

SE&T Colloquium Series-Winter 2018

Speaker	Dr. Jade Mitchell Department of Biosystems Engineering Michigan State University Host: Dr. Frank Hall
Title	<i>Risk Assessment: The Marriage Between Engineering and Public Health</i>
Abstract	<p>“Quantitative microbial risk assessment (QMRA) is a framework and approach that brings information and data together with mathematical models to address the spread of microbial agents through environmental exposures and to characterize the nature of the adverse outcomes. While most microbes are harmless or beneficial, some are extremely dangerous and we call these Biological Agents of Concern (BAC). All BAC can cause serious and often fatal illness, but they differ greatly in their physical characteristics, movement in the environment, and process of infection. Ultimately the goal in assessing risks is to develop and implement strategies that can monitor and control the risks (or safety) and allows one to respond to emerging diseases, outbreaks and emergencies that impact the safety of water, food, air, fomites and in general our outdoor and indoor environments.” (www.qmrawiki.org)</p> <p>QMRA is a widely accepted framework for addressing water quality and food safety. Advancements in modeling over the last 10 years, have expanded these applications and provide opportunity for risk-based decision making in both public policy and in engineering design. Very recent crisis, like the water crisis in the City of Flint, Michigan have highlighted the need to link public health with engineering design, operations and maintenance. Similarly, changes in design conditions around aging water infrastructure are national priorities. QMRA is inherently an interdisciplinary science drawing upon mathematics, statistics, microbiology, physics and engineering. In this talk, the core ideas of QMRA will be introduced and a few selected applications will be presented.</p>
Date	Tuesday, February 13
Time	4:10-5:00pm
Place	Pioneer 240
	Refreshments will be served at 4:00pm.