**Jay M. Tomlin**

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**EDUCATION**

***B. S. Chemistry******and minor in Physics*** Awarded May 2017

Rowan University, Glassboro, NJ

*Research Advisor:* Prof. Timothy D. Vaden
GPA 3.800, Dean’s List, *magna cum laude*

***Ph. D. Analytical Chemistry*** Expected December 2022

Purdue University, West Lafayette, IN

*Co-Advisors:* Prof. Alexander Laskin and Prof. Paul B. Shepson

*Thesis Title:* ASSESSMENT OF AIRCRAFT-BASED MEASUREMENTS OF GREENHOUSE GASES AND AEROSOLS USING SPECTROSCOPY TECHNIQUES

* Spectro-microscopic Analysis of Atmospheric Particles Collected on Aircraft: A Perspective
* Spatial Attribution of Mass Balance Experiment CO2 Estimations for Policy Relevant Boundaries: New York City
* Chemical Composition and Morphological Analysis of Atmospheric Particles from an Intensive Bonfire Burning Festival
* Impact of Dry Intrusion Events on Composition and Mixing State of Particles During Winter ACE-ENA Study
* Chemical Imaging of Fine Mode Atmospheric Particles Collected from a Research Aircraft over Agricultural Fields
* Quantifying Background CO2 Fluxes in Rural Sites Around Indianapolis Using Airborne Eddy Covariance Flux Measurements

**PUBLICATIONS (PEER-REVIEWED)**

**Tomlin, J.,** Weis, J., Veghte, D., Swarup, C., Fraund, M., He, Q., Reicher, N., Li, C., Jankowski, K., Rivera-Adorno, F., Morales, A., Rudich, Y., Moffet, R., Gilles, M., Laskin, A. (2022). Chemical Composition and Morphological Analysis of Atmospheric Particles from an Intensive Bonfire Burning Festival. *RSC Environ. Sci. Atmos*. 2(4), 616-633. doi:10.1039/D2EA00037G. *(COVER ARTICLE).*

**Tomlin, J.**, Jankowski, K., Veghte, D. , China, S., Wang, P., Fraund, M., Weis, J., Zheng, G., Wang, Y., Rivera-Adorno, F., Raveh-Rubin, S., Knopf, D., Wang, J., Gilles, M., Moffet, R., Laskin, A. (2021). Impact of Dry Intrusion Events on Composition and Mixing State of Particles During Winter ACE- ENA Study. *Atmos. Chem. Phys.*, 21(24), 18123-18146. doi:10.5194/acp-21-18123-2021.

**Tomlin, J.**, Jankowski, K., Rivera-Adorno, F., Fraund, M., China, S., Stirm, B., Kaeser, R., Eakins, G., Moffet, R., Shepson, P., Laskin, A. (2020). Chemical Imaging of Fine Mode Atmospheric Particles Collected from a Research Aircraft over Agricultural Fields. *ACS Earth Space Chem.*, 4(11), 2171-2184. doi:10.1021/acsearthspacechem.0c00172.

Morales, A., **Tomlin, J.,** West, C., Rivera-Adorno, F., Noh, Y., Sendesi, S., Boor, B., Howarter, J., Moffet, R., China, S., O’Callahan, B., El-Khoury, P., Whelton, A., Laskin, A. (2022). Unrecognized Urban Source of Atmospheric Nanoplastics. *Nat. Nanotechnol*. Submitted in December 2021, revised in May 2022.

Hajny, K., Floerchinger, C., Lopez-Coto, I., Pitt, J., Gately, C., Gurney, K., Hutyra, L., Jayarathne, T., Kaeser, R., Roest, G., Sargent, M., Stirm, B., **Tomlin, J.,** Turner, A., Shepson, P., Wofsy, S. (2022). A Spatially-Explicit Inventory Scaling Approach to Estimate Urban CO2 Emissions. *Elementa Sci. Anthrop*. 10(1), 1-17. doi: 10.1525/elementa.2021.00121

West, C., Ryan, J., Morales, A., Miscovich, M., Hettiyadura, A., Rivera-Adorno, F., **Tomlin, J.,** Darmody, A., Lin, P., Linn, B., Laskin, A. (2022). Molecular Investigation of the Multi-Phase Photochemistry of Fe(III)-Citrate in Aqueous Solution. *RSC Environ. Sci. Process Impacts*. doi:10.1039/D1EM00503K.

Knopf, D., Charnawskas, J. , Wang, P., Wong, B., **Tomlin, J.,** Jankowski, K. , Fraund, M., Veghte, D. , China, S., Laskin, A., Moffet, R. , Gilles, M. , Aller, J. , Marcus, M. , Raveh-Rubin, S., Wang, J. (2022). Micro-spectroscopic and Freezing Characterization of Ice-nucleating Particles Collected in the Marine Boundary Layer in the Easter North Atlantic. *Atmos. Chem. Phys.*, 22(8), 5377-5398. doi:10.5194/acp-22-5377-2022.

