Julia Laskin, Ph.D.

Curriculum Vitae

William F. and Patty J. Miller Professor of Analytical Chemistry
Department of Chemistry
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EDUCATION

M.S. 1990 from Leningrad Polytechnic Institute, Russia
Ph.D 1998 from the Hebrew University of Jerusalem, Israel.

RESEARCH INTERESTS

My research is focused on obtaining a fundamental understanding of the physical and chemical phenomena underlying chemical analysis of complex molecules in complex mixtures. One area of research is focused on understanding interactions between ions and surfaces for controlling activation, dissociation and deposition of complex ions following collisions with specially prepared surfaces. To achieve this goal, we have developed unique mass spectrometry instrumentation for studying physical and chemical phenomena underlying ion-surface collisions. Our studies provide important information for understanding molecular recognition, charge transfer, nucleation, and self-assembly in complex systems. Soft and reactive landing are promising approaches for highly selective surface modification, preparation of novel catalysts, supercapacitors, and biomaterials. Another area of research is focused on the development of new approaches for chemical analysis in complex heterogeneous environments. Specifically, we are developing nanospray desorption electrospray ionization (nano-DESI) – a new ambient surface ionization technique for chemical imaging of biological systems in their native state and quantitative analysis of complex mixtures such as organic aerosols, petroleum, and biofuels directly from solid substrates. We have also developed new tools for the analysis of complex spectra obtained using high-resolution mass spectrometry. These tools have been used for understanding chemical transformations in organic aerosols providing insights on the relationship between the chemical composition of these complex systems and their possible effect on climate and human health. Finally, nano-DESI imaging has been established as a robust analytical tool for the simultaneous detection and spatial localization of hundreds of lipids and metabolites thereby providing detailed molecular snapshots of the biological processes in tissues and imaging of living microbial and yeast colonies.

ACADEMIC EXPERIENCE

1993-1997	Teaching Assistant, Physical chemistry laboratory for undergraduate students, the Hebrew University of Jerusalem.

APPOINTMENTS

2017-present	William F. and Patty J. Miller Professor of Analytical Chemistry, Purdue University
2011-2017	Laboratory Fellow, Pacific Northwest National Laboratory
2008-2011	Chief Scientist, Pacific Northwest National Laboratory

2004-2007	Senior Research Scientist, Pacific Northwest National Laboratory
2002-2004	Research Scientist, Pacific Northwest National Laboratory
1998-2002	Postdoctoral Research Associate with Professor Jean Futrell at the University of Delaware and Pacific Northwest National Laboratory.
1992-1998	Research Assistant with Professor Chava Lifshitz at the Hebrew University of Jerusalem.

HONORS AND AWARDS

Medal of the Russian Society for Mass Spectrometry, 2017
William F. and Patty J. Miller Professorship, Purdue University, 2017
PNNL Director's Science and Engineering Achievement Award, 2014
Wiley Research Fellow, EMSL, 2013
Inaugural Rising Star Award of the ACS Women Chemists Committee, 2011
Focus issue of the Journal of the American Society for Mass Spectrometry, 2009
Biemann Medal - American Society for Mass Spectrometry , 2008
DOE's Office of Science outstanding mentor award, 2008
Presidential Early Career Award (PECASE), 2007
DOE's Office of Science Early Career Scientist and Engineer Award, 2007
Marquis Who's Who in Science and Engineering, 2006-2007
M.T. Thomas award for outstanding postdoctoral achievement, 2002
17th edition of Who's Who in the World, 2000
Award of the Farkas Center for Light Induced Processes, The Hebrew University of Jerusalem, 1997
Excellence Award of the Israel Chemical Society, 1996
Sara Wolf Foundation Award in Physical Chemistry**,** The Hebrew University of Jerusalem, 1995

