

Amy Lavin Williams, Ph.D., DABT
Managing Scientist

Professional Profile

Dr. Amy Williams is a Managing Scientist in Exponent's Health Sciences Center for Toxicology and Mechanistic Biology. She is a board-certified toxicologist with over 18 years of experience in the evaluation of industrial chemicals, crop protection compounds, and pharmaceuticals for potential adverse effects on human health. Dr. Williams specializes in general toxicology, developmental and reproductive toxicology, regulatory support, and risk assessment.

Prior to joining Exponent, Dr. Williams attained the position of Principal Scientist at Noblis/Mitretek Systems, where she provided toxicological analysis and support to both government and commercial clients related to chemicals of concern for environmental clean-up, drug substances and excipients, veterinary pharmaceuticals, and crop-protection compounds. Her expertise includes trichloroethylene, perchloroethylene, polybrominated diphenyl ethers, glyphosate, naphthalene, hydrogen peroxide, RDX, radiofrequency, methylphenidate, and ethylene oxide. Additionally, Dr. Williams has lectured on principles of basic toxicology and worked on programs related to chemical and biological warfare agents for the Department of Defense and the development of predictive toxicity measures for chemicals of concern for the Department of Homeland Security.

Dr. Williams also held the position of Scientific Program Manager at the International Life Sciences Institute (ILSI), Health and Environmental Sciences Institute (HESI), where she directed a diverse set of projects related to the development and application of toxicology data in safety risk assessment. She managed expert committees examining alternatives to carcinogenicity testing, immunotoxicology, the evaluation of epidemiology studies, and the development of biomarkers for safety assessment. In this position, her responsibilities included research project development and coordination, technical writing, and the organization of conferences and meetings.

Academic Credentials and Professional Honors

Ph.D., Toxicology, University of Rochester, 1998
M.S., Toxicology, University of Rochester, 1997
B.Sc., Toxicology and Human Biology, University of Toronto (*with distinction*), 1992

Mitretek Board of Trustees Award for Excellence, in recognition of achievements by the Toxicology Research Program, 2000

Noblis/Mitretek Technology Leadership Awards (4), 2005–2008

Licenses and Certifications

Diplomate of the American Board of Toxicology, 2007–present

Publications

DeSesso JM, Lavin Williams A. Contrasting the gastrointestinal tracts of mammals: Factors that influence absorption. Chapter 21. *Annual Reports in Medicinal Chemistry* 2008; 43:353–371.

Lavin Williams A, DeSesso JM. Trichloroethylene and ocular malformations: Analysis of extant literature. *Int J Toxicol* 2008; 27(1):81–95.

Collins JJ, Bukowski JA, Weed DL, Brent RL, Klein P, Boerstoeel-Steeffland M, Sprafka M, Lavin AL, Murphy PA. Evaluating emerging issues in epidemiology. *Regul Toxicol Pharm* 2007; 48(3):296–307.

Watson RE, Jacobson CF, Williams AL, Howard WB, DeSesso JM. Trichloroethylene-contaminated drinking water and congenital heart defects: A critical analysis of the literature. *Reproductive Toxicol* 2006; 21(2):117–147.

Holsapple MP, Burns-Naas LA, Hastings KL, Ladics GS, Lavin AL, Makris SL, Yang Y, Luster MI. A proposed testing framework for developmental immunotoxicology (DIT). *Toxicol Sci* 2005; 83(1):18–24.

Kawabata TT, Haggerty HG, Lavin AL, Adkinson NF. Meeting report. Immune-mediated hypersensitivity reactions (IDHR) workshop. *J Immunotoxicology* 2004; 1(3-4):201–205.

MacDonald J, French JE, Gerson RJ, Goodman J, Inoue T, Jacobs A, Kasper P, Keller D, Lavin A, Long G, McCullough B, Sistare FD, Storer R, van der Laan JW. The utility of genetically modified mouse assays for identifying human carcinogens: A basic understanding and path forward. *Toxicol Sci* 2004; 77(2):188–194.

Wyman A, Lavin AL, Wilding GE, Gasiewicz TA. 2,3,7,8-Tetrachlorodibenzo-p-dioxin does not directly alter the phenotype of maturing B cells in a murine co-culture system. *Toxicol Appl Pharmacol* 2002; 180(3):164–177.

DeSesso JM, Lavin AL. Should trichloroethylene be classified as a human carcinogen? *Hum Ecol Risk Assess* 2001; 7(4):651–655.

DeSesso JM, Lavin AL, Hsia SM, Mavis RD. Assessment of the carcinogenicity associated with oral exposures to hydrogen peroxide. *Food Chem Toxicol* 2000; 38(11):1021–1041.

Lavin AL, Jacobson CF, DeSesso JM. An assessment of the carcinogenic potential of environmental exposures of trichloroethylene (TCE) to humans. *Hum Ecol Risk Assess* 2000; 6(4):575–641.

Lavin AL. The role of bone marrow stroma in mediating TCDD-dependent alterations in lymphopoiesis. Dissertation, University of Rochester, NY, 1998.

Lavin AL, Hahn DJ, Gasiewicz TA. Expression of functional aromatic hydrocarbon receptor and aromatic hydrocarbon nuclear translocator proteins in murine bone marrow stromal cells. *Arch Biochem Biophysics* 1998; 352(1):9–18.

