

## Potential of salt marsh plants for remediation of PPCPs

Center for Environmental and Sustainability Research  
Environmental assessment, monitoring and remediation  
Lab. 347 – Remediation Group



ELECTROACROSS



Researcher (fellowship)

MSc in Environmental Engineering (2014) – Potential of salt marsh plants for remediation of pharmaceuticals and personal care products

Advisors: Alexandra B. Ribeiro & Nazaré Couto

[arl.ferreira@campus.fct.unl.pt](mailto:arl.ferreira@campus.fct.unl.pt)

## Objectives

Conventional waste water treatment plants (WWTPs) may not remove all pharmaceuticals and personal care products (PPCPs). Consequently, different kind of pharmaceutical compounds are released into surface, ground, and coastal waters. Due to worldwide contamination of PPCPs in aquatic systems it is relevant to study efficient and economic remediation technologies solutions.

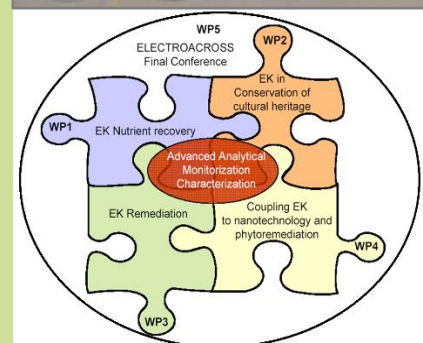
This work aims to study:

- the potential of salt marsh plants for remediation of contaminated areas with ecosystem added-value;
- the applicability of constructed wetlands as a polishing step to decrease the concentration of contaminants in WWTPs.



## Methodology

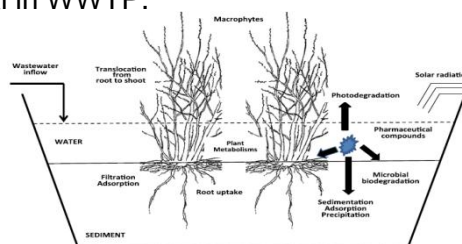
- Nutrient solution – *Hoagland* assay in laboratory scale with salt marsh plants like *Spartina maritima* and *Halimione portulacoides*;
- Simulation of salt marsh areas (water, sediment and salt marsh plants) for study the dispersion of contaminants in the environment;
- Constructed wetlands in microcosm scale using wastewater, *S. maritima* and LECA;
- Coupling of the electrokinetic process with phytoremediation to enhance contaminant removal;
- Application of analytical methodologies (GC-FID, GC-TOF/MS and HPLC) to monitor the concentration of contaminants.



ELECTROACROSS - Electrokinetics across disciplines and continents: an integrated approach to finding new strategies to sustainable development

## Expected Results

- It is expected that salt marsh plants may promote the remediation of PPCPs, as well as other organic and inorganic contaminants, contributing to the remediation of aquatic systems;
- It is also expected to improve PPCP removal in WWTP.



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