Educational Workshop

Solar-powered high-recovery groundwater desalination with salt-tolerant crop cultivation for integrated brine management

26th May 2023

Parklane Hotel, Limassol, Cyprus 2023

This one-day workshop is organised by the INDIA H_2O* team in partnership with the European Desalination Society. It is intended for PhD students, Early Career Researchers, established researchers, or desalination professionals with interest in learning more about the design, installation and troubleshooting of decentralised inland desalination plants that avoid the problems of high energy costs and unmanaged brine discharge. Participants will learn about how to design a solar-powered desalination plant using batch reverse osmosis principles. They will also learn about how to couple the design with cultivation of salt-tolerant edible crops (halophytes) such as Salicornia that are ideal for growing in desert climates. Examples will be provided from desalination systems developed in the INDIA H_2O project. The workshop will include presentations by experts and hands-on design activities in groups. Key resources will be provided for the participants to take away.

Attendance is free.

Provisional programme:

- Solar powered desalination system design
  - General consideration and choice of technology
  - Energy storage
  - System sizing, optimization and control
- Batch reverse osmosis system design
  - Principles of batch RO desalination
  - Alternative system configurations
  - Design challenge (group activity)
- Salt-tolerant crop cultivation
  - Comparison and selection of species
  - Economic and nutritional benefits
  - How to look after and use salt-tolerant crops

Instructors:

Guillermo Zaragoza, Plataforma Solar Almería, CIEMAT, Spain
Philip Davies, University of Birmingham, UK
Moshe Sagi, Ben Gurion University, Israel

**INDIA H_2O stands for 'bIo-mimetic and phyto-techNologies DesIgned for low-cost purficAtion and recycling of water'. It is bilateral project funded by the European Union Horizon 2020 programme and by the Department of Biotechnology, India. More information may be found at: https://www.india-h2o.eu/*

सत्यमेव जयते
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