



Denver

CHEMISTRY

Fall 2021

Seminar Series



11am-12pm

Sep.17th

[Zoom](#)

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**"Understanding the Variations in Oxidative Damage to
RNA through LC-MS"**

Reactive oxygen species (ROS) generated by chemical or photooxidative stress damages the biomolecules through non-specific oxidation. Such damaging effects have been well-documented for proteins and DNA, but its fundamental effects on the structure and function of post-transcriptionally modified RNA such as ribosomal RNA, transfer RNA (tRNA) during messenger RNA (mRNA) translation is not fully established yet, in spite of the association of RNA damage with various diseases. We employ liquid chromatography coupled with mass spectrometry to detect and quantify the stress induced damage. In this talk, I will touch upon oxidative damage to ribosomal RNA and tRNA and how the presence of proteins and post-transcriptional modifications influence the oxidation events in *E. coli* model system. Such knowledge is expected to help understand the disease development mechanisms associated with the injury to translational apparatus.