IEM
The Institution of Engineers, Malaysia

Oil, Gas & Mining Technical Division

VIRTUAL HALF DAY COURSE ON

INTRODUCTION TO CO2 CORROSION

When >>
21 July 2022/Thursday
9:00 am

Where >>
GoToWebinar

Speaker>>
Ir. Dr. Azmi Mohammed Nor
Dr. Muhammad Firdaus Suhur

BEM Approved CPD/PDP Hours
4 Hours (IEM22/HQ/123/C(w)

Ir. Dr. Azmi Mohammed Noor

Dr. Muhammad Firdaus Suhur

	ONLINE FEE	NORMAL FEE
IEM Members >		
:: Student	**40**	**50**
:: Graduate	**75**	**90**
:: Corporate	**125**	**150**
Non-IEM Member >	**240**	**300**

Online fee : Log-in for registration & payment at www.myiem.org.my/member/login.aspx

Normal fee : by fax & email
Payment by cash, credit card and bank-in

Cancellation Policy
No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with 7 days prior notification and substitute will be charged according to membership status.

Personal Data Protection Act
I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at http://www.myiem.org.my and I agree to IEM's use and processing of my personal data as set out in the said notice.

"IEM reserves the right to alter or cancel the programme due to unforeseen circumstances at its discretion'.
For intending participants who choose to 'walk in without prior registration',
IEM SHALL NOT be responsible for any direct or consequential losses

Follow us ::

myiem_offiical

iem_ogmtd

SPEAKERS

Ir. Dr. Azmi Mohammed Nor first earned his Associate in Applied Science from State University ofNew York, USA, then a degree in Mechanical engineering from University of Tulsa, USA. Subsequentlyhe obtained his MPhil in Corrosion and Corrosion Control from University of Manchester, Institute ofScience and Technology (UMIST). He then earned his PhD in Chemical Engineering from OhioUniversity, 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 MaterialsMalaysia. He was awarded the Industrial and Engineering Chemistry International Fellowship byAmerican Chemical Society in 2021. He has also served in SIRIM's technical committee for PipelineTransportation and working group on the development of Malaysian Standard on "Pipeline Repairand Rehabilitation. He has been appointed as a judge for Materials Lecture Competition held atnational 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 GroupResearch. He joined the group 20 years ago and has been actively undertaking assignments relatedto 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 Engineeringfrom 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 corrosionmodelling package, high performance corrosion inhibitor, corrosion monitoring techniques for denseCO2, and many others. His current focus now is on contaminants managements and transportationtechnology under the Gas Sustainability technology cluster.

SYNOPSIS

Carbon dioxide is one of the acid gases encountered in oil and gas industry as it is naturally present in hydrocarbon reservoirs. Although CO_2 is non-corrosive when dry, it could lead to corrosion of carbon steel in the presence of water. Furthermore, despite being a weak acid, it is more corrosive than hydrochloric acid at the same pH. In this regard, the effect of CO_2 corrosion on carbon steel must be accounted in the design of assets such as piping and pipelines. With the current effort towards net zero carbon emission which involves dense-phase CO_2 transportation, the potential for catastrophic CO_2 corrosion rates must not simply be disregarded.
In this half-a day course, the participants will learn the fundamental of CO_2 corrosion comprising the following:

- Basic chemistry of CO_2-water system
- Mechanistic theory of CO_2 corrosion
- The effect of flow on CO_2 corrosion
- Top-of-the line corrosion

After the completion of the course, the participants will learn how to develop a simple CO_2 water chemistry model, the homogeneous and heterogeneous chemical reactions involved in CO_2 corrosion, the mechanistic effects of the influencing parameters on CO_2 corrosion which includes the effect of mass transfer, momentum transfer, and a multiphase flow, and top-of-the line corrosion.

TENTATIVE

TIME	PROGRAM
09:00 – 09:05	Introduction of Speaker and Topics of discussion
09:05 – 10:00	**Topic 1 :** Basic chemistry of CO2-water system
10:00 – 11:00	**Topic 2 :** Mechanistic theory of CO2 corrosion
11:00 – 11:10	**Break**
11:10 – 12:00	**Topic 3 :** The effect of flow on CO2 corrosion
12:00 – 12:30	**Topic 4 :** Top-of-the line corrosion
12:30 – 1:15	Q & A / End

**** IEM reserves the right to postpone, reschedule, allocate or cancel the course***

REGISTRATION

	ONLINE FEE	NORMAL FEE
IEM Members >		
:: Student	**40**	**50**
:: Graduate	**75**	**90**
:: Corporate	**125**	**150**
Non-IEM Member >	**240**	**300**

Online fee : Log-in for registration & payment at www.myiem.org.my/member/login.aspx

Normal fee : by fax & email
Payment by cash, credit card and bank-in

VIRTUAL HALF DAY COURSE ON:

INTRODUCTION TO CO2 CORROSION

21 JULY 2022

No	Name(s)	Membership No.	Grade	Fee (RM)*
			SUB TOTAL	
			+ 6% SST	
			TOTAL PAYABLE	

Contact Person			
Designation			
Name of Organization			
Address			
Telephone No (Office)		Fax No (Office)	
Mobile		Email	

TERMS & CONDITIONS:

- For ONLINE REGISTRATIONS, only ONLINE PAYMENT is applicable [via RHB and Maybank2u – Personal Saving & Personal Current ; Credit Card - Visa/Master.
- Payment via CASH / CHEQUE / BANK-IN TRANSMISSION / BANK DRAFT / MONEY ORDER / POSTAL ORDER / LO / WALK -IN will be considered as NORMAL REGISTRATION
- The organising committee reserves the right to cancel, alter, or change the program due to unforeseen circumstances. Every effort will be made to inform the registered participants of any changes. In view of the limited places available, intending participants are advised to send their registrations as early as possible so as to avoid disappointment

For further details, kindly contact:

The Institution of Engineers, Malaysia
Bangunan Ingenieur, Lots 60/62, Jalan 52/4, P.O. Box 223 (Jalan Sultan), 46720 Petaling Jaya, Selangor
Tel : 603-7968 4001/2 **Fax** : 603-7957 7678 **Email** : suriani@iem.org.my