



Applied Research Center for Environment and Marine Studies

The Applied Research Center for Environment and Marine Studies (ARC-EMS) at KFUPM was formerly the Center for Environment and Water (CEW). Since its establishment in 1977 to provide research and consultation services in the field of environment and water, ARC-EMS has transformed to a top-notch Research Center, with more than 330 projects of a total value of more than 850 million Saudi Riyals conducted over the past 44 years.



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Dr. Fahad Saleh Al-Ismael

Director, ARC-EMS



Biography

Dr. Fahad Saleh Al-Ismael is currently the Director of the Center for Environment and Marine Studies at KFUPM. He leads a diverse team working on Environmental Impact Assessment and climate change mitigation. Major environmental stakeholders are his partner in projects related to rain seeding, GHG emission reduction, and circular carbon economy under Saudi Green Initiative. He was the former Director of K.A.CARE Energy Research & Innovation Center at KFUPM, emerging national R&D programs in technology localization. During his 14+ years of experience Dr. Fahad has held senior roles for IEEE and the Central Energy Committee representing the Ministry of Energy collaboration with the World Energy Council.

Education:

- (2016) Ph.D. in Electrical Engineering, Texas A & M, College Station, TX, USA.
- (2013) Master of Electrical Engineering, KFUPM.
- (2009) Bachelor Electrical Engineering, KFUPM.

Experience:

- (2020 – Present) Director CEMS, KFUPM.
- (2017 – Present) Assistant Professor, Electrical Engineering KFUPM.

Number of granted patents: 4 US patents.

Number of research papers in peer-reviewed journals: 50+.

Currently, ARC-EMS is engaged in 46 active projects being carried out in the Arabian Gulf and Red Sea, with a workforce of 75 members including 24 Ph.D. holders in multiple disciplines and 51 researchers with either a Master's or Bachelor's degree. ARC-EMS is specialized in conducting environmental impact assessment, environmental monitoring, marine biodiversity, marine ecology, fisheries resources, terrestrial baseline assessment, toxicity investigations, carbon capture & greenhouse gas (GHG) management, water & waste water treatment and climate change.

The Marine Studies Group of the Center has considerable capabilities to study the ecology of coral reefs, seagrass meadows, and mangroves, marine biodiversity, and ecology of marine megafauna. The Fisheries Group is responsible for the stock assessment of fisheries resources and characterization of essential fish habitats. The Terrestrial Group has the research competency to conduct studies on terrestrial biodiversity and ecology, terrestrial geology, soil biology, geomorphology, and conservation of threatened terrestrial habitats. The Environmental Chemistry Group handles the analysis of pollutants in marine and terrestrial ecosystems. Climate Modeling and Data Handling Group is responsible for activities related to GHG emissions, Geographical Information system (GIS) and Database management.

Over the past 40 years, ARC-EMS has signed several client-funded projects with leading national and international agencies, with Saudi Aramco occupying the top position. Some of the other major clients of ARC-EMS are NEOM, The Red Sea Development Company, Public Investment Fund, KBR, Worley, NPCC, Wood PLC, Subsea 7, McDermott, Ministry of Environment Water & Agriculture, National Center for Wildlife, and National Center for Environmental Compliance.