



Member of the **MEMBR** Ecosystem

Singapore Membrane
Technology Centre

Water Technology for Difficult Circumstances

28 June 2010 ~ 9.30am – 5.30pm ~ Suntec City Room 305

*An SMTC Workshop held in conjunction with SIWW 2010
Supported by PUB, Singapore's National Water Agency*

Workshop Agenda

(as at 21 June 2010)

9.30am – 12 noon Session 1

“An Introduction to Membrane Technology for Special Needs”

Professor Tony Fane, SMTC, NTU, Singapore

“Fabric membranes: A cheap and lasting solution for developing economies?”

Assoc Prof Lingham Pillay, Durban University of Technology, South Africa

“A simple gravity-driven membrane unit for potable water supply for small groups”

Professor Franz-Bernd Frechen, University of Kassel , Germany

“Introduction of Membrane Technology in the Developing World: JICA's Perspectives”

Mr Fumihiko Okiura, Director, Water Resources Management Division 1, JICA

“Technology solutions to enhance MDG outcomes”

Mr. Rhett Butler, Chairman, Skyjuice Foundation, Australia

1pm – 3.00pm Session 2

“Clean Water Solutions: What to consider when you are out there in Aceh or Myanmar”

Dr Adrian Yeo, SMTC, NTU, Singapore

“Bringing clean water to a hospital in Hanoi”

Dr Lim Chee Leong, Lien Aid, Singapore

“Sustainable Supply of Low Cost Clean Water in Indonesia”

Dr I Gede Wenten, IT Bandung, Professor, Indonesia

“Household Water Treatment in Developing Countries – Ceramic Pot Filters”

Mr Chris Schulz, Senior Vice-President, Camp Dresser and McKee Inc., USA

3.30pm – 5pm Session 3

This session aims to showcase a cross-section of available water solutions that development and relief agencies can look to use.

- The Veolia Foundation
- Memsys GmbH, Germany
- Katadyn
- Goodwater (Sister Company of Goodaire)
- Hydration Technology Innovations
- Hydrologic

5pm- 5.30pm Session 4

The Workshop will be rounded up with a Panel Discussion that will be chaired by Professor Tony Fane.

Speaker Biographies

Prof A.G. Fane

Tony Fane is a Chemical Engineer with a PhD from Imperial College, London. He has been working on membranes since 1973 when he joined the University of New South Wales, in Sydney, Australia. His current interests are in membranes applied to environmental applications and the water cycle, with a focus on the sustainability aspects of membrane technology, including membrane bioreactors and reuse. He is a former Director of the UNESCO Centre for Membrane Science and Technology at UNSW and recently Temasek Professor at Nanyang Technological University, Singapore with a programme in Membrane Technology for Sustainable Water. He is currently Director of the Singapore Membrane Technology Centre at NTU. He is on the Editorial Boards of the Journal of Membrane Science (a former editor) and Desalination. He is a Fellow of the Australian Academy of Technological Sciences and Engineering, a recipient of the Centenary Medal in 2002 for services to Chemical Engineering and the Environment and an Honorary life member of the European Membrane Society.

Professor Franz-Bernd Frechen, University of Kassel , Germany

Prof Frechen received his PhD from RWTH Aachen in 1988 and is currently the Head of Department of Sanitary and Environmental Engineering (DESEE) at the University of Kassel. He is also the head of the Institute for Water, Waste, Environment at the same University. He has voluntarily worked with committees at DWA, IWA, CEN and other water NGOs. He has given more than 200 lectures and has more than 100 publications to his name. With DESEE, he developed the “WaterBackpack”, providing potable water for groups of up to 200 persons over months. To be used without energy, operation personnel, chemicals, nor maintenance, the WaterBackpack is an extremely robust and easy-to-use unit suitable even for illiterates in cases of disaster.

