



جامعة الإمام عبد الرحمن بن فيصل
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY



SDG 6.3.2

Preventing Water
System Pollution

2024-2025

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1. Periodic Inspection and Repair of Water Pipes at IAU



Repair of Water Leakage on Pipes to prevent Water Pollution at IAU



Repair of Water Leakage on Pipes to prevent Water Pollution at IAU



Intensive and Immediate Measures by IAU to prevent Water Pollution from Water leakage



Water Pipes periodically inspected and repaired for any leaks or worn outs



Monitoring Water pipes regularly for preventing leakages and water pollution

2. Water Treatment Plants at IAU



Water treatment plants at IAU play a crucial role in preventing the polluted water entering the water systems and periodically inspected and fixed for any mishaps to ensure clean drinking water is produced and distributed in the entire IAU campus.

3. IAU Active Involvement in Water Management

Wastewater/Organic Analysis Lab
☰

Supervisors

Dr. Ismail Anil
Email: ianil@iau.edu.sa
Location: College of Engineering, A13 Building

Equipment/Service

- Gas chromatography coupled with mass spectrometry (GC-MS)
- Ion chromatography
- High-performance liquid chromatography (HPLC)
- Radioactivity Meter
- Solid phase extraction system
- Furnace
- Rotary evaporator
- Automatic titration unit

Laboratory Analysis & Environmental Services Price List
📄

Wastewater / Organic Analysis Lab at IAU

<https://www.iau.edu.sa/en/colleges/college-of-engineering/labs-and-equipment/environmental-engineering-laboratories>

4. Water Desalination and Treatment Unit

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Basic and Applied Scientific Research Center

About

Director's Message

Organizational Structure

Specific Units

- Biotechnology Unit
- Catalysis Unit
- Ecology and Environmental Biology Unit
- Mathematical Studies of Real-Life Problems Unit

Water Desalination and Treatment Unit

The problem of supplying the population with freshwater is one of the significant issues facing Saudi Arabia, as mentioned in Vision 2030, which includes preserving natural resources by reducing water consumption and reuse it. Various trials occurred to produce freshwater from saline water; this is termed the desalination of water. The unit aims to treat water and find desalination methods using biodegradable and non-consumer energy polymeric materials. Since the polymeric materials are matrices, they act as scavengers of the cations and the anions dissolved in water. Also, the use of the synthesized copolymers as heavy metal adsorbents will be checked for the water product treatment. The polymeric materials are manufactured to display disinfection efficiency to keep the freshwater free from any bacterial growth during and after the desalination process. Exhibiting disinfection efficiency, the synthesized copolymers, as an incoming goal, will be used in the RO dialysate membrane. Moreover, the regeneration of the metal ion from the polymeric matrix and its reduction to the zero state is also our goal challenge. The planning goal of our unit is its use of the synthesized polymeric materials in the agriculture of sand soil as hydrogels.

Water Desalination and Treatment Unit

The problem of supplying the population with freshwater is one of the significant issues facing Saudi Arabia, as mentioned in Vision 2030, which includes preserving natural resources by reducing water consumption and reuse it. Various trials occurred to produce freshwater from saline water; this is termed the desalination of water. The unit aims to treat water and find desalination methods using biodegradable and non-consumer energy polymeric materials.

<https://www.iau.edu.sa/en/administration/centers/basic-and-applied-scientific-research-center/specific-units/water-desalination-and-treatment-unit>



5. Articles for Water conservation and water pollution control in Reputed Journals

Open Access
Article

Evaluating the Influence of Reverse Osmosis on Lakes Using Water Quality Indices: A Case Study in Saudi Arabia

by Mohammed T. Aljassim * , Abdulaziz A. AlMulla , Mahmoud M. Berekaa and Abdulmalik S. Alsaif

Department of Environmental Health, College of Public Health, Imam Abdulrahman Bin Faisal University (IAU), P.O. Box 1982, Dammam 31441, Saudi Arabia

* Author to whom correspondence should be addressed.

