

Exponent®
Engineering & Scientific Consulting

Anne Loccisano, Ph.D., DABT

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Professional Profile

A board-certified toxicologist, Dr. Loccisano specializes in the development and application of computational modeling techniques, such as pharmacokinetic models, physiologically-based pharmacokinetic (PBPK) models, and probabilistic human health risk assessments. She has applied these types of models to various environmental toxicants and consumer products in order to predict human exposures and the resulting risks.

Dr. Loccisano also has expertise in human health risk assessment, toxicokinetics, and product stewardship, and she has a research background in computational chemistry.

Prior to joining Exponent, Dr. Loccisano was a Senior Scientist/Toxicologist with Reynolds American, Inc., where she performed exposure assessments as well as both deterministic and probabilistic risk assessments of consumer products in support of regulatory submissions. She contributed to the development of reference risk values and cancer slope factors for various constituents found in consumer products in order to support risk assessments for regulatory compliance. Additionally, her work included product stewardship of a variety of consumer products.

During her postdoctoral work at the USEPA/NCEA/IRIS, Dr. Loccisano developed and applied PBPK models to various chemicals of Agency concern. She also contributed to a number of chemical assessments through evaluation of dose-response, mode-of-action, and toxicokinetic data. During her postdoctoral work at the Hamner Institutes, Dr. Loccisano developed and applied PBPK models for perfluorinated surfactants (PFOA and PFOS) for several species and life stages for use in human health risk assessment.

Academic Credentials & Professional Honors

Ph.D., Chemistry, Duquesne University, 2007

B.S., Chemistry, Allegheny College, 2001

Postdoctoral Fellow at National Center for Environmental Assessment/Integrated Risk Information System (NCEA/IRIS), U.S. Environmental Protection Agency, 2012

Postdoctoral Fellow, The Hamner Institutes for Health Sciences, 2011

Annual R&D 2015 Leadership Award, Application of Computational Models in Stewardship," Reynolds American Incorporated, Winston-Salem, NC

Best Postdoctoral Paper Award (Postdoctoral Assembly), 52nd Annual SOT meeting, San Antonio, TX, 2013

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Top Ten Best Abstract Award (Risk Assessment Specialty Section), 51st Annual SOT meeting, San Francisco, CA, 2012

Perry J. Gehring Best Postdoctoral Fellow Abstract Award (Biological Modeling Specialty Section), 50th Annual SOT meeting, Washington, DC, 2011

Perry J. Gehring Best Postdoctoral Fellow Abstract Award (Risk Assessment Specialty Section), 49th Annual SOT meeting, Salt Lake City, UT, 2010

Licenses and Certifications

Diplomate of the American Board of Toxicology (DABT)

Prior Experience

Senior Scientist/Toxicologist, Reynolds American Inc., 2012-2015

Professional Affiliations

Society of Toxicology (SOT), 2009-present Participant - ToXchange Task Force (2011-2014)

- Postdoctoral representative - Risk Assessment Specialty Section (2009-2012)
- Postdoctoral representative - Continuing Education Committee (2009-2010)
- Councilor - Postdoctoral Assembly of SOT (2010-2011)
- Reviewer - Served as reviewer for Risk Assessment Specialty Section Best Paper Award (2014) and reviewer for SOT session proposals (2015)
- Member of Risk Assessment Specialty Section Endowment Fund Committee
- Member of Biological Modeling, Risk Assessment, Medical Devices, Food Safety, and Regulatory & Safety Evaluation Specialty Sections
- Member of North Carolina and National Capital Area Regional Chapters

Society for Risk Analysis, 2011-present

American Chemical Society, Division of Chemical Toxicology, 2000-present

Publications

Verner M-A, Loccisano AE, Morken N-H, Yoon M, Wu H, McDougall R, Maisonet M, Marcus M, Kishi R, Miyashita C, Chen M-H, Hsieh W-S, Andersen M, Clewell HJ III, Longnecker MP. Associations of perfluoroalkyl substances (PFASs) with lower birth weight: An evaluation of potential confounding by glomerular filtration rate using a Physiologically Based Pharmacokinetic Model (PBPK). Environmental Health Perspectives, May 22, 2015 [Epub ahead of print]. DOI:10.1289/ehp.1408837.

Campbell J, Van Landingham C, Crowell S, Gentry R, Kaden D, Fiebelkorn S, Loccisano AE, Clewell HJ III. A preliminary regional PBPK model of lung metabolism for improving species-dependent descriptions of 1,3-butadiene and its metabolites. Chemico-Biological Interactions 2015; 238:102-110.

Loccisano AE, Longnecker MP, Campbell JL, Jr., Butenhoff JL, Andersen ME, Clewell HJ, III.

Development of PBPK models for PFOA and PFOS for human pregnancy and lactation life stages. Journal of Toxicology and Environmental Health Part A, 2013; 76:25-57.

