ENGINEERS AUSTRALIA | Malaysia Chapter

The Institution of Engineers, Malaysia

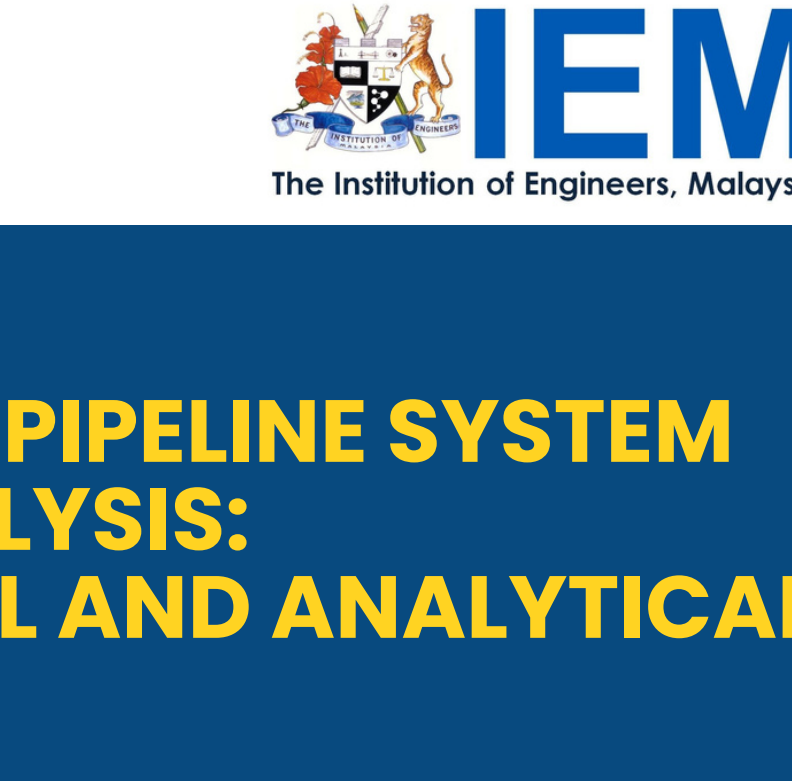
WEBINAR TALK ON

LEAK DETECTION IN CRUDE PIPELINE SYSTEM BASED ON VIBRATION ANALYSIS: NUMERICAL, EXPERIMENTAL AND ANALYTICAL STUDY

Jointly Organised:
Engineering Education Technical Division, IEM & Oil, Gas and Mining Technical Division, IEM
In Collaboration with:
Engineers Australia Malaysia Chapter (EAMC)

BEM APPROVED CPD: 2 REF NO: IEM25/HQ/089/T (w)

SPEAKER



DR AHMED A ABUHATIRA

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17 APRIL 2025, THURSDAY

3.00PM - 5.00PM

ZOOM WEBINAR

REGISTRATION FEE

IEM STUDENT: FOC
IEM MEMBER: RM15
NON IEM MEMBER: RM70

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SYNOPSIS

Leak detection in crude oil pipelines is a critical challenge due to its significant environmental and economic consequences. Pipeline leaks can lead to severe soil and water contamination, posing long-term ecological hazards while also causing substantial financial losses. This webinar will explore various existing and emerging leak detection techniques, including vibration-based methods, which offer high sensitivity and real-time monitoring capabilities. A comprehensive approach combining Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA), and Fluid-Structure Interaction (FSI) studies will be discussed to understand leak-induced vibrations and pressure fluctuations in pipelines. The session will share key findings from numerical simulations and experimental validations, highlighting the efficiency of different detection techniques. Finally, conclusions and recommendations will be provided to improve pipeline integrity monitoring, optimize detection accuracy, and enhance predictive maintenance strategies. This webinar aims to equip participants with insights into advanced leak detection methodologies and their practical applications in the oil and gas industry.

SPEAKER'S PROFILE

Dr Ahmed A Abuhatira dedicated Mechanical Engineer with a Ph.D. from the University of Dundee, specializing in Fluid-Structure Interaction in pipeline systems, utilizing Computational Fluid Dynamics (CFD) and Finite Element Analysis (FEA). Currently role as a Lecturer and Course Leader at the National College for Nuclear at Lakes College has allowed to excel in teaching various engineering and management subjects, leading courses, supervising honours projects, and instructing in labs.

His prior experience includes lecturing at the University of Dundee, focusing on CFD and material engineering. Including industrial background at Waha Oil Company involved managing large-scale projects, optimizing resource allocation, and ensuring compliance with safety standards. These roles have equipped with strong project management, technical support, and team leadership skills. Dr Ahmed hold a PGCE, along with certifications in Project Management and Operations Management, and memberships in esteemed organizations such as the Institution of Mechanical Engineers (IMechE) and the Higher Education Academy (HEA). He holds several awards, including the Queen's Anniversary Prize and the Postgraduate Researcher Development Awards, reflect my commitment to excellence and professional growth.