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INDIAN WOMEN SCIENTISTS' ASSOCIATION

73rd Talk under IWSA's "Science And Our Life" Lecture Series

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Desalination – Can it alleviate the water stress?



SPEAKER:

Purnima Jalihal, PhD

*Prof, Atria University, Bengaluru
Former Head-Energy & Fresh Water
National Institute of Ocean Technology*

**On 5th September, 2026
at 6 pm**
Please join by 5:55 pm

**Join Online on Zoom at:
Meeting ID-890 1156 7687
Passcode- IWSA@VASHI**

<https://us06web.zoom.us/j/89011567687?pwd=INb94RajRVlogF1ICI5HUgyZTCI823.1>



Abstract-

Widespread water stress affects most regions in India; the country needs new technologies to generate freshwater. Desalination has been discussed for decades, driven by large plants in the Gulf. There are several types of desalination methods predominantly thermal and membrane based. The technical challenges include proper methods for intake and discharge of seawater, optimization of thermodynamic parameters for thermal systems, chemicals and by products for membrane methods and energy requirement optimization. The location, water quality and environmental impact and other parameters like availability of steam all need to be considered for appropriate selection of the desalination method. Desalination of brackish water as well as seawater promises to be a good solution to the water crisis. Desalination methods are energy-intensive, and lowering their carbon footprint requires further exploration and development of renewable energy. Reducing cost and energy use in thermal technologies, along with the safe disposal of byproducts in membrane methods, are urgent priorities. The talk will touch upon various desalination technologies and also a case study of the Lakshadweep islands where desalination has become the main source of drinking water.

About the Speaker-

Dr. Purnima Jalihal, Professor at Atria University and former head of NIOT's Energy and Fresh Water group, is a pioneering expert in ocean energy and desalination. Holding a Civil Engineering PhD from Duke University, she led device development for capturing energy from waves, currents, and ocean thermal gradients (OTEC). She played a vital role in advancing ocean thermal desalination, notably leading the cold-water pipeline for the historic Kavaratti LTTD plant, which earned her the INSA Vishwakarma Medal (2006). Globally recognized, she received the Uehara Prize (2019) for OTEC advancement, was named the EU-led Clean Energy Mission Innovation Champion for India (2020), and was celebrated at CNBC TV18's 2023 "Women Behind the Changing Chennai Scenario".

Dr. Jalihal served as Vice Chair of the IEA's Ocean Energy Systems committee, secured India's Participating membership in IEC TC 114, and chairs the BIS ETD-54 committee. For her outstanding contributions to international standardization, she won the prestigious IEC 1906 Award as the sole Indian recipient for 2026. She continues advising on numerous government committees for water and renewable energy.