PROFFESSIONAL ACTIVITIES

Editorial Board, C&E News, 2018-present
Associate Editor, International Journal of Mass Spectrometry, 2017-present
Panel co-chair, DOE/BES workshop on Basic Research Needs for Synthesis Science for Energy Relevant Technology, May 2-4, 2016, Rockville, Maryland
NSF Committee of Visitors Panel, 2016
NSF Review Panels, 2014, 2016
Gordon Research Conference "Gaseous Ions: Structures, Energetics & Reactions", Vice Chair, 2015; Chair, 2017.
ACS Publications Committee, 2014-present
ASMS, Nominating Committee, 2012-13
DOE's Presidential Early Career Award Committee, 2011
Editorial Board, Journal of the American Society for Mass Spectrometry, 2011-2016
Advisory Board, Analyst, 2008-2015
Editorial Board, Analyst, 2016-present
Editorial Advisory Board, Mass Spectrometry Reviews, 2017-present
Editorial Board, Russian Mass Spectrometry Journal, 2012-present
Editorial Board, Frontiers in Microbiological Chemistry, 2011-present
Editorial Board, Advanced Structural and Chemical Imaging, 2014-present
American Society for Mass Spectrometry, Board of Directors, Treasurer, 2006-2008
Editor of a book "Principles of Mass Spectrometry Applied to Biomolecules" for John Wiley & Sons, 2006

Invited editor of a special issue of the Journal of Physical Chemistry A in memory of Prof. Chava Lifshitz, 2006
Reviewer for Journal of the American Chemical Society, Analytical Chemistry, Analyst, Analytica Chimica Acta, Journal of Physical Chemistry, Journal of the American Society for Mass Spectrometry, International Journal of Mass Spectrometry, Physical Chemistry Chemical Physics, and other.

PROFESSIONAL SOCIETIES
American Society for Mass Spectrometry, American Chemical Society, American Vacuum Society, American Association for the Advancement of Science.

MENTORING
Graduate Students: Hilary Brown (2017-present), Pei Su (2017-present), Daniela Mesa Sanchez (2017-present), Daisy Unsihuay (2017-present), Hang Hu (2017-present)
Postdoctoral fellows: Omar Hadjar (2005-2008), Peng Wang (2005-2008), Zhibo Yang (2005-2008), Qichi Hu (2009-2011), Grant Johnson (2009-2012), Patrick Roach (2009-2011), Ingela Lanekoff (2011-2014), Don Gunaratne (2012-2015), Dan Du (2012-2013), Venkateshkumar Prabhakaran (2014-2017), Peng Lin (2014-present), Marshall Ligare (2015-2017), Son Nguyen (2015-2017), Ruichuan Yin (2016-present), Jonas Warneke (2016-present).
Undergraduate students: John Hache (2001), Jeffrey Smith (2007), Olga Laskina (2008), Alexandra Chang Graham (2009), Michael Lysonski (2009), Ivy Fortmeyer (2010), Peter Eckert (2010, 2011), Thomas Priest (2011, 2012), Brandi Heath (2011), Josh Short (2011, 2012), Naila Al Hasan (2012), Evelyn Maris (2012), Astrid Olivarez (2013, 2014), Tram Ahn Pham (2013), David Kalb (2015), Mary King (2016), Zachary Norberg (2016), Joelle Romo (2017), Kyle George (2017).
Postbachelor fellows: Brandi Heath (2011-2013), Josh Short (2012-2013)
Graduate students and postdoctoral fellows participating in collaborative projects (2000-2017)

COLLABORATIONS:

Soft landing of complex ions on self-assembled monolayer surfaces (with Graham Cooks –Purdue, Wen Ping Peng – U of Taiwan); dynamics of ion-surface collisions (with Bill Hase – Texas Tech University); energetics and dynamics of peptide fragmentation and studies of new particle formation in the atmosphere (with Murray Johnston – U Delaware, Douglas Ridge – U Delaware); mechanisms of fragmentation of post translationally modified peptides (with Richard O'Hair – U Melbourn); energetics of dissociation of peptide radical cations (with Ivan Chu – Hong-Kong U, Michael Siu and Alan Hopkinson – York U); chemical and physical properties of other secondary organic aerosols (with Sergey Nizkorodov – UC Irvine, Alex Laskin –EMSL, Pierre Baldi – UC Irvine, Allen Goldstein – UC Berkeley, Lynn Russell – UC San Diego, Yinon Rudich – Weizmann Institute of Science, Rainer Volkamer – U Colorado, Kerry Pratt – U Michigan, Xin Yang – Fudan U, Robert Yokelson – U Montana, John Shilling, Shawn Kathmann – PNNL); relative stability of non-covalent biomolecular complexes (with Amina Woods – NIH); development of new tools for coupling electrochemistry with mass spectrometry (with Hao Chen – Ohio University; chemical analysis of living microbial communities (with Pieter Dorrestein – UCSD, Wenying Shou – Fred Hutchinson Research Center, Theodore – Alexandrov U Bremen, Allan Konopka, Jim Fredrickson, and Matt Marshall – PNNL; mass spectrometry imaging of biological tissues (with Susan Stevens and Mary Stenzel-Poore – OHSU, S. K. Dey – Cincinnati Children's Hospital Medical Center, John Semmes – East Virginia Medical School, Kristin

