**BIOTINYLATED, PHOTOACTIVABLE ADENOSINE ANALOGS AS PROTEOMIC PROFILING TOOLS** David J. Merkler, Ph.D., Department of Chemistry, University of South Florida, 4202 E. Fowler Ave, CHE 205, Tampa, FL 33620-5250 USA

The identification of minor differences in proteomic profiles of normal and diseased biological samples can useful for the early diagnosis and development of new drugs to treat human diseases. One challenge is the design, synthesis, and implementation of reagents (or probes) that yield meaningful and reproducible proteomic profiles. Proteomic profiling probes based upon the adenine nucleosides and nucleotides (the AdoR's) would be particularly valuable given their metabolic centrality and role in cell signaling. Herein, we report on the synthesis and use of biotinylated, photoactivable adenosine analogs as binding-based proteomic probes. We first optimized the use of our AdoR probes against adenosine deaminase. Proteomic analysis by SDS-PAGE, Western Blotting, and LC-MS/MS resulted in an enrichment of ADoR probe-labeled proteins by affinity chromatography followed by identification and quantification of changes in concentrations of specific proteins obtained in comparing profiles between cancerous and non-cancerous human ovarian cells.