Published Abstracts/Presentations

Lavin Williams A, DeSesso JM. Comparative mammalian gastrointestinal absorption: The influence of various gastrointestinal factors. Presented at the 2009 Annual Meeting of the Society of Toxicology, Baltimore, MD, March 2009.

Watson RE, Lavin Williams A, Farmer DR, DeSesso JM. Is glyphosate a developmental and/or reproductive toxicant? A critical analysis of the literature. Presented at the 2006 Annual Meeting of the Teratology Society, Tucson, AZ, June 2006.

Watson RE, Jacobson CF, Lavin Williams A, Howard WB, DeSesso JM. Gestational exposure to trichloroethylene and risk of congenital heart defects: An assessment. Presented at the 2005 Annual Teratology Society Meeting, St. Petersburg, FL, June 2005.

HESI Epidemiology Project Committee. Guidelines for evaluating emerging issues in epidemiology. Presented at the 2003 Annual Meeting of the Society for Risk Analysis, Baltimore, MD, December 2003.

Holsapple M, Lavin A, and Immunotoxicology Technical Committee. Developmental immunotoxicology testing (DIT): Development of a testing framework. Presented at the 2003 Annual Eurotox Meeting, Florence, Italy, September 2003.

Lavin AL, DeSesso JM. An assessment of the human risks associated with radiofrequency exposure. Presented at the 41st Annual Meeting of the Society of Toxicology, Nashville, TN, March 2002.

DeSesso JM, Lavin AL, Hsia SM, Mavis RD. Absence of potential carcinogenicity associated with hydrogen peroxide exposures. Presented at the 2000 Annual Meeting of the Society for Risk Analysis, Arlington, VA, December 2000.

Lavin AL, Jacobson CF, DeSesso JM. An assessment of the carcinogenic potential of trichloroethylene exposure in humans. Presented at the 2000 Annual Meeting of the Society for Risk Analysis, Arlington, VA, December 2000.

Lavin AL, Gasiewicz TA. 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD)-dependent alterations in B cell lymphopoiesis are mediated at the lymphocyte level directly. *Toxicologist* 48:216. Presented at the 1999 Annual Meeting of the Society of Toxicology, New Orleans, LA, March 1999.

Lavin AL, Hahn DJ, Gasiewicz TA. Aromatic hydrocarbon receptor expression in murine primary bone marrow stromal cell cultures. *Toxicologist* 42:386. Presented at the 1998 Annual Meeting of the Society of Toxicology, Seattle, WA, March 1998.

Lavin AL, Gasiewicz TA. Bone marrow stromal cell expression of the aromatic hydrocarbon receptor. *Toxicologist* 36:127. Presented at the 1997 Annual Meeting of the Society of Toxicology, Cincinnati, OH, March 1997.

Lavin AL, Kent TA, Gasiewicz TA. Modification of the differential display technique: Use in the identification of TCDD-regulated genes. *Toxicologist* 30:326. Presented at the 1996 Annual Meeting of the Society of Toxicology, Anaheim, CA, March 1996.

Lavin AL, Hinchman CA, Troung AT, Ballatori N. Is γ -glutamyltransferase present within the sinusoidal spaces of rat liver? *Toxicologist* 13:199. Presented at the 1993 Annual Meeting of the Society of Toxicology, New Orleans, LA, March 1993.

Other Presentations by Invitation

DeSesso JM, Lavin Williams A. TCE assessments: status and prognosis. Presented at the Air Force Center for Environment and Engineering Technology Transfer Workshop, San Antonio, TX, March 25, 2008.

Lavin Williams A, DeSesso JM. Hemopure. A mode of action that does not exist in humans. Presented to the 2007 Noblis Interns, Falls Church, VA, June 2007.

Lavin AL. Biomarkers of cardiac, renal and testicular drug toxicities. Presented at the Association of Government Toxicologists Meeting, Bethesda, MD, March 2004.

Greenlee W, Chui W, Kelsh M, Bull R, Swenberg J, Clewell H, Bois F, Rhomberg L, Lavin A, Bussard D, Zeise L, Coglianò J. Issues in the health risk assessment of trichloroethylene (TCE). Panel discussion participant at The Toxicology Forum, Aspen, CO, July 2003.

Lavin AL. Overview of scientific programs at the ILSI Health and Environmental Sciences Institute. Presented to the Department of Pharmacology and Toxicology at Michigan State University, Lansing, MI, September 2002.

Lavin AL, DeSesso JM. Data for trichloroethylene—Kidney tumors in rodents suggest an epigenetic mechanism of action. Presented at the International Conference on Non-Linear Dose-Response Relationships in Biology, Toxicology and Medicine, Amherst, MA, June 2002.

DeSesso JM, Lavin AL. Background and status of the trichloroethylene (TCE) controversy. Keynote address presented at the Air Force Center for Environmental Excellence Cleanup Technology Workshop, San Antonio, TX, March 2002.

Lavin AL, DeSesso JM. Relevance of changes in the field of toxicology to setting clean-up goals. Presented at the 1999 Conference on Remediation of Subsurface Contaminants: The Meaning and Measures of Success, Amelia Island, FL, November 1999.

Professional Affiliations

- American Board of Toxicology, Diplomate
- American College of Toxicology, Regular Member
- Society of Toxicology, Associate Member
- National Capital Area Chapter of the Society of Toxicology, Full Member