Gordon J. Getzinger, PhD

ORCID 0000-0002-5628-1425
73 Martin St. Apt 45, Cambridge, MA
(330) 593-9622
ggetzinger@exponent.com

Experience

- **Scientist**, Environmental and Earth Sciences, Exponent, Inc. (2020-present)
- **Research Scientist**, Department of Civil and Environmental Engineering and Nicholas School of the Environment, Duke University (2019-2020)

Education and Training

- **Postdoctoral Associate**, Department of Environmental Systems Science, Institute of Biogeochemistry and Pollutant Dynamics, ETH Zurich (2016 - 2019)
- **PhD**, Nicholas School of the Environment, Duke University (2010-2016)
- **BA** in Chemistry and **BS** in Environmental Science, Loyola University Chicago (2006-2010)

Awards & Honors

- U.S. National Science Foundation, Honorable Mention, Graduate Research Fellowship, May 2010.
- Department of Chemistry, Loyola University Chicago, Sarussi Scholarship for Undergraduate Research in Organic Synthesis, May 2007.
- Loyola University Chicago, Jesuit High School Presidential Scholarship, 2006-2010.

Peer-Reviewed Journal Publications

1. **Getzinger, G.J.**; Higgins, C.P.; Ferguson, P.L.; Structure Database and In Silico Spectral Library for Comprehensive Suspect Screening of Per- and Polyfluoroalkyl Substances (PFASs) in Environmental Media by High-resolution Mass Spectrometry, *Analytical Chemistry* **2021**, 10.1021/acs.analchem.0c04109
2. **Getzinger, G.J.**; Ferguson, P.L.; Illuminating the exposome with high-resolution accurate-mass mass spectrometry and nontargeted analysis, *Current Opinion in Environmental Science & Health* **2020**, 10.1016/j.coesh.2020.05.005
3. Manfrin, A.; Nizkorodov, S.; Malecha, K.; **Getzinger, G.J.**; McNeill, K.; Borduas-Dedekind, N. Reactive Oxygen Species Production From Secondary Organic Aerosols: The Importance of Singlet Oxygen. *Environ. Sci. Technol.* **2019**, 10.1021/acs.est.9b01609
4. Evans, M.; **Getzinger, G. J.** ; Luek, J.; Hanson, A.; McLaughlin, M.; Blotevogel, J.; Welch, S.; Nicora, C.; Purvine, S.; Xu, C.; Cole, D.; Darrah, T.; Hoyt ,D.; Metz, T.; Ferguson, P.L.; Lipton, M.; Wilkins, M.; Mouser, P. In situ transformation of ethoxylate and glycol surfactants by shale-colonizing microorganisms during hydraulic fracturing. *The ISME Journal* **2019**, 10.1038/s41396-019-0466-0
5. De Hoe,G; Zumstein, Z; **Getzinger, G.J.**, Ruegsegger, I; Kohler, H.E.; Maurer-Jones, M.A.; Sander, M; Hillmyer, M.A.; McNeill, K.. Photochemical Transformation of Poly(butylene adipate-co-terephthalate) and Its Effects on Enzymatic Hydrolyzability. *Environ. Sci. Technol.* **2019**, 10.1021/acs.est.8b06458
6. Walpen, N.; Lau, M.; Fiskal, A.; **Getzinger, G. J.**; Meyer, S; Nelson, T; Lever, M; Schroth, M.H.; Sander, M, Oxidation of Reduced Peat Particulate Organic Matter by Dissolved Oxygen: Quantification of Apparent Rate Constants in the Field. *Environ. Sci. Technol.* **2018**, 52(19) 10.1021/acs.est.8b03419
7. Walpen, N.; **Getzinger, G. J.**; Schroth, M.H.; Sander, M, Electron-donating Phenolic and Electron-accepting Quinone Moieties in Peat Dissolved Organic Matter: Quantities and Redox Transformations in the Context of Peat Biogeochemistry. *Environ. Sci. Technol.* **2018**, 52 (9). 10.1021/acs.est.8b00594
8. Hoelzer, K.; Sumner, A. J.; Karatum, O.; Nelson, R. K.; Drollette, B. D.; O'Connor, M. P.; D'Ambro, E. L.; **Getzinger, G. J.**; Ferguson, P. L.; Reddy, C. M.; Elsner, M.; Plata, D. L., Indications of Transformation

Products from Hydraulic Fracturing Additives in Shale-Gas Wastewater. *Environ. Sci. Technol.* **2016**, 50 (15).10.1021/acs.est.6b00430

9. Li, H; **Getzinger, G. J.**; Ferguson, P.L.; Orihuela, B; Zhu, Mei; Rittschof, D. Effects of Toxic Leachates from Commercial Plastics on Larval Survival and Settlement of the Barnacle Amphibalanus amphitrite. *Environ. Sci. Technol.* **2015**, 50 (2). 10.1021/acs.est.5b02781

