the aquatic risks of hydraulic fracturing.

Recently completed PhD student Tyler Mehler in China

Regional Reports

Victoria



Other CAPIM PhD students, Molly Hoak, Maita Subba and Bingxu Nan, continue their projects on the development and use of various bioassays for assessing toxicity in local freshwater invertebrates, and we have just welcomed a new (kind of!) student to the team as well. Sarah McDonald has recently commenced her PhD with Kath Hassell and Vin Pettigrove to look at the effects of stormwater pollutants on freshwater fish and invertebrates. The project expands on some of the work Sarah did during her Honours project last year on lead bioaccumulation in flathead gudgeons, and she is hoping to spend some time at ANSTO working on this project with Tom Cresswell later this year. In other fishy news, Masters student Jon Habito has just finished his first bioaccumulation experiment with bifenthrin and flathead gudgeons and is currently preparing for a second experiment later this month.

Meanwhile, Sara Long will give the final talk in her series of SETAC AU National Travel Fellowship Award seminars soon. These seminars have showcased the fantastic work she has been doing in developing metabolomics-based methods for understanding pollution impacts in aquatic organisms. Her seminar will be held at RMIT University at the end of April and we encourage all Victorian members to make it along to the seminar and networking event if they can!

School of Biological Sciences, Monash University, Minna Saaristo
(minna.saaristo@monash.edu)

Congratulations to Dr Patrick Tomkins, whose thesis 'Sex and steroids: the impact of an agricultural contaminant on the mechanisms of sexual selection in the guppy' was recently accepted. Pat is on a roll: his third chapter was published in Environmental Pollution (Tomkins, P., Saaristo, M., Bertram, M.G., Michelangeli, M., Tomkins, R.B., Wong, B.B.M., 2018. An endocrine-disrupting agricultural contaminant impacts sequential female mate choice in fish. Environmental Pollution, 237, 103-110).

PhD student Michael Bertram has also recently had his paper published in Environmental Pollution (Bertram, M.G., Ecker, T., Wong, B.B.M., O'Bryan, M., Baumgartner, J., Martin, J.M., Saaristo, M., 2018. The antidepressant fluoxetine alters mechanisms of pre- and post-copulatory sexual selection in the eastern mosquitofish (*Gambusia holbrooki*). Environmental Pollution, 238, 238-247).

Minna Saaristo (minna.saaristo@monash.edu), Victoria Regional Representative

Regional Reports

Northern Territory

Environmental Research Institute of the Supervising Scientist, Ceiwen Pease (Ceiwen.Pease@environment.gov.au)

We have had a productive start to 2018 in the ERISS ecotox lab with a range of projects steaming along nicely. Our 7d chronic fish test is finalised with end point acceptability criteria established. We are currently completing our last (hopefully) 28d chronic fish test (Cheng et al 2010), which will validate our switch to the 7d protocol. Our new method will be published later on this year.

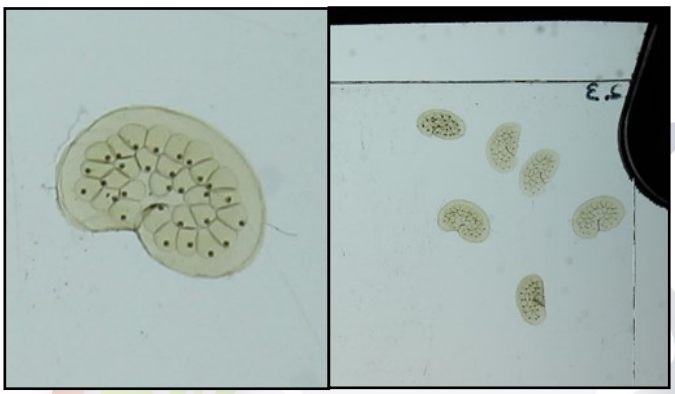
The ecotox lab has been busy completing our third direct toxicity assessment of mine waters from Ranger Uranium Mine. The data we are collecting will be used to better understand the interactions between the key contaminants of concern heading into rehabilitation and closure of Ranger.

Linda Kleinhenz, our PhD student from RMIT, is making great progress with testing the key contaminants of concern for Ranger Uranium Mine, with toxicity testing completed for ammonia, magnesium nearly completed and uranium testing well underway.

Sam Walker and Linda Kleinhenz in the field collecting mussels

Tom Mooney has had his work on modelling the pH-ammonia toxicity relationship for *Hydra viridissima* published in Environmental Toxicology & Chemistry and can be found here.

Andrew Jansen, our new biomonitoring professional officer, has had great success automating the counting of snail eggs within an egg mass to help speed up *in situ* monitoring and toxicity testing with *Amerianna cumingi*.



A single egg mass full of eggs (L), A. cumingi *image ready for analysis (R)*

Mel Trenfield (Melanie.Trenfield@environment.gov.au), Northern Territory Regional Representative

Regional Reports

South Australia

Mike McLaughlin has received the prestigious Soil Science Australia Fellowship, with the award presented at a recent ceremony (pictured at right).

Austin Truman has commenced a MSc Research program recently with Mike McLaughlin, Luke Mosely and Rob Fitzpatrick on "Mechanisms of jarosite dissolution in acid sulfate soils".

Mike Williams recently returned from his six-month Australia-India Strategic Research Fund fellowship at the Indian Institute of Chemical Technology in Hyderabad, India, where he was looking at the fate and occurrence of antibiotics in the environment and links to the emergence of bacterial antibiotics resistance.

Congratulations to **Supriya Lath**, who won the Batelle Conference Travel Award for her paper entitled "Adsorption of perfluorooctanoic acid (PFOA) using graphene-based materials", to be presented at the upcoming 2018 Battelle Chlorinated Organics Conference, April 8-12, Palm Springs, California.

