

**POLYMERIC MATERIALS WORKSHOP - ON ZOOM**

ASMS  
June 1 - 12  
REBOOT  
2020

## Polymer Workshop - Final Report

*Workshop date:* Thursday, June 4<sup>th</sup> 2020  
*Workshop Room:* Virtual (Zoom)  
*Chair-elect:* Christina Mastromatteo (Lubrizol)    *Chair-elect:* Jessica Hoskins (Stepan)

*Goal of workshop:* Tutorial on an emerging topic  
IM-MS Applied to Polymeric Materials  
- followed by expert panel discussion

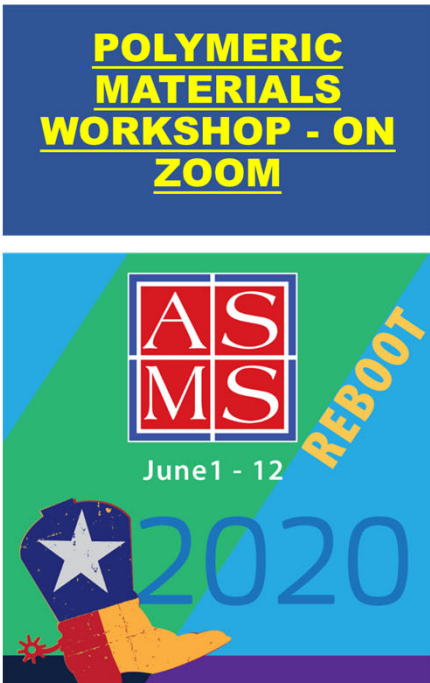
*Business:* New chair-elect vote – Dr. Thierry Fouquet  
Future workshop topics

*Attendance:* 60 attendees at max point, in addition to 6 presenters & 2 organizers  
Attendees rolled in and out of the room as topics began and ended.

*Workshop outcome:* Follow-up zoom discussion group  
*Discussion group meeting:* Friday, June 11<sup>th</sup> 2020  
*Attendance:* 25-30 attendees inclusive

*Respectfully submitted: Christina Mastromatteo; Jessica Hoskins: 2020*

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### ION MOBILITY MASS SPECTROMETRY APPLIED TO POLYMER ANALYSIS

**2020 WORKSHOP PRESENTATIONS:**

**Ion Mobility Spectrometry in the Toolbox of Mass Spectrometry Analyses of Polymers**  
Dr. Jean Haler:      *Luxembourg Institute of Science and Technology (LIST)*

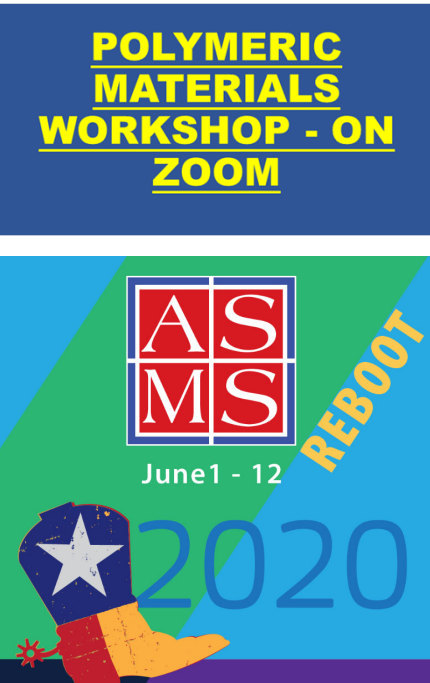
**MS and IM-MS an Approach to Characterizing Polyurethane Polyesters and Polyethers**  
Dr. Tiffany Crescentini:      *Air MI, Nike Inc.*

**2-D separation of a complex surfactant mixture by LC-IM and characterization by mass measurement and MS/MS**  
Mr. Jason O'Neill:      *University of Akron, Department of Chemistry*

**Q&A EXPERT PANEL:**  
Jean Haler  
Tiffany Crescentini  
Jason O'Neil  
Edwin De Pauw  
Chrys Wesdemiotis  
David Hercules

**Workshop Contacts:**  
[Christina.Mastromatteo@lubrizol.com](mailto:Christina.Mastromatteo@lubrizol.com)  
[Jessica.Hoskins@stepan.com](mailto:Jessica.Hoskins@stepan.com)

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*Future workshop topics proposed:*

- Analysis of high molecular weight polymers (>10kDa)
- Separation & MS analysis of complex polymers, including bio-based systems
- Analysis of additives in complex formulations

*SurveyMonkey questionnaire post Workshop:*

- Polymeric group members would like to meet more often virtually
- Discussion group format suggested: seminar and discussion

*Post-conference initiatives:*

- Use of ASMS Polymer Group Forum for communication
- Polymer Interest Group on LinkedIn being revived: (<https://www.linkedin.com/groups/4009861/>)
- Polymeric Materials Interest Group Logo developed by Thierry
- Contact list being updated based on this year's workshop attendance. Interested members of the Polymer community are asked to contact Jessica or Thierry to add their contact information

