

# Chemistry Seminar

## "Chemical Warfare: History, Effects, and Bioanalytical Chemistry"

Dr. Brian Logue

Department of Chemistry and Biochemistry  
South Dakota State University

Wednesday, Sept. 22

12:00 p.m.

WSB-122

In light of recent terrorist events, research in the field of homeland security and chemical warfare (including terrorism) is very relevant. One key research focus area is the detection of CWAs via their chemical or biological signatures for verification of exposure. Detection of these signatures can be used for diagnosis (i.e., analysis that can affect medical treatment) or forensic analysis (i.e., analysis that discerns information about a past event). Dr. Logue is leading a number of projects involving verification of CWA exposure. One project involves the use of hair as a long-term repository for CWA metabolites. The detection of CWA metabolites from hair samples would increase the availability of some CWA metabolites from days to years. This analysis involves a novel analytical method which uses solid-phase microextraction and gas-chromatography mass-spectrometry. Another project is focused on developing a cyanide diagnostic system. This involves the rapid separation and analysis of cyanide by a portable fluorometric device. Dr. Logue will also discuss the use of a novel metabolite of cyanide for use as a longer term marker for cyanide exposure.

This seminar will discuss the history and health effects of CWAs and will focus on recent research in our laboratory leading to the detection of chemical and biological signatures of CWAs for forensic and diagnostic purposes.