Peter Bain (peter.bain.0@gmail.com), South Australia Regional Representative

Regional Reports

Tasmania

Hello from Hobart!!

With the return of voyage 4 of the RV Aurora Australis ship last weekend, the 2017/18 Antarctic season drew to a close.

This year at Casey, Kathryn Brown worked alongside Di Jolley, Darren Koppel and Gwilym Price (UOW) on a project investigating the use of DGTs in Antarctic environments. The project aimed to test the DGT devices under cold conditions and to correlate metal concentrations in DGTs with toxicity to Antarctic organisms. DGTs were deployed in marine sediments and waters, in soils and meltstreams. The team spent 10 weeks on station, with many days spent in the field, enjoying the beautiful Antarctic scenery. Toxicity tests were run using a rotifer, which is a widespread micro-invertebrate in Antarctic soils, as well as a common moss. Much of this work will be included within Darren's thesis, which he is due to submit later this year.

Further north at Macquarie Island, Cath King, Jess Holan and Robbie Kilpatrick worked within the AAD's Remediation group to deliver a final risk assessment of the remediation of a fuel contaminated site on the station. Research in previous years has focused on the assessment of toxicity to terrestrial biota, with interim guidelines established. This year, we switched focus to the nearshore coastal environment and investigated the toxicity of seepages and groundwater fluxes from the contaminated site to marine biota. This was Jess' first season at Macca post PhD, and the first chance that both she and Cath ever had to venture the whole length of the island on a 5 day epic hiking adventure!

Regional Reports

Tasmania

Further north still, back in Tasmania, Jane Wasley and Tania Raymond were busy as always on data analysis and manuscript preparation for the group, as well as providing support to the field teams south. On the student front, UTAS student Abigael Proctor, is working towards finishing her PhD at UTAS later this year and has several manuscripts on the go. Macquarie Uni PhD student Ingrid Errington handed in her PhD thesis in 2017 on the response of soil invertebrates to petroleum contaminants in subantarctic soils, and implications for remediation efforts, and is now addressing reviewer comments and writing up further publications from her work. Griffith Uni student Amanda Dawson also completed her PhD in 2017, on the impacts of micropollutants to krill. She has just had a paper published in Nature Communications with lots of media attention. This paper was the first study to provide evidence of the physical break down of microplastics through ingestion by krill.

Now also back at Kingston, Kath has resumed toxicity tests with an Antarctic nematode using elutriates made from Antarctic contaminated soils. This includes soil samples from biopiles from current remediation activities at Casey, and clean Casey soil spiked with an Antarctic blend diesel and aged to look at the toxicity of residual fuel products over time. These results will contribute to sensitivity estimates for this species in the development of Antarctic terrestrial soil quality guidelines for fuels and metals.

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

General Member Profile

Dr Munro Mortimer

Munro Mortimer is a former senior investigative scientist with what was then the Queensland Environmental Protection Agency (EPA). He holds an honorary appointment as Senior Fellow with the Queensland Alliance for Environmental Health Sciences (QAEHS) incorporating the former National Research Centre for Environmental Toxicology (Entox), The University of Queensland.

His research interests are in the fields of environmental sampling and analysis, and contaminant fate and transport, particularly in respect to persistent organic pollutants.

Although retired from full time employment, he is still active in part time consulting and has been involved in a number of projects with Entox.

Munro completed a PhD in ecotoxicology at Griffith University in 1995 and on completion of which he took up employment with the Queensland EPA. Previous to that he followed a career as a science and maths teacher after training as a high school teacher at the University of Adelaide. After teaching initially in South Australia he moved to Papua New Guinea, teaching at a number of high schools and was involved in the development of the science education curriculum and in teacher education in the lead up to PNG independence.

During his career as an investigative scientist with the Queensland Government, Munro was involved in a number of high-profile incident investigations and prosecutions relating to illegal dumping and discharges of toxicants, sewage spills and marine incidents involving fuel and cargo mishaps. Munro appeared as an expert witness in numerous court cases, including being a key contributor to the first environmental harm prosecution in Queensland that resulted in actual jail time being served.

Investigation of oil spill on beaches after a shipping mishap, at Moreton Island, Queensland

He has published widely in peer-reviewed journals and contributed and co-authored several book chapters.

Munro was a founding member of the Australasian Society for Ecotoxicology (ASE) and served as its treasurer since 1997, then continuing as treasurer with SETAC AU. This is a role he enjoys since it

General Member Profile

Dr Munro Mortimer

allows him to contribute in a meaningful way to the successful functioning of our society. Currently he is also the treasurer of SETAC Asia-Pacific.

In 2013 Munro was made an Emeritus Member of SETAC in recognition of his significant contributions to ecotoxicology and long service to the society.

Sediment sampling to demonstrate evidence of long term pesticide contamination adjacent to a "premises of interest"

Passive sampler deployment to demonstrate long term pesticide contamination downstream from a point source

Please contact Peta Neale (p.neale@griffith.edu.au) if you would like to be featured in an upcoming edition

SETAC AU Early Career Medal 2017

Dr William Bennett

Since joining SETAC AU many years ago during my PhD, I have thoroughly enjoyed being part of a community of outstanding scientists who love to both work hard and play hard at their regular conferences. This combination of excellent science, and an equally excellent social program, kept me coming back to the regular SETAC AU meetings year after year. Naturally, I was thrilled to receive the SETAC AU Early Career Medal at the recent conference on the Gold Coast, QLD, Australia (which I so happened to be co-chairing with Dianne Jolley, my former PhD supervisor and dancefloor mentor…), and would like to extend my sincere thanks to the SETAC AU Council for selecting me for this award.

