

A decorative graphic consisting of three blue circles of varying sizes and several thin blue lines. One large circle is at the top right, a medium one is below it, and a very large one is at the bottom right. Lines connect the top-left and top-right circles to the middle one, and another line connects the top-left circle to the bottom-right circle.

Challenges for potable water reuse

**Removal of small contaminants by
membranes**

Supporting Organisation:
Membrane Society of Australasia (MSA)

University of Wollongong

WHAT YOU LEARN

Water recycling has been increasingly used by water utilities to secure reliable supplies of water for municipal, industrial and agricultural uses. In many water recycling schemes, reverse osmosis (RO) membrane filtration is deployed as a key process to remove inorganic salts as well as trace organic chemicals (TrOCs). Typical TrOCs in treated wastewater include disinfection by-products (DBPs), pharmaceuticals and pesticides. This workshop will mainly focus on small TrOCs present in wastewater which permeate through even RO membranes. Attendees will learn about the basics of the occurrence, regulation, analysis and removal of these small contaminants for potable water reuse. The workshop will also focus on several operational factors of RO system that can deteriorate compound removal during full-scale RO system operations.

WORKSHOP INFORMATION

When:

31 January 2014 (9:30 – 15:10)

Where:

Building 6 (Smart building), Room 6.105
University of Wollongong, Wollongong
NSW 2522, Australia



Smart Bld. (Bld. 6)

How much:

Free – MSA cooperate, individual and student members
\$30 – Non MSA members
* Includes refreshments (light lunch).

How many attendees:

Max. 40

VENUE

The University of Wollongong (UOW) is a public research university located in the coastal city of Wollongong, New South Wales, Australia, approximately 80 kilometres south of Sydney. UOW is a leading engineering, mathematics, physics and ICT research institution in Australia, based on its long standing collaboration with local and multinational industries and research centres in Australia and overseas.



Wollongong

PROGRAM SCHEDULE

Openings

- 9:00 – 9:30 Arrival - Registration and Morning tea
9:30 – 9:40 Welcome address

Morning session

- 9:40 – 10:10 **Water Reuse**
Prof. Huu Hao Ngo (University of Technology Sydney)
- 10:10 – 10:40 **Membrane Treatment and the Challenges of Small Molecules**
A/Prof. Stuart Khan (University of New South Wales)
- 10:40 – 11:00 Coffee break
- 11:00 – 11:30 **Factors influencing N-nitrosamine and Other DBP Occurrence and Formation**
Dr. Wolfgang Gernjak (University of Queensland)
- 11:30 – 12:00 **Project Summary of N-nitrosamine Removal by RO**
Takahiro Fujioka (University of Wollongong)
- 12:00 – 12:20 **On-line Monitoring of Boron as a Surrogate of NDMA**
A/Prof. Long Nghiem (University of Wollongong)
- 12:20 – 13:20 Lunch break (Lab tour from 12:50 to 13:10)

Afternoon session

- 13:20 – 13:50 **Experience From Full-scale RO Plants**
Yvan Poussade (Veolia Water Australia), Annalie Roux (Seqwater)
- 13:50 – 14:20 **Removal of DBPs by RO**
Dr. Wolfgang Gernjak (University of Queensland)
- 14:20 – 14:40 **Impact of Chemical Cleaning on TrOC Rejection by NF**
Prof. William Price (University of Wollongong)
- 14:40 – 15:00 **Impact of Membrane Preservation on Boron Removal**
Kha Tu (University of Wollongong)
- 15:00 – 15:10 Closing (followed by a drink at UniBar)



UniBar (Bld. 12)

REGISTRATION (Deadline: 17 January 2014)

Contact MSA secretary - Takahiro Fujioka (secretary@membrane-australasia.org) by sending email with the following information.

Title:

Name:

Organisation name:

Address:

Position:

Phone:

Are you a MSA member?

If yes, MSA membership number:

** Name Tag and workshop program will be provided at a reception of the workshop.*

**To register membership of the MSA, go to MSA website below (<http://www.membrane-australasia.org/>).*

www.membrane-australasia.org

Home Vision & Mission Organisation Members Gallery Links Contact Join MSA Now

Membrane Database Home

Welcome to the official website of the Membrane Society of Australasia

“ Welcome to the Membrane Society of Australasia (MSA). The Society aims to represent and promote the activities in membrane science and technology both in the research and industrial sectors as described in our [Vision and Mission](#).

