

Gordon J. Getzinger, Ph.D.
School of Environmental Sustainability
Loyola University Chicago
ORCID0000-0002-5628-1425
ggetzin@luc.edu

Appointments

Loyola University Chicago, School of Environmental Sustainability, *Assistant Professor* 07/2023 – Present
Biobot Analytics, *Research Scientist & Research Scientist III* 08/2021 – 06/2023
Massachusetts Institute of Technology, Dept. of Civil and Env. Eng., *Lecturer (Part-time)* 12/2022 – 05/2023
Tufts University, Department of Chemistry, *Lecturer (Part-time)* 09/2022 – 12/2022
Exponent Inc., Environmental and Earth Sciences, *Scientist* 06/2020 – 08/2021
Duke University, Department of Civil and Environmental Engineering, *Research Scientist* 01/2019 – 06/2020

Education

ETH Zurich Environmental Chemistry, *Postdoc* 2016-2019
Duke University, *PhD* 2010-2016
Loyola University Chicago, *BA Chemistry and BS Environmental Science* 2006-2010

Awards & Honors

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

Teaching Experience as Instructor of Record

Department of Civil and Environmental Engineering, Massachusetts Institute of Technology

- Environmental Chemistry Laboratory (1.107) S22,S23
Laboratory practicum covering theory and practice of experimental environmental chemistry including modern instrumental techniques and data analysis.

Department of Chemistry, Tufts University

- Environmental Chemistry (Chem 8) F22
An introduction to the principals of environmental chemistry for non-STEM majors

Other Teaching Experience

Institute of Biogeochemistry and Pollutant Dynamics, ETH Zurich

- Course Developer and Instructor, Environmental Photochemistry Practicum 2018
- Course Manager and Teaching Assistant Supervisor, Introductory Chemistry 2018
- Guest Instructor, Introduction to Environmental Organic Chemistry 2016 – 2018

Duke University

- Guest Lecturer, Environmental Analytical Chemistry, Duke University. 2012 – 2016
- Teaching Assistant, Introduction to Environmental Chemistry and Toxicology 2011
- Teaching Assistant, Environmental Aquatic Chemistry 2010

Department of Chemistry, Loyola University Chicago

- Teaching Assistant, Organic Chemistry Laboratory 2008 – 2010

Research Advisees

2. Reto Grubler, *Bachelor Thesis*, "Quantifying Electrophilic Moieties in Dissolved Organic Matter with Biologically Relevant Nucleophiles", ETH Zurich, Summer 2017.
1. 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.

Submitted Manuscripts

1. Overdahl, K.E.; Kassotis, C.D.; Hoffman, K; **Getzinger, G.J.**; Phillips, A.L.; Hammel, S.C.; Ferguson, P.L.; Stapleton, H.M.; Characterizing azobenzene disperse dyes and related compounds in house dust: implications for human exposure. *Submitted to Science of the Total Environment*.

Peer-Reviewed Journal Publications (†Co-first author, †Corresponding author)

17. Muir, D., **Getzinger, G.**, Ferguson, P.L., McBride, M., How many chemicals in commerce have been determined in environmental media? A 50 year bibliometric analysis. *Environmental Science and Technology.*, **2023**, [10.1021/acs.est.2c09353](https://doi.org/10.1021/acs.est.2c09353)
16. McGrath, J., **Getzinger, G.**, Redman, A.D., Edwards, M., Martin, A. and Vaiopoulou, E., Application of the Target Lipid Model to Assess Toxicity of Heterocyclic Aromatic Compounds to Aquatic Organisms. *Environ Toxicol Chem.*, **2021**, [10.1002/etc.5194](https://doi.org/10.1002/etc.5194)
15. Overdahl, K. E.; Gooden, D.; Bobay, B; **Getzinger, G.J.**; Stapleton, H.M.; Ferguson, P.L., Characterizing Azobenzene Disperse Dyes in Commercial Mixtures and Children's Polyester Clothing, *Environmental Pollution*, **2021**, [10.1016/j.envpol.2021.117299](https://doi.org/10.1016/j.envpol.2021.117299)
14. †**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, *ACS EST Water* **2021**, [10.1021/acsestwater.0c00309](https://doi.org/10.1021/acsestwater.0c00309)
13. Overdahl, K. E.; Sutton, R.; Sun, J.; DeStefano, N. J.; **Getzinger, G. J.**; Ferguson, P. L., Assessment of emerging polar organic pollutants linked to contaminant pathways within an urban estuary using non-targeted analysis, *Environmental Science: Processes and Impacts* **2021**, [10.1039/D0EM00463D](https://doi.org/10.1039/D0EM00463D)
12. †**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](https://doi.org/10.1021/acs.analchem.0c04109)
11. †**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](https://doi.org/10.1016/j.coesh.2020.05.005)
10. 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](https://doi.org/10.1021/acs.est.9b01609)
9. 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](https://doi.org/10.1038/s41396-019-0466-0)
8. 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](https://doi.org/10.1021/acs.est.8b06458)
7. 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](https://doi.org/10.1021/acs.est.8b03419)