Burnum-Johnson, Chuck Timchalk, Charles Ansong, Rick Corley – PNNL); development of a multimodal imaging capability (with Patrick El Khoury, Galya Orr, Crister Jansson – PNNL).

RESEARCH SUPPORT

Current Projects

NIH 1U01HL122703-01 "Research Center for Spatiotemporal Lung Imaging and Omics", 4/18/2014 – 3/31/2019, R. Corley (PI), J. Laskin (participant), $607k average annual direct cost.

NOAA Office of Climate and Global Change, "Studies of Atmospheric Brown Carbon Chemistry in Support of the FIREX Campaign", 8/1/2016 – 7/31/2019, A. Laskin (PI), J. Laskin (co-PI), $120k annual cost.

NIH UC4 DK10810 "Single Cell Resolution Omics Analysis of T1D islets", 09/22/2015 – 9/23/2019, C. Ansong (PI), J. Laskin (co-PI), $516k average annual direct cost.

NIH R21 HD084788 "Pan-omic characterization of the molecular determinants of uterine receptivity", 9/13/2016 – 7/31/2018, K. Burnum-Johnson (PI), J. Laskin (co-PI), $277k total direct costs.

Completed Projects

DOE BES, "Chemical Analysis", 10/01/99-8/14/2017, J. Laskin (PI), $1,080K/ year, time commitment 0.45 FTE.

DOE OBER "W. R. Wiley Environmental Molecular Sciences Laboratory Operations", period covered 10/1/95 to ongoing, A.A. Campbell (PI), $34M/year, time commitment of 0.45 FTE.

NIH 1R21ES02422901, "Mass spectrometry imaging: Linking neurodegeneration with environmental exposure", 09/11/2014 – 09/30/2017, J. Laskin (PI), $429k total direct cost.NOAA Office of Climate and Global Change, "Combined Laboratory and Field Characterization of Nitrogen-Containing Light-Absorbing Organic Compounds", 8/1/2013 – 7/31/2016, A. Laskin (PI), J. Laskin (co-PI),$121k annual cost.

PNNL LDRD, "Understanding Cellular Communication and Controlling Directional Flow of Nutrients", 10/01/2014 - 9/31/2016, J. Laskin (PI), $200K/year.

DOE Small Business Technology Transfer (STTR) Program, "Improved Ambient Ionization Source for Mass Spectrometry", 2/18/2014 – 4/1/2015, G. Moskovets (PI), J. Laskin (consultant), $12k to PNNL.

NSF via CRDF "Nanocatalyst-assisted Pyrolysis for Biofuel Production", 12/4/2013 – 12/31/2015, T. Kulyk (PI), J. Laskin (co-PI), $16k to PNNL.

PNNL LDRD, "Predicting the Response of Complex Biological Systems", 10/1/2013-9/30/2014, J. Laskin (PI), $50k.

PNNL LDRD program, "Development of New Soft Ionization Mass Spectrometry Approaches for Spatial Imaging of Complex Chemical and Biological Systems", 10/01/2011 - 9/31/2013, J. Laskin (PI), $280K/year.

DOE-BES, "Mass Spectrometry for Operando Catalysis Research (PECASE award)", 2/14/2007 - 9/30/2012, J. Laskin (PI), $50K/year.

