JESSICA L. LEVASSEUR, MS, PH.D.

jessicallevasseur@gmail.com ♦ https://jessicallevasseur.owlstown.net/ ♦ www.linkedin.com/in/jessicalevasseur

EDUCATION

DUKE UNIVERSITY, Nicholas School of the Environment, Durham, NC
PhD in Environmental Health: Exposure Science and Environmental Analytical Chemistry; 2024
Dissertation: Exploring the Utility of Silicone Wristbands for Monitoring Exposure to Chemicals Present in Personal Care Products with a Focus on Parabens

UNIVERSITY OF WASHINGTON, Department of Environmental and Occupational Health Sciences, Seattle, WA
MS in Environmental Health, Risk Emphasis; 2015
Thesis: Performance evaluation of a beta version of USEPA's SHEDS-HT chemical exposure model

COLBY COLLEGE, Waterville, ME
BA with honors in Chemistry: Biochemistry, ACS Certification; 2010
Honors Thesis: Syntheses and X-ray Crystal Structures of Cassiferaldehyde and Analogs

ABOUT ME

I am an exposure scientist with expertise in LC/MS-MS and GC/MS-MS analysis of semivolatile organic chemicals found in consumer products. I use my expertise in chemistry, environmental health, and risk assessment to advocate for better public health policy that protects human health from everyday products with adverse effects. I am a deep thinker who needs space to be curious, introspective, and have collaborative, intellectual discussions with my peers to feel fulfilled. I am fulfilled by dealing with problems effectively. I am always searching for opportunities to learn more to ensure that my decisions are credible and well-informed. I enjoy working closely with others to achieve a goal, and I excel at figuring out how different people can work together harmoniously and productively. I am motivated by transparent science with colleagues who are working towards a beneficent future together.

SCIENTIFIC EXPERIENCE

Physical Scientist: Exposure Scientist *Hazardous Pollutant Assessment & Systems Branch* Dec. 2024 - current
United States Environmental Protection Agency, Durham, NC

- Provide exposure science and environmental health technical expertise and advice for the Integrated Science Assessments for the National Ambient Air Quality Standards, as well as developing method improvements and research for effective characterization of exposure data and research gaps
- Interpret, evaluate, and analyze scientific data as a science assessor for the development of human health and/or environmental assessments as an exposure scientist in the Office of Research and Development and the Center for Public Health and Environmental Assessment. Participated in TSCA literature reviews on various chemicals.
- Effectively communicate analyses, research results and technical advice, and maintain professional contacts essential to the assessment process. Prepared exposure science courses for risk assessors within the EPA and for other non-governmental professionals through the Risk Assessment Training Experience program.

Post-doctoral Researcher *Hazardous Pollutant Assessment & Systems Branch* August 2024 – December 2024
United States Environmental Protection Agency, Durham, NC

- Support the development of Integrated Science Assessments for the National Ambient Air Quality Standards, with a focus on oxides of nitrogen, by examining the human health impacts of pollution exposures, evaluating and analyzing study findings or data, integrating exposure study results with other types of scientific studies (e.g., animal toxicology, epidemiology), and contributing to research projects intended to improve future science assessments
- Review and analyze scientific studies, identification of informative studies and scientific topics for use in assessment products, evaluation of study quality, summarizing and extracting study information, synthesizing results across multiple studies, developing scientific assessment products
- Authored a chapter sub-section focused on exposure implications of the near-road gradient for oxides of nitrogen

PhD Graduate Research Assistant *for Dr. Heather Stapleton and Dr. Kate Hoffman* September 2018 – May 2024
Duke University, Nicholas School of the Environment, Durham, NC

- Evaluate and quantify human exposure to semi-volatile organic compounds in residential and occupational environments through matrices such as hand wipes, dust, silicone wristbands, personal care products, and urine
- Statistical analysis of questionnaire data provided by populations of interest to better understand and characterize analytical chemistry exposure metrics
- Developed and adapted methods for Liquid Chromatography-Mass Spectrometer (LC-MS) analysis of parabens and environmental phenols in urine and lotion for quantification
- Extract multiple matrices (urine, silicone wristbands) as methods of chemical exposure detection and monitoring in diverse populations, as well as execute successful management of LC-MS and Gas Chromatography-Mass Spectrometer (GC-MS) for data analysis and maintenance

