

Program

Water Treatment and Re-Use III and the Water-Energy Nexus

January 8-12, 2012

Cancun, Mexico

Conference Chair:

John Pellegrino

University of Colorado

Conference Co-Chairs:

Glenn Lipscomb

University of Toledo

Ranil Wickramasinghe

University of Arkansas



Engineering Conferences International

32 Broadway, Suite 314 - New York, NY 10004, USA

Phone: 1 - 212 - 514 - 6760, Fax: 1 - 212 - 514 - 6030

www.engconfintl.org – info@engconfintl.org

Engineering Conferences International (ECI) is a not-for-profit global engineering conferences program, originally established in 1962, that provides opportunities for the exploration of problems and issues of concern to engineers and scientists from many disciplines.

ECI BOARD MEMBERS

Barry C. Buckland, President

Peter Gray

Michael King

Raymond McCabe

David Robinson

Jules Routbort

William Sachs

Eugene Schaefer

P. Somasundaran

Deborah Wiley

Chair of ECI Conferences Committee: William Sachs

ECI Technical Liaison for this conference: P.S. Somasundaran

ECI Executive Director: Barbara K. Hickernell

ECI Associate Director: Kevin M. Korpics

The organizers would like to express their gratitude for financial support for this conference to:

Chemical & Biological Separations Program Division
Chemical, Bioengineering, Environmental, and Transport Systems
U.S. National Science Foundation

W.L. Gore and Associates

Sunday, January 8, 2012

16:00 – 18:00	Conference Check-in
18:00 - 19:00	Opening Reception
19:00 - 19:15	Welcome and Conference Overview John Pellegrino, Conference Chair
19:15 – 20:00	Opening Talk The Disappearing Cryosphere - The effects of climate change on future snow conditions in ski areas, ecological effects, and changes in water resources from the Rockies to the Himalayas Mark Williams, INSTAAR, USA
20:00 – 21:30	Dinner

NOTES

- *Audiotaping, videotaping and photography of presentations are prohibited.*
- *Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).*
- *Speakers – Please leave at least 5 minutes for questions and discussion.*
- *Please do not smoke at any conference functions.*
- *Turn your mobile phones to vibrate or off during technical sessions.*
- *Be sure to make any corrections to your name/contact information on the Master Participant List or confirm (by your initials) that the listing is correct. A corrected copy will be sent to all participants after the conference.*

Monday, January 9, 2012

- 07:30 – 08:30 Breakfast Buffet
- 08:45 – 09:00 Welcome
- 09:00 – 10:00 Keynote Lecture
Session Chair: Glenn Lipscomb
- Motivating wiser use of untreated wastewater for irrigation in developing countries**
Dennis Wichelns, International Water Management Institute, Sri Lanka
- 10:00 – 10:30 Coffee Break
- Session I: Industrial & Municipal Re-use I**
Chair: Joao Crespo
- 10:30 – 11:00 **Membrane Bioreactors: Transport, monitoring and modeling**
Joao G. Crespo, Universidade Nova de Lisboa, Portugal
- 11:00 – 11:30 **Greywater reuse in Saudi Arabia: Current situation and future potential**
A.O. Al-Jasser, King Saud University, Saudi Arabia
- 11:30 – 12:00 **Revisiting blocking laws for constant flux membrane filtration and their application in fouling analysis of a membrane system treating natural organic matter**
Gema Sakti Raspati, NTNU, Norway
- Session II: Water & Climate Resources**
Chair: Ranil Wickramasinghe
- 12:00 – 12:45 ***Water supply and pollution challenges***
James A. Goodrich, US Environmental Protection Agency, USA
- 12:45 – 13:30 ***Energy and sustainability***
Heriberto Cabezas, US Environmental Protection Agency, USA
- 13:30 – 16:30 Lunch & Free Time
- Session III: Industrial & Municipal Re-use II**
Chair: Pierre Cote
- 16:30 – 17:00 **Flowsheet options for resources recovery from wastewater**
Pierre Cote, COTE Membrane Separation Ltd, Canada
- 17:00 – 17:30 **Ultrafiltration based process for winery effluents treatment**
Maria Norberta de Pinho, Universidade Tecnica de Lisboa, Portugal
- 17:30 – 18:00 **Nanofiltration for water recovery in the leather industry**
Andréa Moura Bernardes, Universidade Federal do Rio Grande do Sul, Brazil
- 18:30 – 19:30 Workshop Breakout
- 19:30 - Dinner & Discussions