PNNL Research & Development “Surface-Induced Dissociation on a Thermo LTQ/Orbitrap Instrument”, 3/30/2009 - 3/31/2010, J. Laskin (PI), $95K

PNNL LDRD program, “Preparation and Characterization of Peptide Arrays Using Soft Landing”,10/01/05 - 9/31/08, J. Laskin (PI), $120K/year.

INVITED PRESENTATIONS:

1. Laskin J, Bailey T, Futrell JH. “Shattering of Peptide Ions on Surfaces.” 224th Conference of the American Chemical Society, Boston, MT, August 2002
2. Laskin J. “Collisional Activation of Peptide Ions”. 15th Sanibel Conference on Mass Spectrometry, Sanibel Island, FL, January 2003
3. Laskin J. “Activation and Dissociation of Large Molecules in the Gas Phase”. *M.T. Thomas Award presentation, PNNL, June 2003*
4. Laskin J “Interaction of Peptide Ions with Self-assembled Monolayer Surfaces”, The Hebrew University of Jerusalem, Israel, April, 2005
5. Laskin J, Futrell JH. “Entropy effects in the gas phase dissociation of peptides and proteins”. EURESCO Conference "Molecules of Biological Interest in the Gas Phase", Exeter, UK, April 2004
6. Laskin J, Hadjar O, Wang P, Futrell JH, Alvarez J, Green J, Cooks RG. “Interaction of hyperthermal peptide ions with self-assembled monolayer surfaces”, 16th International Workshop on Inelastic Ion-Surface Collisions (IISC-16), Schloss Hernstein, Austria, September, 2006
7. Laskin J, Chu IK. “The Energetics and Dynamics of Dissociation of Odd-Electron Peptide Ions”, Asilomar Conference on Mass Spectrometry, Pacific Grove, CA, October, 2006
8. Laskin J, Yang Z, Lam C, Chu IK. “Formation and Dissociation of Peptide Radical Cations”, 4th International UPPCON Conference on ECD/ETD Mass Spectrometry, Hong Kong, China, December, 2006
9. Laskin J, Yang Z, Lam C, Chu IK. “Surface-Induced Dissociation of Even- and Odd-Electron Peptide Ions”, Gordon Research Conference “ Gaseous Ions: Structure, Energetics, and Reactions” Ventura, CA, February 2007
10. Wang P, Hadjar O and Laskin J “Surface Modification Using Reactive Landing of Peptides onto Self-Assembled Monolayer Surfaces”, Invited Talk, "From Dynamics to Proteins by Mass Spectrometry: A Symposium Honoring Jean Futrell" 234th ACS meeting Boston, August 2007
11. Laskin J, Wang P, Hadjar O, Futrell JH, Alvarez J, Cooks RG. "Soft-Landing of Large Ions on Self-Assembled Monolayer Surfaces." Presented by Julia Laskin (Invited Speaker) at 18th International Conference on Ion Surface Interactions ISI-2007, Zvenigorod, Russian Federation, August 24-29, 2007
12. Laskin J, Hadjar O, Yang Z, Futrell JH, Alvarez J, Cooks RG. "Ion-Surface Collisions in FT-ICR Mass Spectrometry." International FT-ICR Meeting, Moscow, Russian Federation, August 2007.
13. Laskin J. "Ion-Surface Collisions in FT-ICR Mass Spectrometry." Centre for Research in Mass Spectrometry, Toronto, ON, Canada, January 2008.
14. Laskin J. "Collisions of Large Ions with Self-Assembled Monolayer Surfaces." University of Toronto, Toronto, ON, Canada, January 2008.
15. Laskin J. "Formation and Dissociation of Odd-Electron Peptide Ions." York University, Toronto, ON, Canada, January 2008.

