



# الجمعيّة العلميّة الملكيّة Royal Scientific Society

في خدمة الوطن منذ ١٩٧٠ • 1970 For Jordan, since 1970

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## Water and Environment Centre

Established in 1989, the Water and Environment Centre was inaugurated by His Majesty King Karl XVI Gustaf of Sweden on the 19th September 1989. Today, the centre consists of five divisions: the Environmental Monitoring and Research Central Unit (EMARCU); the Air Studies Division (ASD); the Climate Change Studies Division (CCD); the Environment Studies Division (ESD); and the Water Studies Division (WSD), all of which have the ultimate goal of promoting the sustainable development of Jordan through addressing relevant global and local challenges.

Our entire centre is certified according to ISO 9001:2015 and both the EMARCU and the ASD are accredited according to ISO 17025:2017.

### What we do:

- Water and wastewater quality studies
- On-line real-time water quality monitoring
- Ambient and working area air quality studies
- Environmental management studies and consultancies
- Resource Efficient Cleaner Production (RECP) assessment
- Climate change studies

### We provide:

- Water quality assessment and wastewater treatment and reuse
- Real time water quality monitoring
- Air quality studies and consultancies
- Greenhouse gas inventory estimation and climate change mitigation and adaptation studies
- Environmental management studies (Environmental Impact Assessment, Environmental Audit, Risk Assessment, Life Cycle Assessment and Chemicals Alternative)
- RECP studies
- Solid, bio-solid and hazardous wastes management
- Behaviour change and social studies for water and solid waste management
- Environmental resilience, governance and climate change awareness
- Community based integrated water management studies

### Examples of our recent projects:

- Water Innovation Technologies
- Ambient air quality monitoring and assessment in different industrial areas of Jordan
- SwitchMed TEST (Transfer of Environmentally Sound Technologies) in Jordan
- Jordan Biennial Update Reports on climate change to the UNFCCC
- Development of Jordan's monitoring, reporting and verification (MRV) system for climate change activities in Jordan
- The occurrence and fate of pharmaceutical residues from their sources to water bodies and food chain






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#### We were the first to:

- Assess water quality and provide results to the government to control discharges of wastes to water bodies.
- Introduce ambient air quality monitoring in Jordan and to propose air quality standards.
- Establish a cleaner production unit in Jordan which is part of the UNIDO/UNEP global network of RECP Centres.

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#### Facts about our centre:

- Our centre was awarded the King Hussein Prize for Excellence and Innovation (Hydroponic Agriculture).
- In 2018, we won the Ford Motor Company "Conservation & Environmental Grant".
- Our centre addresses several sustainable development goals (SDGs) including SDG 2: Zero Hunger, SDG 3: Good Health and Well-Being, SDG 6: Clean Water and Sanitation, SDG 9: Industry Innovation and Infrastructure, SDG 12: Responsible Production and Consumption and SDG 13: Climate Action.

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#### Some of our recent publications:

- Analysis of Some Pharmaceuticals in Surface Water in Jordan: Al-Mashaqbeh, O. A., A. M. Ghrair, D. Alsafadi, S. S. Dalahmeh, S. L. Bartelt-Hunt, D. D. Snow (2018)
- Analysis of Some Pharmaceuticals in Influent of Municipal Wastewater Treatment Plants in Jordan: Al-Mashaqbeh, O. A., A. M. Ghrair, D. Alsafadi, S. S. Dalahmeh, S. L. Bartelt-Hunt, D. D. Snow (2018)
- Modelling of Stormwater Runoff Quantity and Quality in Amman-Zarqa Basin Using SWMM: Al-Mashaqbeh, O., Shorman, M. (2017)
- A One-stage Cultivation Process for the Production of Poly-3-(hydroxybutyrate-co-hydroxyvalerate) from Olive Mill Wastewater by *Haloferax mediterranei*: Al-Safadi, D., Al-Mashaqbeh, O. (2017)
- Influence of Greywater on Physical and Mechanical Properties of Mortar and Concrete Mixes: Ghrair, A., Al-Mashaqbeh, O., Sarireh, M., AlKose, N., Farfoura, M. (2016)
- Domestic Wastewater Reuse in Concrete Using Bench-Scale Testing and Full-Scale Implementation: Ghrair, A., Al-Mashaqbeh, O. (2016)
- Zinc Sorption onto Different Particle Sizes of Compost from Aqueous Solution. Desalination and Water Treatment: Al-Mashaqbeh, O., and McLaughlan, R.G. (2016)
- دليل الحصاد المائي والمياه الرمادية (2017-2018)
- Jordan First Biennial Update Report on climate change to the UNFCCC- 2017