Water **2024**, *16*(10), 1351; <https://doi.org/10.3390/w16101351>

Submission received: 25 March 2024 / Revised: 4 May 2024 / Accepted: 5 May 2024 / Published: 10 May 2024

(This article belongs to the Special Issue Sustainable Water Treatment and Contaminants Control: Technologies and Strategies)

<https://www.mdpi.com/2073-4441/16/10/1351>

ORIGINAL RESEARCH article

Front. Mar. Sci., 27 August 2020

Sec. Marine Ecosystem Ecology

Volume 7 - 2020 | <https://doi.org/10.3389/fmars.2020.00600>

Perceptions of Marine Environmental Issues by Saudi Citizens

Hanan Almasheer^{1*}

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¹ Department of Biology, College of Science, Imam Abdulrahman Bin Faisal University (IAU), Dammam, Saudi Arabia
² Red Sea Research Center and Computational Bioscience Research Center, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia

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Edited by

Michelle Jillian Devlin

Centre for Environment,

<https://www.frontiersin.org/journals/marine-science/articles/10.3389/fmars.2020.00600/full>



International Journal of Water Resources Development > Enter keywords, authors, DOI, etc This Journal
Volume 40, 2024 - Issue 2

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Research Article
Understanding household attitudes to water conservation in Saudi Arabia: towards sustainable communities
Abdulaziz I. Almulhim & Ismaila Rimi Abubakar
Pages 174-193 | Received 09 Oct 2022, Accepted 08 Jul 2023, Published online: 08 Aug 2023
Cite this article <https://doi.org/10.1080/07900627.2023.2236245> Check for updates

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<https://www.tandfonline.com/doi/abs/10.1080/07900627.2023.2236245>

IAEA International Atomic Energy Agency
Atoms for Peace and Development

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Published February 2022 | Version v1 Journal article Metadata-only

Biomonitoring coastal pollution on the Arabian Gulf and the Gulf of Aden using macroalgae: A review
Ameen, Fuad¹; Al-Homaidan, Ali A.¹; Almahasheer, Hanan²; Dawoud, Turki¹; Alwakeel, Suaad²; AlMaarofi, Sama⁴
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<https://inis.iaea.org/records/r85q5-0gy07>

Developing a Sustainable Water Conservation Strategy for Saudi Arabian Cities
Abdulaziz I. Almulhim^{*1}, & Ismaila Rimi Abubakar²

¹ Department of Urban and Regional Planning, College of Architecture and Planning, Imam Abdulrahman Bin Faisal University, Dammam 31451, Saudi Arabia. aialmulhim@iau.edu.sa
² College of Architecture and Planning, Imam Abdulrahman Bin Faisal University, P.O. Box 1982, Dammam 31441, Saudi Arabia. irabubakar@iau.edu.sa

Highlights

- Water scarcity and unsustainable water management practices in Saudi Arabia are studied.
- The study evaluates the sustainability of water management practices in Jubail Industrial City
- It employs mixed-method approach: literature review, case studies, and document analysis.
- It proposes water conservation strategy: demand management, water efficiency, governance framework.
- Water conservation, optimization and reuse are significantly relevant to industry settings

<https://www.sciencedirect.com/science/article/abs/pii/S2352801X23001418>



Synchronous management of public green spaces: The case of Imam Abdulrahman bin Faisal University's eastern campus – Dammam, Saudi Arabia

Ali O. Al-Sulbi ^a  , Abdullah A. Alghanem ^b

^a Department of Landscape Architecture, College of architecture & Planning, Imam Abdulrahman bin Faisal University, Dammam, Saudi Arabia

^b Landscape Architect, Bödeker Partners Landscape Architects, Kloster Lehnin, Germany

Received 14 April 2021, Revised 12 September 2021, Accepted 30 September 2021, Available online 19 October 2021, Version of Record 23 December 2021.

<https://www.sciencedirect.com/science/article/pii/S2090447921003701>

Arabian Journal of Geosciences (2021) 14: 1950
<https://doi.org/10.1007/s12517-021-08353-z>

ORIGINAL PAPER



Sustainable water planning and management research in Saudi Arabia: a data-driven bibliometric analysis

Abdulaziz I. Almulhim ¹ · Mohammad Aqil ²  · Shakil Ahmad ²  · Isam Mohammed Abdel-Magid ³

Received: 31 May 2021 / Accepted: 26 August 2021 / Published online: 5 September 2021
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<https://link.springer.com/article/10.1007/s12517-021-08353-z>



Courses related to Water Pollution offered at IAU

Water Quality & Sanitation

<https://www.iau.edu.sa/en/courses/water-quality-sanitation>

Ground Water Engineering and Contamination

<https://www.iau.edu.sa/en/courses/ground-water-engineering-and-contamination>

Water Quality

<https://www.iau.edu.sa/en/courses/water-quality>

Marine Pollution and Control

<https://www.iau.edu.sa/en/courses/marine-pollution-and-control>

6. Water Research Community



Imam Abdulrahman bin Faisal University (IAU) Participation in the fifth edition of the Water Research Community Initiative organized by the Saudi Water Authority.

