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### Education

1972-1976 B.A., Chemistry, Economics, Wabash College  
1976-1980 Ph.D., Chemistry, Purdue University

### Appointments

2000-2006 Vice Chair, Department of Chemistry, University of North Carolina  
1995- Member, Program in Molecular and Cellular Biophysics  
1992- Faculty, Department of Chemistry, University of North Carolina  
1980-1992 Research Staff and Group Leader, Oak Ridge National Laboratory.

### Other Experiences, Memberships, Service

President, American Society for Mass Spectrometry 2008-2010  
Vice President for Programs, American Society for Mass Spectrometry 2006-2008  
Associate Editor, *J. Am. Soc. Mass Spectrom.*, 1990-2006.  
Chair, **International Workshop on MS/MS**, 1999-2006.  
Coordinator, Department of Chemistry Middle School Outreach program for minorities  
Editorial Advisory Board, *Instrumentation Science and Technology*, 1993-2011.  
NIH Metallobiochemistry Study Section 1993-1997  
NIH Special Study Sections, 1990-2004.  
U.S. Representative, Organizing Committee, **International Workshop on MS/MS**, 1993 -1998.  
Vice President for Arrangements, American Society for Mass Spectrometry, 1987-89.  
Board of Directors, Asilomar Conference on Mass Spectrometry, 1987-89.  
Member, American Society for Mass Spectrometry  
Member, American Chemical Society  
Member, American Association for the Advancement of Science  
Member, Triangle Area Mass Spectrometry Discussion Group

### Courses Regularly Taught

Chem 070: First-Year Seminar: You Don't Have to Be a Rocket Scientist  
Chem 241: Modern Analytical Methods for Separation and Characterization (Regular and Honors sections)  
Chem 241L: Laboratory in Separations and Analytical Characterization of Organic and Biological Compounds  
Chem 448: Mass Spectrometry  
Chem 741: Literature Seminar in Anal. Chem.  
Chem 742: Analytical Research Techniques  
Chem742L: Laboratory in Analytical Research Techniques