16. Laskin J. "Soft-Landing of Mass-Selected Ions on Surfaces: A Tool for Studying Reactions at Interfaces." AirUCI Annual Workshop, Irvine, CA January 2008
17. "Interaction of Large Ions with Surfaces: Activation, Dissociation, and Soft Landing." PECASE award lecture, Pacific Northwest National Laboratory on February, 2008.
18. Laskin J. "Ion-Surface Collisions in Mass Spectrometry." Invited tutorial lecture, American Society for Mass Spectrometry Conference (ASMS), Denver, CO, June 2008.
19. Laskin J. "Interactions of Ions with Surfaces." Biemann award lecture, American Society for Mass Spectrometry Conference (ASMS), Denver, CO, June 2008.
20. Laskin J. 2008. "Ion-Surface Collisions in FT-ICR Mass Spectrometry." Presented by Julia Laskin (Invited Speaker) at Centre for Research in Mass Spectrometry, Toronto, ON, Canada on January 9, 2008
21. Laskin J. 2008. "Collisions of Large Ions with Self-Assembled Monolayer Surfaces." Presented by Julia Laskin (Invited Speaker) at Toronto University, Toronto, ON, Canada on January 11, 2008
22. Laskin J. 2008. "Formation and Dissociation of Odd-Electron Peptide Ions." Presented by Julia Laskin (Invited Speaker) at York University, Toronto, ON, Canada on January 10, 2008.
23. Laskin J. 2008. "Soft-Landing of Mass-Selected Ions on Surfaces: A Tool for Studying Reactions at Interfaces." Presented by Julia Laskin (Invited Speaker) at AirUCI Annual Workshop, Irvine, CA on January 23, 2008
24. Dessiaterik Y, J Laskin, A Laskin, ML Walser, and S Nizkorodov. "High-Resolution Mass Spectrometric Analysis of Oligomers Formed in Ozonation of Selected Monoterpenes." Presented by Yury Dessiaterik at AGU Annual Conference, San Francisco, CA on December 13, 2007.Laskin J. 2008.
25. "Interaction of Large Ions with Surfaces: Activation, Dissociation, and Soft Landing." PECASE award lecture presented by Julia Laskin (Invited Speaker) at Pacific Northwest National Laboratory on February 1, 2008.
26. Laskin J. "Ion-Surface Collisions in Mass Spectrometry." Invited tutorial lecture presented by Julia Laskin (Invited Speaker) at American Society for Mass Spectrometry Conference (ASMS), Denver, CO on June 2, 2008.
27. Laskin J. "Interactions of Ions with Surfaces." Biemann award plenary lecture presented by Julia Laskin (Invited Speaker) at American Society for Mass Spectrometry Conference (ASMS), Denver, CO on June 4, 2008.
28. Laskin J., Hadjar O., Wang P. “Modification of Self-Assembled Monolayer Surfaces Using Hyperthemal Ion Beams”, Presented by Julia Laskin (Invited Speaker) at National AVS Meeting, Boston, MT on October 21, 2008
29. Laskin J. "Ion-Surface Collisions in Mass Spectrometry." Invited seminar presented by Julia Laskin at the University of Delaware, February 8, 2009
30. Laskin J. "Soft- and Reactive Landing of Biomolecular Ions on Surfaces." Invited talk presented by Julia Laskin at the Desorption Induced by Electronic Transitions (DIET XII) workshop, Pine Mountain, ID, April 2009
31. Laskin J. “Energetics and Dynamics of Peptide Fragmentation from Surface-Induced Dissociation Studies”, Invited talk presented by Julia Laskin at the Peptide Fragmentation

Workshop, 18th International Mass Spectrometry Conference, Bremen, Germany. August 29, 2009

