

Message from the President



Aaron Thornton—MSA President

Happy new year fellow membranologists! 2016 flowed fast with MSA-supported activities enabling our members to excel in advancing membrane science and technology across Australasia. A workshop on ‘Advanced membrane technologies’ was held at Monash University thanks to new board member A/Prof Xiwang Zhang. UTS also hosted a workshop on ‘Membrane distillation and related technologies for desalination and water reuse’ thanks to A/Prof Ho Kyong Shon and Dr Leonard Tijing. One of our members, A/Prof Pierre Le-Clech travelled to Nepal to support the disaster recovery with water treatment technologies and key members from Victoria University helped design a membrane system for Antarctica. MSA’s corporate member Evoqua released a new product line called Memcor Ultrafiltration Systems. MSA also supported IFOS2016 held at UTS with about 100 delegates. Finally 2016 ended with IMSTEC in Adelaide attracting over 250 participants from across the globe. On behalf of the board, we thank all MSA members for their participation throughout 2016. Don’t forget to apply for travel awards, workshop funds and support for networking events available in 2017. Merry membrane and happy hollow fibers!



IMSTEC2016 gala night

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The 9th International Membrane Science and Technology (IMSTEC2016) conference

Over 250 delegates from 30 countries around the world attended the 9th International Membrane Science and Technology conference held on 5th–8th December 2016 at the Adelaide Convention Centre in Adelaide, Australia. The conference was organised by MSA and was sponsored by Memcor (Gold), Ixom (Silver), Flinders University, CSIRO, CO2CRC, Australian Nanotechnology Network, UniSA, International Desalination Association, FB Rice and the Water Network.



IMSTEC2016 was graced by four plenary speakers, and seven keynote speakers. More than 20 invited speakers also talked about their current and future research. The program was very diverse touching on different areas of membrane science and technology providing venues for oral and poster presentations and networking events. The themes covered all areas of inorganic membranes, polymeric membranes, membrane science, membrane fabrication and modification, and membrane applications in a broad variety of areas such as filtration, distillation, desalination and biological separations.

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2016 International Forward Osmosis Summit successfully held at UTS

The second edition of the International Forward Osmosis Summit (IFOS) was organised and hosted by the University of Technology Sydney (UTS) on 2nd-4th December 2016 in collaboration with the University of New South Wales, University of Wollongong, Shanghai Advanced Research Institute, Korea University, International Forward Osmosis Association, National Centre for Excellence in Desalination Australia, FO-RO Hybrid Desalination Research Centre (FOHC), Hyorim Industries and Porifera. This summit was made possible and kindly supported by the Australian Academy of Science and the Membrane Society of Australasia.

Inspired by the natural osmotic process, ubiquitous to all living cells, FO and pressure retarded osmosis (PRO) are now emerging as alternative membrane technologies for desalination, water reuse, energy generation and the treatment of challenging streams. During the two-day summit, those with a professional interest in FO from around the world have met and shared new ideas about the latest progress and the future perspectives of this emerging technology within the academia and industries.



IFOS2016 participants

This summit gathered about 100 researchers from both academe and industry coming from 17 different countries for a total of 43 oral presentations and 31 posters. Besides, the delegates also enjoyed a relaxing cruise dinner in one of the most beautiful harbours in the world. Three technical tours were also organised to highlight the current research activities at UTS. The exciting and unprecedented program was very successful and provided the opportunity to share knowledge and skills, consolidate and further grow the FO network and exchange the latest information on the FO trends in best practice, breakthrough, and pioneering research and science.



