CWMR ENEWS

July 2008

University of South Australia | SA Water Centre for Water Management and Reuse

SA Water

Research news

CWMR has been awarded $1.13 m of funding, which has been secured by **Mr David Pezzaniti** to upgrade the Centre's water engineering laboratory infrastructure to meet the needs of the water metering industry. Infrastructure upgrades will include various hydraulic equipment but also specialized large climate control and electrical/electromagnetic rooms. The upgrade also includes NATA accreditation and the majority of the equipment will have traceable national standards of measurement. The funding is being provided by the Australian Government Department of the Environment, Water and the Arts and is linked with the National Water Commission program for water accounting. The upgrade is expected to be completed before the end of this year.

The Centre and the NSW Department of Commerce Manly Hydraulics Laboratory have also teamed up with the CRC for Irrigation Futures to investigate in-situ verification technique for assessing the accuracy of water meters in the field. The project is being funded by the National Water Commission.

A new project with SA Water has been established, 'Reviewing long-term effects of adding gypsum to catchments'. Partners of the project are UniSA, University of Adelaide, CSIRO and Flinders University. It is hoped that sufficient rains will occur for subsurface and surface flows at Scott Creek where the trials are being conducted. An overseas Masters student from Japan, Takeshi Yamaguchi will work on this project from July. An Honours student from Flinders University Markus Pichler (supervised by Dr Eric Bestlands), is also working on the project. The emphasis of the project in 2008 will be to assess the impact of gypsum on phosphorous transport approximately ten years after application.

Funding for a PhD project has been secured from the pulp and paper mill industry to research optimized bio-treatment of wastewaters. A President's scholarship has been secured from UniSA and awarded to Rosmala Dewi (Masters in Chemical Engineering). SA Water (through Dr Chris Chow and Ms Mary Drikas) will collaborate in research on integrated coagulation stages, organic characterization and nutrient removals.

The CRC for Water Quality and Treatment ended its 13 year life on Monday, 30 June 2008. **Carolyn Bellamy** and **Associate Professor Dennis Mulcahy** will continue to work on CRC transition issues and the final Annual Report for a further 5 months.

The CRC end of life celebrations in Melbourne highlighted the success of the Education and Training Program.

People

Welcome to new CWMR staff

The SA Water Centre for Water Management and Reuse is pleased to welcome **Associate Professor Linda Zou** to the University of South Australia. Associate Professor Zou previously worked at the Institute for Sustainability and Innovation at Victoria University for two and half Years and at Deakin University for 7 years. Her current research projects are in the fields of developing innovative solutions for water and wastewater treatment and reuse, including: synthesizing nano-structured materials for water purification; using integrated membrane systems such as microfiltration, nanofiltration and reverse osmosis membranes to produce low salt, high nutrient recycled water for irrigation, and increased overall water recovery; combining advanced oxidation processes with photocatalysis to remove colour and trace organics from the industrial and domestic effluent for water reuse; and studying the levels of the disinfection by-products and micropollutants and developing the processes to effectively remove them. She joins UniSA as the Deputy Director of the Centre for Water Management and Reuse. In the most recent round of funding, Linda received an Australian Research Council Linkage grant that will involve investigating low energy alternative desalination techniques using electrosorptive carbon electrodes.

CWMR also welcomes **Mr Mohammad Kamaruzzaman**, Doctorate Student from the Venice International University. Mohammad is undertaking a PhD in Analysis and Governance of Sustainable Development. During his one-year internship at the Centre he will be involved in research programs in sustainable water resources management strategies with Professor Beecham, under his ARC Discovery project.

Visitors

The centre is currently hosting three overseas occupational training students from France (from the Strasbourg National School of Water and Environmental Engineering). The students are working on research projects with **Professor Simon Beecham** (Bio-retention basins) and **Dr John van Leeuwen** (Torrens Bio-filtration Trials).

Conference, Seminar and Workshop Presentations

Modelling of Water Resources Variables using Soft Computing Approaches
Associate Professor Ashu Jain
(Visiting Professor at University of Adelaide)
From Department of Civil Engineering, IIT Kanpur, India

Abstract
Modelling of water resources variables is important in many water resources management activities such as droughts and floods management. Historically, researchers have employed process based models. Recently, artificial neural networks (ANNs) and genetic algorithms (GAs) have been successfully employed to solve many hydrologic problems. However, the use either the ANNs or mechanistic models in isolation provides only a reasonable accuracy in modeling and forecasting of the water resources variables. In this talk, a brief overview of global and Indian water problems will be provided before presenting a few case studies on the use of technological advancements in modelling and management of water resources systems.
Time: 11.00 – 12.00, Thursday 3 July, 2008, VENUE: P2-51 Access room, Mawson Lakes campus

The seminar can also be viewed at ***BJ3-34A Access room, City East campus, UniSA***

WSUD Policy & Application Issues
An invited paper was presented at a Seminar on WSUD Policy & Application Issues organised by Sunshine Coast (Queensland) Council on 17 June 2008. The paper was co-authored by **Mr David Pezzaniti** and **Professor John Argue**.

Awards

Water Proofing the Northern Adelaide Region Subsidiary recently received an award from the Water Industry Alliance for 'Collaborative Teaming'. The Chairman of the Water Proofing the Northern Adelaide Region Subsidiary presented to the award to **Mr David Pezzaniti** in recognition of the Centre's contribution to the project.

In July, Prof Simon Beecham received a NSW Stormwater Industry Association Award in the *Excellence in A Stormwater Quality Device or Measure* category. This award relates to Simon's work on his ARC Linkage Project: *Development of Confined Water Sensitive Urban Design Systems*