32. Laskin J, P Wang, O Hadjar, and Q Hu. 2009. "Soft-Landing of Complex Ions on Surfaces." Invited talk presented by Julia Laskin at the 18th International Mass Spectrometry Conference, Bremen, Germany. August 30- September 4, 2009
33. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2009. "Soft-landing of Complex Ions onto Self-Assembled Monolayer Surfaces." Plenary Lecture presented by J. Laskin at the 43rd Annual Meeting of German Society for Mass Spectometry, Halle / Saale, Germany, March 2010
34. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2010. "Selective Deposition of Complex Ions onto Self-Assembled Monolayer Surfaces Using Soft- and Reactive-Landing." Invited talk presented by J. Laskin at the Max Planck Institute, Suttgart, Germany.
35. Laskin J. 2010. "Energetics of Gas Phase Dissociation of Large Molecules from Surface Induced Dissociation Studies in FT ICR MS." Invited talk presented by J. Laskin at the 9th European FTMS Workshop, Lausanne, Switzerland, April 2010.
36. Laskin J, Z Yang, C Lam, and IK Chu. 2010. "The Energetics and Dynamics of Dissociation of Peptide Radical Anions." Invited talk presented by J. Laskin at the Fall 2010 ACS National Exposition, Boston, MA, August 2010
37. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2010. "Soft-landing of Complex Ions on Surfaces." Invited seminar presented by J. Laskin at the Hebrew University of Jerusalem, Jerusalem, Israel, October 2010
38. Laskin J, O Hadjar, P Wang, Q Hu, and GE Johnson. 2010. "Selective Deposition of Complex Ions onto Self-Assembled Monolayer Surfaces Using Soft- and Reactive-Landing." Invited seminar presented by J. Laskin at the Weizzmann Institute Seminar, Rehovot, Israel, October 2010.
39. Laskin J. 2010. "Ion-Surface Collisions in Mass Spectrometry." Invited talk presented by J. Laskin at the 1st Middle Eastern and Mediterranean Sea Region Countries Mass Spectrometry Workshop, Rehovot, Israel, October 2010.
40. Laskin J. “Ion-Surface Collisions in Mass Spectrometry.” Invited seminar presented by J. Laskin at Wayne State University, April 19, 2011.
41. Laskin J. 2011. “Secondary Ion Mass Spectrometry in FT-ICR: A New Tool for Studying Soft-Landing of Mass-Selected Ions”, Invited talk presented by J. Laskin at the 8th North American FTMS Conference, Key West, FL, May 2011
42. Laskin J. 2011.” Collisions of Biomolecules with Surfaces: Activation, Dissociation and Deposition.” ." Invited talk presented by J. Laskin at the Gordon Research Conference, Biological Molecules in the Gas Phase & in Solution, Andover, NH, August 3, 2011
43. Laskin J, Hu Q, Johnson GE, Wang P, Hadjar O. 2011. “Preparation of Novel Materials Using Soft- and Reactive Landing of Mass-Selected Ions”, Invited talk presented by J. Laskin at the ACS symposium honoring the 100th Year Anniversary of Marie Curie’s Nobel Prize, August 27, 2011
44. Laskin J. 2011. “Preparation of Novel Materials Using Soft- and Reactive Landing of Mass-Selected Ions.” Invited seminar presented by J. Laskin at the University of Florida, September 20, 2011

45. Laskin J. 2011. “Ion-Surface Collisions for Studying Interactions of Biomolecules with Surfaces.” Department seminar presented by Julia Laskin (Invited Speaker) at the Max Planck Institute for Biophysical Chemistry, November 8, 2011

46. Laskin J, T Song, PW Kong, and IK Chu. 2012. "Energetics, Dynamics and Mechanisms of Dissociation of Peptide Radical Cations." Presented by Julia Laskin (Invited Speaker) at Pittcon Conference and Expo 2012, March 11-15, 2012, Orlando, GA.

47. Laskin J, BS Heath, IT Lanekoff, PJ Roach, JD Watrous, and PC Dorrestein. 2011. "Chemical Imaging of Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Presented by Julia Laskin (Invited Speaker) at the WCC Rising Star Award Symposium at the American Chemical Society (ACS) Spring 2012 National Meeting & Exposition, March 25-29, 2012, San Diego, CA.

48. Laskin J, BS Heath, IT Lanekoff, and PJ Roach. 2012. "Spatial Profiling and Imaging of Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Invited talk presented by Julia Laskin at the European FTMS Workshop, Warwick, United Kingdom. April 1-5, 2012

49. Laskin J, BS Heath, IT Lanekoff, PA Eckert, PJ Roach, M Thomas, JP Carson, and A Laskin. 2012. "Chemical Imaging and Analysis Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Invited talk presented by Julia Laskin at the FCSD Directorate Advisory Committee Meeting Poster session, Richland, WA on June 12, 2012.

50. Laskin J. 2012. "Ion-Surface Collisions in Mass Spectrometry: Activation, Dissociation and Soft-Landing ." Keynote lecture presented by Julia Laskin at the 19th International Mass Spectrometry Conference IMSC2012, Kyoto, Japan. September 15-21, 2012.

