



Dr. Ali Al-Hemoud

Title: Research Scientist

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Speaker Biography:

Dr. Ali Al-Hemoud is a research scientist at the Environment and Life Sciences Research Center at KISR. He is also a part-time professor on secondment basis at the College of Public Health, where he teaches Master-level students courses on occupational health and safety. He is a Member of the Technical Advisory Group of the World Health Organization on air pollution and health. He is a Certified Industrial Hygienist (CIH) through ABIH Examination and a Certified Safety Professional (CSP) through BCSP Examination, all from USA. He published over 40 manuscripts in peer reviewed international journals and 6 book chapters. He is currently the project leader of 2 client-funded multi-million KD projects, namely: (Development of Air Quality Management System to Support Decision Making in Kuwait) and (The Improved Resilience to Transboundary Sand and Dust Storms in Kuwait and Iraq).

Presentation Title:

Heat Stress Risk Associated with Mortality in Kuwait: What is a Safe Exposure Limit?

Abstract:

Health risks are expected to be exacerbated due to climate change and unprecedented soaring extreme temperatures. Kuwait is ranked as the third hottest country in the world and the highest in Asia (record extreme temperature at 54.0 °C on 21 July 2016 in Mitribah), after Furnace Creek, Death Valley, California (56.7°C on 10 July 1913) and Kebili, Tunisia (55.0°C on July 1931). This study examined the dose-response relationship between daily average temperatures and daily mortality risk in Kuwait for 16 years (2010 to 2016) using lag non-linear models (dlnm). Results showed that the relative risk (RR) of death from extreme temperature is 1.63 (95% CI: 1.23–3.52); with a higher risk recorded among non-Kuwaiti males at working age group (15-64 years), and for cardiovascular deaths. The study discusses the safe levels of thermal stress in the outdoor and indoor working environment using the WBGT and the heat index. The study also discusses Kuwait Public Authority of Manpower and Kuwait EPA thermal stress standards, (no. 208 year 2011 and no. 535 year 2015), and (no. 4 year 2020), respectively. The findings suggest that the permissible exposure limits for WBGT in Kuwait are not applied properly and un-protective to workers' health. It is therefore important to provide new a evidence-based heat standard to adequately protect Kuwaiti population.