Will loading samples of sediment at the X-ray absorption spectroscopy beamline at the Australian

My research career started under the supervision of Prof. Peter Teasdale, then at Griffith University, working on my PhD developing passive sampling methods for measuring arsenic in aquatic systems. Pete was a great supervisor during my PhD, and I still regularly collaborate with him (both in the lab and in the pub). Following my PhD, I managed to secure a lecturing position at Griffith, followed by a Discovery Early Career Researcher Award (DECRA) fellowship, from the Australian Research Council. This allowed me to focus solely on research for three years in the field of contaminant biogeochemistry, where I was trying to understand the fate and behaviour of poorly-studied contaminants, such as antimony, in the aquatic environment. This was a tricky field to work in, mainly due to how difficult antimony was to work with and analyse, but it provided opportunities to develop some new methods for doing this, both in the solid-phase using Synchrotron-based X-ray absorption spectroscopy, and in the aqueous phase using diffusive gradients in thin films.

Since finishing my DECRA fellowship last year, I have shifted my research focus to the marine environment, where I've started working on a project with Prof. Donald Canfield at the University of Southern Denmark. This project will look to unravel the complex geochemistry of vanadium, an element that has strong potential as a tracer of oxygen in the oceans of the early Earth. By understanding the geochemistry of vanadium in the modern ocean, we can apply this knowledge to interpreting vanadium in ancient marine shales, which were deposited billions of years ago before complex life evolved. While this project shifts me into a "blue-sky" research field (where funding is even harder to secure!), I'm excited to be working on a big-picture project with an outstanding international team. This project also allows me to spend 6 months of each year, for the next 3 years, working at the University of Southern Denmark, which will be a great opportunity to gain some international research experience.

Thanks again to everyone at SETAC AU who have made being part of this Society an absolute pleasure, and to the Council for awarding me the Early Career Medal. I look forward to seeing you all at the next SETAC AU conference or event!

Student Profile

Jon Habito

Name: Jon Dominic Habito

Degree: Master of Science in Biosciences

Institution: University of Melbourne

Supervisors: Dr. Kathryn Hassell
Dr. Sara Long
Dr. Vincent Pettigrove

Est. Compl. December 2018

Thesis Title: Induction potential of sediment-bound bifenthrin to induce stress responses in Flathead Gudgeon *(Philypnodon grandiceps)*

Email: jhabito@student.unimelb.edu.au
jondlh.sp@gmail.com

About me

I am a Master's student, currently in my second year of study, at the School of Biosciences, University of Melbourne.

I grew up in the Philippines spending most of my years in my hometown, Los Baños. My hometown is located at the foot of Mt. Makiling, a dormant volcano and on the other side Laguna de Bay, the 3rd largest lake in South-east Asia. These two features mean that my hometown is surrounded by areas rich in floral and faunal biodiversity.

My love for biology first came from my mom, who is still a professor at the University of the Philippines and used to teach fish ecology and taxonomy at the Institute of Biological Sciences. I always remember that our trips to the beach would include my mom bringing a plankton net, an old microscope, and knowing the scientific names of all marine organisms that we encountered.

I had teachers who influenced me to venture forth in the field of biology. My high school teacher, Dr. Pacifico Payawal, taught me about the natural world from the Big Bang to the evolution of life on Earth.

I got my Bachelor of Science degree in Biology from the University of the Philippines Los Banos (UPLB) in 2010. This is where I encountered many professors who served as my inspiration to pursue a career in biology such as my research supervisor, Dr. Vachel Gay Paller, who mentored me to complete a study on monogenetic ectoparasites of freshwater fish in Laguna de Bay; and various professors at UPLB, namely Dr. Dalisay Maligalig, Dr. Mary Grace Dacuma, Dr. Vincent Hilomen, Dr. Vivian Camacho, and the professors at the Animal Biology Division at the Institute of Biological Sciences.

After completing my bachelor's degree, I moved to the island nation of Singapore in 2011 to work at DHI Water & Environment. I worked almost 6 years as a laboratory technician working both in ballast water testing and ecotoxicology. This where I was first introduced to the concepts in ecotoxicology. I learned how to plan and perform ecotox tests using the copepod species, *Acartia tonsa*, and two fish species, *Chanos chanos* (milkfish), and *Lates calcarifer* (barramundi).

In 2016, I was able to represent my former company (DHI Water & Environment) at the SETAC Asia Pacific conference in Singapore. I presented a poster on a study where I was one of the lead investigators, entitled "Suitability of *Lates calcarifer* for ecotoxicology studies in tropical climates".

My accumulated experiences as a lab technician performing ecotox tests and encountering brilliant researchers at the SETAC conference lead me to want to pursue research in aquatic ecotoxicology.

In mid-2017, I was accepted in the Master of Science in Biosciences program in the School of Biosciences, University of Melbourne, and was awarded an International Postgraduate Coursework Scholarship (50% remission of my tuition fees). I was hesitant at first since I still

Student Profile

Jon Habito

did not have adequate funds to pay the remainder of my tuition fees. With the support of my parents, sister and parents-in-law, my wife and I decided to resign from our jobs in Singapore and move to Melbourne to continue my studies.

Doing research in aquatic ecotoxicology comes with its own set of challenges and requires multi-disciplinary knowledge from various scientific fields. I feel fortunate to be mentored and guided by my research supervisor Dr. Kathryn Hassell from the Centre for Aquatic Pollution Identification and Management (CAPIM). Kathryn is one of the leading experts in fish ecotoxicology, endocrine-disrupting chemicals, and assessing aquatic ecosystem health in Australia.