51. Laskin J. 2012. "Preparatory Mass Spectrometry – an Emerging Tool for Controlled Preparation of Novel Materials." Invited plenary lecture presented by Julia Laskin at the 24th meeting of the Australian and New Zealand Society for Mass Spectrometry, February 2-6, Melbourne, Australia.

52. Laskin J, Johnson GE, Priest TA. 2013. "Large Metal and Metal-Oxide Clusters in the Gas Phase and on Surfaces." Invited talk presented by Julia Laskin at a Gordon Research Conference on Gaseous Ions: Structures, Energetics & Reactions, February 24 - March 1, 2013, Galveston, TX.

53. Laskin J, IT Lanekoff, BS Heath, M Thomas, and JP Carson. 2013. "Ambient Imaging Using Nanospray Desorption Electrospray Ionization Mass Spectrometry." Invited talk presented by Julia Laskin at the 2013 Pittcon Conference and Expo, March 16-21, 2013, Philadelphia, PA.

54. Laskin J, GE Johnson, KDD Gunaratne, and Q Hu. 2013. "Soft- and Reactive-Landing of Complex Ions on Surfaces." Presented by Julia Laskin (Invited Speaker) at the ACS National meeting and exposition, April 7-11, 2013, New Orleans, LA.

55. Laskin J, IT Lanekoff, BS Heath, M Thomas, and JP Carson. 2013. "Ambient Imaging Using Nanospray Desorption Electrospray Ionization ." Presented by Julia Laskin (Invited Speaker) at the InnMassSpec 2013 Conference, July, 14-18, 2013, Saint Petersburg, Russian Federation.

56. Laskin J, A Laskin, S Nizkorodov, and IT Lanekoff. 2013. "Reactive Nanospray Desorption Electrospray Ionization Mass Spectrometry for Quantitative Analysis and Imaging of

Complex Samples." Presented by Julia Laskin (Invited Speaker) at the 246th ACS National Meeting & Exposition, Indianapolis, IN, September 8-12, 2013.

57. Laskin J, GE Johnson, and KDD Gunaratne. 2013. "Ion Soft-Landing – a Unique Tool for Controlled Preparation of Nanomaterials." Presented by Julia Laskin (Invited Speaker) at Symposium on Bimetallic Complexes, Karlsruhe, Germany on September 24, 2013.

58. Laskin J. 2014. “Activation and Dissociation of Non-covalent Complexes Using Ion-Surface Collisions”, Presented by Julia Laskin (Invited Speaker) at the 26th Sanibel Conference of Mass Spectrometry, Clearwater Beach, FL, January 30 - February 2, 2014

59. Laskin J. 2014. “Ion-Surface Collisions in Mass Spectrometry: Activation, Dissociation and Soft-Landing”. Invited seminar presented by Julia Laskin at Purdue University, West Lafayette, IN, April 16, 2014.

60. Laskin J. 2014. “New Developments in Preparative and Imaging Mass Spectrometry”. Invited seminar presented by Julia Laskin at University of Indiana, Bloomington, IN. October 14, 2014.

61. Laskin J. 2015. “Energetics and Kinetics of Peptide Fragmentation Using Surface-Induced Dissociation”, Mesilla Chemistry Workshop, Mesilla, NM. February 7-10, 2015.

62. Laskin J, Johnson GE, Priest T, Olivarez A. 2015. “Stability of Phosphine-Ligated Gold Cluster Ions toward Dissociation: Effect of Ligand and Cluster Size”, American Physical Society Meeting, San Antonio, TX. March 2-6, 2015

63. Laskin J. 2015. “Preparatory Mass Spectrometry – an Emerging Tool for Controlled Preparation of Novel Materials.” Invited seminar presented by Julia Laskin at Ohio State University, Columbus, OH, April 13, 2015.

64. Laskin J. 2015. “New Developments in Preparative and Imaging Mass Spectrometry”. Invited seminar presented by Julia Laskin at Ohio University. April 14, 2015.

65. Laskin J. 2015. “Controlled Preparation of Novel Materials Using Ion Soft-Landing”. Presented by Julia Laskin (Invited Speaker) at the Bright Ion Source Workshop, Richland, WA. August 4, 2015.

