

Workshop: Covalent Labeling, and Cross-Linking Interest Group

Date: June 4th, 2025, 5:45 to 7:00 PM.

Organizers: Dr. Saiful Chowdhury, University of Texas at Arlington

This year, I, **Saiful Chowdhury**, organized the workshop for the Covalent Labeling and Cross-linking Interest Group at the ASMS conference. The theme for this year was **“Cutting-Edge Structural Proteomics and Interactome Analysis: Advances in Covalent Labeling, Crosslinking, and Emerging Technologies.”** We invited several prominent figures in the field to share insights on the latest developments and challenges.

The workshop drew an audience of approximately 150 participants. Each speaker delivered a short 5–7-minute talk, after which they joined the panel discussion. In addition, a few more experts were invited to serve as panelists. The panel discussion lasted about 40 minutes and generated lively engagement.

The agenda was as follows:

Presider:

Dr. Saiful Chowdhury (introduction to the speakers)

Speakers and Panelists:

- Dr. D Julia Chamot-Rooke, Mass Spectrometry for Biology Unit, Institut Pasteur, Paris (France) -Ensure Success in Your (*in vivo*) Cross-Linking Mass Spectrometry Experiments Before You Begin
- Dr. Clinton Yu/Dr. Lan Huang, UC Irvine - Trioxane-based MS-cleavable Cross-linking Mass Spectrometry for Profiling Multimeric Interactions of Cellular Networks
- Dr. Michael Hoopmann, University of Washington- Software Solutions for XL-MS.
- Dr. Erik Farquhar/Dr. Mark R. Chance- Footprinting: Progress and Challenges
- Dr. Fracis O'Reilly, National Cancer Institute- Talked about diazirine based crosslinking and AlphaFold modeling of structures

After the small talk sessions, the speakers formed a panel to answer questions from the audience. The presider provided a set of questions to guide the discussion, and all the speakers also served as panelists. Lisa Jones, Erik Farquhar, and Lan Huang joined the panel, and a few selected questions were addressed. The discussion turned out to be highly engaging. Three speakers focused on crosslinking, and one spoke about footprinting. Although several requests were made to include experts in covalent labeling, they were unable to attend. Nonetheless, one footprinting talk was given, and Prof. Lisa Jones participated in the panel. I also contributed by briefly discussing covalent probes.

The audience was so engaged that they wanted the discussion to continue, but we had to stop due to time constraints. One thing I noticed is that many attendees were early-career researchers eager to learn the basics—when I asked how many were new, a significant number raised their hands. This event clearly demonstrated strong interest in covalent labeling and crosslinking technologies among ASMS members. Several attendees even approached me afterward, expressing enthusiasm to learn more. It's evident that this workshop is effectively reaching and inspiring new researchers.