[Jessica Hoskins: JHoskins@stepan.com](mailto:JHoskins@stepan.com)  
[Thierry.Fouquet@aist.go.jp](mailto:Thierry.Fouquet@aist.go.jp)

*Respectfully submitted: Christina Mastromatteo; Jessica Hoskins: 2020*

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## Polymer Workshop - Final Report

*Our sincere thanks to everyone for joining us online and making the Polymeric Materials Interest Group Workshop & discussion session such a success this year!*

*Hope to see everyone online soon!*



ASMS polymeric materials interest group

*Respectfully submitted: Christina Mastromatteo; Jessica Hoskins: 2020*

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*Workshop date:* Thursday, June 4<sup>th</sup> 2020

*Workshop Room:* Virtual (Zoom)

*Chair:* Christina Mastromatteo (Lubrizol)

*Chair-elect:* Jessica Hoskins (Stepan)

*Goal of workshop:* Tutorial on an emerging topic

*Attendance:* 60 attendees at max point (additional 8 presenters). Attendees rolled in and out of the room as topics began and ended.

*Follow-up discussion group meeting (6/11/2020):* 25-30 attendees inclusive

This year's meeting focused on ion mobility mass spectrometry applied to polymer analysis and consisted of three distinct sections:

▪ *Tutorial Style Workshop Presentations:*

**Ion Mobility Spectrometry in the Toolbox of Mass Spectrometry Analyses of Polymers – Dr. Jean Haler**

(Luxembourg Institute of Science and Technology (LIST))

Jean provided the introduction to our workshop topic with a brief overview of fundamentals of ion mobility, IM-MS as applied to polymers, specific applications of this technique, and recent examples of new strategies for polymer analysis.

**MS and IMS-MS: An Approach to Characterizing Polyurethane Polyesters and Polyethers – Dr. Tiffany Crescentini**

(Air MI, Nike, Inc)

Tiffany's talk focused on application IMS-MS to the analysis of polyurethanes, including analysis of hard segments, soft segments, and intact monodisperse polyurethanes.

**2-D Separation of a Complex Surfactant Mixture by LC-IM and Characterization by Mass Measurement and MS/MS – My. Jason O'Neill**

(University of Akron, Department of Chemistry)

Finally Jason finished our tutorial section with an overview of his work utilizing IM in combination with LC and MS/MS to understand the structure of complex industrial surfactants.

▪ *Q&A discussion with Expert Panel*

After the tutorial talks concluded, the expert panelists addressed questions about the presentations and more general questions on the topic of ion mobility of polymers. Based on the questions received and subsequent discussion, this topic seemed to be well-received by the polymer community.

Expert Panelists:

Dr. Jean Haler- Luxembourg Institute of Science and Technology

Dr. Tiffany Crescentini- Air MI, Nike, Inc.

Mr. Jason O'Neil- University of Akron

Dr. Edwin De Pauw – University of Liège

Dr. Chrys Wesdemiotis- University of Akron

Dr. David Hercules- Vanderbilt University

▪ Interest Group Business

The final ten minutes of the workshop were devoted to interest group business.

- Christina Mastromatteo concluded her two year term serving as Chair of the Polymer Workshop. Chair-elect, Jessica Hoskins, rose to the position of Chair for 2021-2022. Thank you, Christina, for your service to the polymer community!
- Thierry Fouquet was presented to the group as a volunteer to serve as incoming Chair-Elect and this nomination was approved by attendees. Thierry will serve as Chair-Elect in 2021-2022 and Chair in 2023-2024.
- Potential topics for future polymer workshops were discussed. Ideas mentioned include:
  - Analysis of high molecular weight polymers
  - Computational tools for polymer analysis
  - Additives or low molecular weight polymers in larger polymer systems
  - Polymers as contaminants (e.g. PFOAs)
- Finally, the community decided to meet virtually the following week, after the Polymer Watch Party, to informally continue the polymer discussion. This meeting was scheduled for Friday, June 12 and approximately 20 members of the community participated in the two hour open discussion. The group found this interactive format to be an enjoyable supplement to the ASMS virtual program.

Suggested improvements for future years:

We would be remiss if we didn't first thank the ASMS leadership for the tremendous effort that went into converting the conference to an entirely virtual format in 2020 due to the ongoing pandemic that rendered travel and large gatherings unsafe for us all. We greatly appreciate the opportunity to connect and continue to learn from one another during this time of uncertainty.

- Should a virtual or blended format continue in future years, it would be valuable to provide additional options to organizers to allow workshop attendees to speak. We had difficulty promoting non-panelist attendees who wished to clarify their questions, and as a smaller interest group we missed the highly interactive conversation that workshops typically provide.