DEPARTMENT OF **CHEMICAL & ENVIRONMENTAL ENGINEERING**

2011 - 2012 **SEMINAR SERIES**

JANE E. HILL

ASSISTANT PROFESSOR
SCHOOL OF ENGINEERING AND COBRE:
IMMUNOLOGY AND INFECTIONS DISESEASES
UNIVERSITY OF VERMONT

FRIDAY **NOV 4, 2011**
9:30 - 10:30 AM
WCH 205/206

IDENTITY AND STATUS: HOW THE VOLATILE MOLECULES FROM BACTERIA TELL US WHO THEY ARE, HOW MANY THERE ARE, AND WHAT THEY ARE DOING …

Rapid identification and metabolic status determination of bacterial pathogens has applications in the fields of health, defense, agriculture, and the environment. We have been developing a combination of advanced mass spectrometry methods to determine – rapidly and comprehensively – the volatile metabolome of bacteria, especially those associated with human disease. In less than one minute, we can determine the genus, species and in a variety of cases, the strain or serovar of high interest pathogens, such as *E. coli* O157:H7, Methicillin-resistant *Staphylococcus aureus* (MRSA*), Pseudomonas aeruginosa*, *Legionella*, and *Salmonella*; from the flask to food to human breath. Our ongoing work shows the beauty and utility of melding microbiology, analytical chemistry, with an engineering sensibility in order to tackle outstanding questions in the health, defense, agricultural, and environmental fields.