I am also supervised by Dr. Sara Long, a specialist in oxidative-stress biomarkers who is advising me on the biomarker aspect of my research; and Vincent Pettigrove, CEO of CAPIM, who has vast knowledge and experiences in aquatic ecology and pollution management.

Master's Research

The use of synthetic pyrethroids, such as bifenthrin, is increasing in the urban and residential areas in the Greater Melbourne Area. Run-off from these areas is leading to the accumulation of pyrethroid pesticides in wetland sediment. We have a limited understanding of the effects of contaminated sediment on the local fish populations.

Wetlands at Seaford, Victoria

My research involves developing a native freshwater fish species, *Philypnodon grandiceps*, (flathead gudgeon), for testing contaminated sediment. For my study, the fish species will be used to test ecologically-relevant concentrations of bifenthrin found in Victoria's wetlands. Ultimately, we want to develop *P. grandiceps* as a bioindicator species for assessing the health of freshwater environments in Victoria.

The focus of my research is to assess sublethal effects of sediment-bound bifenthrin using histopathology of fish tissues and biomarkers, namely mixed function oxygenases (MFO) and carboxylesterase activity as endpoints. My research will also investigate the primary route of bifenthrin uptake in flathead gudgeons whether it is facilitated through intake from diet or ambient exposure to contaminated sediment.

Philypnodon grandiceps, *Flathead gudgeon – (left) Embryos, 24-hr post-fertilisation (right) Adult fish*

Another aspect of my research involves validating sexual dimorphic traits in flathead gudgeons.

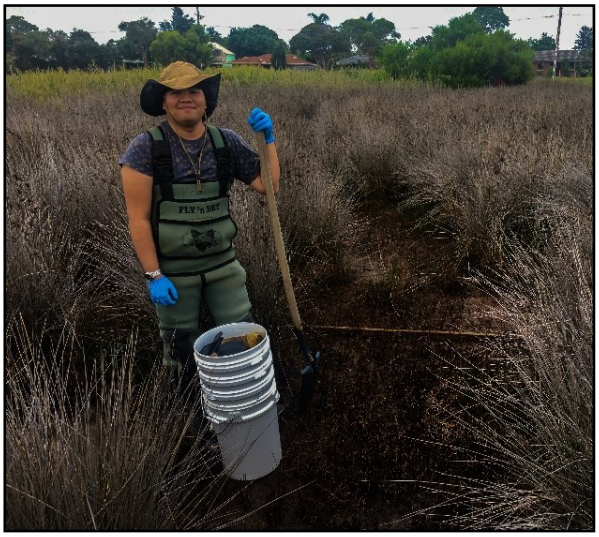
Published information regarding sexual dimorphism in this fish species may not be applicable to the wild populations native to Victoria. These published traits were not definitive in identifying sex in *P. grandiceps* broodstock kept at the CAPIM

Student Profile

Jon Habito

aquaculture facility. I am using a morphometric approach to determine which traits (i.e orientation of mouth to the eye, interorbital space, and head shape) contribute to predicting the sex of the fish.

Establishing definitive sexual dimorphic traits will help to (1) improve identification of male and female fish *in situ* during field collections without the need for dissection and (2) aid in matching fish for breeding pairs for induced breeding and spawning under laboratory conditions. This information would be crucial in developing *P. grandiceps* as a test organism for early-life stage (ELS) testing using fish embryos.



Fieldwork at Seaford, Victoria

Where to from here

Presently, I am still in the middle of my research. I am currently enjoying my research especially going out into the field and visiting the scenic wetlands in Victoria and preparing tests in the laboratory. My experiments require collecting buckets full of sediment and collecting adult fish from the wild. Planning and implementing sediment toxicity tests using fish requires getting your hands dirty, a lot of time, effort and sometimes an extra change of clothes, but I am always up for the challenge.

I will be finishing my research within the next few months and I hope my research will help us to understand what is occurring in Victoria's wetlands and how contaminated sediment is affecting the local fish populations. I am looking forward to sharing the findings of my research in upcoming conferences, particularly the next SETAC Australasia conference

I plan to continue developing my knowledge and skills as a researcher in aquatic ecotoxicology after I have completed my Master's degree. Currently, I am searching for PhD and scholarship opportunities in 2019.

Please contact Divya Vinod (divya.g.vinod@gmail.com) if you would like to be featured in an upcoming edition

Student Corner

Divya Vinod (divya.g.vinod@gmail.com)

EOI for SETAC AU Student conference

This year as many of you may know there will not be a SETAC AU conference. Instead we're keen on hosting a SETAC AU student's conference run by students for students. This event is very much dependent on student interest and engagement and can only run if there are enough SETAC students in attendance. Please submit your EOI to divya.g.vinod@gmail.com by the 20th of April.

APSAC update - Francesca Gissi

The Asia Pacific Student Advisory Council (APSAC) was formed in 2017 to give student members of SETAC a voice, to support student engagement and activities at SETAC conferences and to liaise with other SETAC student councils.