IFOS2016 closing ceremony

The next IFOS (2018) will be organised by Prof. Jin-Sik Sohn who is the director of FOHC in Seoul, Korea. The FOHC centre will take advantage of the summit to demonstrate a large-scale FO-RO hybrid system. (Check for more photos from: <http://www.ifosummit.org/photo>)

Contributed by: *Laura Chekli (UTS)*

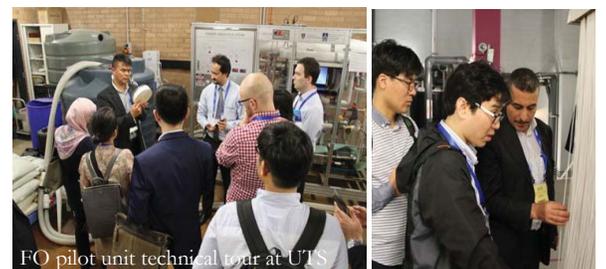
Thanks to Jerry Ren (UTS) and Yunchul Woo (UTS) for the photos.



IFOS2016 dinner cruise



IFOS2016 dinner cruise



FO pilot unit technical tour at UTS



IFOS2016 dinner cruise



IFOS2016 dinner cruise



Technical tour at Central Park wastewater recycling facility

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The conference also discussed about engineering and technologies from the latest innovations in synthesis, characterisation, processing and modeling to the advanced applications of membranes in health, energy and sustainability as well as future materials and devices.



Networking during tea break

Two pre-conference workshops were conducted on the topics of membranes in mining and building a career in membranes for early career researchers. Aside from the oral and poster presentation sessions, participants also enjoyed networking during tea and lunch breaks. Delegates had a wonderful time during the gala night, which was held at the National Wine Centre of Australia and was highlighted with sumptuous food, overflowing wine, and interesting magic show. Oral, poster and 24 travel awards were given at the closing ceremony. A technical tour to the Adelaide Desalination Plant, d’Arenberg Winery and the town of Hahndorf concluded the 4-day conference.

In the past, IMSTEC has been held in Sydney for many years, and then in Melbourne in 2013 and this year was in Adelaide. The next IMSTEC will be held sometime in 2019 or early 2020 with the full details to be announced in the near future.



Gala night

The organisers wish to thank all sponsors, participants, speakers and guests for making IMSTEC2016 a successful event. (More photos can be viewed from: <https://www.membrane-australasia.org/photos/>)



Oral presentation session



Closing ceremony

Plenary speech session



Oral presentation session



Gala night

Thanks to Jingwei Hou (UNSW) for most of the photos

Membrane Research Highlights

- [Highly crosslinked, chlorine tolerant polymer network entwined graphene oxide membrane for water desalination](#), Journal of Materials Chemistry A
- [Silica scaling in forward osmosis: From solution to membrane interface](#), Water Research
- [Osmotic versus conventional membrane bioreactors integrated with reverse osmosis for water reuse: Biological stability, membrane fouling, and contaminant removal](#), Water Research
- [Dual-layered nanocomposite membrane based on polysulfone/graphene oxide for mitigating internal concentration polarization in forward osmosis](#), Polymer
- [Omniphobic Polyvinylidene Fluoride \(PVDF\) Membrane for Desalination of Shale Gas Produced Water by Membrane Distillation](#), Environmental Science and Technology
- [Harvesting low-grade heat energy using thermo-osmotic vapour transport through nanoporous membranes](#), Nature Energy

Conference announcements

11th Conference of Aseanian Membrane Society (AMS)

The next Aseanian Membrane Society Conference will be held on 17-20 July 2018 in Brisbane, Australia. This 11th AMS conference will be organized by MSA. Mark your calendars for this event and watch out for more information in the near future.

International Conference Engineering With Membranes (EWM2017)

[International Conference on Engineering with Membranes \(EWM2017\): Recent Advances in Membrane Science and Technology](#), 26-28 April 2017, Singapore (Visit: www.ewm2017.com)

Special Session to honour Professor Tony Fane’s contributions in the field of membrane science and technology.



IDA WORLD CONGRESS 2017
WATER REUSE & DESALINATION

OCTOBER 15-20, 2017
WORLD TRADE CENTER SÃO PAULO
SÃO PAULO, BRAZIL

- Robust Technical Programs
- Industry Leading Exhibition
- Panel Discussions
- Achievement Awards
- Networking Opportunities
- Educational Training Programs

Who Should Attend:
IDA's World Congress brings together stakeholders from all parts of the global desalination and water reuse industry, including end users (utilities), researchers, consultants, members of academia, manufacturers and suppliers of complete systems and components including chemicals and materials.

