



Ministry of Housing, Utilities  
& Urban Communities



Housing & Building National Research Center  
International Conference

Future Vision & Challenges for Urban Development

**Green Smart Sustainable Building between Present & Future**

Cairo – Egypt, December 2024



Housing & Building National  
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## **Template No. (1)**

### **Workshop Title: Advanced Methods for water and waste water treatments**

#### **Abstract:**

Advanced water and wastewater treatment processes are increasingly sought out due to their ability to produce superior quality water compared to conventional treatment processes. Especially with the identification of emerging pollutants, swift growth of population and industrial activities, and lessening availability of water resources, conventional treatment processes are becoming more challenged. Practitioners in the field need to establish best practices in handling water and wastewater from different sources to combat the modern challenges in industry. This subject focuses on educating students on how to design an advanced water and wastewater treatment process using membrane technology based on fundamental principles to real applications and process design parameters. A practical computer-based design tool is demonstrated to aid in the design of a membrane-based treatment process. The subject brings both science (chemistry, physics and biology) and engineering together on a number of levels, such as in terms of learning from nature, and applying engineering and design solutions.

#### **Objectives:**

- 1- allow human and industrial effluents to be disposed of without danger to human health or unacceptable damage to the natural environment
- 2- remove a variety of contaminants from wastewater, such as heavy metals, oil and grease, pathogens, and suspended solids
- 3- removes contaminants and suspended solids from wastewater; this treated, potable water can then be dispatched back into the ecosystem free from man-made contaminants
- 4- reduce or remove Solids, Organic matter, Disease- causing organisms, Nutrients, and Other harmful pollutants from the waste-water

#### **Main outlines**

-The most important technology used recently in treating drinking water and sewage



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- The modern methods applied start from the outputs of purification and treatment plants and do not use other types.
- New innovations for various drinking water and sanitation systems
- Discussing the most important challenges and problems facing the Rambouh system in Egypt
- Repairing computer and health problems at stations

### **Suggested Speakers with related presentation:**

- Speaker from the National Center for Housing and Building Research.
- A speaker from the Ministry of Housing, Utilities and Urban Communities.
- A speaker from water and wastewater treatment companies as suppliers.
- A spokesman from the water and drainage companies in the governorates for operation and maintenance.

### **Expected Attendees:**

- Ministry of Housing, Utilities and Urban Communities.
- New Urban Communities Authority.
- National Authority for Drinking Water and Sanitation.
- City devices.
- Consulting offices.
- Ministry of Environment.



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- Building materials room.

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