Thank you for visiting our website. I invite you to explore our membrane activities and news, and look forward to welcoming you to our community and hope to see you at the next MSA event! ”

Mikel Duke, President

News & Events

► Chemeca 2014

13th International Conference on Inorganic Membranes Conference 2014

ACCESS TO THE UNIVERSITY OF WOLLONGONG

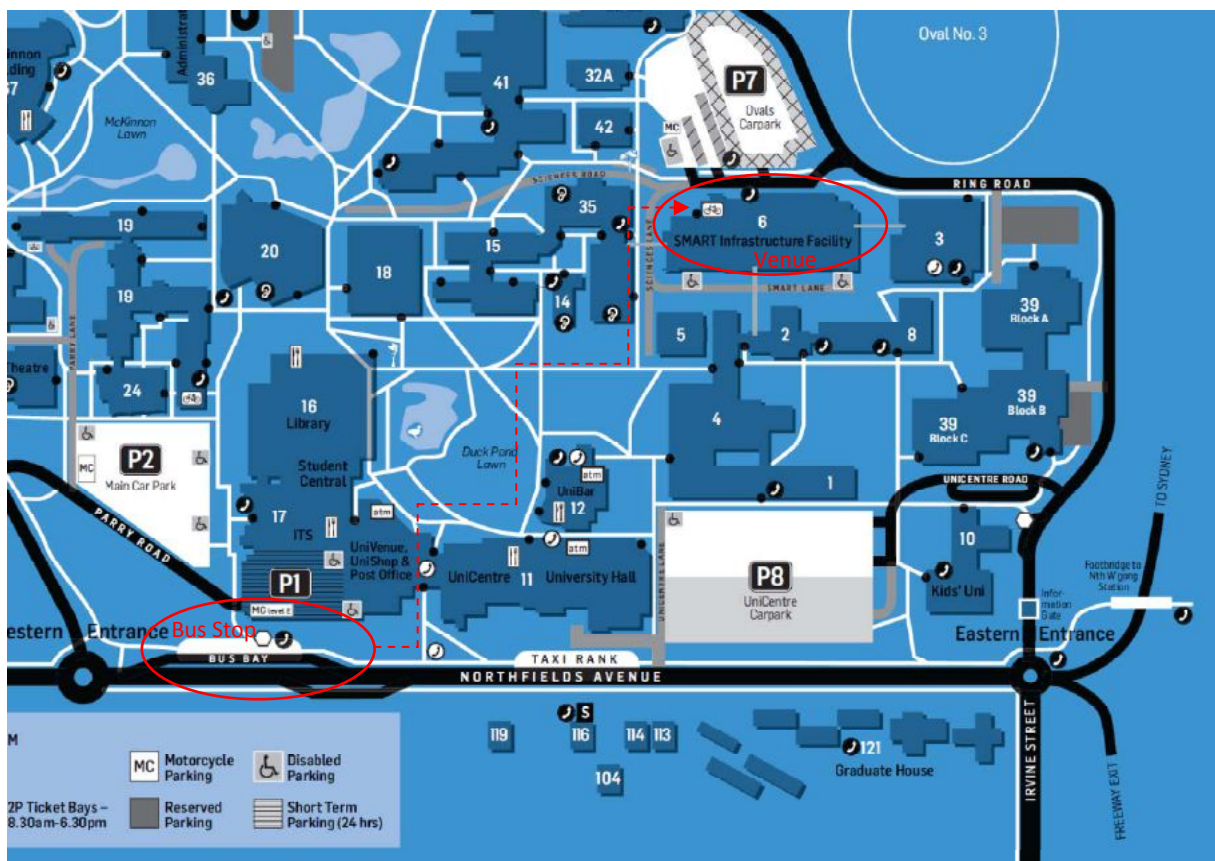
By Train (From Sydney CBD)

From Sydney to UOW

- Depart from Central Station (7:24am)
- Arrive at North Wollongong Station (8:49am)
- Catch No.9 or 9N Free Shuttle Bus – Express to UOW (5 min)
(8:53am, 9:09am or 9:22am)
- Follow the red line shown on the map below – 5 min walk

To Sydney from UOW

- Catch No.9 or 9N Free Shuttle Bus – Express to North Wollongong Station (5min)
([3:57pm](#), [4:26pm](#), [5:28pm](#) or [6:25pm](#))
- Depart from North Wollongong Station
([4:07pm](#), [4:37pm](#), [5:37pm](#) or [6:38pm](#))
- Arrive at Central Station
([5:34pm](#), [6:04pm](#), [7:04pm](#) or [8:02pm](#))





<http://www.uow.edu.au/transport/shuttles/index.html>

By Train (From/To Sydney Airport)

It takes approximately 1.5 hours by train from domestic airport to North Wollongong station via Wollie Creek Station. Plan your travel using the website below.

<http://www.sydneytrains.info/>

By Car

<Ticket> Ticket parking is available in the parking areas of P8 and others. See below.

<http://www.uow.edu.au/parking/index.html>

<Free Parking> Split your petrol bill and park for free when you carpool to Wollongong Campus. Cars bringing 3 or more occupants to the campus get free parking in the Western Car Park (P4).

[Find out more about carpooling »](#)

Accommodation in Wollongong

Discounted accommodation rate has been secured for delegates attending “MSA workshop”. Marketview provides us a special rate of \$99 per night (including continental breakfast) for any booking from 30 to 31 Jan 2014. Free shuttle bus to UOW is available near the accommodation.

<http://www.uow.edu.au/about/accommodation/residences/marketview/overview/index.html>

For more information about Marketview and booking, contact:

Tel: +61 2 4252 8242

Fax: +61 2 4225 7577

Email: marketview@uow.edu.au