Peer Reviewed Publications

- 160 Berthias F., Maatoug B., Glish G.L., Moussa F. , Maitre P.. Resolution and Assignment of Differential Ion Mobility Spectra of Sarcosine and Isomers *J. Am. Soc. Mass Spectrom.* 2018, 29, 752-760 DOI: 10.1007/s13361-018-1902-
- 159 Sassano M.F., Davis E.S., Keating J.E., Zorn B.T., Kochar T.K., Wolfgang M.C., Glish G.L., Tarran R.. Evaluation of e-liquid toxicity using an open-source high-throughput screening assay, *PLOS Bio.* 2018, 16, Article Number: e2003904 DOI: 10.1371/journal.pbio.2003904
- 158 Campbell M.T., Glish G.L., Fragmentation in the ion transfer optics after differential ion mobility spectrometry produces multiple artifact monomer peaks, *Int. J. Mass Spectrom.* 2018, 425, 47-54 DOI: 10.1016/j.ijms.2018.01.007
- 157 Swanson K.D., Worth A.L., Glish G.L. Use of an Open Port Sampling Interface Coupled to Electrospray Ionization for the On-Line Analysis of Organic Aerosol Particles *J. Am. Soc. Mass Spectrom.* 2018, 29 297-303 DOI: 10.1007/s13361-017-1776-y
- 156 Keating J.E., Minges J.T., Randell S.H., Glish G.L., Paper spray mass spectrometry for high- throughput quantification of nicotine and cotinine, *Anal. Methods.* 10, 46-50 (2018) DOI: 10.1039/c7ay02204b
- 155 Campbell M.T., Chen D., Glish G.L., *Distinguishing* Linkage Position and Anomeric Configuration of Glucose-Glucose Disaccharides by Water Adduction to Lithiated Molecules, *Anal. Chem.*, 2018, DOI: 10.1021/acs.analchem.7b04162
- 154 Campbell M.T., Chen D., Wallbillich N. J., Glish G.L., Distinguishing Biologically Relevant Hexoses by Water Adduction to the Lithium-Cationized Molecule, *Anal. Chem.*, 2017, 89 (19),10504–10510, DOI: 10.1021/acs.analchem.7b02647
- 153 Santiago, B.G., Campbell, M.T., Glish, G.L. Variables Affecting the Internal Energy of Peptide Ions During Separation by Differential Ion Mobility Spectrometry *J. Am. Soc. Mass Spectrom.* 2017, 28, 2160-2169 DOI: 10.1007/s13361-017-1726-8 PubMed ID: 28653242
- 152 Swanson, K.D. Worth, A.L. Glish, G.L. *A coaxial extractive electrospray ionization source*, *Anal. Methods*, 2017, 9 , 4997-5002 DOI: 10.1039/c7ay00835j
- 151 Clapp, P.W., Pawlak, E.A., Lackey, J.T., Keating, J.E., Reeber, S.L., Glish, G.L., Jaspers, I. Flavored e-cigarette liquids and cinnamaldehyde impair respiratory innate immune cell function *Am J Physiol Lung Cell Mol Physiol* 2017, 313, L278-L292 DOI: 10.1152/ajplung.00452.2016 PubMed ID: 28495856
- 150 Ghosh, A. Abdelwahab, S.H. Reeber, S.L. Reidel, B. Marklew, A.J. Garrison, A.J. Lee, S. Dang, H. Herring, A.H. Glish, G.L. Kesimer, M. Tarran, R. *Little Cigars are More Toxic than Cigarettes and Uniquely Change the Airway Gene and Protein Expression. Scientific Reports*, 2017, 7, Article number: 46239 DOI:10.1038/srep46239
- 149 Rowell, T.R. Reeber, S.L. Lee, S.L. Harris, R.A. Nethery, R.C. Herring, A.H. Glish, G.L. Tarran, R. Flavored E-cigarette Liquids Reduce Proliferation and Viability in the CALU3 Airway Epithelial Cell Line, *Am J Physiol Lung Cell Mol Physiol.* 2017 DOI: 10.1152/ajplung.00392.2016
- 148 Campbell, M.T. Chen, D. Glish, G.L. Identifying the D-Pentoses Using Water Adduction to Lithium Cationized Molecule. *J. Am. Soc. Mass Spectrom.* (2017). DOI:10.1007/s13361-017-1656-5
- 147 Campbell, M.T. Glish, G.L. Increased Ion Transmission for Differential Ion Mobility Combined with Mass Spectrometry by Implementation of a Flared Inlet Capillary. *J. Am. Soc. Mass Spectrom.* 2017, 28, 119–124 DOI: 10.1007/s13361-016-1509-7

