

BIOCHEMISTRY SEMINAR SERIES



“Metabolic control of post-translational modifications”

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The Denu laboratory has investigated the mechanism and biological function of reversible protein modifications involved in modulating signal transduction, chromatin dynamics and metabolism. These studies have revealed that protein acetylation is a regulatory mechanism for controlling major metabolic pathways in diverse tissues. The group has developed proteomic methods to query protein modifications on histone and non-histone proteins, discovering several novel mechanisms by which metabolism informs acetylation- and methylation-dependent pathways. This focus has been applied to understand the molecular basis of metabolic-based diseases, cancer, aging mechanisms and dysregulated epigenetic states. This work involves integrating diverse approaches that cover mechanistic enzymology, quantitative proteomics, cellular biochemical pathways, mammalian model organisms, and human samples. Major projects include i.) understanding how metabolism is linked to the regulation of the epigenome ii.) revealing the molecular role of NAD⁺-dependent deacetylases in aging, metabolic disease and cancer, iii) understanding how dysregulation of the epigenome affects age-associated diseases, cancer, and brain health; and iv.) understanding how gut microbial metabolites affect host phenotypes.

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via Zoom

3:30 pm

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