We are proud of the participation of the Mechanical and Energy Engineering Department in the fifth edition of the **Water Research Community Initiative** organized by the Saudi Water Authority, through the presentation of two research papers and the participation of the department head, Dr. Mosaed Al-Zahrani, as a speaker in one of the dialogue sessions.

https://x.com/CE_IAU_SA/status/1968561503134437880

7. Field Visit for IAU Faculty and Students to the Marine Pollution Control Department at Aramco



Field Visit to the Marine Pollution Control Department at Aramco by IAU Faculty and Students

I had the honor of organizing a field visit to the Marine Pollution Control Department at Aramco - Tanura Opinion. Many thanks to Aramco for allowing the future engineers to have this unique experience and wonderful organization.

<https://twitter.com/Omer2AGA/status/1755169090157637914>

8. IAU Engineering College Students Participation in the EnviroSpill Conference and Exhibition at Bahrain



Participation of IAU Engineering College Students in the EnviroSpill Conference and Exhibition at Bahrain

Part of the participation of College of Engineering students of IAU in the conference sessions specialized in combating pollution through the EnviroSpill Conference and Exhibition, which was held in the Kingdom of Bahrain to learn about the latest technologies in combating oil spills under the patronage and attendance of His Excellency the Minister of Oil and Environment in Bahrain.

