

Mark Fleming

Biography

Dr. Mark Fleming is an Associate Professor in the Department of Psychology at Saint Mary's University. He received his Masters degree in Human Factors from Aberdeen University and his PhD in Psychology from The Robert Gordon University in Scotland. Mark is an applied psychologist with nearly 20 years of experience in industrial health and safety management. Currently Dr. Fleming's research includes investigating methods for measuring and improving safety culture, safety motivation, safety leadership, non-technical skills of high performance teams, health climate and aviation safety. He was one of the founding members and former Director of the CN Centre for Occupational Health and Safety Centre, a centre of research excellence at Saint Mary's University.

Presentation Abstract: Developing and Validating Safety Culture Metrics and Evaluating Action Research Knowledge Transfer Strategies

This presentation will provide an overview of the safety culture metrics project funded by Encana and the results of the work completed to date. The importance of creating and maintaining a positive safety culture was highlighted by the Deep Water Horizon disaster. Since the Canadian offshore industry is relatively small it is not possible to use historical incident data as evidence of a good safety record, therefore prospective safety indicators are required. Improved guidance on safety culture is required to ensure that Nova Scotia's offshore industry maintains high safety standards. In addition, there is a need to understand how guidance on safety culture assessment and improvement influences practice.

This research aims to design and test a series of safety culture metrics that operating companies can use to obtain an ongoing indication of the safety culture on an installation even when they are not controlling day-to-day activities (e.g. drilling rig). This project aims to produce a safety culture assessment and improvement guide written specifically for the Nova Scotian and Canadian offshore petrochemical industry. This guide will summarize safety culture research, current practices and include a number of new safety culture metrics.

The research contains the following four phases:

1. Establish current level of knowledge about safety culture, interventions to promote a positive culture and safety culture metrics in Canadian offshore petrochemical industry.
2. Develop and test a number of safety culture metrics.
3. Produce a managers guide to safety culture assessment and improvement, that will include the following topics:
 - a. Promoting shared safety culture values and specifying behaviours that support a positive culture
 - b. Encouraging employees to take personal responsibility for safety
 - c. Strategies to enhance safety leadership across entire organization
 - d. Safety culture metrics
4. Evaluate the impact of the project on local managers' conceptualization of safety culture, use of safety culture metrics and use of safety culture improvement strategies.