

Applied Research Center for Metrology, Standards & Testing

The Applied Research Center for Metrology, Standards & Testing (ARC-MST) has the vision to be a leading engineering research and consulting services provider in the Kingdom of Saudi Arabia.

The mission of the center is to conduct applied research in both short and long-term, and provide consultancy services to local industry, government, and private organizations in the areas of electrical/mechanical/radiation calibrations, engineering standards, high voltage testing, multiphase flow and metrology consultancy.



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Dr. Luai M. Alhems

Director, ARC-MST



Biography

Dr. Luai M. Alhems is the Director ARC-MST, and Professor in Mechanical Engineering Department, in KFUPM. His research interests are Mechanical Engineering, Multiphase and Energy Conservation, Thermo-fluids, Fouling, Wind/Solar Energy, Heat Transfer, Thermodynamics, Power Systems, Heat Exchanger, Gas Turbine, and Failure Analysis Studies. He is the Project Manager of many client-funded projects for Saudi Aramco, SABIC, KACST, and NSTIP. He won the Inventor Award in the 18th Gulf Engineering Forum in March 2015 and was listed in 2020 by US-based prestigious Stanford University as one of "World's Top 2% Scientists."

Education:

- (2002) Ph.D. in Mechanical Engineering, Texas A & M, College Station, TX, USA.
- (1997) MSc. in Mechanical Engineering, KFUPM.
- (1994) BSc. in Mechanical Engineering, KFUPM.

Experience:

- (2021 Present) Director ARC-MST, KFUPM.
- (2005– 2021) Director for Center of Engineering Research, KFUPM
- (2014 – Present) Professor, Mechanical Engineering KFUPM.

Number of granted patents: 15+ US patents.

Number of research papers in peer-reviewed journals: 110+; and 1 book chapter, 1 book.

The Applied Research Center for Metrology, Standards & Testing (ARC-MST) provides high caliber contractual research, testing and consultancy services to the oil/gas, energy, manufacturing, non-destructive testing (NDT), health and business sectors in Saudi Arabia. The Center's service portfolio is mainly focused on engineering disciplines such as electrical/mechanical/radiation calibrations, engineering standards, high-voltage testing, multiphase flow, and metrology consultancy. Currently, many local and multinational companies avail the center's services to solve process-related technical issues, improve and certify their products, validate material quality, ensure innovation in the marketplace while achieving a significant competitive edge.

In addition to serving the external clients, the center actively collaborates services with other academic departments and centers of research excellence in the University. The applied research activities are conducted through graduate students or as research projects sponsored by the University or external funding agencies, such as KACST, MOE, KACARE and others. The center's research output to date includes 600 journal publications in high-impact journals and 65 issued patents.

