

Webinar

Talk on Towards Net Zero Carbon Emission - A holistic transportation technology of dense-phase CO₂ via pipelines

CPD Hours : 2

CPD Ref No : IEM21/HQ/481/T(w)

Oil, Gas and Mining Technical Division

SYNOPSIS

High corrosivity of dense-phase CO₂ tends to disqualify the use of carbon steel as an economic pipeline material of choice while corrosion-resistant alloys are a few times costlier. Some of technical challenges include limited validity domain of existing CO₂ corrosion prediction model, unavailability of corrosion inhibitors that could effectively reduce the uninhibited corrosion rates, uncertainty on suitable in-line inspection and online corrosion monitoring technologies and the unavailability of a prediction model to account for the minimum required fracture toughness.

The talk will highlight the technologies developed by PETRONAS that will enable the economical and safe transportation of dense-phase CO₂ to sequestration sites as part of PETRONAS' efforts towards net zero carbon emission

SPEAKERS

Ir. Dr. Azmi Mohammed Nor first earned his Associate in Applied Science from State University of New York, USA, then a degree in Mechanical engineering from University of Tulsa, USA. Subsequently he obtained his MPhil in Corrosion and Corrosion Control from University of Manchester, Institute of Science and Technology (UMIST). He then earned his PhD in Chemical Engineering from Ohio University, USA. Currently, he is a Principal Researcher at PETRONAS Research Sdn Bhd.

He is a professional engineer with a practicing certificate and a Fellow at Institute of Materials Malaysia. He was awarded the Industrial and Engineering Chemistry International Fellowship by American Chemical Society in 2021. He has also served in SIRIM's technical committee for Pipeline Transportation and working group on the development of Malaysian Standard on "Pipeline Repair and Rehabilitation". He has been appointed as a judge for Materials Lecture Competition held at national level. He is also a PhD co-supervisor at UM and UKM as well as a PhD external examiner at UTM

Dr. Muhammad Firdaus Suhor is currently a Staff Engineer (Corrosion) at PETRONAS Group Research. He joined the group 20 years ago and has been actively undertaking assignments related to material and corrosion technology such material performance study, corrosion inhibitor selection, coating and painting testing.

He holds a PhD in Chemical Engineering from Ohio University, USA, MSc in Mechanical Engineering from Aberdeen University, UK and B.Eng in Mechanical Engineering from Coventry University, UK.

His has developed few technologies in the area of corrosion namely Supercorp – a corrosion modelling package, high performance corrosion inhibitor, corrosion monitoring techniques for dense CO₂, and many others. His current focus now is on contaminants managements and transportation technology under the Gas Sustainability technology cluster.



Ir. Dr. Azmi Mohammed Nor



Dr. Muhammad Firdaus Suhor

Wednesday | 15 December 2021 | 10AM – 12PM

Registration Fee:

Student Member: Free | IEM Member: RM15 | Non-Member: RM70

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