

# ASMS Undergraduate Research in MS Interest Group Report (12th Annual)

Minneapolis, MN

*Co-chairs: Dr. Matt Joyner (Pepperdine, not in attendance) and Dr. Brandie M Ehrmann (University of North Carolina at Chapel Hill)*

## Workshop

The Undergraduate Research in MS Interest Group focuses on mass spectrometry research and teaching pertaining to undergraduates and primarily undergraduate institutions (PUIs). The workshop this year, “Incorporating Hands-on Tutorials into Undergraduate Curriculum,” was held in-person on Monday, June 5th. We had five additional panelists join: Patrick Fedrick, Hannah M Brown, Nicolas Mauricio Morato Gutierrez, Mac Gilliland and Christine Hughey. There were approximately 12 attendees in the workshop (plus panelist). An informal conversation was started utilizing live polling of attendees to gauge their UG experience and expose to Mass Spectrometry. Pat Fedrick presented a successful case study of engaging UG interest in “real-world” uses of mass spectrometry and conveyed that it was important to “hook” the students with interesting topics such as pharmaceuticals, illicit drugs, beer, etc. While we are understanding that these topics can be highly controversial and not always acceptable, connection to them, is of high interest to undergraduates. Key takeaways in experimental design are for UG using MS are to be affordable (cheap), real-world applicable, and ideally multi-layered (or utilize multiple instruments (not necessary MS-based)) to develop a story or conclusion.

After the brief presentation, conversation in the room turned to funding opportunities in “teaching laboratories” for equipment to provide exposure to UGs more readily. Panelist and workshop attendees brainstormed ideas for how to encourage faculty and administration officials to see these endeavors as worthwhile even if instrument usage is low/minimal. Ideas offered were engaging pre-existing Cores to offer tours, facilitating connections with other institutions to either virtually offer services and/or examining external corporate resources for donations. Each of these ideas (and others) had pros and cons and limitations; however, virtual exposure and expectations are more mainstream.

Future chairs are encouraged to continue this discussion from different angles and explore how “experiment data sharing” between PUIs and R01s could facilitate UG exposure. A data repository for laboratories is a far-off goal, but a goal nonetheless for enabling UG exposure to data and data processing.

Some resources were shared with attendees via the ASMS app “discussion” feature for the workshop. These resources can be added to the pre-existing Slack channel.

## Undergraduate Poster Session

Utilizing Twitter and ASMS relevant hashtags, Dr Ehrmann was able to recruit 8 poster judges of varied background and MS skill set. Each judge was randomly assigned 3-4 posters to review. Sum total we had 27 posters finalized to enter the competition and a couple of these attendees did not display posters on Sunday night for unknown reasons. The competition was very tight with multiple students scoring near perfect scores. At the end of the night, the panel of judges met and gave the edge to poster presenters who had the best oral presentations. The panel issued 3 award winners and 3 honorable mentions. Dr Ehrmann plans to revise the scoring rubric to make poster evaluation more rigorous for the coming years.

## What to See and Do at ASMS 2022

Dr Ehrmann provided a welcome lecture aimed at first-time attendees and undergraduates on Sunday, June 5<sup>th</sup> in Ballroom A. Topics covered included

- health and safety at ASMS,
- local area attractions,
- ASMS conference overview,
  - Convention Center map,
  - Oral presentations
  - Poster presentations
  - Plenary and Award lectures
- UG poster presentations/competition,
- Tips and tricks to having a successful conference

## Meet the Experts

Dr Ehrmann was assisted in organization of “Expert” attendees by Jennifer Watson. A panel of approximately 10 experts (all 2022 ASMS award winners or plenary lecturers) we accompanied by approximately 40-50 undergraduates/first time attendees. J. Watson and Dr Ehrmann handed out lunch vouchers. Event seemed well attended and received by all attendees.

## Slack Channel

Under Dr. Chrisi Hughey, the UG Research in MS Interest Group started a Slack channel in 2019 in hopes of stirring up conversation outside of the national meeting. We currently have 49 members from different types of institutions and different parts of the world. Discussion remains sparse and future organizers should think of ways to engage the audience.

Link to the Slack group: <http://asmsugresearch-exx4211.slack.com>