

PARTNERS' MEETING IN Bari

➤ The partner's meeting was held at DICATECh council room, at Polytechnic of Bari on **10th and 11th July 2019**. On the first day, partners discussed on the deliverables submitted, the achieved results and the incurred expenses. Moreover, brainstorming on the organization of workshops for partners, citizens and stakeholders. The second day started with greetings from the Representatives of DICATECh and Water Resources Section of the Apulia Region and was continued with technical discussions. The 4th meeting will be organized on November in Italy.



A tour at the laboratories of Polytechnic of Bari was done.



✓ Re-water had a poster at **6th Patras IQ workshop** for innovation and know-how transfer
<https://www.patrasiq.gr/> 12-14 April 2019

RE-WATER Eco technologies for the waste water management
Interreg V-A ΕΛΛΑΔΑ-ΙΤΑΛΙΑ 2014-2020

ΣΥΝΕΡΓΑΤΕΣ
1. Υπηρεσία Ύδρευσης της PUGLIA (Acquedotto Pugliese S.P.A., Συντονιστής)
2. Πολυτεχνική Σχολή Bari
3. Δημοτική Αρχή της Gallipoli
4. Πανεπιστήμιο Πατρών
5. Δήμος Πατρέων

ΠΑΤΡΑ: Μελέτη, σχεδιασμός και εγκατάσταση συστήματος μεμβρανών στις εγκαταστάσεις της ΔΕΥΑΠ, για την τριτοβάθμια επεξεργασία της εκροής του Βιολογικού Σταθμού.

ΣΥΝΕΡΓΑΖΟΜΕΝΟΙ ΦΟΡΕΙΣ
1. ΔΕΥΑΠ
2. Περιφέρεια ΑΡΥΔΙΑ

✓ Χρήση βιώσιμης τεχνολογίας για τη διαχείριση των αστικών λυμάτων
✓ Πρόληψη της θαλάσσιας ρύπανσης
✓ Βελτίωση ποιότητας των μονάδων επεξεργασίας λυμάτων
✓ Επαναχρησιμοποίηση νερού για αρδευτικούς σκοπούς με βάση τους Ευρωπαϊκούς κανονισμούς.
✓ Δύο πιλοτικές δράσεις στη Gallipoli της Puglia και στην Πάτρα.

<https://www.interreg-rewater.eu/>

interreg Greece-Italy
Re-Water
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USE OF MEMBRANES FOR WATER TREATMENT - PERFORMANCE AND PERSPECTIVES

Introduction
Removal of contaminants in water is required to prevent human health and to ensure good quality of drinking water. Moreover, climate change brings frequent and prolonged droughts. In the light of such water scarcity, engineers are focused on safeguarding water supply. Recently membrane separation processes is used as support or replacement for traditional water (depth filtration) and wastewater treatment technologies delivering potable water of best quality with less land requirements for infrastructure and reducing or even eliminate the use of electrolytes and/or polyelectrolytes.

Field Performance Study
A membrane ultrafiltration pilot system can prove capable to:
✓ ensure excellent removal of suspended materials (colloids, solids, bacteria, Cryptosporidium and Giardia, etc.).
✓ the filtrate stream be suitable for irrigation without restrictions according to Greek and E.U. legislation, as a post-treatment stage in the effluent of the activated sludge process.
✓ achieve complete retention of solids and of the COD contained in the activated sludge process effluent.
✓ have small land requirement, easy upgrade and modernization of old sewage treatment plants.

Laboratory Evaluation Study
Aqueous solution was used to simulate the turbidity of the Glafkos River surface water in experiments both with membrane and depth-sand filtration.
Sand column apparatus:
diameter: 90mm,
filter height: 1500mm,
grain sizes 0.6-1 & 1-1.4mm
UF device:
ceramic, length: 300mm,
pore size: 300nm,
surface area: 0.24m²

Results
➤ In deep sand filtration experiments, the surface loading of the filter affects strongly the process and the filtration capacity is a decreasing function of the flow rate.
➤ UF unit gave excellent separation capabilities, yielding permeate stream with characteristics of higher quality.

Results
South municipal park near Patras sewage treatment facility with a total surface of 50,000 m² will be irrigated using the treated water from UF membranes.

Το κείμενο ελεγχτικά επιβεβαιώθηκε από τον προϋπολογισμό του έργου "Re-Water: Eco-technologies for the wastewater management" (Interreg Greece-Italy 2014-2020) - χρηματοδοτούμενο από την Ευρωπαϊκή Ένωση.
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3rd distance education e-learning Summer School on "Wastewater and Biosolids Management" (WWSS19), Patras, Greece, July 22 - 27, 2019

✓ Re-Water e-Poster was awarded as the **Best Poster** on **5th distance education e-learning International Summer School and Workshop on "Wastewater and Biosolids Management"** (WWSS19), which was held in Patras, Greece, July 22 - 27, 2019.



✓ **Simone Pizzileo**, student at Polytechnic of Bari, was awarded for his dissertation entitled "Dimensioning of the UV/H₂O₂ treatment of the effluents of the STP in Gallipoli".

✓ The contract for the supply of the innovative equipment which will be installed at the Sewage treatment Plant in Patras was signed on **September 2019** at the **Municipality of Patras**.