Tuesday, January 10, 2012

07:30 – 08:45 Breakfast Buffet

Session IV: Bioreactors

Chair: Tor Ove Leiknes

09:00– 09:30 **Development of hybrid vertical anaerobic sludge-aerobic biofilm bioreactor (HyVAB) for wastewater treatment**
Igor Ivanovic, NTNU, Norway

09:30 – 10:00 **Reduction of colloidal and fine particle fractions In recirculating aquaculture systems by an integrated membrane bioreactor**
Astrid Buran Holan, Center of Fisheries and Aquaculture, Norway

10:00 – 10:30 **Enzymatic treatment of industrial wastewater effluents for reducing color, Chemical oxygen demand and other polluting parameters**
Dhinakar S. Kompala, University of Colorado, USA

10:30 – 11:00 Coffee Break

Session V: Water and Energy

Chair: Jeff McCutcheon

11:00 – 11:30 **Harnessing osmosis for water and energy**
Jeff McCutcheon, University of Connecticut, USA

11:30 – 12:00 **Membrane distillation studies for water desalination**
Kam Sirkar, New Jersey Institute of Technology, USA

12:00 – 12:30 **Water reuse and processing challenges in growth of algal biomass**
Melissa Rickman, University of Colorado, USA
(presented by John Pellegrino)

12:30 – 16:30 Lunch and Free Time

16:30 – 18:30 **Poster Session**

18:30 – 19:30 Workshop Breakout

19:30 - Dinner & Discussions

Wednesday, January 11, 2012

07:30 – 08:30 Breakfast Buffet

Session VI: Process Integration and New Ideas

Chair: Yoram Cohen

08:30 – 09:00 **Strategies for RO process integration and cost reduction**
Yoram Cohen, UCLA, USA

09:00 – 09:30 **Static mixing spaces for spiral wound modules**
Glenn Lipscomb, University of Toledo, USA

09:30 – 10:00 **Materials challenges for next-generation water treatment**
Lauren Greenlee, NIST, USA

10:00 – 10:30 **Development of polymer membranes containing a specific ionic liquid for VOCs removal in water**
Tadashi Uragami, Kansai University, Japan

10:30 – 11:00 Coffee break

11:00 – 12:30 Workshop breakout

12:30 – 15:30 Lunch and free time

Session VII: New Materials and Strategic Thinking

Chair: Uwe Beuscher

15:30 – 16:00 **Advances in nanocomposite membranes for liquid separations**
Mary Laura Lind, Arizona State University, USA

16:00 – 16:30 **Immobilization of electrospun TiO₂ nanofibers on substrate and their Photocatalytic activity**
Sang-Hyup Lee, Korea Institute of Science and Technology, Korea

16:30 – 17:00 **Responsive membranes for water treatment**
Ranil Wickramasinghe, University of Arkansas, USA

17:00 – 19:30 Free time

19:30 – 21:00 Conference Banquet

Thursday, January 12, 2012

07:30 – 09:00	Breakfast
09:00 – 12:30	Final Workshop Breakout
12:30 –	Lunch and Departure

Poster Presentations

(some additional posters will be displayed based on the oral presentations already listed)

- 1. Application of membrane techniques to humic matter and pesticides removal from water**
Wladyslaw Kaminski, Technical University of Lodz, Poland
- 2. Water purification from heavy metal ions in a packed column**
Elwira Tomczak, Technical University of Lodz, Poland
- 3. Evaluation of electrodialysis for the treatment of nickel electroplating effluent**
Andréa Moura Bernardes, UFRGS, Brazil
- 4. Treatment of industrial wastewaters containing anionic surfactants by nanofiltration**
Andréa Moura Bernardes, UFRGS, Brazil
- 5. Amphiphilic star-shaped block copolymer for adsorption and photocatalysis of organic contaminants**
Sang-Hyup Lee, Korea Institute of Science and Technology, Korea
- 6. Activated carbon nanofibers: a novel anode material for microbial fuel cells**
Seetha S Manickam, University of Connecticut, USA
- 7. The application of nanotechnology in the treatment of chemically contaminated wastewater**
Anderson Liew, The University of Melbourne, Australia
- 8. Membrane drying of ionic liquid**
Xi Du and Glenn Lipscomb, University of Toledo