

Exponent®
Engineering & Scientific Consulting

Janet Anderson, Ph.D., DABT

Practice Director and Principal Scientist | Health Sciences
Austin
+1-512-634-2968 | janderson@exponent.com

Professional Profile

Janet Anderson, Ph.D., DABT, is a principal scientist and director of the Health Sciences practice at Exponent. She specializes in the toxicology of per- and polyfluoroalkyl substances (PFAS), emerging contaminants risk assessment, consumer and environmental exposure to chemicals, general disease causation analysis, and regulatory strategy, helping legal counsel, corporate risk managers, and trade associations navigate complex chemical liability, litigation, and compliance challenges.

Dr. Anderson is an internationally recognized leader in assessing the human health risks associated with unregulated and emerging chemicals, such as PFAS, 1,4-dioxane, and microplastics. She equips clients with the technical foundation to navigate varied governmental and legal actions across domestic and international jurisdictions. She has significant experience developing corporate risk management strategies for emerging and legacy chemicals, as well as providing clients with due diligence support concerning potential liability across the full lifecycle of product manufacturing, use, and disposal, as well as when evaluating mergers and acquisitions.

Dr. Anderson is a skilled communicator, often invited to address high-level scientific conferences, regulatory meetings, webinars, and community stakeholder meetings. She also serves as a testifying expert and supports clients in public and private stakeholder engagement. She excels at translating complex scientific information used to inform risk, regulatory, and public health decisions for different audiences and stakeholders. With an extensive background in evaluating emerging and legacy chemicals' toxic properties across divergent state, federal, and international regulatory paradigms, she supports the integration of scientifically informed processes in decision-making.

Human health and environmental stewardship

Dr. Anderson works regularly with legal counsel specializing in risk, compliance, and safety related to chemical and product stewardship in various industries, including national security, energy, aerospace, advanced materials manufacturing, technology, and specialty chemicals.

PFAS regulatory toxicology consulting

Dr. Anderson has extensive experience evaluating the toxicology and potential human and environmental risks associated with per- and polyfluoroalkyl substances (PFAS) and the disparate patchwork of evolving federal, state, and international regulations.

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General/specific disease causation

Dr. Anderson uses her training and expertise in molecular biology, toxicology, and risk assessment to determine whether a chemical is capable of producing a particular health effect in a given exposure scenario, including consumer product use, drinking water contamination, food/dietary exposures, occupational exposures, or other environmental exposure pathways. This work leverages her training in dose-response assessment, weight-of-evidence hazard identification, and exposure analysis to develop conclusions based on the best available science.

Human health toxicology and risk assessment

Dr. Anderson conducts site-specific risk assessments, including for CERCLA and numerous state-led cleanup sites. With in-depth knowledge of federal, state, and international guidance and policies pertaining to chemicals and human health risk assessment, she has developed strategies to mitigate potential human health impacts and address associated business risks for both private and public sector clients. She has experience and training in the derivation of chemical-specific cancer and noncancer toxicity values and their use within different regulatory and public health settings.

Academic Credentials & Professional Honors

Ph.D., Cell and Molecular Biology, University of Cincinnati, 2007

B.A., Biology, Wittenberg University, 2000

Licenses and Certifications

Diplomate of the American Board of Toxicology (DABT)

Prior Experience

Vice President and Principal, GSI Environmental Inc., Houston, Texas

Senior Consultant, Integral Consulting Inc., San Antonio, Texas

Emerging Issues and Contaminants Program Manager, Subject Matter Specialist – Toxicology, US Air Force Civil Engineer Center, San Antonio, Texas, 2010 – 2015

Post-Doctoral Fellow, National Center for Environmental Assessment, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio, 2007 - 2010

Professional Affiliations

Member of Society of Toxicology, Risk Assessment Specialty Section, Women in Toxicology Special Interest Group

Interstate Technology and Regulatory Council (ITRC) Workgroup member

- Per- and Polyfluoroalkyl substances (2017-2022)

- 1,4-Dioxane (2019- 2025)

- Microplastics (2022-2023)

Water and Health Advisory Council – Council member (2023-present)

Publications

(J.K. Anderson also Published as J.K. Hess-Wilson)

Dourson, M.L., Kougias, D.G., **Anderson, J.** and Onyema, C. (2026). Long Chain Per/Polyfluoroalkyl Acids (C8 and Above). In Patty's Toxicology (eds D.J. Paustenbach, W. Farland, H. Greim, J. Klaunig and L. Levy).

