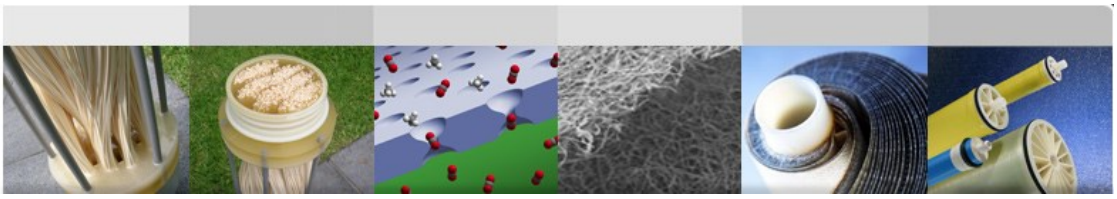
Membrane Society of Australasia



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Upcoming Events:

- CESE, Sydney 28th Sep-2nd Oct 2015
- 21th International Conference on Membrane Science and Technology, Tehran, Iran 1st-3rd Nov 2015
- International Desalination Workshop, Korea 18th-21st Nov 2015

Workshop Report: Ceramic Based Membranes for Gas Separation Application

On the 7th August 2015, The "Ceramic Based Membranes for Gas Separation Applications" was successfully carried out at the Australian Institute for Bioengineering & Nanotechnology (AIBN) at The University of Queensland (UQ) with 11 national and international renowned speakers, and a total of 30 registered and on-site attendees.

The welcoming messages was delivered by the chairman Dr David Wang from the School of Chemical Engineering (UQ) to give a brief overview of the event and the modus operandi of MSA Workshop & Networking Program. The morning session kicked off with a research theme show-cased by senior group members (Prof. Joe da Costa, Drs Simon Smart and Julius Motuzas) of Functional and Interfacial Materials and Membranes Laboratory (FIM2Lab) at UQ.

In the first afternoon session, Dr Marlies Hankel (AIBN/UQ) and Guotong Qin (Beihang University, Beijing) presented their research on carbon molecular sieving membranes transport simulation and preparation. Dr Michael Dolan, a team leader at CSIRO in Energy research, provided an insight into the economic feasibility and prototype demonstration of solar membrane reformers based on nickel catalyst palladium-supported membranes. Lastly, Prof. Shaomin Liu from Curtin University described the trials and tribulations of making ceramic hollow fibre membranes from 10-15 years of past and current research.

The last session of the day began by PhD students, Mr Stefan Smith and Ms Melanie Kitchin, from CSIRO in the Manufacturing Flagship program. Both talks took on the theme of modifying the polymer matrices through the incorporation of metal-organic frameworks (MOFs) and organic frameworks (OFs). Continued with this theme, Dr Lei Ge from UQ, presented the importance of minimizing interfacial voids between MOFs and the polymer matrix and several research strategies. The last speaker, Prof. Firas Rasoul came from the Kuwait Institute for Scientific Research (KISR), gave a lecture on the overview of research activities in KISR.

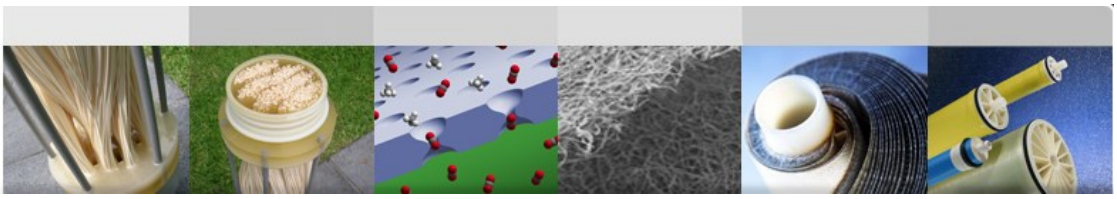
After the conclusion of the Workshop, several delegates were given a tour visit to the FIM2Lab at UQ by Dr Julius Motuzas, who also gave an introduction of the research activities that are currently being carried within the group.

