Our group’s primary research interest is in protein O-GlcNAcylation, an N-acetylglucosamine (GlcNAc) modification on the serine or threonine residues of thousands of intracellular proteins. This nutrient-responsive modification dynamically regulates protein functions in nearly every aspect of biological processes, including signal transduction, gene expression, and cell cycle\textsuperscript{1,2}. Aberrant O-GlcNAcylation has been detected in many diseases such as cancer, diabetes, and Alzheimer’s disease. Our group is utilizing chemical biology, enzymology, mass spectrometry, and X-ray crystallography approaches to elucidate the molecular mechanisms and biological functions of O-GlcNAcylation in the complexity of epigenetic and transcriptional regulation\textsuperscript{3}, which currently remains largely unknown.

References