ABOUT THE COURSE

Corrosion is the electrolytic reaction of the material surface with the ambient medium, which leads to erosion or crack formation in the primary material. This is more prevalent with metals.This part of the course will introduce to different types of corrosion and principles of materials. Other lectures will deal with corrosion mitigation and protection and how the corrosion is controlled and managed by corrosion testing and monitoring.and material selection. Finally some case studies of offshore corrosion will be dealt with.

WHO SHOULD ATTEND

Engineers and scientists involved in the design, operation and assessment of both onshore and offshore structures.

COST

The registration fee of the workshop will be £350 + VAT (UK only) which includes course notes and lunches. You should make your own arrangements for accommodation.

PAYMENT

Payments can be made by cheque (made payable to ASRANet Ltd.), cash or bank transfer. Please enquire for details.

VENUE

ASRANet Ltd.
St Georges Building
5 St Vincent Place
Glasgow, G1 2DH
Scotland, UK

NOTE

Please do not make your travel arrangements until you receive an Invoice from us.

CONTACT

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Corrosion Engineering

22 August 2018
Glasgow, UK

PROGRAMME

Wednesday 22nd August

09.00 - 10.30	Lecture 1: Basic understanding of materials and types of degradation mechanisms relevant to offshore structures. *Dr Steve Paterson*
10.30 - 10.45	*Break*
10.45 - 12.15	Lecture 2: Principles of aqueous corrosion, electrochemistry, and the electrochemical series. *Dr Steve Paterson*
12.15 -13.30	*Lunch*
13.30 – 15.00	Lecture 3: Methods for corrosion mitigation and protection, including cathodic protection, coatings, inhibitors and corrosion resistant alloys. *Dr Steve Paterson*
15.00 - 15.30	*Break*
15.30 - 17.00	Lecture 4: Corrosion control and management including testing, monitoring and materials selection. Examples of corrosion.in oil and gas production facilities *Dr Steve Paterson*

ABOUT THE LECTURERS:

Dr. Steve Paterson, Ph.D, C.Eng. graduated from Imperial College, London, with a B.Sc (Eng.) and Ph.D in Metallurgy. He joined Shell in 1981 and held various roles related to materials, corrosion and welding in the exploration & production, refining and chemical businesses, and worked in the Netherlands, Malaysia, and Norway. In 1999 he moved to Aberdeen where he was responsible for delivery of inspection and integrity services to Talisman Energy. He rejoined Shell in Aberdeen in 2001 to work on subsea development projects, and in 2006 became head of materials and corrosion engineering for Shell's Upstream businesses in Europe. From March 2014 until his retirement in May 2017 he was Principal Technical Authority for Upstream Materials for Shell, based in Amsterdam. He now works as an independent materials and corrosion adviser with Arbeadie Consultants.

LECTURE INFO

Lecture 1: Principles of materials and corrosion
Structure of materials
Types of corrosion (atmospheric, pitting, crevice, galvanic, microbial, CUI)
Stress corrosion cracking
Hydrogen embrittlement
Impact of corrosion on fatigue

Lecture 2: Principles of aqueous corrosion
Mechanisms of aqueous corrosion
Electrochemistry
Kinetics of corrosion
Passivity
Electrochemical series

Lecture 3: Corrosion mitigation and protection
Cathodic protection: sacrificial/impressed current
Corrosion inhibition
Coatings and fabric maintenance
Corrosion resistant alloys

Lecture 4: Corrosion control and management
Corrosion testing and monitoring
Materials selection and corrosion management
Case studies of offshore corrosion