

# International Conference



19 – 21 September, 2013  
Tinos Island, Greece

## AGENDA

More information is available at:  
<http://www.uest.gr/win4life> & <http://uest.ntua.gr/solbrine>



Thursday, 19 September 2013

### Welcome speeches

09:30 – 10:15  
Y. Maniatis, Minister of Environment, Energy & Climate Change  
P. Rigas, Member of the Greek Parliament  
N. Sirmalenios, Member of the Greek Parliament  
P. Krontiras, Mayor of Tinos  
G. Pousaios, Vice Head of the South Aegean Region  
Father Dorotheos, Mitropolitis of Syros and Tinos Islands  
G. Valaoras, LIFE+ External Monitoring Team  
G. Protopapas, Ministry of Environment, Energy & Climate Change, National Contact Point for LIFE+  
A. Moropoulou, National Technical University of Athens

### Keynote Speakers

Chair: M. Loizidou, P. Krontiras

- **T. Hema**, Mediterranean Action Plan, United Nations Environment Programme (UNEP-MAP)
- **G. Zaragoza, A. Ruiz-Aguirre, D. C. Alarcón-Padilla**, Review of solar thermal powered membrane distillation for desalination
- **M. Tedesco, A. Cipollina, A. Tamburini, G. Micale, J. Helsen, M. Papapetrou**, REAPower - Use of desalination brine for power production through reverse electrodialysis
- **M. Loizidou**: The LIFE+ SOLBRINE project: Making desalination environmentally friendly

### Coffee Break

SESSION I: "Water Resources", Nikiforos Litas Central Conference Hall

Chair: N. Voulvoulis, G. Zaragoza

11:45 – 12:00      **C. Papadaskalopoulou, C. Giannakopoulos, M. Zachariou-Dodou, M. Loizidou**  
"Challenges for water resources and their management in light of climate change: the case of Cyprus"

12:00 – 12:15      **M. Petrakis, C. Giannakopoulos, G. Lemesios**  
"Impacts of climate change on the precipitation regime in the island of Cyprus"

12:15 – 12:30      **V. Tsoukala, D. Charchousi, M. Papadopoulou**  
"Benchmarking Methodologies for Water Footprint Calculation in Agriculture"

12:30 – 12:45      **E. Pissias, A. Psarogiannis, K. Kalogeropoulos**  
"Water savings - a necessity in a changing environment. The case of small reservoirs"

12:45 – 13:00      **M. Yavuz, A. Ogutverici, M. Oggioni, F. B. Dilek, U. Yetis**  
"Biocides in drinking water system of Ankara, Turkey"

13:00 – 13:15      **I. Zalonis**  
"Water management in Tinos Island"