Bowles KC, **Anderson JK**, Anderson R, Bani B, Barnes CM, Brusseau M, Cousins IT, Cushing P, DiGuiseppi B, Gray B, Higgins CP. Implications of grouping per-and polyfluoroalkyl substances for contaminated site regulation. Remediation Journal 2024; 34(3):e21783.

Anderson JK, Schneider D, Knutson M, Puchacz Z. 2023. PFAS source differentiation guide for airports (No. ACRP Project 02-91). National Academies of Sciences, Engineering, and Medicine, Washington, DC: The National Academies Press. https://doi.org/10.17226/27164

Lafranconi M, **Anderson JK**, Budinsky R, Corey L, Forsberg N, Klapacz J, LeBaron MJ. An integrated assessment of the 1, 4-dioxane cancer mode of action and threshold response in rodents. Regulatory Toxicology and Pharmacology 2023; 105428.

Garvey GJ, **Anderson JK**, Goodrum PE, Tyndall KH, Cox LA, Khatami M, Morales-Montor J, Schoeny RS, Seed JG, Tyagi RK, Kirman CR. Weight of evidence evaluation for chemical-induced immunotoxicity for PFOA and PFOS: findings from an independent panel of experts. Critical Reviews in Toxicology 2023; 53(1):34–51.

Anderson JK, Brecher RW, Cousins IT, DeWitt J, Fiedler H, Kannan K, Kirman CR, Lipscomb J, Priestly B, Schoeny R, Seed J. Grouping of PFAS for human health risk assessment: Findings from an independent panel of experts. Regulatory Toxicology and Pharmacology 2022; 134:105-226.

Fey ME, Goodrum PE, Razavi NR, Whipps CM, Fernando S, **Anderson JK**. Is mixtures' additivity supported by empirical data? A Case Study of Developmental Toxicity of PFOS and 6:2 FTS in Wildtype Zebrafish Embryos. Toxics 2022; 10(8):418.

Guelfo JL, Korzeniowski S, Mills MA, **Anderson JK**, Anderson RH, Arblaster JA, Conder JM, Cousins IT, Dasu K, Henry BJ, Lee LS. Environmental sources, chemistry, fate and transport of per□and polyfluoroalkyl substances: State of the Science, Key Knowledge Gaps, and Recommendations Presented at the August 2019 SETAC Focus Topic Meeting. Environmental Toxicology and Chemistry, 2020.

Zodrow J, Vedagiri U, Sorell T, McIntosh L, Larson E, Hall L, ... **Anderson JK**. PFAS experts symposium 2: PFAS toxicology and risk assessment in 2021—contemporary issues in human and ecological risk assessment of PFAS. Remediation Journal 2022; 32(1–2):29-44.

Goodrum PE, **Anderson JK**, Luz AL, Ansell GK. Application of a framework for grouping and mixtures toxicity assessment of PFAS: a closer examination of dose-additivity approaches. Toxicological Sciences 2021; 179(2):262–278.

Mohr TK, DiGuiseppi WH, Hatton JW, **Anderson JK**. 2020. Environmental investigation and remediation: 1, 4-dioxane and other solvent stabilizers. CRC Press.

Iwai H, Hoberman AM, Goodrum PE, Mendelsohn E, **Anderson JK**. Addendum to Iwai and Hoberman – Reassessment of developmental toxicity of PFHxA in mice. Internat J Tox. 2014; 38(3):183–191.

Anderson JK, Luz AL, Goodrum P. Response to "Overgeneralization by Anderson et al. and Luz et al. regarding safety of fluorotelomer-base chemistry". Reg Tox Pharm. 2019; 105:100–101.

Anderson JK, Luz AL, Goodrum P, Durda J. Perfluorohexanoic acid toxicity, part II: application of human health toxicity value for risk characterization. Reg Tox Pharm. 2019; 103:10–20.

Luz AL, **Anderson JK**, Goodrum P, Durda J. Perfluorohexanoic acid toxicity, part I: development of a chronic human health toxicity value for use in risk assessment. Reg Tox Pharm. 2019; 103:41–55.

Anderson JK, Wilhelm J, Goodrum P. Emerging contaminants: an analysis of inconsistent U.S. regulations. Daily Environment Report. Bloomberg Bureau of National Affairs. August 2016.