10. **Getzinger, G. J.**; O'Connor, M.P.; Hoelzer, K.; Drollette, B.D.; Karatum, O.; Deshusses, M.A.; Ferguson, P.L.; Elsner, M.; Plata, D.L. Natural Gas Residual Fluids: Sources, Endpoints, and Organic Chemical Composition after Centralized Waste Treatment in Pennsylvania. *Environ. Sci. Technol.* **2015**, 51 (60). 10.1021/acs.est.5b00471

11. Fang, M.; **Getzinger, G. J.***; Cooper, E. M.; Clark, B. W.; Garner, L. V. T.; Giulio, R. T. D.; Ferguson, P. L.; Stapleton, H. M., Effect-directed analysis of Elizabeth river pore water: Developmental toxicity in zebrafish (Danio rerio). *Environ Toxicol Chem* **2014**, 30. 10.1002/etc.2738
* co-first author.

12. Stapleton, H.M.; Sharma, S.; **Getzinger, G. J.**; Ferguson, P.L.; Gabriel, T.; Webster, F.; Blum, A. Novel and High Volume Flame Retardants in US Couches Reflective of the 2005 PentaBDE Phase Out. *Environ. Sci. Technol.* **2012**, 46 (24). 10.1021/es303471d.

Manuscripts in Revision

1. **Getzinger, G.J.**; Ferguson, P.L.; High-throughput Trace-level Suspect Screening for Per- and Polyfluoroalkyl Substances in Environmental Waters by Peak-focusing Online Solid Phase Extraction and High-resolution Mass Spectrometry, *ES&T Water*

Invited Speaker at Universities and Institutions

1. **Getzinger, G.J.** Non-target analysis of organic pollutants: A platform for data-driven assessment of aquatic environments. University of Cincinnati. July 2018.

2. **Getzinger, G.J.** Non-target analysis of organic pollutants: A platform for data-driven assessment of aquatic environments. Big Data in Environmental Sciences Workshop, ETH Zurich. April 2018.

3. **Getzinger, G.J.** Non-target analysis: Enabling data driven environmental sciences. Swiss Federal Institute of Aquatic Science and Technology (Eawag). November 2017.

4. **Getzinger, G.J.**; Ferguson, P.L. Exploring environmentally relevant chemical space through ultrahigh resolution mass spectrometry, computational mass spectrometry and chemoinformatics: The example of wastewater derived organic micropollutants. National Center for Computational Toxicology, U.S. EPA. Research Triangle Park, NC. May 2016.

5. **Getzinger, G.J.**; Ferguson, P.L., Non-targeted identification of wastewater and stormwater derived organic micropollutants in the Ellerbe Creek Watershed (Durham, NC) by HPLC-high resolution mass spectrometry. Triangle Area Mass Spectrometry Discussion Group. Research Triangle Park, NC. May 2013.

6. **Getzinger, G.J.**; Ferguson, P.L. Non-targeted analysis of emerging contaminants in wastewater impacted aquatic environments. Thermo Scientific User's Meeting at the Annual Meeting of the American Society for Mass Spectrometry. Vancouver, BC. May 2012.

Conference Talks as Presenter

1. **Getzinger, G.J.**; Ferguson, P.L. Improving non-target identification of organic contaminants: Probabilistic ranking of structure assignments by computational mass spectrometry. National Meeting of the American Chemical Society. Orlando, FL. April 2019.

2. **Getzinger, G.J.**; Ferguson, P.L. Exploring environmentally relevant chemical space through ultrahigh resolution mass spectrometry, computational mass spectrometry and chemoinformatics: The example of

wastewater derived organic micropollutants. Congressi Stefano Franscini on Non-target screening of organic chemicals for a comprehensive environmental risk assessment. Ascona, Switzerland. May 2016.

3. **Getzinger, G.J.**; Ferguson, P.L. Aryl Phosphite Antioxidants as Molecular Markers of Plastic Particles in Marine Environments. National Meeting of the Society of Environmental Toxicology and Chemistry. Salt Lake City, UT. November 2015.
4. **Getzinger, G.J.**; Ferguson, P.L. Identifying transformation products of organic micropollutants in conventional wastewater treatment by high-resolution mass spectrometry and differential non-targeted screening. National Meeting of the American Chemical Society. Boston, MA. August 2015.
5. **Getzinger, G.J.**; Ferguson, P.L. Non-targeted analysis of emerging contaminants in wastewater and wastewater impacted aquatic environments. Society of Environmental Toxicology and Chemistry. Long Beach, CA. November 2012.

Webinars

1. **Getzinger, G.J.**; Beck, J. Analysis of Targeted and Non-targeted Contaminants in Storm Water Retention Ponds. Chemical and Engineering News Webinar. July 2013.