13:15 – 13:30	<b>K. Papadakis</b> “The route of water from the desalination units to the final consumers”
13:30 – 13:45	<b>S. Cerit, F. Yilmaz, B. Iggen</b> “Challenging tin toxicity by Pantoea agglomerans in the surface water”
13:45 – 15:00	<b>Lunch Break - Poster Session</b>
	SESSION II: “Wastewater treatment I”, Nikiforos Litas Central Conference Hall <b>Chair:</b> A. Karabelas, V. Tsoukala
15:00 – 15:15	<b>E. Katsou, T. Alvarino, S. Malamis, S. Suarez, F. Omil, F. Fatone</b> Effect of target pharmaceuticals in the nitrogen and phosphorus removal processes via the nitrite pathway
15:15 – 15:30	<b>S. Ortiz de García, P. García-Encina, R. Irusta-Mata</b> “Environmental Risk Assessment (ERA) of pharmaceuticals and personal care products (PPCP’s) using ecotoxicity tests
15:30 – 15:45	<b>P. Halazonitis</b> Treatment of leachate produced in a co-disposal site (containing both municipal and toxic waste) using anaerobic treatment methods: The influence of heavy metals in the anaerobic process
15:45 – 16:00	<b>S. Di Fabio, S. Malamis, E. Katsou, N. Frison, F. Cecchi, F. Fatone</b> Treatment of Petrochemical Wastewater by employing Membrane Bioreactors: the case study of Porto-Marghera in Venice
16:00 – 16:15	<b>A. Tolkou, A. Zouboulis, P. Samaras</b> “Synthesis and coagulation performance of composite poly-aluminum-ferric-silicatechloride coagulants in wastewater treatment and their potentially use to alleviate the membrane fouling in MBRs”
16:15 – 16:30	<b>G. Argyropoulos, T. Spahos, K. Zampetoglou, A. Soupilas, N. Papadakis, G. Grammatikopoulos</b> “Pilot-scale study of advanced wastewater treatment processes by EYATH S.A.”
16:30 – 16:45	<b>S. Malamis, A. Andreadakis, D. Mamais, K. Noutsopoulos</b> “Myths and realities concerning membrane bioreactors for municipal wastewater treatment: can water reuse be the drive for the wider implementation of MBR technology?”
16:45 – 17:00	<b>C. Varol, N. Uzal, F. B. Dilek, M. Kitis, U. Yetis</b> “Caustic Recovery from Denim Mercerizing Wastewaters using Membrane Technology”
	SESSION III: “Wastewater reuse”, G. Vidalis Conference Room <b>Chair:</b> M. Rusan, U. Yetis
15:00 – 15:15	<b>O. Komesli, M. Muz, S. Ak, C. Gokcay</b> “Prolonged Reuse of Domestic Wastewater after Membrane Bioreactor Treatment”
15:15 – 15:30	<b>N. Voulvoulis</b> “The potential of water reuse as a management option under the ecosystem services approach using the Anglian region UK as a case study”
15:30 – 15:45	<b>M. Zachariou-Dodou</b> “Integration of wastewater reuse in the overall water resources management - The Cyprus Experience”
15:45 – 16:00	<b>P-M. Stathatou, F-K. Gad, E. Kampragou, H. Grigoropoulou, D. Assimacopoulos</b> “Treated wastewater reuse potential: Mitigating water scarcity problems in the Aegean islands”
16:00 – 16:15	<b>G. Bourazanis, P. Kerkides</b> “Evaluation of Sparta’s municipal wastewater treatment plant’s effluent as an irrigation water source according to Greek Legislation”
16:15 – 16:30	<b>K. Abeliotis</b> “Water use in the domestic sector: a review of evidence focusing on laundering and dishwashing”
16:30 – 16:45	<b>B. Athamenh, N. Salem, S. El-Zuraiqi, W. Suleiman, M. Rusan</b> “Combined Land Application of Treated Wastewater and Biosolids Enhanced Crop Production and Soil Fertility”
16:45 – 17:00	<b>M. Rihani, S. Etahiri, J. Amine, D. Malamis, M. Loizidou, O. Assobhei</b> “Sustainable management of wastewater treatment plants by-products using accelerated aerobic composting”
21:00	<b>Conference Dinner</b>

## Friday, 20 September 2013

Session IV: "Renewable powered desalination", Nikiforos Litras Central Conference Hall  
**Chair:** G. Papadakis, M. Loizidou

