ACS Local Section
Indiana-Kentucky Border

2026 Annual Awards Banquet and Student Poster Session

The Panther Room in the Jack T. Wells Activity Center
Kentucky Wesleyan College, 3300 Frederica St, Owensboro, IN

April 28, 2026

Dinner and Poster Session at 6:00 PM

Awards Presentations and Lecture at 7:00 PM

Lecture by Dr. Lauren Buchanan, Vanderbilt University

Protein misfolding and disease: how vibrational spectroscopy is improving our understanding of the complex behavior of amyloidogenic proteins

Dinner will be catered by The Miller House, and includes salad, choice of chicken or salmon, Yukon Gold roasted potatoes, sautéed green beans, sweet potato biscuits, and choice of chocolate Kahula cake or bourbon pecan pie.

To attend the dinner, you must RSVP by Friday, April 24 to Phillip Voegel at phillip.voegel@kwc.edu and include your preference for chicken or salmon.

The activity center is located on the southeast corner of the KWC campus.

To submit an abstract for the poster session, click here. Submissions must be made no later than Friday, April 24.

Abstract: The misfolding of proteins into amyloid fibrils is implicated in more than 30 human diseases, including Alzheimer's, Parkinson's, and type II diabetes. While initial studies focused on large insoluble fibrils that characterize these diseases, most evidence points to short-lived oligomeric aggregates as the primary pathogenic species. However, these species are short-lived and highly polymorphic, confounding attempts to identify therapeutic targets. This talk will highlight recent advances in vibrational spectroscopy and imaging that have provided unique insight into these challenging systems.

Biography: Lauren Buchanan is an expert in ultrafast vibrational spectroscopy and biophysical chemistry. She joined Vanderbilt University in 2016 as an Assistant Professor in the Department of Chemistry at Vanderbilt University. She earned her Ph.D. with Martin T. Zanni at the University of Wisconsin – Madison in 2013, followed by a postdoctoral fellowship with Richard P. Van Duyne at Northwestern University. Dr. Buchanan's research program focuses on developing new approaches for using two-dimensional infrared (2D IR) spectroscopy to study protein structure and dynamics that are difficult to observe using traditional biophysical methods. Some of the topics that the Buchanan group is pursuing include 1) understanding the role of amino acid sequence on protein folding and self-assembly in order to guide rational design of peptide nanomaterials, 2) determining the detailed molecular-level changes to protein secondary, tertiary, and quaternary structure that occur when proteins adsorb onto nanoparticles, and 3) elucidating the self-assembly mechanisms of both functional and pathogenic amyloid proteins in biological environments by developing unnatural amino acids as site-specific structural probes. Her work has been supported by an NSF CAREER award and an NIH MIRA award.