Representatives from Governmental, Financial, Development and Multilateral Agencies and Corporations are also welcome and will find participation worthwhile.

ENSURE YOUR WATER FUTURE
IDA's World Congress is the premier water reuse and desalination event where global water industry leaders converge to network and exchange ideas that will shape the future of water solutions.

Join us in São Paulo, a vibrant cosmopolitan city and one of the largest and most influential financial centers of Latin America.

Discover this city of contrasts – from the arts, to restaurants and national parks, to shopping, nightlife, and diverse cultural experiences – São Paulo is in a league of its own.

Organized by **IDA** and **ALADYR**

Website: www.idadesal.org

MSA Workshop Funding Support Program 2017: Call for proposals and applications

The MSA Funding Support Program provides funding support to membrane-related events such as workshop and symposia that are held in Australasia.

Who can apply for the MSA workshop support program?

All MSA members can apply for funding support from the MSA.

Funding use – What the MSA workshop funding support program is for?

Financial support is provided for activities and projects that are beneficial to membrane technology in Australasia. This includes a wide range of activities, such as but not limited to:

- Sharing of knowledge on one particular topic related to membrane technology in the laboratory, pilot or full scale level,
- Dissemination of results/outcomes at the end of a project and highlight future trends,
- Promoting new activities.

Funding support is available to help out with:

- Administrative activities (e.g., venue, materials),
- Catering (e.g., cost of lunch, coffee),
- Sponsoring speakers (e.g. travel and accommodation expenses),
- Awards,
- Free or discount registration fees for ECR.

How to apply?

The application form must be submitted to the MSA at your earliest time before the date of the event. Please advise the MSA as soon as possible of any planned event so that we can consider it for budgeting. The chances of success are likely to be improved by an early application. The outcome of the application will announced approximately 1 month after the submission of the application.

Conditions

To qualify for this funding program, your group has to meet the following terms and conditions:

- Matched funding – your application must include at least an equal monetary or in-kind contribution from you or your project partners;
- Registration fees – the event should provide free or more than \$50 discount registration fees for MSA members;
- Reporting – write a short article on the event for publication in the MSA newsletter, highlighting relevant points of interest to MSA members;
- Acknowledgment – the MSA (including the logo) must be acknowledged for providing financial support in all printed media (programs, flyers, cover slides, websites, etc.) and presentation materials.

Contact us

For further information, contact the funding program coordinators at the following email address: workshop@membrane-australasia.org

MSA Travel Award Program

In order to assist MSA student and ECRs to attend international conferences, the MSA will sponsor travel awards to support their travel and attendance costs to a maximum of \$500 AUD. Details of travel award application on each conference will be announced to MSA members several months before the deadline of its abstract submission. For 2017, travel fund is allocated to all conferences related to membrane science. The recipients will receive the cash prize into their project or travel account. Their success in receiving the award will be announced to MSA members.

Eligibility

- Student or ECR members
- Submission of an abstract to the conference

*In order to receive the award, applicants will need to have their abstract approved for an oral or poster presentation at the conference.

Selection Criteria

Applicants will be selected by a panel of judges looking for the most significant research to science/industry and who have the greatest need for financial assistance.

Contact (Program Coordinator):

Prof Greg Leslie (award@membrane-australasia.org)

Conference announcements:

2017 International Congress on Membranes and Membrane Process



(29 July—4 August 2017, California, USA)

<http://www.icom2017.org/home.html>



3rd International Conference on Desalination using Membrane Technology (2-5 April, 2017, Gran Canaria, Spain) <http://www.desalinationusingmembrane.com/>



8th IWA Specialist Conference on Membrane Technology for Water and Wastewater Treatment, 5-9

September 2017, Singapore

[\(https://www.iwa-mtc2017.com/\)](https://www.iwa-mtc2017.com/)

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