Pitt, J., Lopez-Coto, I., Hajny, K., **Tomlin, J.,** Kaeser, R., Jayarathne, T., Stirm, B., Floerchinger, C.,Loughner, C., Gately C., Hutyra, L., Gurney, K, Roest, G., Liang, J., Gourdji, S., Karion, A., Whetsone, J., Shepson, P. (2022). New York City Greenhouse Gas Emissions Estimated with Inverse Modelling of Aircraft Measurements. *Elementa Sci. Anthrop*, 10(1), 1-13. doi:10.1525/elementa.2021.00082.

Knopf, D., Barry, K., Brubaker, T., Jahl, L., Jankowski, K., Li1, J., Lu1, Y., Monroe, L., Moore, K., Rivera-Adorno, F., Sauceda, K., Shi, Y., **Tomlin, J.,** Vepuri, H., Wang, P., Lata, N., Levin, E., Creamean, J., Hill, T., China, S., Alpert, P., Moffet, R., Hiranuma, N., Sullivan, R., Fridlind, A., West, M., Riemer, N., Laskin, A., DeMott, P., Liu, X. (2021). Aerosol Ice Formation Closure: A Southern Great Plains Field Campaign. *AMS BAMS*, 1-50. doi:10.1175/BAMS-D-20-0151.1.

Hettiyadura, A., Garcia, V., Li, C., West, C., **Tomlin, J.,** He, Q., Rudich, Y., Laskin, A., (2021). Chemical Composition and Molecular-Specific Optical Properties of Atmospheric Brown Carbon Associated with Biomass Burning. *ACS Environ. Sci. Technol*, 4(55), 2511-2521. doi:10.1021/acs.est.0c05883.

Tran, A., **Tomlin, J.,** Lam, P., Stinger, B., Miller, A., Walczyk, D., Omar, C., Vaden, T., Yu, L. (2019). Conductivity, Viscosity, Spectroscopic Properties of Organic Sulfonic Acid Solutions in Ionic Liquids. *Chem Engineering*, 3(4), 81. doi:10.3390/chemengineering3040081.

Tran, A. T., Lam, P., Miller, A., Walczyk, D., **Tomlin, J.,** Vaden, T., Yu, L. (2017). Proton Transfer and Esterification Reactions in EMIMOAc-based Acidic Ionic Liquids. *RSC Advances*, 7(30), 18333-18339. doi:10.1039/c7ra00204a.

**PRESENTATIONS (5 oral presentation, 10 poster platform)**

**Tomlin et al.,** “Impact of Dry Intrusion Events on Composition and Mixing State of Particles During Winter ACE-ENA Study”. *International Chemical Congress of Pacific Basin Societies* *2021*, Virtual. ***Oral Presentation.***

**Tomlin et al.,** “Comparison of Multiple Approaches for Quantifying Winter Greenhouse Gas Emissions in New York City Based on Aircraft Measurements”. *American Geophysical Union Fall Meeting 2020*, Virtual. ***Oral Presentation.***

**Tomlin et al.,** “Chemical Composition and Morphological Analysis of Internally Mixed Mineral Dust and Biomass Burning Aerosols”. *38th Annual American Association of Aerosol Research Conference 2020*, Virtual. ***Oral Presentation.***

**Tomlin et al.,** “Impact of Dry Intrusion Events on Composition and Mixing State of Particles During Winter ACE ENA Study”. *Midwest Student Conference on Atmospheric Research 2020*, Virtual. ***Oral Presentation.***

**Tomlin et al..** “Chemical Imaging of Atmospheric Particles Sampled Over Agricultural Fields in Indiana. *37th Annual American Association of Aerosol Research Conference 2019*, Portland, OR. ***Oral Presentation.***

**AWARDS, LEADERSHIP, AND ACCOMPLISHMENTS (selected)**

*Chemistry Honor Society, Phi Lambda Upsilon* Spring 2018– Present

*Purdue University* *– Emerson Kampen Fellowship* Fall 2020 – Spring 2021

*Group Laboratory Safety Representative* Fall 2018 – Spring 2020

*William F. Epple Teaching Award* Spring 2019

*NSF GRFP Fellowship – Honorable Mention* Spring 2019

*Science in Schools Outreach* Spring 2019

*Air Quality and Atmospheric Chemistry Outreach*Spring 2018

*Purdue University National Chemistry Week Outreach*  Fall 2018, Fall 2019

*Phi Lambda Upsilon – Science Discovery Day Outreach* Fall 2018

*American Institute of Chemist Academic Award* Spring 2017

*Fresenius Medical Care Scholarship*  Fall 2015 – Spring 2017