Julie Gardella, M.S.

Senior Associate Health Scientist

Summary of Experience

Julie Gardella is a Senior Associate Health Scientist at Valeo Sciences. She holds a Master of Science in Environmental Health and Toxicology and a Bachelor of Arts in Environmental Studies from NYU. Her master's thesis research applied a machine learning model in Python to prioritize plastic production compounds for *in vitro* experimental research on their toxicity. Prior to attending graduate school, Julie worked at the University of Alaska Center for Economic Development (UACED). She joined UACED in a fellowship position with the Alaska Fellows Program, a 9-month program for young professionals that partners with nonprofit and public organizations. Following the fellowship, she continued at UACED in a full-time role, conducting applied research for clients and funders, as well as managing a rural regional business plan competition. With 7 years of research, writing, and project management experience across multiple disciplines, Julie is committed to making meaningful contributions to the field of health science and regulatory support.

Education

Bachelor of Arts (B.A.), Environmental Studies, 2017, NYU

Graduate Certificate, Environmental Policy and International Development, 2019, Harvard Extension School

Master of Science (M.S.), Environmental Health and Toxicology, 2024, NYU

Project Experience

Applied Research

Led data extraction portion of applied research project across industry associations. Drafted complex technical methodology reports from toxicological studies.

Litigation Support

Assisted with project management to support testifying expert witnesses pertaining to personal injury due to alleged exposure to makeup and cosmetic talcum powder products. Reviewed relevant case materials and collaborated with attorneys, expert witnesses, and colleagues to develop reports.

Computational Toxicology

Developed a machine learning QSAR model in R to predict the half-life of over 200 organofluorine pharmaceutical compounds listed on the EPA's CompTox Dashboard. Identified most important physicochemical features for predicting half-life.

Adapted a QSAR machine learning model in Python to predict the transplacental transferability of over 4,000 plastic additives, monomers, and processing aids listed on the EPA's CompTox

Dashboard. Based on model results, prioritized compounds for experimental research to evaluate toxicity in an *in vitro* model. Additionally conducted a contemporary review on the use of machine learning QSAR models to predict reproductive risk of pharmaceutical drugs, including transplacental transferability and FDA pregnancy risk category.

Laboratory Toxicology

Maintained cultured HTR-8/SVneo trophoblast placental cells using sterile laboratory techniques for use in *in vitro* experiments. Prioritized chemicals for laboratory testing based on machine learning model's results. Assessed the viability of HTR-8/SVneo trophoblast placental cells following exposure to selected to compounds using a staining assay. Measured the change in expression of genes related to trophoblast cell invasion, inflammation and oxidative stress, and cell barrier crossing by extracting RNA and conducting RT-qPCR.

Exposure Data Collection and Visualization

Prepared equipment for air quality data and sample collection during the 4th of July fireworks display in New York City. Created data visualization illustrating the measured black carbon levels over time for the fireworks display. Measured particulate matter and VOCs outside of a Brooklyn recycling facility and compared to a downwind control site; created and presented a visualization comparing pollution levels.

Professional Experience

Senior Associate Health Scientist, Valeo Sciences LLC, Jan 2026 – Present

Apply technical expertise to evaluate complex toxicological data in applied research projects. Provide consulting services in the field of toxicological risk and exposure assessment on multi-disciplinary teams and projects. Conduct computational research in predictive toxicology using New Approach Methodologies (NAMs).

Associate Health Scientist, Valeo Sciences LLC, Dec 2024 – 2025.

Conduct applied toxicology research to provide regulatory support for clients, focusing on human health protection and safety risk evaluation. Leverage scientific expertise to assess and interpret toxicological data, ensuring compliance with regulatory standards and promoting informed decision-making for risk mitigation.

Graduate Research Assistant, Zelikoff Lab, Division of Environmental Medicine, NYU Langone, Jun 2023 – Sep 2024.

