

Desalination for the Environment Clean Water and Energy

21-25 November 2021

Las Palmas de Gran Canaria, Las Palmas, Spain
Palacio de Congresos de Canarias

DESAL+ LIVING-LAB Workshop

Artificial Intelligence.

Potentialities and challenges in Desalination

21st November, 2021

16:00 - 18:00

Event organized within the framework of the E5DES project, co-funded by the ERDF – 2014-2020
MAC PROGRAMME

Objective of the workshop

Artificial Intelligence (AI) is a powerful tool which is generating significant results in different subfields and engineering applications. Numerous studies, works and projects have shown its capacity to address complex real-world problems for which classical or conventional methods and approaches are ineffective or unfeasible [1]. As the option of manual system control is unaffected by AI, it can be used in combination with human operators but with the added advantage of immediate and accurate response features [1–3]. The question remains, however, as to how exactly AI can contribute to resolve the most important challenges faced in desalination? What are the potential and practical applications of AI in desalination?

The main aim of this workshop is to debate about the potentialities and challenges of AI in the Desalination Industry.

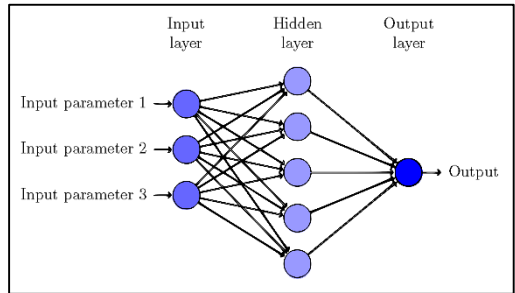


Fig. 1. General structure of an Artificial Neural Network.

Target audience

The Workshop will be limited to approximately 20 pre-registered participants interested in finding out more about the current and general state-of-the-art of AI applied to desalination. A warm welcome is given to all those who would like to debate and contribute their ideas regarding the potential applications and challenges of AI in the field of desalination.

Method

The Workshop will consist of four sections. Firstly, a brief presentation will be made by the Workshop Chair, highlighting the hottest trending topics in AI in desalination. The participants will then be split into groups who will work on a specific proposal made by the Workshop Chair for the application of AI to a desalination process. After each group has presented their ideas and thoughts on the proposal, the Workshop will conclude with a general debate and discussion.

Date and organization

The Workshop will be held on **Sunday, November 21st, 2021 from 16:00 to 18:00** in parallel with EDS Conference registration time, in a room designated by the organization at the Palacio de Congresos de Canarias. The event is promoted by the **E5DES project**, co-funded by the **ERDF – 2014-2020 MAC PROGRAMME**. For further information, please contact the Workshop Chair and Research Professor at the University of Las Palmas de Gran Canaria, **Dr. Pedro J. Cabrera**, at pedro.cabrerasantana@ulpgc.es.



References

- [1] Al Aani S, Bonny T, Hasan SW, Hilal N. Can machine language and artificial intelligence revolutionize process automation for water treatment and desalination? *Desalination* 2019;458:84–96. doi:10.1016/j.desal.2019.02.005.
- [2] Alexander Severt. Artificial Intelligence | Water Tech Online 2016. <https://www.watertechonline.com/wastewater/article/16210832/artificial-intelligence> (accessed February 27, 2020).
- [3] Gil Hurwitz. Artificial Intelligence Is Redefining the Desal Industry | Pumps & Systems 2017. <https://www.pumpsandsystems.com/artificial-intelligence-redefining-desal-industry> (accessed February 27, 2020).