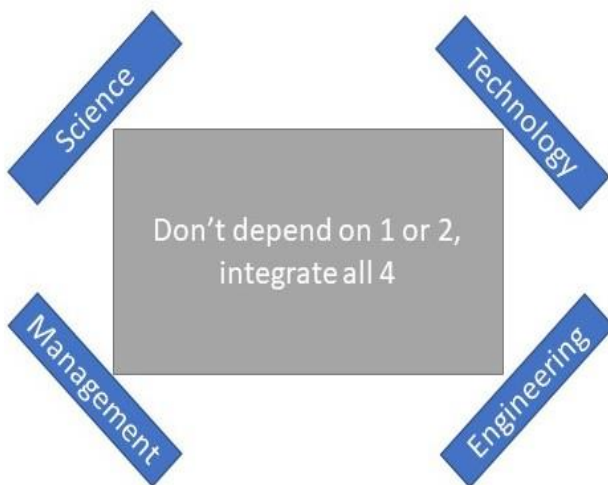


## Winter 2021, February Edition: Newsletter 05

Integrating Science, Technology, Engineering, and Management to  
 “STEM Corrosion™”



Corrosion control workforce consists of university-educated corrosion scientists; engineers from other disciplines who acquire corrosion knowledge through field experience and short-term courses; managers with MBA degrees or experience but with no or little corrosion background; and tech savviest who learn anything and everything from internet!

Training programs are needed to integrate attributes of different types of professionals. STEM\_Corrosion™ online course is one such training program.

STEM-Corrosion™ online course - being offered since 2014 - consists of four (4) modules:

- Internal Corrosion Control
- External Corrosion Control (including Stress-Corrosion Cracking Control)
- Pipeline Integrity Management (PIM)
- Refinery and Facilities Corrosion Control

STEM-Corrosion Course™ brings 4-in-1 benefits:

1. E-copy of the 1,020-page “Corrosion Control in the Oil and Gas Industry” book
2. 30-Day access to appropriate software (iFILMS™, Expedition™, STEM\_Risk\_Pipeline™ and STEM\_Risk Refinery™)
3. Assignment writing using field data to assess real field issues and to develop solutions
4. [The Engineering Institute of Canada \(EIC\)](#) accredited Continuous Education Unit (CDU); 1 CDU = 10 Professional Development Hours (PDH).

## Top Influencer of This Newsletter:

Tom Jack



### My Story

I was the first employee of a non-profit corporate research company started by the NOVA group of companies in Western Canada where I developed a research team focused on threats to integrity and environmental issues for companies such as Husky Oil, TransCanada Pipelines and NOVA Chemicals as well as various industry associations. On retirement I joined the University of Calgary as an Adjunct Professor and have helped establish and carry out large interdisciplinary research programs on Microbiologically Influenced Corrosion and microbial souring.

### My Style

I firmly believe that corrosion happens in the field – not in the lab - and that an active partnership between operating companies and expert researchers is essential to improving integrity management.

### Pinnacle Moment

A host of magic moments come to mind where a breakthrough suddenly occurred in our understanding of a perplexing problem that ultimately enabled us to propose an effective approach to its management. One example was the identification of droplets of a bright yellow high pH polysulfide solution oozing out of a pipeline saddle weight made of sulfurcrete as the key factor in an unusual hydrogen induced cracking failure seen on a major gas transmission line.

### Greatest Contribution

I have received a number of awards including a NACE Technical Achievement Award but I am probably most associated with achievements in improving our understanding MIC. Over the years I have been introduced to conference audiences as the “Father of MIC”, the “Grandfather of MIC” and the “Yoda of MIC”!

A Teaching Achievement Award received in 2019 for a graduate engineering course in Corrosion Science that I developed through the Pipeline Engineering Centre at the University of Calgary was especially gratifying.

### **Advice to Industry**

Keep it real! Match actual operating conditions as closely as possible in lab investigations being done in support of failure analysis or in the evaluation of mitigation technologies. Simplified short batch tests where only a single variable is at play can be very misleading.