

Jason E. Johnston
Managing Scientist

Professional Profile

Mr. Jason E. Johnston is a Managing Scientist in Exponent's Health Sciences Center for Chemical Regulation and Food Safety. Mr. Johnston has 23 years of experience in the areas of exposure and risk assessment. He has conducted multiple exposure assessments in residential, occupational, hazardous waste sites, and consumer product settings for the U.S., Canada, EU, and South America using a variety of computer tools. Mr. Johnston manages and conducts dietary and non-dietary residential and occupational exposure assessments of pesticides, particularly those mandated by the EPA Food Quality Protection Act of 1996. He has extensive experience in using and interpreting the Pesticide Handler Exposure Database and European exposure databases. Mr. Johnston has also worked with industry task forces in developing a pesticide occupational exposure database and a regulatory screening model to estimate exposures to antimicrobial agents used in the home.

Mr. Johnston has also provided advice on scientific and regulatory matters related to environmental, occupational, and consumer exposure- and risk-related issues. He has assisted with the development of strategies for exposure mitigation using engineering controls, protective clothing, and improvement of label language pertaining to user safety. Additionally, he has managed and conducted assessments of dietary and non-dietary exposure to pesticides and other chemicals in support of registration, re-registration, and special review activities. Mr. Johnston has also performed scientific analyses of chemical storage, handling, and recycling processes; occupational health testing; and exposure modeling. He has analyzed environmental risk management policies and proposed federal regulations in an advocacy context.

Academic Credentials and Professional Honors

M.S., Technology and Policy, Massachusetts Institute of Technology, 1988
M.S., Chemical Engineering Practice, Massachusetts Institute of Technology, 1988
B.S., Chemical Engineering, Tulane University, 1986

National Science Foundation Graduate Fellowship, 1986–1988

Publications

Petersen BJ, Petersen SR, Barraj L, Johnston JE. Using two-day food consumption survey data for longitudinal dietary exposure analyses. In: *Assessing Exposures and Reducing Risks to People from the Use of Pesticides*. Seiber JN, Krieger RI, Ragsdale N (eds). Oxford Univ. Press, 2007.

Pirages SW, Johnston JE. Municipal waste combustion and new source performance standards: Use of scientific and technical information. In: *Keeping Pace with Science and Engineering: Case Studies in Environmental Regulation*. National Academy Press, Washington, DC, 1993.

Presentations

Reiss R, Johnston JE, DeSesso J, Tucker K. Pesticide residues on food: A mountain or a molehill. Presented at the Society for Risk Analysis (SRA) Annual Meeting, Charleston, SC, 2011.

Johnston JE, Bi X. Regulating pesticide products used in the home: Comparison of biomonitoring data and exposures estimated with regulatory models. Presented at the American Chemical Society (ACS) Semi-Annual Meeting, Denver, CO, 2011.

Johnston JE. Overview of risk assessment results for the JITF inert ingredient clusters. Presented as part of a Symposium (New challenges in formulation regulation for agrochemicals) at the American Chemical Society (ACS) Semi-Annual Meeting, San Francisco, CA, 2010.

Young B, Driver J, Zartarian V, Xue J, Smith L, Glen G, Johnston JE, Delmaar C, Tulve N, Evans J. Dermal, inhalation, and incidental exposure results from the models: How did they handle the data? Presented as part of a Symposium (State-of-the-science probabilistic aggregate and cumulative residential exposure models and recent residential exposure measurement studies: How the data and models compare) at the International Society for Environmental Epidemiology & International Society of Exposure Analysis Joint Annual Conference, Pasadena, CA, 2008.

Johnston JE, Smith K, Wang C, Petersen B, McCormick W, Shah H. A new model to assess incidental ingestion exposures to residential countertop cleaning products. Presented at the International Society of Exposure Analysis/International Society for Environmental Epidemiology Annual Conference, Paris, France, 2006.

Johnston JE, Petersen B, Petersen S. A data-matching algorithm to generate longitudinal dietary consumption pattern profiles. Presented at the International Society of Exposure Analysis Annual Conference, Philadelphia, PA, 2004.

Johnston JE, Merricks DL. Improvement in worker exposure and risk assessment using biomarkers: A case study. Presented at the Society for Risk Analysis Annual Meeting, New Orleans, LA, 2002.

Johnston JE, Walls CL, Petersen B. Calendex™: A calendar-based model to assess aggregate exposure. Presented at the International Society of Exposure Analysis Annual Conference, Charleston, SC, 2001.

