

AQUATAALK



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Send to a colleague

Send this email to a colleague you think may be interested.



AWQC staff participates in 'Life Be In It' Program.

AWQC is keeping fit and healthy by participating in the 'be active Corporate Cup program' which is a fun walk/run event designed to improve fitness over a period of 16 weeks. Known as 'The Bolts', the team run a 4.5 km track around the scenic River Torrens in

Dear Aquataalk Subscriber

Welcome Message

Welcome to the Spring Issue of Aquataalk. Since our last newsletter, staff have been busily working on expanding AWQC's capabilities and expertise in the algal toxins area gaining NATA accreditation for newly developed rapid algal toxin assays and undertaking research to characterise emerging toxins. This work enables AWQC to provide water utilities with superior tools for the management of algal blooms. A project employing macroalgae attracted media attention for its value in monitoring the extent and impact of wastewater plumes to coastal waters. The AWQC collaborates with many water utilities and researchers across the globe and in this issue we feature our recent collaborations with the Beijing Water Works.

Please enjoy our newsletter and we welcome feedback and opportunities to discuss any of these topics further.

Karen Simpson, Manager Laboratory Services

Mike Burch, Manager Research, Development & Innovation

New TOXIN accreditations gained in recent NATA audit

The AWQC's Organic Chemistry Laboratory has gained NATA accreditation for three new methods in a NATA audit conducted in August 2011.

1. Determination of Cylindrospermopsins and Anatoxin-a in natural and drinking water.

It is the fastest, the most reliable and the most accurate method for monitoring algal blooms and determining the compliance of drinking water. The method is capable for determining both intracellular and extracellular toxins.

An extra component, deoxycylindrospermopsin, is included in the method, and the validation for NATA accreditation is currently in progress.

Adelaide's CBD. The challenge is to compete against other corporate teams and each individual strives to do its personal best for points to accumulate in the team to win the Corporate Cup trophy.

Photo of 'The Bolts' (from L-R): Greg O'Neil, Suzanne Froschio, Kaylene Karkafiris and Mira Maric.



Aquatic Ecology Team

The AWQC Aquatic Ecology and Biomonitoring Team is one of Australia's premier groups providing ecological services for rivers, streams, lakes and wetlands. The team has studied a range of diverse aquatic environments from intermittent arid zone streams and isolated springs to alpine lakes and coastal wetlands; from small mountain streams to lowland rivers, including developed urban areas, artificial lagoons and agricultural environments.

The team takes pride in providing a high quality monitoring and evaluation service based on biological measures, particularly aquatic invertebrates but also including fish and plant communities present, and physical measures and observations of the aquatic environment. We are likely to be spotted in creeks and rivers sampling for macroinvertebrates, testing in-situ water quality parameters and completing habitat assessments. To find out more about [Aquatic Ecology and Biomonitoring Services at AWQC](#) click here.



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2. Determination of nine haloacetic acids in water.

This newly accredited method includes three chloroacetic acids and six bromoacetic acids. It has been vigorously tested with three rounds of proficiency tests. AWQC's outstanding performance in this analysis gives us absolute confidence in the method.

3. Extension of the existing volatile organic compounds (VOC) method to include four additional components: vinyl chloride, 1,1-dichloroethene, trans-1,2-dichloroethene, cis-1,2-dichloroethene. These four organic compounds are widely used by many industries and have been listed as environmental contaminants by the Environment Protection Authority.

To find out more about the new suite of analyses take a look at the [fact sheets for Organic Compounds](#).



Media interest in Coastal Nutrient Plumes mapping work

A new project employing a macroalgal bioassay to map the extent of the impact of wastewater plumes in Adelaide coastal waters, is generating a lot of interest in the media. Senior Research Scientist, Milena Fernandes (above with Grant Westphalen) gave radio and TV interviews for both ABC and Channel 7 on the project.

Macroalgae is being used as active samplers of nitrogen in the water column, with macroalgal thalli deployed for 4 days at 200 sites along the coast. At the end of the deployment period, the isotopic composition of nitrogen accumulating in macroalgal tissues indicates the source of nitrogen reaching coastal waters. Areas impacted by wastewater outfalls are identified by an increase in the proportion of the heavy and rare isotope of nitrogen (^{15}N) in comparison to pristine oceanic waters or regions affected by diffuse fertilizer inputs. [Click here to find out more](#)

Research project to characterise TOXIN

Recent work carried out in the AWQC laboratories has led to the discovery of a novel toxin associated with the cyanobacteria *Limnothrix* (original isolated from central Queensland). Toxicity was confirmed using mouse bioassay. The toxin is a water soluble compound that may pose potential health concerns for drinking water quality. Toxicity screening studies indicate that *Limnothrix*/*Geitlerinema*-like cyanobacteria and some other species may also produce this toxin.

This project will endeavour to purify and chemically characterise the cyanobacterial toxin from *Limnothrix* to determine its chemical structure. Analytical methods for detecting the toxin will be developed to assess its occurrence in source waters and by using comparative toxicity experiments, determine concentrations

Future Aquatalk issues will provide details of the project outcomes.

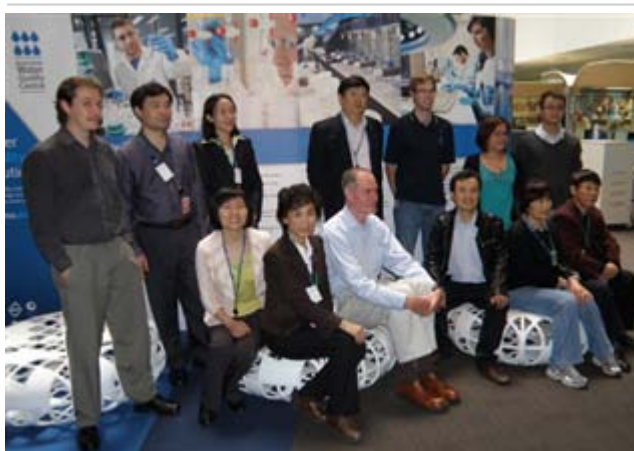
The fireban season is upon us!

The 1st of November, brings on the Fire Danger Season in South Australia. With the established Fire Danger Index and Rating and the high rainfalls during the winter providing higher fuel levels coming into the summer season, it is time to remind everyone of the AWQC procedures. As safety is a high priority for our staff the following procedures apply;

On CATASTROPHIC FIRE DANGER RATED days;

- Our Field Laboratory Services Team will not be entering areas of catastrophic fireban.
- If already in the region our Sampling Team will be only travelling on the main arterial roads back to Adelaide. In these instances sample collection will be restricted to major towns en route to Adelaide.
- When we are not able to collect samples, customers will be notified and the sample will be rescheduled.

We thank all customers for their understanding in enabling us to keep our staff safe. For any queries do not hesitate to [contact us](#).



Chinese Collaboration

AWQC hosted a group of visitors from Beijing Water Works. The group were interested to see the research programs undertaken by SA Water's Research Development and Innovation (RD&I) team, particularly in the areas of water quality and treatment. The group was led by their Deputy Director, Mrs Xu and with several Senior Engineers and Researchers.

Find out more about the [Australian Chinese Collaboration – International Center for Water Science and Technology](#).

Group photo of the Beijing team and several AWQC RD&I team members