Health Policy Research Scholar *with The Robert Wood Johnson Foundation* September 2020 – June 2024
Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

- The Health Policy Research Scholars Program is a national leadership program of the Robert Wood Johnson Foundation, training scholars to be leaders in building a Culture of Health. Health Policy Research Scholars is a multi-year leadership development program in health policy that occurs simultaneously with my doctoral program and is administered by the Johns Hopkins Bloomberg School of Public Health. The program includes activities for developing competencies in building a Culture of Health and health equity, health policy, leadership, and communication. It encompasses mentorship, career coaching and leadership coaching, and several opportunities to apply learnings including writing policy memos and op-eds; translating and communicating research during visits with policymakers; and participating in an interdisciplinary case experience. Scholars learn to use research from their discipline to inform and influence policy toward a Culture of Health.

Stanback Fellow *with Dr. Nancy Lauer* May 2022 – August 2022
Environmental Law and Policy Clinic, Duke University, Durham, NC

- Independently conducted literature reviews, prepared policy memos for governmental and non-profit clients, counseled clients, and aided clinic faculty in legal and scientific research
- Submitted a comment letter on toxics exposures for a North Carolina location to the NC DEQ for increased regulation and testing of water, soil, and sediment to address ongoing environmental injustices
- Prepared memos detailing PFAS presence in food stuffs, including resources for governmental management decisions regarding reducing waste and safe replacement of products

Senior Environmental and Health Scientist January 2016 – January 2020
ICF, Durham, NC

- Develop and maintain federal exposure models for consumer product and air pollution exposure using measured data, statistical and mechanistic modeling approaches (Excel, R), and activity/exposure modeling techniques
- Conduct systematic literature reviews as well as write regulatory reports and memos
- Chemical and microbial risk assessment and risk characterization
- Manage over $600,000 worth of federal contracts, including multiple teams of people and financial review of work assignment budget; communicate regularly with clients for continued client satisfaction
- Hourly consulting for EPA and NIEHS contracts on chemical exposure topics from Aug. 2018 – Jan. 2020

Graduate Research Assistant *for Dr. John Kissel* September 2013 – June 2015
University of Washington Department of Environmental and Occupational Health Sciences, Seattle, WA

- Beta-tested an EPA mechanistic model, written in R, designed for high-throughput quantification and prioritization of indoor chemical exposures
- Compared sampling methods for polybrominated diphenyl ethers (PBDEs) and phthalates in household and E-waste facility environments
- *In-vitro* quantification of dermal absorption of polycyclic aromatic hydrocarbons (PAHs) through soil exposure on human cadaver skin through Liquid Scintillation Counter (LSC) analysis of radio-labelled PAH samples; Performed quantitative analyses and QA/QC on LSC output data

Environmental Health Intern June 2014 – September 2014
ENVIRON International, Seattle, WA

- Managed databases and conducted statistical data analysis for heavy metal Human Health Risk Assessments using Microsoft Access, Microsoft Excel, and ProUCL software; Prepared technical documents for Human Health Risk Assessments completed for clients across the US

Older experience available upon request

PEER-REVIEWED PUBLICATIONS

Jessica L. Levasseur, Dustin F. Kapraun, Andrew Hotchkiss, Pradeep Rajan, Renee Beardslee, Michelle Rodell, Jessica Wignall, Reeder Sams, John Cowden. "Frequent Itemset Mining: a case study in identifying chemicals associated with possible adverse neurodevelopmental outcomes and their presence as mixtures in US women of childbearing age." *In Preparation.*

Jessica L. Levasseur, Qingyu Meng, Peter Byrley. "Near-road gradients of nitrogen oxides and implications for understanding spatiotemporal differences in exposure." *In Review.*