66. Laskin J. 2015. "Nanospray desorption electrospray ionization (nano-DESI) imaging of biological systems." Presented by Julia Laskin (Invited Speaker) at the Theo Murphy scientific meeting, Kavli Royal Society, Buckinghamshire, United Kingdom. November 20-23, 2015.

67. Laskin J, Lanekoff I, Thomas M. 2015. “Tandem Mass Spectrometry Imaging of Lipids and Metabolites in Tissue Sections.” Presented by Julia Laskin (Invited Speaker) at Pacifichem, Honolulu, HI. December 15-20, 2015.

68. Laskin J, Lanekoff I, Nguyen S. 2016. “Nanospray desorption electrospray ionization (nano-DESI) imaging of biological systems.” Presented by Julia Laskin (Invited Speaker) at a Workshop on Emerging Technologies to Study the Human Pancreas and Islet: from the Whole Organ to a Single Cell, Miami, FL. February 21, 2016.

69. Laskin J, Johnson GE, Prabhakaran V. 2016. “Soft-Landing of Mass-Selected Cluster Ions for Studies in Catalysis and Energy Storage.” Presented by Julia Laskin (Invited Speaker) at the Cluster Surface Interaction Workshop, Argonne National Laboratory. May 31-June 3, 2016.

70. Laskin J, Lanekoff I. 2016. “Quantification and Matrix Effects in Mass Spectrometry Imaging.” Presented by Julia Laskin (Invited Speaker) at a Gordon Research Conference: Molecular Structure Elucidation, Mount Snow, VT. August 14-19, 2016.

71. Laskin J. 2016. “Nanospray desorption electrospray ionization (nano-DESI) imaging of biological systems.” Presented by Julia Laskin (Invited Speaker) at the 21st International Mass Spectrometry Conference, Toronto, Canada. August 20-26, 2016.

72. Laskin J. 2016. “New Approaches for Imaging Biological Systems Using Nanospray Desorption Electrospray Ionization Mass Spectrometry.” Presented by Julia Laskin (Invited Speaker) at ASMS Asilomar Conference, Pacific Grove, CA, October 14-18, 2016.

73. Laskin J. 2016. “Nanospray Desorption Electrospray Ionization (nano-DESI) Imaging of Biological Systems.” Presented by Julia Laskin (Invited Speaker) at Merck, Rahway, NJ, on November 9, 2016.

74. Laskin J., S Nguyen, V Prabhakaran, A Liyu, R Yin, P El Khoury. 2017. “New Approaches for Multimodal Ambient Imaging of Biological Samples.” Presented by Julia Laskin (Invited Speaker) at PITTCON, Chicago, IL, March 5-9, 2017.

75. Laskin J., S Nguyen, V Prabhakaran, A Liyu, R Yin, P El Khoury. 2017. “Towards Coupling Mass Spectrometry and Electrochemical Microscopy for Imaging of Live Biological Systems.” Presented by Julia Laskin (Invited Speaker) at PITTCON, Chicago, IL, March 5-9, 2017.

76. Laskin J. 2017. “Soft-Landing of Mass Selected Ions for Studies in Materials Synthesis, Energy Storage, and Catalysis”. Invited seminar presented by J. Laskin at Texas Tech, May 4, 2017.

77. Laskin J. 2017. “New Developments in Preparative and Imaging Mass Spectrometry”. Invited seminar presented by J. Laskin at Indiana University Purdue University (IUPUI), Indianapolis, September 19, 2017.

78. Laskin J. 2017. “New Developments in Preparative and Imaging Mass Spectrometry”. Invited seminar presented by J. Laskin at St. Olaf College, Northfield, MN, September 22, 2017.

79. Laskin J. 2017. “New Developments in Preparative and Imaging Mass Spectrometry”. Presented by J. Laskin (Invited Speaker) at the Russian Mass Spectrometry Conference, Moscow, Russia, October 9-12, 2017.

80. Laskin J, S Nguyen, V Prabhakaran, A Liyu, R Yin, P El Khoury. 2017. “New Approaches for Multimodal Ambient Imaging of Biological Samples.” Presented by Julia Laskin (Invited Speaker) at the Imaging Mass Spectrometry Conference, Boston, MA, October 15-18, 2017.

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