Anderson RH, Long GC, Porter RC, **Anderson JK**. Occurrence of select perfluoroalkyl substances at U.S. Air Force aqueous film-forming foam release sites other than fire-training areas: field-validation of critical fate and transport properties. Chemosphere 2016; 150:678–685.

Anderson RH, **Anderson JK**, Bower PA. Co-occurrence of 1,4-dioxane with trichloroethylene in chlorinated solvent groundwater plumes at U.S. Air Force installations; fact or fiction. Integr Environ Assess Manag. 2012; 8(4):731–737.

Wang NCY, Zhao QJ, Wesselkamper SC, Lambert JC, Peterson D, **Hess-Wilson JK**. Application of computational toxicological tools and approaches in human health risk assessment I. A tiered surrogate approach. Regul Toxicol Pharmacol. 2012; 63:10–19.

Thomas RS, Clewell HC, Allen BC, Wesselkamper SC, Wang NY, Lambert JC, **Hess-Wilson JK**, Zhao QJ, Andersen ME. Application of transcriptional benchmark dose values in quantitative cancer and noncancer risk assessment. Toxicol Sci. 2011; 120(1):194–205.

Mazur CS, Kenneke JF, **Hess-Wilson JK**, Lipscomb JL. Differences between human and rat intestinal and hepatic bisphenol A glucuronidation and the influence of alamethicin on in vitro kinetic measurements. Drug Metab Dispos. 2010; 38(12):2232–2238.

Hess-Wilson JK. Bisphenol A may reduce the efficacy of androgen deprivation therapy in prostate cancer. Cancer Causes and Control 2009; 20(7):1029–1037.

Shah S, **Hess-Wilson JK**, Webb S, Daly H, Godoy-Tundidor S, Kim J, Boldison J, Daaka Y, Knudsen KE. 2,2-Bis(4-chlorophenyl)-1,1-dichloroethylene stimulates androgen independence in prostate cancer cells through combinatorial activation of mutant androgen receptor and mitogen-activated protein kinase pathways. Mol Cancer Res. 2008; 6(9):1507–1520.

Hess-Wilson JK, Webb SL, Daly HK, Leung YK, Boldison J, Comstock CES, Sartor MA, Ho SM, Knudsen KE. Unique bisphenol A transcriptome in prostate cancer: novel effects on ERβ expression that correspond to AR mutation status. Environ Health Perspect. 2007; 115(11):1646–1653.

Sharma A, Knudsen ES, **Hess-Wilson JK**, Morey LM, Barrera J, Knudsen KE. Retinoblastoma tumor suppressor status is a critical determinant of therapeutic response in prostate cancer cells. Cancer Res. 2007; 67(13):6192–6203.

Hess-Wilson JK, Daly HK, Zagorski WA, Montville CP, Knudsen KE. Mitogenic action of the androgen receptor sensitizes prostate cancer cells to taxane-based cytotoxic insult. Cancer Res. 2006; 66(24):11998–12008.

Wetherill YB*, **Hess-Wilson JK***, Comstock CES, Shah SA, Buncher CR, Sallans L, Limbach PA, Schwemberger S, Babcock GF, Knudsen KE. Bisphenol A facilitates bypass of androgen ablation therapy in prostate cancer. Mol Cancer Ther. 2006; 5(12):3181–3190. *Co-first authors.

Hess-Wilson JK, Boldison J, Weaver KE, Knudsen KE. Xenoestrogen action in breast cancer: impact on ER-dependent transcription and mitogenesis. Breast Cancer Res Treat. 2006; 96(3):279–292.

Hess-Wilson JK, Knudsen KE. Endocrine disrupting compounds and prostate cancer. Cancer Lett. 2006; 241(1):1–12—Invited review.

EPA Documents

USEPA. 2011. Volume I. EPA's re-analysis of key issues related to dioxin toxicity and response to NAS comments. Final review draft. EPA/600/R-10/038F. U.S. Environmental Protection Agency, Washington, DC. Contributing author.

USEPA. 2010. Provisional Peer-Reviewed Toxicity Values for 1,2-Dichloroethane (CASRN 107-06-2). EPA/690/R- 10/011F. Superfund Health Risk Technical Support Center, National Center for Environmental Assessment, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, OH. Chemical Manager

USEPA. 2010. Recommended toxicity equivalence factors (TEFs) for human health risk assessments of 2,3,7,8- tetrachlorodibenzo-p-dioxin and dioxin-like compounds. EPA/100/R 10/005. U.S. Environmental Protection Agency, Risk Assessment Forum, Washington, DC. Coauthor.