Jessica L. Levasseur, Kate Hoffman, Sharon Zhang, Heather M. Stapleton. "The utility of silicone wristbands in characterizing exposure to parabens found in commercial lotions." *Science of the Total Environment.* (2025). https://doi.org/10.1016/j.scitotenv.2025.179163

Elizabeth Boxer, Yilin Zhong**, Jessica L. Levasseur**, Heather M. Stapleton, Kate Hoffman. "Young infants' exposure to parabens: lotion use as a potential source of exposure." *J Expo Sci Environ Epidemiol* (2025). https://doi.org/10.1038/s41370-025-00756-4

Nicholas J. Herkert, Gordon Getzinger, **Jessica L. Levasseur**, Kate Hoffman, P. Lee Ferguson, Anna S. Young , Joseph G. Allen, Heather M. Stapleton. "Wristband Personal Passive Samplers and Suspect Screening Methods Highlight Gender Disparities in Personal Ambient Chemical Exposures." *Environ Sci Technol*. Special Issue: The Exposome and Human Health, September 2024. https://doi.org/10.1021/acs.est.4c06008

Jessica L. Levasseur, Kate Hoffman, Sharon Zhang, Ellen Cooper, Heather M. Stapleton. "Monitoring Human Exposure to Four Parabens and Triclosan: Comparing Silicone Wristbands with Spot Urine Samples as Predictors of Internal Dose." *J Expo Sci Environ Epidemiol* (2024). https://doi.org/10.1038/s41370-024-00663-0

Levasseur, Jessica L., Kate Hoffman, Nicholas J. Herkert, Ellen Cooper, Duncan Hay, Heather M. Stapleton. "Characterizing firefighter's exposure to over 130 SVOCs using silicone wristbands: a pilot study comparing on-duty and off-duty exposures." *Science of the Total Environment.* August 2022, 834, 155237. https://doi.org/10.1016/j.scitotenv.2022.155237

Estrada, Leah V. and **Jessica L. Levasseur***, Alexandra Maxim, Gabriel Benavidez, Keshia M. Pollack Porter. "Structural racism, place, and COVID-19: A narrative review describing how we prepare for an endemic COVID-19 future." *Health Equity*. June 2022. 356-366. http://doi.org/10.1089/heq.2021.0190

Hoffman, Kate, **Jessica L. Levasseur**, Sharon Zhang, Duncan Hay, Nicholas J. Herkert, and Heather M. Stapleton. "Monitoring Human Exposure to Organophosphate Esters: Comparing Silicone Wristbands with Spot Urine Samples as Predictors of Internal Dose." *Environmental Science and Technology Letters*. August 2021; 8(9): 805–810. https://doi.org/10.1021/acs.estlett.1c00629

Levasseur, **Jessica L.**, Stephanie C. Hammel, Kate Hoffman, Allison L. Phillips, Sharon Zhang, Antonia M. Calafat, Thomas F. Webster, and Heather M. Stapleton. "Young children's exposure to phenols in the home: associations between house dust, hand wipes, silicone wristbands, and urinary biomarkers." *Environment International.* February 2021; (147): 106317. DOI: 10.1016/j.envint.2020.106317.

Hammel, Stephanie C., Kate Hoffman, Allison L. Phillips, **Jessica L. Levasseur**, Amelia M. Lorenzo, Antonia M. Calafat, Thomas F. Webster, and Heather M. Stapleton. "Comparing the use of silicone wristbands, hand wipes, and dust to evaluate children's exposure to flame retardants and plasticizers" *Environmental Science and Technology.* March 2020; 54(7):4484-4494. doi:10.1021/acs.est.9b07909.

Hammel, Stephanie C. and **Jessica L. Levasseur***, Kate Hoffman, Allison L. Phillips, Amelia M. Lorenzo, Antonia M. Calafat, Thomas F. Webster, and Heather M. Stapleton. "Children's exposure to phthalates and non-phthalate plasticizers in the home: The TESIE study." *Environment International* November 2019; (132): 105061. https://doi.org/10.1016/j.envint.2019.105061.