Council representatives are as follows:

APSAC Chair	Francesca Gissi
APSAC Vice-Chair	Racliffe Weng Seng Lai
APSAC Secretary	Ronia Sham
South Korea	Haein Keum
India	Omkar Gaonkar
Australia	Drew Szabo
China	Minghui Li
Vietnam	Mai Dang
Sri Lanka	Sam Lekamge
PNG	Kundo Hundang
New Zealand	Maria Charry

This is the second year that APSAC has been running and we're excited about all the upcoming events for our students this year. Firstly we will be running a competition to design our very own logo, keep an eye out for emails from us. Secondly we are planning student activities for the upcoming SETAC Asia Pacific conference in Daegu, 16th – 19th September 2018. More information can be found at http://setac-ap2018.org/

We encourage students to apply for the travel awards for this conference. Further information can be found on the SETAC AU website and http://setac-ap2018.org/index.php?gt=tra/tra01

Student publications

Kastury, F., Smith, E., Karna, R.R., Scheckel, K.G. and Juhasz, A.L. (2018) An inhalation-ingestion bioaccessibility assay (IIBA) for the assessment of exposure to metal(loid) s in PM10. Science of The Total Environment, 631: 92-104

Knight, E. R., Carter, L. J., McLaughlin, M. J. (2018) Bioaccumulation, uptake and toxicity of carbamazepine in soil - plant systems. Environmental Toxicology and Chemistry, 37: 1122-1130

Ziajahromi, S., Kumar, A., Neale, P.A., Leusch, F.D.L. (2018) Environmentally relevant concentrations of polyethylene microplastics negatively impact the survival, growth and emergence of sediment-dwelling invertebrates, Environmental Pollution, 236: 425-431

If you are a student of SETAC AU and have recently published a paper please send the reference to divya.g.vinod@gmail.com to have it included in the next edition of Endpoint

Science Meets Parliament 2018

Delegates' Report

Ceiwen Pease and Minna Saaristo

Science meets Parliament (SmP2018) is an annual event organised by Science & Technology Australia (STA) offering professionals from the fields of science, technology, engineering, mathematics and medicine (STEMM) the opportunity to meet with the leaders of the country. The goal of this event is to communicate the importance of STEMM in the present and for the future of Australia and meet with like-minded STEMM professionals passionate about communicating their work.

SmP2018 was held on the 13th and 14th of February with the first day focussing on helping the scientists, mathematicians, engineers and technologists to prepare for their meetings with parliamentarians on day two. The morning was filled with inspiring speeches and panel discussions from some of the country's most prominent scientists and technologists. Dr. Alan Finkel, Australia's chief scientist, in his opening address highlighted the importance of building relationships and connections in Canberra and advised participants to start with 'we can help each other' and not 'I want' when meeting our politicians. Collaboration and cooperation is key – the end goal is to help improve the nation's future!

After a delicious morning tea with a wall of STA coloured doughnuts as the centrepiece we were right back into it – how best to communicate your 'story' to your politician and how to be memorable. There were a number of interesting discussion panels such as 'success stories of science and technology on the hill'. One useful tip we took away from this discussion was that sometimes it is about being in the right place at the right time when a topic becomes politically interesting, being able to communicate your opinion in a clear concise way and being willing to do the hard work to get your message out there.

To help us to communicate our science an invaluable session was run in the afternoon by Professor Joan Leach from the ANU Centre for Public Awareness of Science. Participants were tasked with describing their work in 60 seconds, then 30 seconds and lastly in 10 seconds! After each pitch feedback was given by the other participants to help strengthen our message so that a memorable and useful pitch could be made to our politician even if we only had a minute with them. Another enjoyable task that we were given was to explain a smart phone to someone from the 15th century in a way so that they wouldn't think we were a witch and burn us at the stake. As you can imagine, few were successful.

With our brains full of helpful tips for our meetings the next day we made the most of the opportunity to get glammed up (outside of a SETAC AU conference dinner) to have dinner at Parliament House with the other excited participants of SmP2018 as well as some parliamentarians. We heard speeches from Opposition leader Bill Shorten, CEO of ANSTO Dr Adrian Paterson, STA President Professor Emma Johnston and Minister for Jobs and Innovation Michaelia Cash. It was inspiring to hear such a strong message of support for science, particularly for women in science and the exciting new STA initiative Superstars of STEMM from Minister Cash.

Melanie Fuller (RACI) and Ceiwen Pease (SETAC AU) with Minister Michaelia Cash at the Gala dinner

Day two started bright and early for Ceiwen Pease with a meeting with Mr Pat Conroy (Member for Shortland), and for Minna Saaristo with Justine Keay (MP, Deputy Chair, Standing Committee Agriculture and Water Resources). Mr Conroy and Ms Keay were enthusiastic and engaged with what the STEMM professionals had to say and had a keen interest in SETAC and our value as a source of high quality science that can inform policy and decision making into the future.

Science Meets Parliament 2018

Delegates' Report

While the participants of SmP2018 were meeting with their parliamentarians throughout the second day a number of interesting panel discussions were also held. A highlight was a discussion panel containing some of Australia's chief scientists focussing on a dominant theme of the event; how to improve diversity in STEMM.

A highlight of SmP2018 was the truly Canberran experience of attending the National Press Club to listen to Professor Emma Johnston (President of STA) give a powerful address. Professor Johnston's message on Valentine's Day was one of hope and love for science in Australia. Science in Australia has been fortunate to remain in high regard with the majority of Australians thinking that science is important and should be better supported. Watch her full address here.

Participants of SmP2018 meeting with Mr. Pat Conroy, Member for Shortland

Science meets Parliament was an incredible experience and we feel very fortunate to have had the opportunity to attend. It can be difficult to know what to expect going in to an event like this so we have a couple of tips for future SETAC AU delegates:

1. Do your research. Read up on your politician prior to going to the event so that you know their interests political and outside of work, if possible. This will give you something to discuss to break the ice and create a connection between you and your politician.

2. Do not expect your politician to be coming in blind. Politicians are matched with STEMM professionals that have experience in areas of interest for them.

3. Make the most of it! While the focus point of the event is your meeting with a politician, it is also a wonderful opportunity to meet enthusiastic, like-minded people who are passionate about STEMM and science communication.

A big thank you to SETAC AU for allowing us to attend SmP2018, STA for putting on the event and all of the politicians for taking the time to meet with some keen bean STEMM professionals.

