PhD Opportunity for APA/IPRS (or equivalent) applicants

**Assessing granular activated carbon capacity for algal taste and odour removal: Development of a predictive tool**

UNSW Water Research Centre, School of Civil and Environmental Engineering/
bioMASS Lab, School of Chemical Engineering/ Melbourne Water

An operating allowance and PhD top-up scholarship is available for a successful APA/IPRS applicant via a UNSW-Melbourne Water research project titled “Assessing granular activated carbon capacity for algal taste and odour removal: Development of a predictive tool”. The presence of cyanobacteria and algae in water sources and within water treatment plants is a problem increasingly faced by water supply managers. Climate change effects provide more favourable conditions for cyanobacterial and algal growth in warm and temperate climates leading to more frequent bloom events. Several cyanobacterial and algal species are potent producers of taste and odour (T&O) compounds. Geosmin and 2-Methylisoborneol (MIB) are two commonly detected cyanobacterial T&O compounds in water. They impart an earthy musty taste and/or odour which can lead to customer complaints. Application of granular activated carbon (GAC) contactors or filter caps to control T&O compounds is wide spread practice within the water industry. However, it is difficult to determine whether the GAC has sufficient remaining adsorptive capacity to control a T&O event should one occur. This PhD project will seek to develop a model that informs the ability of existing GAC contactors to control influent T&O compounds.

The successful student will join the project team that entails a substantial collaboration between the School of Chemical Engineering, School of Civil and Environmental Engineering, Melbourne Water and Water Research Australia (WaterRA). The suitable candidate will have a background in environmental or chemical engineering. The candidate should have a demonstrated aptitude for undertaking laboratory work and an understanding of water treatment technologies. The candidate should have excellent communication skills and will be expected to interact regularly with industry partners. It is anticipated that the student will spend a significant time undertaking field work and will be expected to spend a proportion of their PhD (up to a year) working at Melbourne Water, Melbourne, Victoria. The student needs to be successful in securing their own primary scholarship via APA or IPRS schemes (or equivalent) – see [https://research.unsw.edu.au/postgraduate-research-scholarships](https://research.unsw.edu.au/postgraduate-research-scholarships). A Water Research Australia (WaterRA) project top-up scholarship is available [http://www.waterra.com.au/education/waterra-scholarships/phd-masters-scholarships/](http://www.waterra.com.au/education/waterra-scholarships/phd-masters-scholarships/).

Further information on the project and scholarship on offer may be obtained from Dr Arash Zamyadi (email: a.zamyadi@unsw.edu.au), Dr Rita Henderson (email: r.henderson@unsw.edu.au) or Prof Richard Stuetz (r.stuetz@unsw.edu.au). Applications for the scholarships (including a cover letter, academic transcript and CV) should be submitted to Dr Zamyadi, UNSW Water Research Centre, University of New South Wales, Sydney, NSW 2052.