Project Experience

Human health toxicology and risk assessment

Review of Human Health Risk Assessment of PFAS in the Environment Associated with Aqueous Film Forming Foam (AFFF).

- Provided technical support and review of human health risk assessment work plan methodology and conclusions, derivation of screening levels for human health risks, and proposed risk-based remediation goals for airports contaminated with AFFF.

Toxicology Dossier for FluoroProducts and PFAS for Europe (FPP 4EU), Belgium.

- On behalf of Cefic's FPP 4EU group, principal investigator leading the collection and summary of information relevant to the human and ecological toxicity of select polymeric and nonpolymeric PFAS.

Expert Panel Member - PFAS Immunotoxicity Review, SciPinion.

- Supported an expert panel evaluation of PFAS immunotoxicity data (epidemiology, laboratory animal) for human health risk assessment.
- Compiled introductory summary information, guided the panel through deliberations, and supported the development of manuscript documenting findings and recommendations.

Expert Panel Lead - PFAS Grouping Strategies, SciPinion.

- Led an expert panel evaluation of PFAS grouping strategies for human health risk assessment.
- Compiled introductory summary information, guided the panel through deliberations, and led the development of manuscript documenting findings and recommendations.

Technical Peer Review of Federal and State Agency Chemical Technical Support Documents.

- Provides technical review of toxicology assessments, risk assessments, and guidance documents, including reviews of EPA IRIS assessments and Toxic Substances Control Act

(TSCA) risk evaluations, ATSDR toxicological profiles, California Office of Human Health and Environmental Assessment technical support documents, and other state regulatory agency assessments.

- Writes technical comment letters to state and federal agencies with comments related to scientific basis of proposed chemical rulemaking. Examples include 1,4-dioxane, PFAS, hexavalent chromium, 1,2,3-trichloropropane, pentachlorophenol, 4,4'-methylene bis(2-chloroaniline), and methylene chloride.

Federal Toxicology and Risk Assessment Reviews.

- Served as a member of the federal interagency review team providing consultation and expert review on nearly all toxicology assessments and guidance documents produced by EPA, NTP, and ATSDR from 2010-2015.
- Assessed the technical validity, transparency of decisions, adherence to agency and other federal guidance, and overall technical competency of the risk assessments.
- Work included submitting detailed written comments and participating in interagency teleconferences and working meetings.

Risk Assessment Related to Chemical Contaminants in Food.

- Developed noncancer and cancer screening levels and risk evaluations related to alleged presence of chemicals (e.g., PFAS, phthalates) in consumer and residential backyard food products.
- Evaluated intake rates, bioaccumulation factors, and potential adverse health effects to assess claims of potential human health risk.

CERCLA Baseline Human Health and Ecological Risk Assessments for PFAS.

- Served as principal in charge and technical lead for PFAS baseline human health and ecological risk assessments at numerous locations across the U.S., including Dept. of Defense installations, manufacturing locations and airports.
- Supported regulatory agency scoping discussions, development of the conceptual site model, selection of toxicity values, and defining exposure pathways and parameters for human health and ecological risk characterization.

Tribal-Specific Risk Assessments.

- Provided human health toxicology and exposure assessment, public training, and science communication to support a tribal community with unique exposure considerations from fish consumption and tribal land use.

State and Federal Cleanup Programs, Human Health Risk Assessments.

- Served as lead for human health risk assessments under CERCLA and various state-led cleanup program sites at locations across the U.S.
- Developed risk assessment conceptual site models and selected exposure parameters and toxicity values for assessing human health risks.

- Contaminants of potential concerns included natural inorganic compounds such as metals (e.g., manganese, lead, arsenic), as well as inorganic industrial chemicals and pesticides.

Human health and environmental stewardship

Technical and Regulatory Support for Trade Associations.

- Provides technical consulting and regulatory engagement support, including toxicology, exposure, chemistry, and science communication, to and on behalf of trade associations such as the metal and surface finishing industry, plastic pipes, agriculture, chemical industry, and polyurethane manufacturing.
- Represents clients in regulatory and legislative meetings and works to bring the best science to regulatory decisions related to potential human and environmental risks and mitigation strategies.

Emerging Issues and Contaminants Program Management, U.S. Air Force Civil Engineer Center, Lackland, Texas.