Conference Poster Presentations

1. **Getzinger, G.J.**; Sander, M. On the molecular composition of phenolic dissolved organic matter in bogs. Gordon Research Conference, Environmental Sciences: Water, Holderness, NH. June 2018.
2. **Getzinger, G.J.**; Ferguson, P.L. Exploring environmentally relevant chemical space: The example of wastewater derived organic micropollutants. Gordon Research Conference, Environmental Sciences: Water. Holderness, NH. June 2016.
3. **Getzinger, G.J.**; Ferguson, P.L.. Occurrence and Fate of Aryl Phosphite Polymer Additives in Marine Sediments. Annual meeting of the Association of Environmental Engineering and Science Professors. New Haven, CT. June 2015.
4. **Getzinger, G.J.**; Ferguson, P.L.; McNeill, K. Photosensitized Transformations of Aryl Phosphite Polymer Additives. Gordon Research Conference, Environmental Sciences: Water. Holderness, NH. June 2014.
5. **Getzinger, G.J.**; Ferguson, P.L.; Beck, J.; Yang, C.; Schoutsen, F. Analysis of Targeted and Non-Targeted Identified Contaminants in Storm Water Retention Ponds Using LC-HRMS With Online Solid Phase Extraction. Annual Meeting of the American Society of Mass Spectrometry. Minneapolis, MN. June 2013.
6. **Getzinger, G.J.**; Ferguson, P.L. Non-targeted analysis of emerging contaminants in wastewater impacted environments. Gordon Research Conference, Environmental Sciences: Water. Holderness, NH. June 2012.
7. **Getzinger, G.J.**; Ferguson, P.L. Two-dimensional liquid chromatography high resolution mass spectrometry for the analysis of polar organic contaminants in the aquatic environment. Society of Environmental Toxicology and Chemistry Annual Meeting, Boston, MA. November 2011.
8. **Getzinger, G.J.**; Ferguson, P.L. Two-dimensional liquid chromatography high resolution mass spectrometry for the analysis of complex environmental samples. International Conference of Chemistry and the Environment, Zurich Switzerland. September 2011.
9. **Getzinger, G.J.**; Ferguson P.L. Analysis of oil spill dispersants and degradation products in seawater by two-dimensional liquid chromatography-high resolution mass spectrometry. Society of Environmental Toxicology and Chemistry Gulf Oil Spill Meeting, Pensacola Beach, FL. April 2011.
10. **Getzinger, G.J.**; Ferguson, P.L. Analysis of oil spill dispersants and degradation products in seawater by liquid-chromatograph-high resolution Orbitrap mass spectrometry. Society of Environmental Toxicology and Chemistry Annual Meeting, Portland, OR. November, 2010.

Teaching Experience

- **Course Developer and Instructor** for Environmental Photochemistry Practicum, *Institute of Biogeochemistry and Pollutant Dynamics, Department of Environmental Systems Science, ETH Zurich* (Spring 2018)
- **Course Manager and Teaching Assistant Supervisor** for Introductory Chemistry Practicum, *Institute of Biogeochemistry and Pollutant Dynamics, Department of Environmental Systems Science, ETH Zurich* (Winter 2018)
- **Guest Instructor** for Introduction to Environmental Organic Chemistry, *Institute of Biogeochemistry and Pollutant Dynamics, Department of Environmental Systems Science, ETH Zurich* (Fall 2016-17)
- **Guest Instructor** for Environmental Analytical Chemistry , *Department of Civil and Environmental Engineering, Duke University* (Fall & Spring 2012)
- **Teaching Assistant** for Environmental Chemistry and Toxicology, *Nicholas School of the Environment, Duke University* (Spring 2011)
- **Teaching Assistant** for Environmental Aquatic Chemistry, *Department of Civil and Environmental Engineering, Duke University* (Fall 2010)
- **Teaching Assistant** for Introductory Organic Chemistry Laboratory, *Department of Chemistry, Loyola University Chicago* (2008-2010)

Research Advisees

1. Reto Gubler, *Bachelor Thesis*, "Quantifying Electrophilic Moieties in Dissolved Organic Matter with Biologically Relevant Nucleophiles", ETH Zurich, Summer 2017.
2. Oskar Jönsson, *Bachelor Thesis*, "Steady-state Concentrations of Photochemically Produced Reactive Intermediates in Peatland Pool and Pore Waters: Implications for Carbon Export from Northern Peatlands", ETH Zurich, Fall 2016.

Professional Affiliations and Service

- **Conferences Organized:**
  - *Organizing Committee*, Non-target Analysis for Comprehensive Environmental Assessment, SETAC Focus Topic Meeting (2020).
  - *Chair*, Gordon Research Seminar on Environmental Sciences: Water (2016).
- **Conference Symposia Chaired:**
  - *Discussion Leader*, Gordon Research Seminar on Environmental Sciences: Water (2014)
  - *Session Co-chair*, *"Helping Contaminants Emerge: Non-targeted and Effect-directed Environmental Analysis"*, National meeting of the Society of Environmental Toxicology and Chemistry (2014)
- **Memberships:** American Chemical Society, Division of Environmental Chemistry; Society of Environmental Toxicology and Chemistry.
- **Peer-reviewer:** Chemosphere, Environment International, Environmental Science and Technology, Environmental Science and Technology Letters, Environmental Sciences: Processes and Impacts, Journal of the American Society for Mass Spectrometry, Science Advances,Water Research.