



Department of Chemistry Seminar

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Monday, October 8, 2012

12:30pm

SL 102

With Knowledge Comes Responsibility: *A Case for Green Chemistry*

Abstract:

The presence of potentially toxic compounds in consumer products, releases of chemical wastes into the environment, and chemical accidents are unfortunately the types of chemistry-related stories that get reported in the popular press. Addressing these types of issues is part of the basis for the development of green chemistry. After all, if chemists have the knowledge to synthesize these materials, don't we also have the responsibility to address the consequences of the use of our synthesized compounds?

In this presentation, Dr. Raynie will present an overview of the field of green chemistry, focusing on the twelve principles developed by Anastas and Warner. A metric to assess chemical processes relative to the goals of green chemistry will be discussed. Finally, the use of alternative solvent systems in the renewable fuels area will be introduced. Deep eutectic solvents (DES) are novel solvent systems created from the association of molecules like quaternary ammonium compounds (like choline) and hydrogen bond donors (like urea or glycerol). DES are inexpensive, nontoxic, and present unique solvating properties. The use of DES and related solvents for biomass fractionation and conversion will be presented.

