

## Introduction

Greece and other Southern European countries are expected to suffer most from climatic change impacts, with increasing stress on water availability. There is urgent need to protect the diminishing clean water resources and to upgrade/develop alternative sources (through waste-water reuse, polluted and brackish water treatment, desalination etc). Membrane technologies such as membrane bioreactor (MBR), tertiary filtration (UF, MF) and reverse osmosis, are most appropriate to meet these targets in a cost effective and environmentally friendly manner. It is, therefore, anticipated that Southern Europe (including Greece and neighboring countries) will need at short or mid term these novel technologies, and that awareness on, and dissemination of, latest developments is required to inform all those involved in waste-water treatment and water management.

## OBJECTIVES

- To increase awareness on technical possibilities and applications of membrane technologies by transferring information from European projects.
- To provide a platform of communication and interaction between international membrane technology experts, equipment manufacturers, local end-users, other stakeholders

## Topics

15 presentations will cover a range of topics and membrane applications. Focus will be given on

- Membrane Bioreactor technology (MBR)
- Tertiary filtration (industrial water recycling, other)
- Membrane desalination

## Program Outline

### 09:00 Welcome-Opening address

*A.J. Karabelas, B. Lesjean*

### 09:05-10:45 Session 1: Responding to clean water shortage: Water-reuse

1. Water recycling in Europe and the Mediterranean: framework conditions and technologies for future development  
*T. Wintgens, University of Applied Sciences, Northwestern Switzerland*
  2. Water Reuse: Challenges and Opportunities for Greece  
*P. Gkikas, Hellenic Ministry of Environment, Physical Planning & Public Works, Greece*
  3. Sustainable water re-use from the EYATH Waste Water Treatment Plant of Thessaloniki  
*A. Soupilas, K. Kotoulas, E. Kalafati, Thessaloniki Water Supply & Sewerage Co, EYATH S.A., Greece*
  4. International case studies using membrane technology for Integrated Water Cycle Management  
*J. C. Schrotter, J. Leparc, S. Rapenne, Veolia Water, France*
- 10:45-11:05 Coffee break**

### 11:05-12:45 Session 2: MBR systems: a mature or emerging technology?

1. Introducing the MBR technology and the European market  
*B. Lesjean, Kompetenzzentrum Wasser, Berlin, Germany*
2. Economic aspects of large scale membrane bioreactors  
*C. Brepols, H. Schäfer, N. Engelhardt, Ertverband, Germany*
3. Containerized MBR for upgrading small WWTP  
*P. Hlavinek, D. Vilim, Univ. of Brno, Czech Republic*
4. Kubota Membrane Bio-Reactor Technology - Overview and Applications in Greece  
*F. Varidakis, Kubota Membrane Europe Ltd, London, United Kingdom & N. Papasarafianos, P. Chaldeos, D.G. Deriziotis, Technor Engineering Ltd, Greece*

## Program Outline

### 12:40-14:00 Lunch break

### 14:00-15:15 Session 3: Membrane equipment and major applications

1. First year of operation of the hybrid side stream MBR in Ootmarsum  
*H. Futselaar, Norit X-flow, The Netherlands*
2. Experiences of Veolia with the BIOSEP MBR technology  
*D. Petrisca, Veolia Water Solutions & Technologies, Central & Eastern Europe*
3. Integrated MBR-RO systems for water recycling based on selected case studies  
*C. Kullmann and K. Vossenkaul, KOCH Membrane Systems GmbH, Germany*

### 15:15-15:35 Coffee break

### 15:35-17:15 Session 4: Membrane Desalination

1. Membrane desalination : present and future – A researcher's perspective  
*A.J. Karabelas, Center for Research and Technology Hellas, Greece*
2. Innovative Ultrafiltration Pretreatment to Seawater RO - details on plant layout and cost advantages  
*R. Krüger, R. Winkler, M. Heijnen, Inge, Germany*
3. Exploring MBR technology as pre-treatment in reverse osmosis seawater desalination  
*G. Di Profio, E. Curcio, E. Drioli, Univ. Calabria, Italy*
4. MEDINA Project: "Seawater characterisation and membrane autopsies tools for better design and operation of SWRO plants"  
*S. Rapenne, Veolia Water, France*

### 17:15-17:45 Closure addresses

## Important Dates

19.01.2009 Opening for registration

20.02.2009 Closing of registration

05.03.2009 Workshop

Due to the expected large number of participants registration is advisable  
For further information, please contact NRRE Secretariat

## Workshop Venue and fee

### CERTH

#### Conference Center

6<sup>th</sup> km Charilaou-Thermi Road  
PO Box 60361  
57001, Thessaloniki  
GREECE



### Participation Fee

(including lunch & workshop material)

General participants	€ 30
Invited participants (speakers, others)	Free

## Sponsors

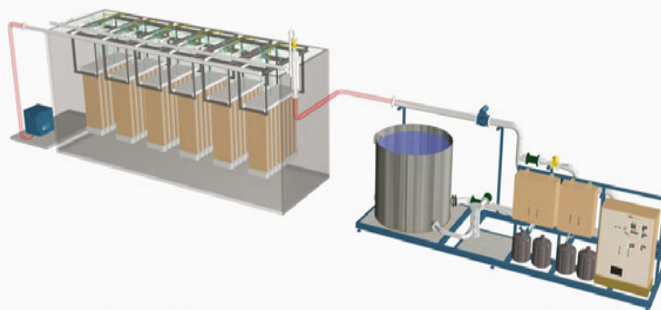


Sponsors accepted until 15.02.2009. For further information, please contact NRRE Secretariat

## Contact

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## MBR-Network

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## WORKSHOP

# Membrane technologies for alternative water resources

**5 March 2009**  
**Thessaloniki, Greece**

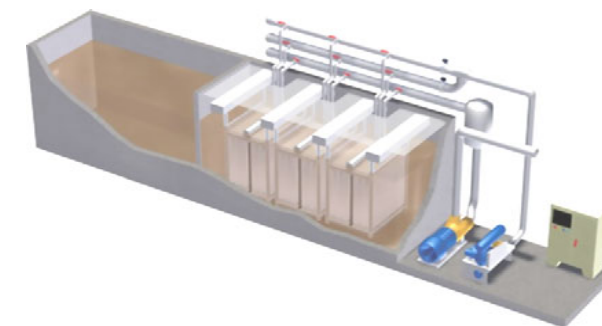
## Final Announcement

Organized in the framework of



Network of EU projects on Membrane Bioreactor technology

[www.mbr-network.eu](http://www.mbr-network.eu)



Center for Research and Technology - Hellas  
Laboratory of Natural Resources and  
Renewable Energies Utilization (NRRE)