European Desalination Society in collaboration with itc INSTITUTO TECNOLÓGICO DE CANARIAS

EDS WEBINAR

Desalination in Agriculture and Water-Energy-Food Nexus – Part 2

April 7th, 2022, 16:00-17:30 CET

Welcome Message: Ursula Annunziata, President EDS

Moderator: Alvaro Lagartos
Senior Application Engineer at LG Chem
See detailed Bio on last page

Abstracts / Program

Professor Slim Zekri
Department of Natural Resource Economics, College of Agricultural & Marine Sciences
Sultan Qaboos University, Muscat, Oman

- **Brackish Desalinated Water in Agriculture in Arid Environments**

Juan Miguel Pinto
Director, Sales & Strategy, Americas for Energy Recovery Inc (ERI)
President of ALADYR - Asociación Latinoamericana de Desalación y Reúso del Agua

- **The Desalination as a solution for Agriculture production's challenges**

Dr Slim Zekri
Professor in the Dept. Nat. Res. Econ. at Sultan Qaboos University,
Muscat, Oman

Bio

Dr Slim Zekri is Professor in the Dept. Nat. Res. Econ. at Sultan Qaboos University. He earned his PhD in Ag. Econ. and Quantitative Methods from the University of Cordoba, Spain. His main research interests are in Water Economics & Policy; Agricultural Economics and Environmental Economics. In 2017 he was awarded the Research and Innovation Award in Water Science from the Sultan Qaboos Higher Center for Culture & Science. He is Associate Editor of the journal of Water Economics and Policy. He worked as a consultant for a range of national and international agencies. He is member of the Scientific Advisory Group of the FAO's Globally Interesting Agricultural Heritage Systems. He published +50 articles in journals, presented in +100 conferences.

Abstract: Brackish Desalinated Water in Agriculture in Arid Environments

Due to seawater intrusion and salinization of the coastal aquifers several farmers recurred to small units to desalinate water for irrigation in Oman. Electricity used to be subsidized for the farming sector until 2020 which encouraged the rush for desalination. Farmers used to pay 1/2 to 1/3 of the cost of electricity in winter and summer respectively. These farmers added to the stress on the electricity grid in summer when the demand for electricity soars due to the need for air conditioning. Most farmers in Oman are hobby farmers with major activity outside the agricultural sector. Farms are often managed by unskilled expatriate workers. In 78% of the cases farmers were using pure desalinated water for irrigation. Furthermore, farms are too small and are competing with other local farmers who have access to good-high quality groundwater pumped at very low cost. The Omani market is internationally open and imports are flowing from all over the world. The experience in Oman is compared to the experience in Spain. The brine disposal is another major issue as most farmers interviewed return it back to the aquifer which in the long term will cause further degradation of the groundwater.

* * * * *

Juan Miguel Pinto
Director, Sales & Strategy, Americas for Energy Recovery Inc (ERI)
President of ALADYR - Asociación Latinoamericana de Desalación y Reúso del Agua

Bio

Juan Miguel Pinto currently holds the position of Director, Sales & Strategy, Americas for Energy Recovery Inc (ERI). Energy Recovery, Inc. provides energy solutions to industrial fluid flow markets worldwide. He joined ERI in 2006 and he played key roles through various departments such as R&D, Engineering, Project Management, and Sales. He has authored and co-authored over 10 international publications. He has been involved in the water industry for more than 12 years. He graduated from the University of Florida in 2019 with a master's degree in Business and Administration. He has authored and co-authored over 20 international publications. Juan serves on the Board of Directors of the International Desalination Association (IDA), and he is President of La Asociación Latinoamericana de Desalación y Reusó (ALADYR). My passion is described in one word "WATER".

Abstract: **The Desalination as a solution for Agriculture production's challenges**

Water is a critical input for agricultural production and plays an important role in food security. Irrigated agriculture represents 20 percent of the total cultivated land and contributes 40 percent of the total food produced worldwide [1]. Latin America produces 13% of the global crop production and LATAM has 23% of arable lands worldwide [2]. Also, crop production demand is connected to the global population (7.9 billion by 2020) and the United Nations is projecting the total population at 8.6 billion by mid-2030, 9.8 billion by mid-2050, and 11.2 billion by 2100. Consequently, the water demand will keep increasing year by year. However, Agriculture production has several challenges related to water: water scarcity, the safety of consumers, workers' health, supply reliability, water salinity increase, lack of control of the water source, microconstituents of emerging concerns, and others. Desalination can be the solution for all those challenges

1 - Worldbank
2 – Riego LATAM

* * * * *

Bio **Alvaro Lagartos**

Alvaro Lagartos is a Chemical Engineer with over 13 years of experience in the water industry and desalination. He started his career as Project Engineer in R&D with reverse osmosis pilot plants in Spain and USA. After a brief episode of a few months working as Operation Coordinator in Chile in a desalination project in the mining industry, he continued his career as a Technical Service Engineer for reverse osmosis plants in Western Australia. Following that role, he worked as Project Engineer involved with the design and commissioning of reverse osmosis, water treatment, and wastewater treatment plants in Australia, Southeast Asia, and the Pacific Islands. After this experience, Alvaro worked as a Mechanical and Process Engineer in Melbourne acquiring experience as a project manager and consultancy.

In January 2017 he joined LG Chem where he currently works as a Senior Application Engineer looking after Europe, Africa, and LATAM. Alvaro provides technical support to the sales team in his region, and he is also involved in technical marketing activities.