What's Happening?

Conferences and Workshops

If you are aware of conferences or workshops that would be of interest to other members of SETAC AU please send the details to the Communication Officer p.neale@griffith.edu.au

What's in Our Water 2018 Symposium. (WiOW2018)
Canberra, Australia, 29th October - 1st November 2018
www.wiow.com.au

The WiOW series has always been a single-track meeting (no parallel sessions), attended by a diverse range of audiences drawn from researchers, academia, government, industry, regulators and policy makers. Following on from the successful EmCon2016, the 6th Symposium in the series will be held in Canberra (at CSIRO Discovery Centre) from 29th Oct to 1st Nov, 2018, under the auspices of SETAC Australasia.

WiOW2018 is calling for abstract submissions for the October symposium in Canberra. Closing date **8th June**.

Conferences and Workshops

SETAC-AP 2018

Daegu, KOREA I 16th ~ 19th September, 2018

Registration and Abstract Submission for the SETAC-AP 2018 Conference Starts on 2, March!

Join in SETAC-AP website and register for SETAC-AP 2018 conference. You can find entire list of themes and topics on website. There are four categories under the main theme "Data, Science and Management Promoting Environmental Welfare". Below those categories, the specific topics are provided. Also, as a member of SETAC, you can get discounted rate when you register for conference. You can read more information on website.

∴ **KEY DATES** ∴

Early – Bird Registration ‖ 2nd, March ~ 16th, July
Abstract Submission ‖ 2nd, March ~ 16th, May

∞ PLENART SPEAKER

Prof. Kurunthachalam KANNAN

Dept. of School of Public Health, University at Albany (SUNY), UNITED STATES

Prof. Ming Hung WONG

Environmental Science, The Education University of Hong Kong, HONG KONG

Prof. Eddy Y. ZENG

School of Environment Jinan University CHINA

Prof. Duk-Hee LEE

Department of Preventive Medicine School of Medicine, Kyungpook University KOREA

Prof. Patrick GUINEY

University of Wisconsin, UNITED STATES

Dr. Veronique POULSEN

L'ORÉAL Research & Innovation FRANCE

∞ THEMES and TOPICS (More topics are on website)

Environmental Chemistry
- Passive sampling of hydrophobic and polar organic chemicals in atmospheric and aquatic environments
- Nano- and microplastics in the environment : from source to environmental consequences
- Human exposure to contaminants of emerging concern : monitoring, exposure pathways and risk assessment
- The dirty dozen and a few more : persistent organic pollutants in the environment

Environmental Toxicology
- Aquatic and terrestrial ecotoxicology of chemicals
- Fate and effects of nanomaterials in water and soil ecosystems
- Toxicology of endocrine disrupting chemicals and their substitutes
- Antibiotics and antibiotic resistance in the environment
- Emerging applications of biochar: A way forward to attenuate environmental pollution and contaminant toxicity
- Thermal stress on aquatic organisms
- Ecotoxicology– From gene to ecosystem

Risk Assessment and Management
- Yellow Sea Ecosystem : Coastal pollution, ecosystem threats, and environmental health
- From field to fork : Mitigating human health risks from contaminated agricultural soils and products
- Emerging big data in environment management.
- Managing mercury pollution

Environmental Policy
- Derivation and application of water and sediment quality guidelines
- Indigeneity and Science : A collaborative work in progress
- Towards sustainable environmental quality : Identifying priority research needs for Asia-Pacific
- Derivation of priority substance list and environmental quality standard for micro-pollutants in aquatic environment

∞ SOCIAL PROGRAM.

Welcome Reception ‖ The First day of the conference, 16th Evening, 18:00
Gala Dinner ‖ The Third day of the conference, 18th Evening, 18:00

≪USEFUL INFORMATION for PARTICIPANTS≫

Accommodation information ‖ We provide the hotel the nearest from venue. You can find online hotel reservation information here.
Conference Venue information ‖ EXCO, Korea's leading exhibition and convention center. More information about Venue, Click here.
About Korea & Daegu ‖ With its long history in culture, the country has a lot to offer to visitors. Continue reading to learn more here

Prof. Yoon-Seok CHANG

POSTECH(Pohang University of Science and Technology) Co-Chair, Organizing Committee SETAC Asia-Pacific Conference 2018

Prof. Sang-Don KIM

GIST(Gwangju Institute of Science and Technology) Co-Chair, Organizing Committee SETAC Asia-Pacific Conference 2018

What's Happening?

Other News

Survey about the 3Rs in Australia

ORIMA Research is conducting a survey on the replacement, reduction and refinement (3Rs) of the use of animals for scientific purposes in Australia.

Concerns are sometimes raised about the level of adherence and attention paid to the 3Rs in Australia. However, there is limited documented evidence of the use the 3Rs in Australia and factors that support or hinder their development and adoption. To address this information gap, views and advice about current practices are being sought from those directly involved:

- investigators who use of animals for scientific purposes
- members of animal ethics committees, and
- senior people in institutions who are responsible for overall institutional governance with respect to the care and use of animals for scientific purposes.

The survey is being conducted by ORIMA Research on behalf of the National Health and Medical Research Council (NHMRC). The results from the survey will assist NHMRC with the development of an Information Paper presenting evidence about the current situation in Australia regarding the 3Rs, to promote informed discussion of any issues and guide recommendations for improvement if required.

The survey is open until by **5PM AEDT Monday 28 May 2018**. More information about the survey is available on NHMRC's website.