Designed and implemented a multi-disciplinary research project combining machine learning computational toxicological methods to inform experimental design of empirical research. Trained other students on sterile laboratory techniques for maintaining cellular models. Volunteered at community outreach events.

Analyst and Program Specialist, Center for Economic Development, University of Alaska - Anchorage, Jun 2020 – Jul 2022.

Led quantitative data analysis and visualization for economic development consulting projects resulting in federally compliant strategic plans using Excel. Co-authored consulting reports assessing the opportunity for responsible tourism in Alaska and on the economic impacts of buying local used in a statewide outreach campaign. Managed a regional business plan

competition resulting in deployment of $55,000 to winning entrepreneurs. Evaluated business plans for a rural small business plan competition.

Entrepreneurship and Research Fellow, Alaska Fellows Program, Sep 2019 – May 2020.

Designed and conducted a qualitative research project on a rural business plan competition that was used to highlight program benefits for a federal funding agency and as a reference for new management of the program. Implemented stakeholder feedback for the Nome region's Comprehensive Economic Development Strategy (CEDS).

Staff and Faculty Assistant, Environment and Natural Resources Program, Belfer Center for Science and International Affairs, Harvard Kennedy School, Dec 2017 – Aug 2019.

Oversaw outreach, administration, and evaluation for grant awards for student research projects and stipends for unpaid internship opportunities (applications for summer stipends increased 70% from 2018-2019). Organized lecture event focused on sustainable fisheries featuring a leading visiting scholar.

Intern, Sustainable Energy Advantage, LLC, Sep 2017 – Dec 2017.

Tracked regulations, policies, and proceedings for a weekly subscription service on renewable energy markets. Expanded a catalog of digital resources to monitor clean energy proceedings in New York.

Peer-Reviewed Publications

Gardella, J., D. Abrahamsson, and J. Zelikoff. 2024. A Contemporary Review of Machine Learning to Predict Adverse Pregnancy Outcomes from Pharmaceuticals, including DDIs. Reproduction by Bioscientifica. 168 (6). DOI: https://doi.org/10.1530/REP-24-0183

Saporito, A.F., T. Gordon, B. Kim, T. Huynh, R. Khan, A. Raja, K. Terez, N. Camacho-Rivera, R. Gordon, J. Gardella, M. Katsigeorgis, R. Graham, T. Kluz, M. Costa, and D. Luglio. 2024. Skyrocketing Pollution: Assessing the Environmental Fate of July 4th Fireworks in New York City. Journal of Exposure Science and Environmental Epidemiology. DOI: https://doi.org/10.1038/s41370-024-00701-x

Presentations

Gardella, J., D. Abrahamsson, and J. Zelikoff. 2024. Estimating the Transplacental Transfer of Plastic Production Chemicals Using Machine Learning and *In Vitro* Assays with Human Trophoblast Cells to Understand Toxicity. Poster presentation at the 10th Annual New York City Epidemiology Forum; April 9, 2024.

Additional Publications

Gardella, J. 2023. How to Make the Most of Faculty and Admissions Meetings. Profellow.

Gardella, J., R. Johnson, N. Klouda, and C. Bell. 2022. Tourism Development Opportunities in Alaska's Yukon-Kuskokwim Delta. University of Alaska Center for Economic Development.

Gardella, J. 2022. I Received Multiple Fully Funded Grad School Offers (And You Can Too). Profellow.

Gardella, J. 2022. On Earth Day, A Visit with Anchorage Entrepreneurs Who Make Sustainability Their Mission. Alaska Journal of Commerce.

Gardella, J. 2021. Virtual Business Plan Competitions Overcome Digital Hurdles. Alaska Journal of Commerce.

Klouda, N., R. Johnson, and J. Gardella. 2021. Buy Local: The Impact of Spending at Local Business. University of Alaska Center for Economic Development.

J. Gardella. 2020. Entrepreneurship in the Y-K Delta. University of Alaska Center for Economic Development.