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The Marine & Carbon Lab cordially invites you to the following event:

Unexpected failure of critical subsea connector bolts

Abstract



Unexpected failure of critical subsea connector bolts is keeping the oil & gas industry in “stress” because the “root cause” remains “unknown.” Failures of critical subsea bolts have been occurring for more than a decade now in spite of replacing more than 10,000 bolts and following quality control (QC) recommendations from industry experts. A few theories have been suggested to explain the phenomenon, which allude to a combination of mechanical stress, environmental and material issues. However, a more thorough understanding is essential. Meanwhile, the logical

question emerges: can bolt failures be avoided? To do so, we examine some of the key parameters such as: 1) Material fatigue, 2) Hydrogen embrittlement, 3) The role of material hardness, 4) the impact of coating (corrosion protection), and finally 5) The effect of microbiologically influenced corrosion.

In order to understand the failure of bolts, we propose an experimental method suitable for examining the influence of the various parameters maintained under control conditions. As part of the investigation we utilize a small scale flange with bolts immersed in a seawater aquarium while we monitor the important parameters of preload (torque), coating, material grade, salinity, oxygen level, hydrogen pressure and others.

Speaker's bio:

Mr. Offer Medlinsky is currently reading for the PhD in Oil, Gas & Energy Engineering at the University of Nicosia. He holds a BSc and an MSc in Materials Engineering from the Ben-Gurion University, Israel and an MBA from Herriot-Watt University-Israel campus Ramat Gan. During years 2010-2012 he was an Adjunct Lecturer in Civil Engineering, SCE - Sami Shamoon College of Engineering, Israel. Ever since 2017, Mr. Medlinsky is employed as an Adjunct Lecturer at the Mechanical Engineering Department at SCE - Sami Shamoon College of Engineering. Offer research interests focus on materials science and metallic corrosion.

The talk will be delivered in English and is open to the public. Please save the date:

Date: 30 May, 2018

Venue/Time: Research & Tech Bld, Rm B1a, 12:0-10:00