Professor Lingham Pillay, Durban University of Technology, South Africa

Lingam Pillay obtained his PhD in Chemical Engineering from the University of Natal in 1992. He has since been employed as a Senior Research Fellow at the Pollution Research Group, University of Natal, Senior Lecturer at the M L Sultan Technikon, and Associate Director at the Durban Institute of Technology. He is currently a Professor and Research-Coordinator in the Department of Chemical Engineering, Durban University of Technology. His group has been extensively involved in technology development projects in water and wastewater treatment.

The Department’s research is primarily focused on novel and innovative water treatment systems for developing economies, with a particular focus on membrane systems. The current technological focus is on robust and inexpensive fabric membranes that could extend the advantages of membrane technology to under-developed regions. Products include robust modules for immersed membrane bioreactors, and a simple gravity-fed unit for drinking water provision in remote rural areas and for disaster relief.

Mr Fumihiko Okiura

Mr. OKIURA, Fumihiko is the Director of Water Resources Management Division 1, Global Environment Department, Japan International Cooperation Agency (JICA). He is in charge of project formulation, implementation, monitoring & evaluation and related studies in the field of water supply and water resource management in urban and rural areas. The projects include technical cooperation, Grant Aid, Yen Loan and other basic studies in such regions as Asia, Middle East, Pacific and east (south) Europe. He has been working for JICA for 15 years including the assignment to JICA Thailand Office in Bangkok. Mr. OKIURA holds master’s degrees on environmental engineering from Osaka University and on economics from Hosei University, Japan.

Mr Rhett Butler

Mr Rhett Butler is the chairman SkyJuice™ Foundation which was incorporated in Sydney in 2005 as a not for profit charitable organization. He has supplied over 650 water purification

units since January 2005 in 32 countries. Furthermore, he has come up with the SkyHydrant™ water purification unit that purifies water without the need for electric power or chemicals which are intended for affordable community water supply and disaster relief applications for production of clean pure water.

Dr. Adrian Yeo

Dr. Yeo obtained his PhD. from NTU in membrane technology for water treatment. He founded an NGO focusing on providing water for countries in the Asia, the Water Initiative for Securing Health (WISH). WISH has installed more than 150 membrane based water filtration devices in Indonesia and Cambodia. Currently, Dr. Yeo works at the Singapore Membrane Technology Centre and spearheads the Membranes for Special Needs Program.

Dr Lim Chee Leong

Dr. Chee Leong is a trained civil engineer with experience in design and research-orientated project development. During his post-doctoral research, he worked closely with Lien Aid in the development and deployment of methods to strengthen buildings against earthquakes. He was involved in the management and evaluation of several projects including the rebuilding of village homes in Yunnan and the strengthening of schools following the earthquake in Sichuan.

Dr I Gede Wenten

Dr I Gede Wenten earned degrees in Chemical Engineering Department ITB in 1987. He completed his Master's degree in 1990 and doctorate in 1995 from the Danish Technical University (DTU). Currently, he is active as an Associate Professor in the Department of Chemical Engineering, Institute of Technology Bandung. He is also involved in commercial aspects of novel membrane process development. He has developed a robust hand-pumped membrane filter that he has distributed widely in Indonesia.

Mr Christopher Schulz

Mr. Schulz has 25 years experience in planning and design of drinking water treatment facilities in the United States and overseas and is a specialist in advanced disinfection and oxidation treatment processes. He holds 11 U.S. patents with three additional patents pending on water treatment technologies. He has published six articles and more than 70 papers in peer-reviewed journals, and is co-author of a book on surface water treatment for communities in developing countries.

Mr. Schulz has been active in water treatment process research, which has led to development of new technologies for ozone dissolution, ozone residual monitoring, ozone disinfection of water mains, hydraulic flocculation, field calibration of particle counters, field calibration of UV intensity sensors in UV disinfection reactors and point –of-entry water treatment systems. Recently, he developed a household ceramic water filter for poor communities in developing countries. Mr. Schulz is a member of the American Water Works Association (AWWA), International Ozone Association (IOA), International Ultraviolet Light Association (IUVA), and is a member of the Board of Directors of the IOA and IUVA and Treasurer of the IUVA.