

Membrane Society of Australasia

www.membrane-australasia.org

November 2010 Newsletter

Message from the President

Welcome to the November 2010 edition of the MSA Newsletter. As we are ready to celebrate MSA's second birthday (14th Jan 2011), it is a great pleasure to reflect over yet another busy year. The year started with the Student Symposium in February, which was followed by the Annual General Meeting in May, the AMS6/IMSTEC conference in November and finally the 3rd International Symposium on Inorganic Membranes also in November. The MSA has also been involved in the successful bid for Australia to host the 2014 International Conference on Inorganic Membranes (ICIM2014).

The MSA website was significantly upgraded in March, providing members with an effective platform to capture and disseminate research and industry excellence in membrane science and technology. I would like to thank the outgoing Webmasters Jianhua Zhang and David Uhlmann for their dedication to building the website to its current form and also the donation of the new version from Dr Long Nghiem. I would also like to congratulate the members who have been successful in securing ARC support for their membrane research the latest Australian Research Council funding round.

Looking to next year, I would like to announce that the second MSA Student Symposium will be held in the second half of 2011 and that full papers submitted to the Symposium will be peer reviewed and considered for publication in Desalination Water Treatment. Members who are interested in being involved in organising and prospective sponsors who would like to support the Symposium are encouraged to contact the MSA Vice President Dr Long Nghiem. Also, I am pleased to announce that the MSA is sponsoring several prizes at AMS6/IMSTEC and is anticipated to sponsor similar prizes at the second MSA Student Symposium.

Finally, I would like to encourage our industry members to consider a board position of this vibrant and fast growing society. Your contribution will be essential as we move the society forward in 2011.

Associate Professor Mikel Duke – President, MSA



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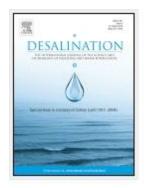
Desalination Issue to Honor Prof Tony Fane



The editorial team of Desalination has decided to have a special issue in Desalination to honour Prof Tony Fane on his 70th birthday for his enormous contributions to membrane science and technology. As

Prof Tony Fane is the honorary member, patron and mentor of the Membrane Society of Australasia we of the Membrane Society of

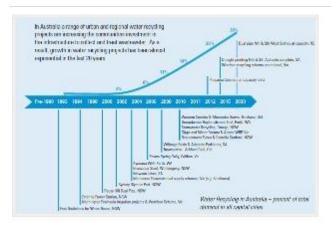
Australasia we encourage its members to honour Prof Tony Fane and his contributions to the growing field of Desalination by submitting a manuscript to this Special Tribute Issue.



For further information

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Centre of Excellence in Water Recycling: The Role of Membrane



(Source: Australian Water Recycling—Strategic Research Plan, 2010)

The establishment of the Australian Water Recycling — Centre of Excellence signifies the commitment of the Federal and State governments as well as other stakeholders to a sustainable management of water resources for urban and industrial uses. The Centre has recently published a set of 4 discussion papers, corresponding to 4 major research themes. The contribution of recycled water to our mainstream water supply is set to steadily increase in the next two decades. Membrane related research is prominently featured in Theme 1 (Technology, Efficiency, and Integration). Progress and development in

membrane technology will be the key to unlock major difficulties in the management of salts and micro-pollutants in reclaimed water. Current knowledge gaps that are membrane related include:

- Understanding the kinetics and thermodynamics of Ca₃(PO₄)₂ scaling during RO filtration.
- Better control of membrane fouling and scaling.
- Understanding membrane degradation and the impact on permeate quality and asset
- Techniques to achieve higher recoveries through RO processes.
- Sustainable management of RO brine.

Novel materials for membrane fabrication and novel membrane processes may also hold the key for a major breakthrough in water and wastewater treatment. This cutting edge research including carbon nanotube membrane fabrication, membrane distillation, and forward osmosis is being conducted by MSA members.

For more information, see: australianwaterrecycling.com.au

ARC DP Success

Over \$3.7m was awarded to membrane research activities in Australia in the latest Australian Research Council round. Some of these projects are highlighted below, and the MSA congratulates successful grant recipients. The University named with each grant is the Administering Organisation.

- Directional fluid-transfer in thin porous materials with gradient wettability through Thickness
 - o A/Prof Tong Lin, Dr Xin Liu (Deakin University)
 - 0 \$210,000
- Superhydrophobic fabrics for solar desalination of water
 - Ms Hongxia Wang (Deakin University)
 - o \$252,000 (APD to Ms Hongxia Wang)
- Carbon nanotube fluidic channels for desalination interplay of nanoscale confinement and electrostatics
 - o Dr Mainak Majumder (Monash University)
 - o Dr Ben A Corry
 - o Dr Andrea I Schaefer
 - 0 \$435,000.
- Novel fuel-cell structures based on electroactive polymers
 - o Dr Bjorn Winther-Jensen (Monash University)
 - 0 \$330,000.
- Theoretical modelling study of thin film permeability
 - o Prof Irene Yarovsky (RMIT)
 - o Dr David J Henry
 - 0 \$300,000.
- Engineered functional metal silica membranes for hydrogen processing
 - o Prof Joao C Diniz da Costa (The University of Queensland)
 - o Dr Simon K Smart
 - o Dr Anne Julbe
 - o \$487,000.
- Novel hybrid silica membranes for desalination
 - o Dr Chun Xiang C Lin (The University of Queensland)
 - o Dr Simon K Smart
 - o Dr Li Ping Ding
 - 0 \$170,000.
- High performance multifunctional hierarchical structured membrane for water processing
 - o Dr Xiwang Zhang (The University of Queensland)
 - o \$525,000 (ARF to Dr Xiwang Zhang)
- Nanoscale characterisation of the dynamics of artificial lipid membranes model systems for drug binding studies
 - o Prof Joseph G Shapter (The Flinders University of South Australia)
 - o Prof John O Miners
 - o A/Prof Sally L McArthur
 - 0 \$340,000.
- Optical tweezers as a micro-rheological probe of soft surfaces
 - o A/Prof Edith M Sevick (The Australian National University)
 - o **\$420,000**.
- Feedback destabilising control of electro-osmotic flow for reducing fouling and enhancing productivity of membrane systems
 - o A/Prof Jie Bao (The University of New South Wales)
 - o Prof Dianne E Wiley
 - o Dr Alessio Alexiadis
 - 0 \$276,000.

Upcoming Events

- AWA Membranes and Desalination Specialty Conference IV 2011
 - o February 9-11
 - o Gold Coast, Australia
- Micropol & Ecohazard 2011
 - o July 11–13
 - o Sydney, Australia
- ICOM 2011
 - o July 23-27
 - o Amsterdam, the Netherlands
- 2nd IEAGHG International Oxyfuel Combustion Conference (IOCC)
 - o September 12–16
 - o Yeppoon, Australia
- CHEMECA 2011
 - o September 18–21
 - o Sydney, Australia
- 6th IWA Specialist Conference on Membrane Technology for Water and Wastewater Treatment
 - o October 4-7
 - o Aachen, Germany
- 2nd MSA Student Symposium 2011
 - o date & venue TBA

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