Loccisano AE, Campbell JL, Jr., Butenhoff J, Andersen ME, Clewell HJ, III. Evaluation of placental and lactational transfer pharmacokinetics of PFOA and PFOS in the pregnant, lactating, fetal and neonatal rat using a physiologically based pharmacokinetic model. Reproductive Toxicology 2012; 33:468-490.

Loccisano AE, Campbell JL, Jr., Butenhoff J, Andersen ME, Clewell HJ, III. Comparison and evaluation of pharmacokinetics of PFOA and PFOS in the adult rat using a physiologically-based pharmacokinetic model. Reproductive Toxicology 2012; 33:452-467.

Loccisano AE, Campbell JL, Jr., Andersen ME, Clewell HJ, III. Evaluation and prediction of pharmacokinetics of PFOA and PFOS in the monkey and human using a PBPK model. Regulatory Toxicology and Pharmacology 2011; 59:157-175.

Book Chapters

Szabo DT, Loccisano AE. POPs and human health risk assessments. In: Dioxins and Persistent Organic Pollutants: Health and Toxicity, Third Edition. Schecter A (ed), John Wiley & Sons, 2011.

Szabo DT, Loccisano AE. Hexachloronaphthalene. In: Encyclopedia of Toxicology, Third Edition. Wexler P (ed), Elsevier, San Diego, CA, 2014.

Selected Abstracts

Szabo DT, Loccisano AE, Gad SE, Potts R, Theophilus E. Consumer exposure and risk assessment of ingredients in liquids of e-cigarettes: A practical approach for industry and regulators. Society of Toxicology, San Diego, CA, 2015.

Van Landingham C, Crowell S, Gentry R, Kaden D, Fiebelkorn SA, Loccisano AE. A regional model of lung metabolism for improving species-dependent descriptions of 1,3-Butadiene and its metabolites. Poster presentation, 2014 Annual SOT meeting, Phoenix, AZ, March 2014.

Verner M, Loccisano AE, Yoon M, Wu H, McDougall R, Maisonet M, Marcus M, Kishi R, Miyashita C, Chen M, Hsieh W, Andersen ME, Clewell HJ. The association between prenatal exposure to perfluoroalkyl substances (PFAS) and reduced birth weight: Is glomerular filtration rate the underlying cause? Poster presentation, 2014 Annual SOT meeting in Phoenix, AZ, March 2014.

Loccisano AE, DeWoskin RS, Schlosser PM, Sasso AF, D'Amico LJ. A modified PBPK model for RDX (hexahydro-1,3,5-trinitro-1,3,5-triazine) to improve rat to human toxicokinetic extrapolation. Poster presentation, 2013 Annual SOT meeting in San Antonio, TX, March 2013.

Loccisano AE, Longnecker MP, Campbell JL, Butenhoff JL, Andersen ME, Clewell HJ. Use of PBPK models to evaluate associations in epidemiologic studies of reproductive outcomes with PFOA and PFOS concentrations. Poster presentation, 2012 Annual SOT meeting, San Francisco, CA, March 2012.

Loccisano AE, Longnecker MP, Campbell JL, Andersen ME, Clewell HJ. Use of physiologically-based pharmacokinetic models to assess whether epidemiologic associations are due to reverse causality. Poster presentation, SRA 2011 Annual Meeting, Charleston, SC, December 2011.

Loccisano AE, Longnecker MP, Andersen ME, Butenhoff JL, Clewell HJ. Development of human gestation and lactation PBPK models for perfluoroalkyl acids (PFOA and PFOS) to examine reproductive outcomes. Poster presentation, Dioxin 2011 conference, Brussels, Belgium, August 2011.

Loccisano AE, Andersen ME, Butenhoff JL, Clewell HJ. Development of human gestation and lactation PBPK models perfluorooctanoic acid (PFOA) and perfluorooctanesulfonate (PFOS). Poster presentation,

2011 Annual SOT Meeting, Washington, DC, March 2011.

Loccisano AE, Andersen ME, Clewell HJ. Development of rat gestation and lactation PBPK models for PFOA & PFOS. Poster presentation given at PFAA Days III Symposium, Research Triangle Park, NC, June 2010.

Loccisano AE, Tan YM, Andersen ME, Clewell HJ. Development of a rat gestation PBPK model for PFOA/PFOS. ID 1384 Platform presentation given at the 2010 Annual SOT meeting, Salt Lake City, UT, March 2010.

Loccisano AE, Tan YM, Andersen ME, Clewell HJ. Development of a PBPK model for PFOA during gestation in the rat. ID 2258 Poster presentation, 2009 Annual SOT meeting, Baltimore, MD, March 2009.

Peer Reviews

Served as a reviewer for various journals, including: Toxicological Sciences, Journal of Agricultural and Food Chemistry, Toxicology and Applied Pharmacology, and Regulatory Toxicology and Pharmacology, and reviewed publications as requested.