THE DEPARTMENT OF CHEMICAL ENGINEERING presents the

GRADUATE SEMINAR

WEDNESDAY, MARCH 26, 2014

DANIEL A. CROWL
HERBERT H. DOW PROFESSOR
FOR CHEMICAL PROCESS SAFETY
MICHIGAN TECHNOLOGICAL
UNIVERSITY

3:00 P.M.- 4:10 P.M. IN WEB 2250

Why We Can't Really Measure Flammable Limits

Abstract:

Flammable limits have been a useful tool to prevent fires and explosions ever since the concept was defined by Sir Humphry Davy in 1816. The search continues to this day to develop an apparatus that will accurately measure these limits. Unfortunately, each apparatus developed depends on an arbitrary definition of the flammable limit boundary. Today, the characterization procedure using a closed vessel shows that the flammable limit boundary is not as well defined as Sir Humphry Davy envisioned. This seminar will review the history of flammable limits, the methods used to measure these limits, and discuss the current methods. Finally, the current technology that industry uses to prevent fires and explosions in chemical processing is presented.

Short Biography:

Daniel A. Crowl is the Herbert H. Dow Professor for Chemical Process Safety in the Department of Chemical Engineering at Michigan Technological University. He is author of the textbook Chemical Process Safety, Fundamentals with Applications, and several AIChE books on process safety. He serves on several AIChE committees including the Center for Chemical Process Safety (CCPS) Safety and Chemical Engineering Education (SACHE) Committee. He has published many research papers, primarily in the area of flammability of gases and liquids. He is the recipient of nine major national and international awards including the American Chemistry Council Catalyst Award, AIChE's Bill Doyle Award; the ACS Chemical Health and Safety Award; the Walton/Miller award from AIChE's Safety and Health Division; and the AIChE Board's Gary Leach Award. He is a Fellow of AIChE, ACS Safety and Health Division, and CCPS.

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