

PRE-CONFERENCE EVENT

2:00–5:00 pm Basics of FO Technology
 Prof. Jeffrey McCutcheon, University of Connecticut
 Carl Lundin, CDM Smith

The IFOA is an international non-profit industry association with a singular focus on commercializing Forward Osmosis technology.

It is composed of members from private companies, industry professionals, research and academic organizations.

IFOA Purpose:

- + Advocating for the global adoption, understanding and benefits of forward osmosis.
- + Establishing and promoting forward osmosis industry standards, specifications, procedures and terminology.
- + Providing a professional network for information exchange on all topics related to forward osmosis.
- + Providing a single industry voice between its membership and the general public.
- + Encouraging cooperation between industry and government institutions for acceptance, regulation and performance standards for forward osmosis.

IFOA MEMBERSHIP

Company

\$1,000/year
 Includes four memberships for individuals from the same company. Additional individuals can be added at \$250/person/year.

Individual

\$300/year
 Individual membership gives access to all the standard benefits for a single person.

Student

\$50/year
 An individual membership available to verified students of accredited colleges and universities (must have student email).

CONTACT US

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2015 IFOA World Summit

Vancouver, BC ... Sept. 23–25

CONFERENCE PROGRAM



International
Forward Osmosis
Association

8:30 – 8:45 am Welcome Remarks from the Organizers

Session 1: FO Membrane Innovations
Session Chair: Prof. Jeffrey McCutcheon,
University of Connecticut, USA.

8:45 – 9:20 am Carbon Nanotube Membrane for
Forward Osmosis
Dr. Seul Ki Youn, Department of Mechanical and
Process Engineering, ETH Zürich, Switzerland

9:20 – 9:55 am The Short and Fat Hollow Fiber
FO Membrane Module
Hidehiko Sakurai, Toyobo, Japan

9:55 – 10:20 am **BREAK & POSTER SESSION**

**Session 2: Wastewater Treatment Studies
from Around the Globe**
Session Chair: Oliver Geschke, Aquaporin,
Denmark

10:20 – 10:55 am Municipal Wastewater Concentration by
Forward Osmosis: Trace Organic Solutes
Rejection and Biogas Production Study
J. C. Ortega-Bravo, Universidad de La Frontera,
Chile KWR Watercycle Research Institute,
Netherlands Ghent University, Belgium

10:55 – 11:30 am Study of Interaction Between Textile
Dyes and CTA FO Membrane in Dyeing
Wastewater Treatment
Mohammad Karimi, Amirkabir University
of Technology, Iran

11:30 – 12:05 pm Performance of Thin Film Composite
Membranes at Different Draw Solution
Concentrations for Forward Osmosis
Applications in Abu Dhabi
Sahar Dear, Masdar Institute, United Arab Emirates

12:05 – 1:35 pm **LUNCH**

Session 3: Commercialization Challenges
Session Chair: Carl Lundin, CDM Smith, USA

1:35 – 2:10 pm Practical Applications of Forward Osmosis
Peter Nicoll, Modern Water, UK

2:10 – 2:45 pm Forward Osmosis: Challenges &
Opportunities for Commercialization
Dr. Shan Yong, Veolia, France/USA

2:45 – 3:00 pm **BREAK**

3:00 – 4:30 pm Roundtable Discussion: What are the
relevant markets for FO? Hard questions
for a small industry poised for rapid growth.
Discussion Leader: Greg Wetterau, CDM Smith, USA
Panelists: Oliver Geschke, Aquaporin, Denmark
Bill Harvey, Modern Water, UK
Olgica Bakajin, Porifera Inc., USA
Gary Carmignani, Trevi Systems, USA



JOIN US FOR THE IFOA GALA DINNER AT GROUSE MOUNTAIN THE PEAK OF VANCOUVER

FOR A GONDOLA RIDE
AND
SUNSET BANQUET
OVERLOOKING VANCOUVER

THURSDAY EVENING

Meet at hotel lobby.

First bus at 4:45 pm to explore the mountain resort.

Second bus at 6:00 pm.

Hors d'oeuvres and dinner at 7:00 pm.

Session 4: From Academic Studies to Applications

Session Chair: John Webley, Trevi Systems,
USA

9:00 – 9:35 am Theoretical Investigation and Design
of Integrated Forward Osmosis–Reverse
Osmosis (FO–RO) Hybrid System for
Seawater Desalination
Prof. Sangho Lee, School of Civil and Env.
Engineering, Kookmin University, South Korea

9:35 – 10:10 am Practical Considerations for the Scalability
of Pressure Assisted Osmosis Systems
Gaetan Blandin, UNESCO Centre for Membrane
Science and Technology, Australia; Ghent University,
Belgium

10:10 – 10:45 am Experimental Investigation of Power
Production by Pressure Retarded Osmosis
with a Commercial Semi-Permeable
Membrane
Guillaume Clairret, H2O Innovation, Canada

10:45 – 11:00 am **BREAK**

Session 5: FO Basics: Draw Solutions
Session Chair: Bill Harvey, Modern Water, UK

11:00 – 11:35 am Development of Switchable Polarity
Solvent Draw Solutes
Dr. Aaron D. Wilson, Idaho National Laboratory, USA

11:25 – 12:10 am System Level Design Implications in
Forward Osmosis, Benefits and Drawbacks
of Electrical vs Thermal Draw Solution
Regeneration
John Webley, Trevi Systems, USA

12:10 – 1:40 pm **LUNCH**

Session 5: Challenges with Water Reuse
Session Chair: Olgica Bakajin, Porifera Inc.,
USA

1:40 – 2:15 pm Permitting for Direct Potable Reuse and
the Role of FO
Greg Wetterau, CDM Smith, USA

2:15 – 2:50 pm Small Foot Print, Low Energy FO for Reuse
of Challenging Industrial Wastes
Erik Desormeaux, Porifera Inc., USA

2:50 – 3:25 pm Transfer of NASA FO Research and
Technology Development to Terrestrial
Applications: Grey Water Reuse & Industrial
Applications
Michael Flynn, NASA Ames Research Center, USA

3:25 – 3:45 pm **WRAP-UP AND LOOK AHEAD**