https://twitter.com/IAU_KSA/status/1582358003483029504

9. IAU in Middle East Water Week Conference and Exhibition

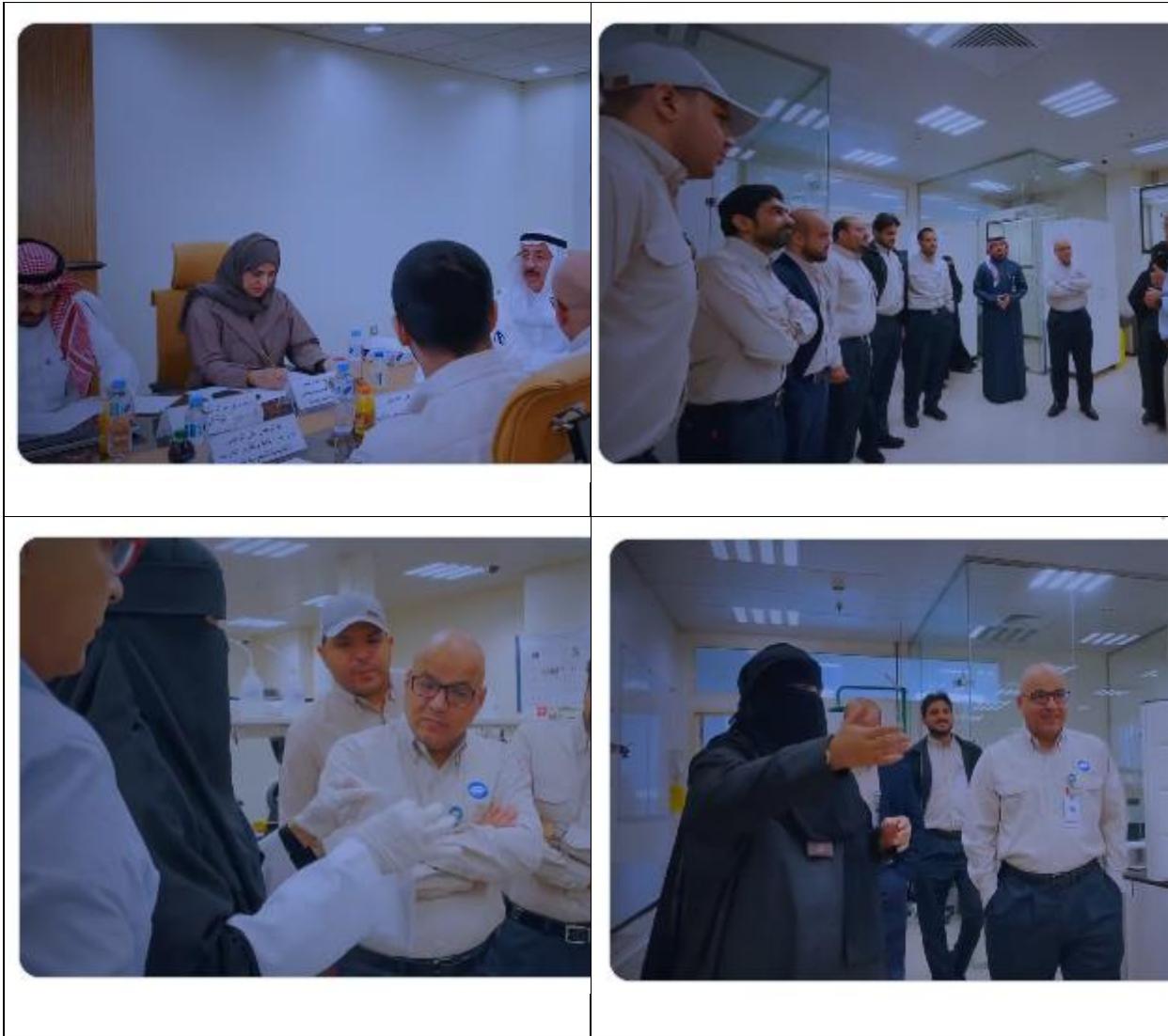


IAU Participation in the Middle East Water Week Conference and Exhibition

The Environmental Engineering section of Faculty of Engineering Imam Abdulrahman Bin Faisal University participated in the Middle East Water Week Conference and Exhibition and presented a number of projects aimed at treating water.

https://twitter.com/CE_IAU_SA/status/1736717131863962024

10. Visit of the Delegation of the Saline Water Conversion Corporation to IAU





Visit of the Delegation of the Saline Water Conversion Corporation to IAU

Part of the visit of the delegation of the Saline Water Conversion Corporation to Imam Abdulrahman Bin Faisal University, which included a tour of: 1) Research Center, Faculty of Science, 2) Faculty of Computer Science and Information Technology, 3) Faculty of Engineering
https://twitter.com/IAU_KSA/status/1604581022351368192

11. Summer Program for Children in cooperation with Saudi Water Academy



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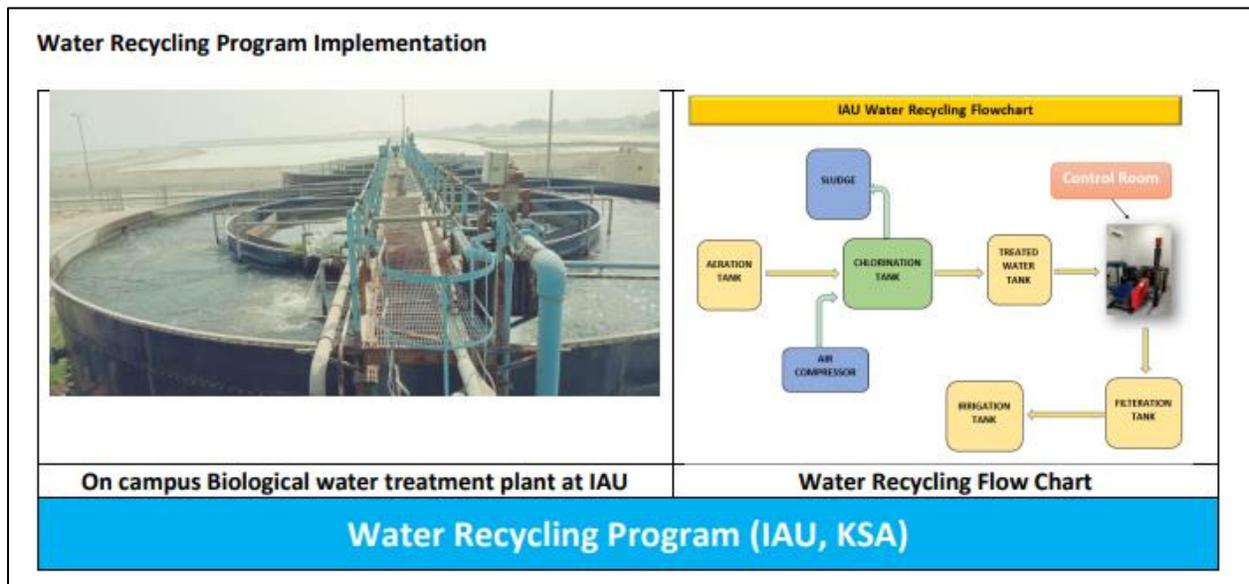
IAU in cooperation with the Saudi Water Academy for “Generations Summer Program”

The Continuing Education Center is pleased to #Imam_AbdulRahman_Bin_Faisal_University In cooperation with the Saudi Water Academy. The announcement of the launch of “Generations Summer Program”. The Target group is Children from (7 years to 12 years).

https://twitter.com/IAU_KSA/status/1808112744589070344

12. Water Recycling Program Implementation at IAU

The Water recycling program has been implemented in IAU. The details of Water recycling at IAU are explained in the given PDF link. This link explains the water recycling tanks, water treatment plants, water consumption, water desalination plants, water conversation facility and storage of recycled water, available at IAU.



https://www.iau.edu.sa/sites/default/files/resources/water_recycling_program_1.pdf



Brakish water well Reverse osmosis desalination, IAU, KSA



Water recycling at full swing in IAU Campuses





Wastewater collection and processing plant



Waste water treatment plant at IAU