- Served as program manager of an emerging contaminants program. Oversaw support contractors, wrote documents, delivered presentations, led internal management briefings, and led department training sessions.
- Identified gaps in scientific knowledge that underlies USAF and DoD efforts to protect human and environmental health. Specific topics included vapor intrusion, PFAS, 1,4-dioxane, chlorinated solvents (trichloroethylene, tetrachloroethylene), and pesticides.
- Monitored evolving regulatory and political arenas to identify changes that could impact environmental cleanup costs, schedules, and procedures and policies.
- Developed programmatic recommendations for budget and resource needs to address environmental regulations and cleanup standards.

PFAS regulatory toxicology consulting

Due Diligence Support for Mergers and Acquisitions.

- Provides technical support concerning potential PFAS liability across the full lifecycle of manufacturing and associated with historical and current business practices and products.
- Provides technical support related to manufacturing, use, occupational exposures, potential environmental releases, and changing U.S. and European regulations.

PFAS Product Liability and Reporting Requirements.

- Provides technical support regarding PFAS presence in the industry’s current supply chain, products, and component parts.
- Reviews product literature and related manufacturing information. Supports client team with regulatory updates and technical expertise related to PFAS chemistries, uses, and regulations.
- Provides technical support related to product manufacturing formulations, use, occupational exposures, potential environmental releases, and changing U.S. and European regulations.

PFAS Site Assessments.

- Provides technical support regarding historical and current AFFF storage and operations and potential environmental concerns across a global portfolio of facilities.
- Develops detailed site assessment reports that consolidate and summarize available relevant site-specific information and current local regulatory landscape with regard to PFAS and AFFF use.
- Provides state-of-the-science updates and technical support related to regulatory and human health/environmental risks associated with AFFF use at manufacturing facilities, oil and gas operations, and airports.

Development of PFAS Source Differentiation Guidelines for Airports, for the National Academies of Science, Transportation Research Board.

- Served as the primary investigator leading the technical team's development of a guidebook and technical resources related to PFAS forensic analysis for airport environmental managers. (ACRP 02-91).

Deposition & Trial Testimony

Dr. Anderson has experience translating human health toxicology and risk information about alleged chemical exposures to help inform human health risk and disease causation allegations in international arbitration, multi-district litigation, and federal and state courts.

Expert and Consulting Services Related to Purported Community Exposures and Potential Cancer and Noncancer Risk.

- Provides expert and technical consulting services related to cancer risk and noncancer hazards associated with chemicals in community drinking water, soil and/or air.
- Assessments include cancer mode of action evaluation, weight-of-evidence toxicity assessment, exposure assessment, derivation of protective risk-based exposure levels, risk assessment, and appropriate risk communication to communities and other stakeholders.
- Examples include 1,4-dioxane, metals (arsenic, cadmium, lead, manganese, and nickel), methylmercury, 1,2,3-trichloropropane, dieldrin/aldrin, disinfection by-products, petroleum hydrocarbons, and PFAS.

Expert Services related to Consumer Product Liability Claims.

- Provides expert and technical consulting services related to alleged cancer risk and noncancer hazards associated with the general public's use of certain consumer products.
- Assessments include exposure analyses and chemical-specific and whole mixture risk assessment methodologies to assess potential human health risk and general disease causation.

Expert Services related to PFAS Chemistries, Toxicology, Exposure, Risk, and Regulatory Compliance.

- Provides technical support in litigation related to alleged environmental and/or drinking water exposures to PFAS resulting from aqueous film forming foam (AFFF) use, manufacturing, metal plating, and waste disposal, including analysis of toxicological information and regulations over time, assessment of disease causation and association evidence, and exposure evaluations for human health risk.

- Also provides critical reviews of site-specific human health risk assessment methodology and conclusions, derivation of screening levels for human health risks and proposed risk-based remediation goals for sites contaminated with PFAS.

Expert Services, Public testimony on PFAS Definitions and Chemistry, Toxicology, and Risk at state rulemaking hearing.

- Opinions relate to credible PFAS definitions, differences in PFAS chemistries, and related differences in toxicology and risk profiles.

Expert Services Related to Occupational Inhalation Exposures.

- Provides expert and consulting support related to the assessment of alleged occupational exposures to airborne chemicals, such as carbon monoxide, acetic acid, methyl iodide, and hydrogen sulfide.
- Opinions relate to potential acute inhalation exposure and potential adverse health impacts to workers.

Additional Education & Training

Post-Doctoral Fellow, EPA Office of Research and Development National Center for Environmental Assessment, Cincinnati, Ohio, 2007-2010