

CHEMISTRY SPRING 2023 SEMINAR SERIES



<sup>11am-12pm</sup> April 14<sup>th</sup> in- person at

NC 1130

**Distinguised Professor** <u>Angela K. Wilson</u> Dept. of Chemistry, Michigan State University

" Energetics Across the Periodic Table: Development, Design, and Discovery"

Energies are vital to chemistry from the prediction of chemical reactivity to the design of new molecules. Insight about energetics is vital in areas such as developing new catalysts, designing more sustainable solar cells (spin trapping), addressing environmental contaminants (PFAS), and discovering new drugs. The need for energy data spans the periodic table from small molecules to proteins. In the first part of this talk, the challenges in obtaining thermodynamic properties of transition metal species and heavy element (lanthanide and actinide) species will be overviewed, along with effective and ineffective strategies in predicting energetic properties, including approaches developed by our group. The later part of this talk will address our studies in spin trapping, PFAS, and drug discovery.