Recent Australian Government interventions have been published with regards to **PFAS and PFOS**. These include:

- **Council of Australian Governments**
  - Intergovernmental Agreement on a National Framework for Responding to PFAS Contamination
  - PFAS Contamination Response Protocol
  - PFAS National Environmental Management Plan
  - PFAS Information sharing, Communication and Engagement Guidelines
  - Health Based Guidance Values for PFAS
  - Environmental Health Standing Committee Guidance Statements on PFAS
  - Food Regulation Standing Committee
- **Airservices Australia**
- **Department of Defence**
  - Investigation and management sites
  - Management activities
  - Publications
  - Frequently asked questions (FAQs)
  - Support
- **Department of the Environment and Energy**
  - Consultation on the Regulation Impact Statement for a national phase out of PFOS
  - Regulation Impact Statement for consultation: National phase out of PFOS - Ratification of the Stockholm Convention amendment on PFOS
- **Department of Health**
  - PFAS Epidemiological study
  - Katherine Community Support Package
  - Expanded Services in Williamtown
  - Additional Mental Health and Counselling Services for Communities Affected by PFAS
  - PFAS Expert Health Panel (link is external)
  - Community Walk-In Sessions (link is external)
  - Voluntary Blood Testing Program

And for those with an interest in **CSG chemicals and related risk assessment** processes:

- **Coal seam gas (CSG)**
  - Chemicals associated with CSG extraction in Australia
  - Risk Assessment Guidance Manual: for chemicals associated with coal seam gas extraction – Exposure draft

Awards and Prizes

SETAC Asia-Pacific 2018 Conference Award

This award is for up to two non-student members to travel to the upcoming SETAC-AP conference in Daegu, Korea.

Eligibility: Candidates must be current full members of SETAC AU and be the presenting author of an oral or poster presentation at SETAC AP 2018. SETAC AU Council Executive Committee Members may not apply.

Applications will be considered against the following criteria:

1. Overall contribution to Environmental Toxicology and Chemistry in Australasia over the last five years.
2. Contributions by the way of research, teaching, policy development and/or application of environmental toxicology and chemistry to industry.
3. Significant works (e.g. industrial reports, patents, refereed research papers, etc.).
4. Contributions to the SETAC community.
5. National and international standing in the field of Environmental Toxicology and Chemistry.

The selection committee will also give consideration to those whose contribution is not directly reflected by publications.

The nomination must include the following information:

1. Name
2. Curriculum vitae
3. A list of significant works. These may include industrial reports, patents, refereed research papers, other significant publications (e.g. books, review chapters), or conference papers.
4. A statement of no longer than 750 words of the nominee's contribution to environmental toxicology and/or chemistry in Australasia, addressing the criteria listed above.
5. A brief statement explaining career interruptions if relevant.
6. Disclose any potential existing funding sources available to attend the conference.
7. A copy of their abstract for SETAC-AP 2018

The SETAC AU Council will appoint a sub-committee to consider the nominations and make recommendations. No award shall be made if the Standing Committee considers there is no candidate of sufficient merit. The recipients of the award (two available) will be provided support for flights, accommodation and registration up to A$2,000 each. The award winners will be required to submit a conference report to the SETAC AU newsletter Endpoint on their return.

Nominations should be submitted electronically to the Secretary of the SETAC AU (australasia@setac.org), who will forward nominations to the President of SETAC AU for distribution to the assessment panel. **Applications close 18th June 2018**.

SETAC Asia Pacific Student Travel Award

Five SETAC Asia Pacific Student Travel Awards will provide support for flights, accommodation and registration up to A$1,500 each to attend the SETAC-AP conference in Daegu, Korea.

The completed application form (click here to download the application form), together with a copy of the submitted conference abstract, should be sent to australasia@setac.org. **The closing date for applications is 18th June 2018**, with successful applicants notified before early bird registration closes.

Eligibility: the applicant must be a student member of SETAC AU and be the presenting author of an oral or poster presentation at SETAC AP 2018.

Applicants will be assessed on merit and the selection criteria include:

- Length of time as a member
- Stage of completion of study and whether studying full time or part time;
- Availability of other sources of travel assistance.
- Quality of the submitted abstract

Awards and Prizes

SETAC AU Thesis Prize

SETAC Australasia will offer up to two prizes for the best Honours, Postgraduate Diploma, Master degree or equivalent thesis submitted each calendar year. The research component of the degree must not exceed 12 months full time equivalent (FTE).

Selection is by a committee appointed by the SETAC AU Council. Each Thesis Prize will be to the value of $500.

To be eligible for the 2018 Thesis Prize applicants need to fulfil all of the following criteria:

- Be a current SETAC Australasia member or have applied to be a member prior to the nomination deadline;
- Have submitted a thesis based on research conducted as part of an Honours, Postgraduate Diploma, Master or equivalent degree in the 2017 calendar year at an Australasian University (Australia, New Zealand or PNG);
- Have achieved a grade of H1 or H2A (or equivalent) for the thesis;
- Have a thesis topic in the environmental chemistry, ecotoxicology or related fields; and
- Submit a CV, a letter of support from their supervisor and an electronic version of their thesis (**all in pdf format**– other formats such as Word files will not be accepted).

Nominations should be emailed to the SETAC AU Secretary at australasia@setac.org by the **18th of June 2018**.

SETAC AU Postgrad Research Publication Award

This is an SETAC AU award that recognizes the publication of original research by higher degree research students. The students are recognised for being lead author on a peer-reviewed research manuscript published in an international journal. The purpose of the award is to encourage students to publish their research and to promote this research to the broader SETAC community. The research must have a significant impact (or potential impact) in the field.

