
Alicia L. Richards

University of Wisconsin-Madison
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EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Wayne State University, Detroit, MI	B.S.	2007-2010	Chemistry
University of Wisconsin-Madison, Madison, WI	Ph. D. student	2011-present	Analytical Chemistry

A. Honors

2007-2010 Dean's List, Wayne State University

2010 Undergraduate Research Grant, Wayne State University

2010 Wiley Award in Advanced Organic Chemistry, Wayne State University

2010 American Chemical Society Division of Analytical Chemistry Award, Wayne State University

2010 Best Oral Presentation – Wayne State University Undergraduate Research Conference

2011 Best Undergraduate Poster – 59th ASMS Conference on Mass Spectrometry

2012 ABRF NSF Student Travel Award

B. Publications

- (1) Inutan ED, **Richards AL**, Wager-Miller J, Mackie K, McEwen CN, Trimpin S. Laserspray Ionization- A New Method for Protein Analysis Directly from Tissue at Atmospheric Pressure and with Ultra-high Mass Resolution and Electron Transfer Dissociation Sequencing. *Molecular & Cellular Proteomics*. **2011**, 10, 1-8.
- (2) **Richards AL**, Marshall DD, Inutan ED, McEwen CN, Trimpin S. High Throughput Analysis of Peptides and Proteins by Laserspray Ionization Mass Spectrometry. *Rapid Communications in Mass Spectrometry*. **2011**, 25, 247-250.
- (3) **Richards AL**, Lietz CB, Wager-Miller J, Mackie K, Trimpin S. Imaging Mass Spectrometry in Transmission Geometry. *Rapid Communications in Mass Spectrometry*. **2011**, 25, 815-829.
- (4) Trimpin S, Ren Y, Wang B, Lietz CB, **Richards AL**, Marshall DD, Inutan ED. Extending the Laserspray Ionization Concept to Produce Highly Charged Ions at High Vacuum on a Time-of-Flight Mass Analyzer. *Analytical Chemistry*. **2011**, 83, 5469-5475.
- (5) Lietz CB, **Richards AL**, Marshall DD, Ren Y, Trimpin S. Matrix Assisted Inlet Ionization and Solvent-free Gas-Phase Separation using Ion Mobility Spectrometry for Imaging and Electron Transfer Dissociation Mass Spectrometry of Polymers. *Mass Spectrometry in Polymer Chemistry, Wiley-VCH*, **2011** (Book Chapter).
- (6) Lietz CB, **Richards AL**, Ren Y, Trimpin S. Inlet Ionization: Protein Analyses from the Solid State Without the Use of a Voltage or a Laser Producing 67 Charges on BSA, 66 kDa. *Rapid Communications in Mass Spectrometry*. **2011**, 25, 3453–3456.

- (7) **Richards AL**, Lietz CB, Trimpin S. Laserspray Ionization MSⁿ and High Spatial Resolution Tissue Imaging of Labile Gangliosides. *Journal of Lipid Research*. **2012**, doi:10.1194/jlr.D019711.
- (8) Li J, Inutan ED, Wang B, **Richards AL**, Lietz CB, Green DR, Manly CD, Marshall DD, Lingenfelter S, Ren Y, Trimpin S. Matrix Assisted Ionization: New Aromatic and Non Aromatic Matrix Compounds Producing Multiply Charged Lipid, Peptide, and Protein Ions in the Positive and Negative Mode Observed Directly from Surfaces. *Journal of the American Society of Mass Spectrometry*. **2012**, doi: 10.1007/s13361-012-0413-z.

C. Presentations

- (1) **Richards AL**, Inutan ED, Herath TN, Wager-Miller J, Mackie K, Trimpin S. Spatial Resolution in Laserspray Ionization – Mass Spectrometry for Tissue Analysis at AP. Poster session presented at: Imaging MS: Method Development I. 58th ASMS Conference on Mass Spectrometry. **2010**, May 23-27, Salt Lake City, UT.
- (2) **Richards AL**, Trimpin S. Structural Characterization of Lipids, Peptides, and Proteins Directly from Mouse Brain Tissue using Laserspray Ionization Mass Spectrometry. Oral presentation presented at: The 2010 Detroit-Chapter ANACHEM Symposium. **2010**, Oct. 28, Livonia, MI.
- (3) **Richards AL**, Trimpin S. Laserspray Ionization Mass Spectrometry for the Characterization and Imaging of Lipids, Peptides and Proteins Directly from Mouse Brain Tissue. Poster session presented at: 2010 Meeting of the Michigan Mass Spectrometry Discussion Group. **2010**, December 13, Ann Arbor, MI.
- (4) **Richards AL**, Trimpin S. Structural Characterization of Peptides and Proteins Directly from Mouse Brain Tissue Using Laserspray Ionization Mass Spectrometry. Poster session presented at: 23rd Annual ASMS Sanibel Conference. **2011**, January 21-24, St. Pete's Beach, FL.
- (5) **Richards AL**, Lietz CB, Ren Y, Wager-Miller J, Mackie K, Trimpin S. Laserspray Ionization MSⁿ and High Spatial Resolution Tissue Imaging of Labile Gangliosides and Other Lipids. Poster session presented at: Lipids General. 59th ASMS Conference on Mass Spectrometry. **2011**, June 5-9, Salt Lake City, UT.

D. Research and Work Experience

Teaching Assistant, UW-Madison Department of Chemistry

Madison, WI; August 2011-current.

Collaborated with other TAs and faculty members to teach undergraduate introductory and analytical chemistry courses.

Prepared students for weekly laboratory classes and planned and taught weekly discussion sessions.

Student Researcher, Wayne State University Department of Chemistry

Detroit, MI; December 2009 – July 2011

Designed and performed research in the laboratory of Dr. Sarah Trimpin focusing on the application of novel atmospheric pressure ionization sources for mass spectrometry.

E. Professional Affiliations

American Society for Mass Spectrometry

American Chemical Society

Association of Biomolecular Resource Facilities