

OVERVIEW: 2019 WORKSHOP OF THE ASMS METAL ION COORDINATION INTEREST GROUP

Metal ions and non-threshold ion activation in biomolecules

Interest Group Coordinator:
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Tuesday, June 3, 2019, 5:45 - 7:00 pm

The Metal Ion Coordination Interest Group proposed to develop a workshop focused on the interaction of biomolecules with metal ions and the utility of non-threshold ion activation (ExD, UVPD, CTD, etc.) for structural determination in these systems. The final program was divided into two discussion sections. The first featured presentations on metalloprotein analysis and the second glycan analysis. Unfortunately, the workshop encountered A/V issues which resulted in a significant delay in the start time in conjunction with an extended evening plenary beforehand and two speakers in the metalloprotein section had to depart for other commitments. The initial attendance was estimated at 40-50. After approximately 20 minutes without technical assistance, an offer was made for attendees to seek another workshop to make the most of their evening. In the end, 15-20 lingered to talk and an A/V technician arrived to salvage what was left of the workshop. In the remaining time (~45 minutes), the 4 remaining speakers gave their presentations. At this point, approximately 75% of the audience were students and discussion was minimal with a few questions posed from the audience.

PROGRAM

- 1. Franklin E. Leach III (University of Georgia):** *Provided a brief overview of the program topic and speakers.*
- 2. Chris Crittenden (University of Texas > Genentech):** *Chris presented an overview on the utility of ultraviolet photodissociation (UVPD) for metalloprotein analysis including aspects of native MS, UVPD instrumentation, and selected examples such as S. nuclease and Calmodulin.*
- 3. Isaac Agyekum (University of Michigan):** *Isaac was the first speaker amongst the carbohydrate section and provided a brief overview of carbohydrate MS and the associated technical challenges. He followed this introduction with a discussion on the utility of ECD to characterize metal adducted glycans.*
- 4. Anna Diependrock (University of Nebraska):** *Anna presented on the ability of ion mobility in conjunction with electron transfer and vibrational activation to discriminate metal adducted, sialylated carbohydrate isomers.*
- 5. Jordan Rabus (University of Missouri – St. Louis):** *Jordan finished the program with a detailed description of computational methods for the analysis of metal binding in carbohydrate systems.*

NOTES

The program attempted to begin at ~5:55-6 pm after everyone was able to get refreshments and find the room following the extended plenary. After A/V assistance arrived, the program ran from 6:20-7:05. Several questions were posed but discussion was minimal either due to the largely young audience or somber mood after the technical issues and departure of speakers and half the attendees.