Levasseur, Jessica L., and Dasan M. Thamattoor. "Syntheses and X-Ray Crystal Structures of Cassiferaldehyde and Analogs." *Synthetic Communications* 42, no. 2 (January 15, 2012): 292–98. https://doi.org/10.1080/00397911.2010.523921.

**co-first author paper*

INVITED PRESENTATIONS

Jessica L. Levasseur†, Q. Meng, P. Byrley. "Near-road gradients of nitrogen oxides and implications for understanding spatiotemporal differences in exposure." 2025 ISES/ISEE Conference, Atlanta, GA, August 17-20, 2025 **EPA Travel Restricted*

Jessica L. Levasseur, Environmental Epidemiology Case Study: "Randomized control" trials. ENV537 (Environmental Health and Epidemiology) Lecture, February 2025

Jessica L. Levasseur, The Environment and Human Health, ENV102 (Introduction to Environmental Sciences and Policy) Lecture, April 2024

Jessica L. Levasseur, How Epidemiology and Environmental Health Inform Risk Assessment, ENV537 (Environmental Health and Epidemiology) Lecture, April 2024

Jessica L. Levasseur, K. Hoffman, S. Zhang, E. Cooper, H. Stapleton. Monitoring Human Exposure to Compounds Commonly Associated with Personal Care Products: Comparing Silicone Wristbands to Spot Urine Samples as Predictors of Internal Dose. 2023 ISES Annual Meeting, Chicago, IL, August 27-31, 2023

Jessica L. Levasseur, Morgan D. Farnworth, Alexandra Maxim, Corey M. Jacinto, Justin W. Morgan, Ciara Horne, Mudia Uzzi. Housing Decommodification: Moving from Profits to People. Robert Wood Johnson Foundation HPRS Summer Institute, Baltimore, MD, July 21, 2023

Jessica L. Levasseur, The Environment and Human Health, ENV102 (Introduction to Environmental Sciences and Policy) Lecture, November 2022

Jessica L. Levasseur and Heather Stapleton, Monitoring Human Exposure To Parabens And Triclosan: Comparing Silicone Wristbands With Spot Urine Samples As Predictors Of Internal Dose. DIOXIN Annual Conference, October 2022

Jessica L. Levasseur, Examining Firefighter Exposures to 130+ Semi-volatile Organic Chemicals Using Silicone Wristbands, Seminar presentation for The National Centre for the Working Environment in Copenhagen, Denmark, June 2022

Jessica L. Levasseur, How Epidemiology and Environmental Health Inform Risk Assessment, ENV537 (Environmental Health and Epidemiology) Lecture, April 2022

Jessica L. Levasseur, The Environment and Human Health, ENV102 (Introduction to Environmental Sciences and Policy) Lecture, September 2021

Jessica L. Levasseur†, Leah V. Estrada, Alexandra Maxim, Gabriel Benavidez, Keshia M. Pollack Porter. How Place and Structural Racism Affect Health: A Narrative Review of the Health Services and Systems, Environmental Exposures, and Transportation Literature. 2021 IAPHS Annual Meeting, Virtual/Baltimore, MD, October 19 – 21, 2021

Jessica L. Levasseur, The Environment and Human Health, ENV102 (Introduction to Environmental Sciences and Policy) Lecture, April 2019

Varghese, A., T. Hong, **J. Levasseur***, H. Hubbard, K. Dionisio, N. Brandon, AND P. Price. Product Use Scheduler: A Scheduling Module used in EPA's Human Exposure Model. 2017 ISES Annual Meeting, Durham, NC, October 15 - 19, 2017

G. Glen, H. Hubbard, **J. Levasseur***, P. Price, K. Dionisio, D. A. Vallero, P. P. Egeghy. Residential and Population Generator (RPGen): Creating a detailed description of housing and occupants for predicting and describing chemical exposures. 2017 ISES Annual Meeting, Durham, NC, October 15 - 19, 2017

G. Glen, R. Avanasi**, J. Levasseur†**, H. Hubbard, P. Price, K. Isaacs. Modeling use phase chemical releases, fate, and disposal for modeling longitudinal human exposures to consumer products. 2017 ISES Annual Meeting, Durham, NC, October 15 - 19, 2017

University of Washington Sustainability Summit Panel "Solving Grand Challenges: Identifying barriers to solving the largest issues regarding sustainability in various disciplines"; School of Public Health student representative. 2014.