Nominations: Candidates may self-nominate, or can be nominated by their research supervisor(s). Nominations should include a one-page cover letter with a brief statement (<300 words) that includes an explanation of the student's contribution to the work, the significance and innovation of the research, and impact or potential impact of the paper. The cover letter should also provide details of student SETAC membership, University enrolment status and supervisor contact details. A one page CV and a PDF copy of the paper should also be provided.

Prize: The winner will be invited to prepare a one-page research highlights segment for Endpoint to convey their research findings to the SETAC AU community. A certificate will be presented to the winner with a cash award of $500, ideally this presentation will occur at a SETAC AU regional meeting.

Eligibility

- Must be a financial member of the SETAC AU as of 18th June of that year.
- The award is to be presented annually at the SETAC AU conference or a SETAC AU regional meeting to an enrolled higher degree research (HDR) student who in the opinion of the assessment panel has published the best research paper in the 12 months prior to the nomination closing date.
- A paper can only be submitted once for this prize.
- Full-time or part-time students may apply.
- The student will have made the major contribution to the research paper, as indicated by being first author or equal first author (either directly by author order or by formal written acknowledgement by all other authors). If this is not the case an explanation should be included.
- Eligible papers must be published (or in press with doi or proof of acceptance) in the 12 months prior to the nomination closing date in a peer-reviewed international journal.
- The student must have been enrolled in a HDR degree for no more than 4 years for PhD or no

more than 2.5 years for MSc (equivalent for part-time students).

If a student or research paper is nominated that does not meet one or more of the eligibility criteria, a further explanation (max 100 words) must be provided that makes a case to the assessment panel as to why an exception should be made.

Assessment criteria: Papers will be judged the SETAC AU council, with a minimum quorum of two members who may seek referees' reports based on:

1. Applicant's contribution to the paper (as supported by co-authors)
2. Innovation and originality of the research
3. Scientific rigour
4. Clarity of organisation and writing style

Nominations should be emailed to the SETAC AU Secretary at australasia@setac.org by the **18th June 2018**.

Further information about all awards can be found on the SETAC AU website under "Awards and Prizes" and "Student Awards and Prizes"

Social Media

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

If you are interested in using Twitter but don't know where to start, a SETAC AU guide to Twitter is available here or on SETAC AU website.

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

Search for @SETACAu

 # People who like this page: 161

Twitter Handle - @SETAC_AU

 # Following: 871
 # Followers: 572

Profile visits (Dec – March): 460
Mentions (Dec – March): 67

SETAC AU Mentor Programme

Why a SETAC AU Mentor Programme?

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

Who is eligible to join the programme?

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

What are the benefits for the mentee?

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

What are the benefits for the mentor?

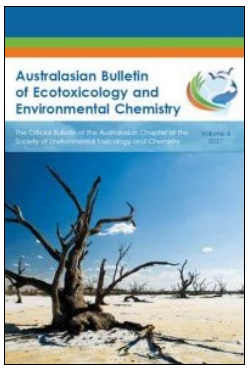
- Exposure to students as potential employees
- Give back to your professional community by sharing your insights and experience
- Stay on top of emerging science through engaging in research-based discussions with your mentee

How do I find out more?

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

Click here for more information

Australasian Bulletin of Ecotoxicology and



Volume 4 of ABEEC has recently been published and is available here.

Comparison of the proposed ecosystem protection guideline values for diuron in fresh and marine ecosystems with existing trigger and protective concentration values
ABEEC Volume 4, 2017, Pages 1-12
Olivia King and Michael St.J. Warne

Call for papers

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

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

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

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

We look forward to receiving you manuscripts.

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

Membership Details

How to join SETAC Australasia

Even if you are a SETAC member based in Australia, New Zealand or PNG, you may not be a member of SETAC Australasia. You can join SETAC Australasia by going to http://www.setac.org/. After logging in, go to the SETAC Australasia page and click 'Request Membership'. 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'. Also, if your email address has changed recently you can update this at http://www.setac.org/.

Also, a reminder that all membership renewal payments for SETAC members in Australasia should be made to SETAC Asia-Pacific, and not to the SETAC North America office in USA. A detailed guide to renewing your SETAC membership online can be found here.

ERROR MESSAGES when trying to pay SETAC membership fees online

In the past few of months many members, when attempting to pay membership renewals, have received a message "unknown error - please try again". Often multiple attempts to pay fees still resulted in the same error message.

This turned out to be due to an intermittent technical problem with the eWay credit card processor system. This card processor system is "banking software" at the Australian end of the funds transfer system, and not under the control of SETAC or the Your Membership software that SETAC uses for membership management.

The fault was difficult to diagnose because it was intermittent, but it has now been fixed at the banker's end.

If any members encounter problems with online membership fee payments to SETAC, please email ap@setac.org and if possible attach a screen capture of how the problem displays. This goes direct to the SAP and SETAC AU Treasurer, who will assist. Do not send such queries to SETAC in USA. Please remember - all SETAC AU membership administration and membership fees matters are handled by SAP in Australia. If you find yourself paying membership fees in US dollars or Euros - stop and backtrack, since you are paying the wrong membership administration. SETAC AU members must do their membership fees payments through the Asia-Pacific payment page of the website. It will always be in Australian dollars.

Note: payments for conference registrations are quite different. They are usually made to the conference organisers through the conference website in the currency applicable to the location. For example, registration to SETAC North America meetings are paid in US dollars, and registration to SETAC Europe meetings are paid in Euros.

Registrations to the SETAC Asia-Pacific conference in Daegu, South Korea in September 2018 are paid in either US dollars or the local currency.

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

Advertise in Endpoint

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

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

Details

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

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

SETAC AU

Council Members

Position	Elected Member
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Student Representative	Divya Vinod (divya.g.vinod@gmail.com)

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Region	Elected Member
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