For a full report of this workshop, please refer to the MSA website http://www.membrane-australasia.org/?p=2142

MSA member moves to University of Bath

Membranes@Bath

Dr. Ze Xian (Nicholas) Low, a former Ph.D. student of Prof. Huanting Wang at Monash University, has recently joined the University of Bath as a postdoctoral research associate. His current work focuses on 3D printing of novel membrane structural architectures and development of a rapid aging method for membrane testing in search of the next generation "immortal membranes", a term used for membranes which do not suffer significantly from ageing or fouling over the lifetime of an industrial plant. His work is part of a project funded through a prestigious 5-year Programme grant from the Engineering and Physical Sciences Research Council (EPSRC) involving membrane researchers including Prof. Ian Metcalfe (Newcastle University); Dr. Davide Mattia and Dr. Darrell Patterson (University of Bath); Prof. Andrew Livingston and Prof. Kang Li (Imperial College London); Prof. Neil Mckeown (University of Edinburgh) and Prof. Peter Budd (University of Manchester). The new EPSRC-supported virtual membrane centre – SynFabFun will bring together the country's leading experts in the field to develop and implement new membrane systems and techniques. Nicholas Low can be contacted at z.x.low@bath.ac.uk



IMSTEC 2016 Open for Registration

On behalf of the Membrane Society of Australasia (MSA), it is our pleasure to invite you to the 9th International Membrane Science and Technology Conference to be held from the 5th – 8th December 2016 at the Adelaide Convention Centre, South Australia (http://www.imstec.com.au/).

The themes for the 9th IMSTEC will cover 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. Included will be engineering and technologies from the latest innovations in synthesis, characterisation, processing and modelling to the advanced applications of membranes in health, energy and sustainability as well as future materials and devices.

As in past years, IMSTEC will provide an opportunity for national and international networking through an exciting forum of both formal presentations as well as enhancement of research in order to contribute towards the development of frontier membrane science. Since running in Sydney for many years, and then in Melbourne in 2013 it is now our pleasure to host IMSTEC in Adelaide and continue its reputation as a conference with an outstanding scientific programme and excellent opportunities to meet old friends and make new academic/industry collaborations. The program will provide ample opportunities for informal discussions and networking throughout the conference.

We hope you enjoy the conference, are inspired by new ideas and make new friends. We encourage you to attend what promises to be another stimulating membrane forum in 2016.

<Prof. Amanda Ellis (Co-Convenor) and Dr. Milena Ginic-Markovic (Co-Convenor)>

New Membrane Development Agreement Announced

The Department of Chemical and Biomolecular Engineering at the University of Melbourne has signed a research collaboration agreement with NuSep Holdings Limited (ASX:NSP) to develop new and improved hydrogel membranes that have greater biocompatibility and use cost effective large-scale manufacturing techniques.

The services that will be provided by the Department of Chemical and Biomolecular Engineering include:

- Characterisation of a NuSep's new hydrogel membrane, which is to be used in the next generation of the current SpermSep device
- Refinements in the membrane's chemical formulation to enable changes in the membrane pore size for new separations beyond SpermSep's requirements.

Alison Coutts, Executive Chairman of NuSep and an alumna of The University of Melbourne's Chemical and Biomolecular Engineering Department, said "We are excited to reinstate this collaboration, which led to the original development of NuSep's core technology. The Chemical Engineering Department is renowned for its hydrogel membrane research. The development of the new membrane will advance NuSep's SpermSep technology. Additionally, the further work to be undertaken with the University of Melbourne to prove up the technology could open up new means for NuSep to produce commercially attractive bioseparation products and there are also other possibilities for entirely new therapeutic applications."

Professor Sandra Kentish, Head of the Department of Chemical and Biomolecular Engineering Department and leader of the research team, said "Innovation is critical to Australia's future. This partnership gives us a unique opportunity to become involved with a company that is at the forefront of manufacturing innovation. Our research team, which includes Professor Greg Qiao and Associate Professor Sally Gras, will work to both ensure that the new Nusep membrane can reach its commercial potential and to expand the use of this material to other applications."

<Source: University of Melbourne, 25th Aug 2015>

Editors: Kha Tu & Huanting Wang
Please contact the editor to contribute to future editions. Email: newsletter@membrane-australasia.org