6. 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](https://doi.org/10.1021/acs.est.8b00594)
5. 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](https://doi.org/10.1021/acs.est.6b00430)
4. 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](https://doi.org/10.1021/acs.est.5b02781)
3. **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](https://doi.org/10.1021/acs.est.5b00471)
2. 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](https://doi.org/10.1002/etc.2738)
1. 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](https://doi.org/10.1021/es303471d)

Invited Speaker at Universities and Institutions

7. **Getzinger, G.J.** The Wonders and Hazards of Wastewater: Making a career from wastewater and why wastewater matters for the health of nearshore marine ecosystems. Sea Education Association, Falmouth MA. September 2022
6. **Getzinger, G.J.** Non-target analysis of organic pollutants: A platform for data-driven assessment of aquatic environments. University of Cincinnati. July 2018.
5. **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.
4. **Getzinger, G.J.** Non-target analysis: Enabling data driven environmental sciences. Swiss Federal Institute of Aquatic Science and Technology (Eawag). November 2017.
3. **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.
2. **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.
1. **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

7. **Getzinger, G.J.** Jimenez, K.; Miculinic, E.; Pierce R.; Briem S.; Endo N.; Kujawinski, E.; Erickson T.; Chai, P.; Matus, M.. Population biomarkers reveal the influence of precipitation events on consumption estimates in combined sewer systems using wastewater-based epidemiology. National Meeting of the American Chemical Society. Chicago, IL. August 2022.

6. **Getzinger, G.J.**; Ferguson, P.L. Target-decoy strategy for controlling false discovery rates in structure annotation of small organic molecules by computational mass spectrometry. National Meeting of the American Chemical Society. San Diego, CA. March 2022.
5. **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.
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. 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.
2. **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.
1. **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

11. **Getzinger, G.J.** Jimenez, K.; Miculinic, E.; Pierce R.; Briem S.; Endo N.; Kujawinski, E.; Erickson T.; Chai, P.; Matus, M., Understanding the relationship between community COVID-19 disease burden and Opioid Use Disorder treatment through wastewater-based epidemiology. National Meeting of the American Chemical Society. Chicago, IL. August 2022.
10. **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.
9. **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.
8. **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.
7. **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.
6. **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.
5. **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.
4. **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.

3. **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.
2. **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.
1. **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.

Service

- Session Co-chair, “Applications of Wastewater Based Epidemiology for Public Health”, ACS National Meeting, **Fall 2022**
- Organizing Committee, Non-target Analysis for Comprehensive Environmental Assessment, SETAC Focus Topic Meeting, **2022**
- Alumni Mentor, Loyola University Chicago, **2019-present**
- Chair, Gordon Research Seminar on Environmental Sciences: Water, **2016**
- Session Co-chair, “Helping Contaminants Emerge: Non-targeted and Effect-directed Environmental Analysis”, SETAC National Meeting., **2014**

Professional Affiliations

American Chemical Society, Division of Environmental Chemistry
Society of Environmental Toxicology and Chemistry

Peer-reviewer

ACS ES&T Water
Chemosphere
Environment International
Environmental Science and Pollution Research
Environmental Science and Technology
Environmental Science and Technology Letters
Environmental Sciences: Processes and Impacts
Journal of the American Society for Mass Spectrometry
Marine Pollution Bulletin
Science Advances
Water Research