09:15 – 09:30	<b>G. Kosmadakis, D. Manolakos, G. Papadakis</b> "Investigation of multiple Reverse Osmosis sub-units coupled to a small-scale solar subcritical organic Rankine cycle engine"
09:30 – 09:45	<b>G.M. Ayoub, M. Al-Hindi, L. Malaeb</b> "A Solar Still Desalination System with Enhanced Productivity"
09:45 – 10:00	<b>M. Loizidou, K. Moustakas, D. Malamis, M. Rusan, K.-J. Haralambous</b> "Development of an innovative autonomous brackish water treatment plant for the production of drinking water in small communities"
10:00 – 10:15	<b>C. Koroneos, E. Nanaki, K. Moustakas, D. Malamis</b> "Renewable Energy Desalination Systems"
10:15 – 10:30	<b>D. Xevgenos, K. Moustakas, D. Malamis, A. Vidalis</b> "The SOL-BRINE system: Process, cost break down & end-products"
10:30 – 10:45	<b>K. Dimopoulos, D. Xevgenos, M. Krokida, M. Loizidou</b> "Design of an innovative vacuum evaporator system for brine concentration"
10:45 – 11:00	<b>D. Xevgenos, A. Vasilopoulos, C. Tzivanidis, M. Loizidou</b> "Innovative evacuated tube collectors with phase change material storage"
11:00 – 11:15	<b>G. Ayoub, L. Dahdah, I. Alameddine</b> "Transfer of Bacteria via Vapor in Solar Desalination Units"
11:15 – 11:30	<b>A. Giwa, H. Fath</b> "Photo Voltaic Cooling and Thermal Energy Recovery for Desalination: Recovery of Magnetic Nano Particles"
11:30 – 12:00	Coffee break

Session V: "Environmental Issues associated with brine", Nikiforos Litras Central Conference Hall  
**Chair:** A. Stamou, G. Christodoulou

12:00 – 12:15	<b>E. Tzen</b> "How Desalination growth affects the environment and energy demand?"
12:15 – 12:30	<b>G. Christodoulou, I. Papakonstantis, I. Nikiforakis</b> "Desalination brine disposal by means of negatively buoyant jets"
12:30 – 12:45	<b>E. Vaudevire, E. Koreman</b> "Ion exchange brine treatment: closing the loop of NaCl use and reducing disposal towards a zero liquid discharge"
12:45 – 13:00	<b>I. Nikiforakis, A. Stamou</b> "Integrated modeling for the discharge of brine from desalination plants into coastal waters"
13:00 – 13:15	<b>V. Koutantelia, M. Papadopoulou</b> "Water Footprint and Environmental Impact Assessment of an Industrial Activity based on Life Cycle Analysis"
13:15 – 13:30	<b>G. Konstantzos, D. Xevgenos, M. Loizidou</b> "Life cycle assessment of the evaporator unit"
13:30 – 13:45	<b>E. Dimitriou, E. Sh. Mohamed, G. Kyriakarakos, G. Papadakis</b> "Experimental investigation of the performance of a reverse osmosis desalination unit operating under full and part load conditions"
13:45 – 14:00	<b>N. Liarokapi</b> "Energy recovery from reverse osmosis desalination plants"
14:00 – 15:15	<b>Lunch Break - Poster Session</b>

Session VI: "Wastewater Treatment II", Nikiforos Litras Central Conference Hall  
**Chair:** G. Lyberatos, G. Ayoub

15:15 – 15:30	<b>V. Tsamili, M. Mitrakas</b> "Comparative study of phosphate removal from wastewater using chemical precipitation methods"
15:30 – 15:45	<b>M. Stylianou, V. Inglezakis, M. Loizidou</b> "Ion exchange equilibrium studies of Pb <sup>2+</sup> and Cu <sup>2+</sup> on natural clinoptilolite, bentonite and vermiculite"