Johnston JE, Walls CL. Calendex™ overview and results of aggregate assessments. Presented at the Scientist-to-Scientist Model Comparison Meeting of Residential Aggregate Human Exposure Models sponsored by the USEPA Environmental Research Center, Research Triangle Park, NC, 2001.

Johnston JE, Hentz K. Advanced topics in risk assessment. Day-long continuing education seminar presented at the Professional Conference on Industrial Hygiene sponsored by the American Academy of Industrial Hygiene, 1997 and 1998.

Johnston JE, Pirages SW. Policy implications of risk assessment in soil remediation programs. Presented at Superfund '92, Washington, DC, 1992.

Pirages SW, Johnston JE, Aylward L. Risk assessment: It's not really black magic. Presented at WasteTech '91, Toronto, Canada, 1991.

Posters

Duggan A, Johnston JE, Messina J, Akkari K, Hillebold D, Lindner G, McCain P. Use of cluster analysis in pesticide inert ingredient risk assessment. Presented at the Society of Toxicology (SOT) Annual Meeting, Washington, DC, 2011.

Johnston JE, Polakoff B, Driver J, Ross J. Use of biomonitoring data as surrogate data in regulatory decisions for occupational exposures to pesticides. Presented at the International Society for Exposure Science Annual Conference, Minneapolis, MN, 2009.

Johnston JE. Indoor residential exposure assessment for pesticides using Calendex™. Presented at the International Society for Environmental Epidemiology & International Society of Exposure Analysis Joint Annual Conference, Pasadena, CA, 2008.

Johnston JE. Analysis of the residential SOPs human activity patterns to prioritize data development. Presented at the International Society of Exposure Analysis Annual Conference, Tucson, AZ, 2005.

Johnston JE. Strategies to maximize use of existing data in probabilistic assessments of handler exposure. Presented at the International Society of Exposure Analysis Annual Conference, Stresa, Italy, 2003.

Johnston JE, Merricks DL. Use of biomonitoring to measure occupational exposures for mixer/loaders using closed liquid transfer systems. Presented at the International Society of Exposure Analysis/International Society for Environmental Epidemiology Annual Conference, Vancouver, British Columbia, Canada, 2002.

Johnston JE, Scrafford CG, Daniels CL. An examination of exposure database limitations. Presented at the International Society of Exposure Analysis/International Society for Environmental Epidemiology Annual Conference, Vancouver, British Columbia, Canada, 2002.

Project Experience

Developed a screening-level regulatory model for use in estimating dietary exposures to inert ingredients in pesticide products. The model permits inclusion of simple refinements, including limits on the inert concentration in formulated products and differentiation by product category (herbicide, insecticide, fungicide).

Developed a screening-level regulatory model with colleagues for use in estimating dietary exposures to antimicrobial residues from treated kitchen surfaces.

Prepared comments on a draft EPA exposure and risk assessment for residential and occupational uses of a pesticide undergoing re-registration review. Based on the submitted comments, EPA made significant changes in the revised assessment, resulting in improved characterization of pesticide use patterns, exposures, and risks.

Developed protocols for studies of occupational and residential exposures to pesticides. In one case, the study included the use of biomarkers, and risk assessments were prepared for submission to EPA and other national regulatory authorities using the biomonitoring data.

Developed a survey instrument to obtain information on pesticide uses by growers and incorporated results from the grower survey in refining exposure and risk calculations.

Developed a survey instrument to obtain information related to manufacturing levels and practices for high production volume chemicals and compiled data in support of an industry task force effort to prepare summary documents under the EPA and OECD high production volume chemical programs.

Conducted several assessments of dietary, occupational and residential exposures to pesticides in support of registration and re-registration activities in the U.S.

Conducted several exposure assessments for pesticide operators, workers, and bystanders in support of European Union registrations.

Created an aggregate exposure assessment using hypothetical data for multiple residential uses of a pesticide (crack and crevice, lawn, and garden applications) with proprietary software (CalendexTM).

Conducted exposure assessments for a variety of consumer products under California Proposition 65 regulations.

Designed strategy for an investigative study of using publicly available U.S. Census information to generate a statistical description of the distances between chemical plants, paper manufacturing facilities, and oil refineries and the nearest resident.

Professional Affiliations

- International Society of Exposure Science
- American Chemical Society