- 146 Swanson, K.D. Spencer, S.E. Glish, G.L. Metal Cationization Extractive Electrospray Ionization Mass Spectrometry of Compounds Containing Multiple Oxygens *J. Am. Soc. Mass Spectrom.* 2016. DOI:10.1007/s13361-016-1546-2
- 145 Spencer S.E. Santiago B.G, Glish, G.L. Miniature Flow-Through Low-Temperature Plasma Ionization Source for Ambient Ionization of Gases and Aerosols. *Anal. Chem.* 2015, 87, 11887-11892 DOI: 10.1021/acs.analchem.5b03447
- 144 Reeber S.L., Gadi S., Huang S-B., Glish G.L., Direct Analysis of Herbicides by Paper Spray Ionization Mass Spectrometry, *Anal. Methods*, 2015, 7, 9808 – 9816, DOI: 10.1039/C5AY02125A
- 143 Santiago B.G., Harris R.A., Isenberg S.L., Glish G.L., Resolving Powers of >7900 Using Linked Scans: How Well Does Resolving Power Describe the Separation Capability of Differential Ion Mobility Spectrometry *Analyst*, 2015, **140**, 6871 – 6878, DOI: 10.1039/C5AN00845J
- 142 Santiago B.G., Harris R.A., Isenberg S.L, Ridgeway M.E., Pilo, A.L., Kaplan, D.A., Glish G.L., Improved Differential Ion Mobility Separations Using Linked Scans of Carrier Gas Composition and Compensation Field, *J. Am. Soc. Mass Spectrom.* 2015, 26, 1746-1753 DOI: 10.1007/s13361-015-1208-9
- 141 Hernandez O., Isenberg S.L., Steinmetz V., Glish G.L., Maitre, P. Probing mobility selected saccharide isomers: selective ion-molecule reactions and wavelength-specific IR activation, *J. Phys. Chem. A*, DOI: 10.1021/jp511975f.
- 140 Spencer S.E., Tyler C.A., Tolocka M.P., Glish G.L. Low Temperature Plasma Ionization-Mass Spectrometry for the Analysis of Compounds in Organic Aerosol Particles, *Anal. Chem.* 2015, 87, 2249–2254 DOI: 10.1021/ac5038889, PMID: 25587636.
- 139 Hunsucker S.A., McGary C.S., Vincent B.G., Enyenihi A.A., Waugh J.P., McKinnon K.P., Ropp P.A., Coghill J.M., Wood W.A., Gabriel D.A., Sarantopoulos S., Shea T.C., Serody J.S., Alatrash G., Rodriguez-Cruz T., Lizée G., Buntzman A.S., Frelinger J.A, Glish G.L., Armistead, P.M. Mapping of Antigen-Specific T-Cell Receptor Sequences to T-Cell Receptor Repertoires Measures Antigen-Driven, Clonal T-cell Expansion, *Cancer Immun. Res.*, 2015 DOI:10.1158/2326-6066.CIR-14-0001 PMID: 25576336
- 138 Dharmasiri U., Isenberg S.L., Glish G.L., Armistead P.M., Differential Ion Mobility Spectrometry Coupled to Tandem Mass Spectrometry Enables Targeted Leukemia Antigen Detection, *J. Proteome Res.*, **2014**, 13, 4356.
- 137 Isenberg S.L., Armistead P.M., Glish G.L., Optimization of Peptide Separations by Differential Ion Mobility Spectrometry, *J. Am. Soc. Mass Spectrom.* **2014**, 25, 1592-1599.
- 136 Mentinova, M; Crizer, D.M.; Baba, T; McGee, W.M.; Glish, G.L.; McLuckey, S.A. Cation Recombination Energy/Coulomb Repulsion Effects in ETD/ECD as Revealed by Variation of Charge per Residue at Fixed Total Charge. *J. Am. Soc. Mass Spectrom.*, **2013**, 24, 1676-1689.
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- 134 D.E. Harbourt, J.K. Fallon, S. Ito, T. Baba, J.K. Ritter, G.L. Glish, P.C. Smith, Quantification of Human Uridine-Diphosphate Glucuronosyl Transferase 1A Isoforms in Liver, Intestine, and Kidney Using Nanobore Liquid Chromatography-Tandem Mass Spectrometry, *Anal. Chem.*, **2012**, 84, 98-105.
- 133 Enyenihi, A.A., Griffiths, J.R., Glish, G.L. Tandem mass spectrometric methods for the analysis of iTRAQ labeled peptides in a quadrupole ion trap, *Int. J. Mass Spectrom.* **2011**, 308, 260-264.
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- 130 Falconer, T.M., Lewis, W.K., Bemish, R.J., Miller, R.E., Glish, G.L., Formation of cold ion-neutral clusters using superfluid helium nanodroplets. *Review of Scientific Instruments*. **2010**, 81.
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- 126 Newsome, G.A. ,Glish, G.L., Improving IRMPD in a Quadrupole Ion Trap. *J. Am. Soc. Mass Spectrom.*, **2009**. 20, 1127-1131.
- 125 Bushey, J.M., Kaplan, D.A., Danell, R.M., Glish, G.L., Pulsed Nano-Electrospray Ionization: Characterization of Temporal Response and Implementation with a Flared Inlet Capillary. *Instrumentation Science & Technology*, **2009**. 37, 257-273.
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- 111 Dalton, C.N., Glish, G.L., Electrospray-atmospheric sampling glow discharge ionization source for the direct analysis of liquid samples. *Anal. Chem.*, **2003**, 75, 1620-1627.
- 110 Glish, G.L., Vachet, R.W., The basics of mass spectrometry in the twenty-first century. *Nature Reviews Drug Discovery*, **2003**, 2, 140-150.
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- 108 Raska, C.S., Parker, C.E., Huang, C., Han, J., Glish, G.L., Pope, M., Borchers, C.H., Pseudo-MS3 in a MALDI orthogonal quadrupole-time of flight mass spectrometer. *J. Am. Soc. Mass Spectrom.*, **2002**, 13, 1034-1041.
- 107 Chen, P.H., Richardson, S.D., Krasner, S.W., Majetich, G., Glish, G.L., Hydrogen abstraction and decomposition of bromopicrin and other trihalogenated disinfection byproducts by GC/MS. *Environmental Science & Technology*, **2002**, 36, 3362-3371.
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