15:45 – 16:00	<b>A. Damaj, G.M. Ayoub, M. Al-Hindi, H. El Rassy</b> “Nickel and Cadmium Adsorption onto Pine-Needle Activated Carbon”
16:00 – 16:15	<b>S. Mahgoub, H. Abdelbasit, H. Abdelfattah</b> “Selection of potential biosorption of phenol and Zinc Candida isolates from sludge and wastewater for integrated biological treatment”
16:15 – 16:30	<b>S.W. Bin Ahmed, G. M. Ayoub, M. Al-Hindi, F. Azizi</b> “The Effect of Fast Mixing Conditions on the Coagulation-Flocculation of Highly Turbid Suspensions Using Magnesium Hydroxide Coagulant”
16:30 – 16:45	<b>D. Tsoukleris, E. Pavlatou</b> “Photocatalytic degradation of water pollutants with UV light radiation”
16:45 – 17:00	<b>G. Lytras, C. Bliatsou, I. Georgiou, C. Lytras, I. Ntaikou, G. Lyberatos</b> “Towards a novel two phase liquid: liquid bioreactor for microbial Cr(VI) removal from wastewaters”
17:00 – 17:15	<b>A. Thanos, V. Drakopoulos, E. Pavlatou, K.-J. Haralambous</b> Sorption of chromate anions by zeolite and vermiculite modified with organic and inorganic substances
17:15 – 17:30	<b>M. Stylianou, V. Inglezakis, M. Loizidou</b> “Experimental studies on fluidized and fixed bed reactors for the removal of heavy metals from aqueous solutions”
17:30 – 17:45	<b>V. Tsamili, M. Mitrakas</b> “Hexavalent chromium removal from water using a fixed bed of CuZn alloy”
17:45 – 18:00	<b>H. Benaïssa, M. Elouchdi</b> “Influence of pH on Cadmium (II) sorption kinetics from aqueous solutions by sunflower leaves and attempts of desorption”
18:00 – 18:15	<b>H. Benaïssa, M. Boumediene, B. George, S. Molina, A. Merlin</b> “Influence of temperature on methylene blue sorption from synthetic aqueous solutions using almond peel (hard variety): experimental, thermodynamics and modeling studies”
Session VII: “ Wastewater treatment III”, G. Vidalis Conference Room <b>Chair:</b> C. Gokcay, O. Assobhei	
15:15 – 15:30	<b>A. Karabelas, K. Plakas, V. Sarasidis, S. Patsios</b> “Novel advanced oxidation process systems for water purification – Progress and prospects for large scale applications”
15:30 – 15:45	<b>J. Moreira, M. Simões, L. Melo, F. Mergulhão</b> “The effects of shear stress and mass transfer on the onset of bacterial biofilms in industrial piping systems”
15:45 – 16:00	<b>P. Gikas, T. Tsoutsos</b> “Near Zero Energy wastewater treatment plants for the Greek islands”
16:00 – 16:15	<b>S. Boteva, M. Neznakomova, L. Tzankov</b> “Innovative clean technologies for wastewater filtration using textile waste and subsequent energy recovery of the filters saturated with petroleum products”
16:15 – 16:30	<b>M. Rihani, S. Etahiri, J. Amine, O. Assobhei</b> “RALBI: an innovative wastewater treatment technology for small urban communities and touristy complexes in Morocco”
16:30 – 16:45	<b>V. Repousi, S. Georgopoulos, C. Skoutelis, M. Papadaki</b> “Removal and photo-degradation of aqueous solutions of paracetamol”
16:45 – 17:00	<b>N.A. Pantelidou, C.P. Theologides, G.G. Olympiou, P.G. Savva, C.N. Costa</b> Catalytic removal of paracetamol from water by the use of excess hydrogen over monometallic Rh catalysts supported on $\gamma$ -Al <sub>2</sub> O <sub>3</sub> spheres: A promising process
17:00 – 17:15	<b>K. Valta, T. Kosanovic, D. Malamis, K. Moustakas, M. Loizidou</b> Water consumption and wastewater generation and treatment in the Food and Beverage Industry
17:15 – 17:30	<b>K. Dimopoulos</b> “Highly polluted wastewater treatment with the thermodynamic method E.H.O.®”
17:30 – 17:45	<b>S. Georgopoulos, C. G. Skoutelis, D. Vlastos, M. I. Papadaki</b> “Treatment and removal of erythromycin from aqueous solutions”
17:45 – 18:00	<b>M. G. Antoniou, G. Hey, S. Rodríguez –Vega, A. Spiliotopoulou, J. Fick, M. Tysklind, J. la Cour Jansen, H. R. Andersen</b> “Required ozone doses for removing pharmaceuticals from wastewater effluents”

## Saturday, 21 September 2013

Site visit to the innovative brine treatment system & Tour at Exomvourgo Castle, the Museum of Marble Crafts, Museum of Chalepa at Pyrgos, Tour at Panormos Village & Volax Village.