The Institution of Engineers, Malaysia

Webinar Talk on

THE POTENTIAL OF HYDROGEN AS ENERGY CARRIER AND ITS INTEGRATION IN PRIMARY ENERGY MIX

BEM Approved CDP: 2 Hours
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Organised by Material Engineering Technical Division (MaTD)

WEDNESDAY
8 MAY 2024
10.00 AM - 12.00 PM

SPEAKER
DR. MUHAMMAD SHAKEEL AHMAD

Registration fee
Student Member: Free
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SYNOPSIS

Current energy systems have to undergo profound transformation to compete 21st century climatic and sustainable challenges. However, the total decarburization of certain sectors such as transportation and industry that require low to medium to high grade heat may prove to be challenging purely by means of electrification. In this regard, gaseous hydrogen being produced using renewable sources such as solar, wind, biomass etc is becoming one of the most viable fuel due to its easy production, abundant raw material and ability to be integrated in primary energy mix.

Although hydrogen industry is well established with total estimated global market of 115 billion USD by 2022 and growing significantly. The market share of hydrogen being produced by electrolysis is just 4% which is coming mostly through Chlor-Alkali industry. Recently, the ability of state-of-the art electrolyzers to compensate intermittence of renewable sources and proven concept of directly injecting hydrogen in natural gas pipeline network proved to be a game changer and could create a new downstream market for renewable power unleashing the expected global value of renewable hydrogen of 11 trillion USD in future.

This talk would slightly touch the hydrogen production using renewable energy sources, and largely cover its strategic deployment as versatile fuel in primary energy mix and safety.

BIODATA SPEAKER

Dr. Muhammad Shakeel Ahmad is working as Senior lecturer in UM power energy dedicated advance center, Universiti Malaya, Kuala Lumpur, Malaysia. Previously, he served as Assistant Professor in USPECAS-E, UET, Peshawar, Pakistan. He completed his PhD in “renewable energy (materials) engineering” in Dec 2018 from the Universiti Malaya with thesis distinction. His core research areas are renewable energy conversion materials and integrated systems with a special focus on hydrogen technology and policy development for renewable sources. He published over 42 journal articles and edited one book. He also has 4 patents to his credit.