

**Research Seminar Series**

**University of Nebraska-Lincoln**

**Department of Chemical and Biomolecular Engineering**

Why We Can’t Really Measure Flammable Limits

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**Friday, March 17, 2017**

3:30 – 4:30 pm

Othmer Hall, Room 106

*\*Refreshments provided*

**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 and the design and operation of the equipment. 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 author’s research that significantly improved the worldwide characterization methods. Finally, the current technology that industry uses to prevent fires and explosions in chemical processing, both inside and outside the process, is presented.