Prof. Allegra T. Aron

University of Denver, Denver, CO

Friday, April 18, 11:00 am. Osborne A204

Novel Mass Spectrometry based Strategies for Metallophore Discovery

Metals are required for life, and microbes have evolved small molecules to compete for, acquire, and utilize metals. Systematic methods for the discovery of metal-small molecule complexes from biological samples remain limited, precluding their discovering and functional characterization. In this seminar, I will describe a native electrospray ionization mass spectrometry-based method, in which post-column metal-infusion and pH adjustment is combined with ion identity molecular networking. As this native metal metabolomics approach can be easily implemented on any liquid chromatography-based mass spectrometer, this method has the potential to become a key strategy for elucidating and understanding the role of metal-binding molecules in biology. In my laboratory, we have applied this technology elucidate metal-binding molecules from host-associated and environmental microbiomes.

Short Bio

Allegra T. Aron received her undergraduate education at Brown University, then moved to the University of California, Berkeley, where she was an NSF Graduate Fellow in Chemistry in Professor Christopher J Chang's group. For her postdoctoral training, Allegra moved to the University of California, San Diego to develop new mass spectrometry-based strategies for finding novel metal-binding small molecules from complex microbial systems. Two years ago, Allegra moved to the University of Denver (DU) as an assistant professor. Her lab develops technologies for discovering and elucidating functions of microbial metal-binding molecules with important biological applications, ranging from biomining to human health. Since starting at DU, Allegra has been named a Webb-Waring Early Career Biomedical Researcher and has received an R35 MIRA award through the National Institutes of Health. When she is not in the lab, she enjoys rock climbing, trail running, and skiing, and happily calls Colorado home.