

Department of Molecular and Cellular Biology
Graduate Seminar MCB*7500

Friday, September 20th, 2024 @ 12:45 p.m.

presented by:

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(Advisor: Dr. Siavash Vahidi)

"Characterization of Novel Electrospray Ionization-Compatible Additives for Native Mass Spectrometry"

The native structure of biomolecules can provide important insight into their function. Native mass spectrometry (MS) is a powerful tool to obtain such information. Native MS measures the mass-to-charge ratio of gaseous ions while attempting to maintain a native-like structure through the electrospray ionization (ESI) process. This in turn requires careful tuning of numerous instrumental and experimental conditions, including pH. A long-standing issue for native MS measurements is that electrochemical reactions during ESI causes pH fluctuations. The standard “buffer” used in native mass spectrometry experiments, ammonium acetate, does not provide significant buffering capacity in a physiological or neutral pH range. My research aims to expand the repertoire of ESI-compatible compounds that could enable studying biomolecular assemblies that are sensitive to pH changes.