**presentations given as primary presenter when not first author*
†*poster presentation*

VOLUNTEER EXPERIENCE AND PRO-BONO WORK

Scientific Advisor April 2021 - Current

Toxic Free NC, Durham, NC

- Serve as a scientific expert to ensure scientific integrity, guide relevant research, identify resources, and help interpret and summarize complex data
- Consult on scientific merits of public policy components such as risk assessments, proposed regulations or legislations, as well as review materials that convey scientific findings or concepts for non-technical audiences

Nicholas PhD Advocacy Council Executive Board (President, 2021-2022) August 2018 – May 2022
Nicholas School of the Environment, Duke University, Durham, NC

- Strengthen professional and social relationships among students in the Nicholas School PhD programs, as well as advocate for interests of Nicholas School PhD students, providing support to administrators to meet student needs
- Facilitate and plan mental health wellness seminars, PhD Appreciation Week, and Prospective Student Symposium

GSA Liaison: Environment PhD Program August 2018 – May 2022
Graduate Student Affairs, The Graduate School, Duke University, Durham, NC

- Strengthen relationships between The Graduate School at Duke and graduate departments and programs through promotion of events and resources, informing the school of student life or professional development needs

RiDE Fellowship: Broadening Participation through Multi-level Mentoring May 2021 – August 2021
Nicholas School of the Environment, Duke University, Durham, NC

- Identified sources of funding for future multi-level mentoring opportunities within the Nicholas School of the Environment (NSOE) and drafted grant applications to increase support for historically underrepresented communities applying to NSOE

GreenToGo Action Team September 2019 – February 2020
Don't Waste Durham, Durham, NC

- Attend weekly meetings as-able to facilitate the successful implementation of the GreenToGo reusable takeout containers exclusive to Durham, NC
- GreenToGo partners with nearly 25 local restaurants, providing cleaned, reusable to-go containers for patrons to use instead of disposable to-go containers, with an ultimate goal of creating a sustainable circular economy for many Durham, NC businesses

Life Cycle Assessment Student Consultant January 2019 – April 2019
Duke University, Durham, NC

- Conducted a full Life Cycle Assessment for PEARL iZUMi, a biking apparel brand, on the environmental impacts associated with the life cycle of particular pieces of clothing, identifying the largest environmental impact area

ICF Green Team Lead: Durham Office January 2016 – August 2018
ICF, Durham, NC

- Identify and act upon opportunities for increasing sustainability in our local office, while working towards company-wide sustainability goals

POPULAR PRESS COVERAGE

- Wristband tracks firefighter's chemical exposure, Futurity.org, May 25, 2022
- How a $1 wristband could help track firefighters' exposure to cancer-causing chemicals, CBS17, May 25, 2022
- Study: FFs Exposure to Cancer-Causing Chemicals Can Be Cheaply Tracked, Firehouse.com, May 26, 2022
- Silicone wristbands track firefighters' exposure to harmful chemicals, phys.org, May 26, 2022
- Study uses wristbands to track firefighters' exposures to carcinogens, Firechief.com, May 26, 2022
- Firefighters are exposed to higher levels of 'forever-chemical' on the job, study shows, WHQR, May 31, 2022
- Duke launches research into what cancer-causing chemicals Durham firefighters are exposed to, WRAL, June 2, 2022
- Duke study uses silicone wristbands to track firefighters' exposure to chemicals, wfdd, July 1, 2022
- How Can Silicone Wristbands Help Firefighters?, EOS, July 8, 2022
- Firefighter study shows inexpensive silicone wristbands can help track chemical exposures, Safety+Health, July 11, 2022
- How the Federal Government Can Address Voters' Well-Founded Concerns about Chemicals in Consumer Products Scholars Strategy Network, Basic Facts Brief, May 2023