Ted W. Simon, Ph.D., DABT

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Summary

Award winning toxicologist and scientist. 10+ years' experience as a toxicologist employed by the Environmental Protection Agency (EPA). 10+ years consulting and expert witness experience. Served as EPA's senior toxicologist in the waste management division working on risk and soil cleanup. Well published, including author of textbook on toxicology and environmental risk assessment and a reference work on pesticides. Experienced expert witness on issues including environmental risk, Illegal drugs, pharmaceuticals, alcohol and marijuana, DUI, accidental poisoning, and intellectual property. Expertise in toxicology, risk assessment, mathematical modeling, statistics, neuroscience, and environmental/ecological health issues. Interest and expertise in the effects and testing of alcohol, marijuana and pharmaceuticals, perfluorinated chemicals, arsenic, chromium, benzene and other solvents. Extensive national and international public speaking experience. 15+ years teaching experience.

Professional Certification

1994 -	Diplomate of the American Board of Toxicology (DABT)

Employment History

2004 - present	Principal, Ted Simon, LLC, Winston, GA
2006 - present	Adjunct Professor, Environmental Health Science, College of Public Health, University of Georgia, Athens, GA
1996 - 2006	Toxicologist, US Environmental Protection Agency, Region 4, Atlanta, GA
2003	Instructor, Department of Biology, Georgia State University, Atlanta, GA
2001 - present	Instructor, Department of Environmental Health Science, University of Georgia, Athens, GA
1996	Environmental Health Scientist, Agency for Toxic Substances and Disease Registry/Centers for Disease Control, Atlanta, GA
1994 - 1996	Toxicologist, US Environmental Protection Agency, Region 4, Atlanta, GA
1993 - 1994	Project Scientist, ManTech Environmental Inc., USEPA Region 4, Atlanta, GA
1993	Assistant Professor of Biology, Life College, Marietta, GA
1991 - 1993	Georgia State University, Postdoctoral Research Associate, Atlanta, GA
1989 - 1991	Emory University, Postdoctoral Research Fellow, Atlanta, GA
1982 - 1988	Georgia State University, Research/Teaching Assistant, Atlanta, GA

Publications

BOOKS

- Anderson SA, **Simon TW**. (2018) *Defending Pesticides in Litigation 2018 Edition*.Thompson Reuters, ISBN: 978-0-314-84654-9
- **Simon T**. *Environmental Risk Assessment: A Toxicological Approach*. (2014) Textbook for Graduate Risk Assessment Courses, CRC Press ISBN 978-1466598294

PEER-REVIEWED JOURNAL ARTICLES

- Bell SM, Chang X, Wambaugh JF, Allen DG, Bartels M, Brouwer KLR, Casey WM, Choksi N, Ferguson SS, Fraczkiewicz G, Jarabek AM, Ke A, Lumen A, Lynn SG, Paini A, Price PS, Ring C, **Simon TW**, Sipes NS, Sprankle CS, Strickland J, Troutman J, Wetmore BA, Kleinstreuer NC. (2017) In vitro to in vivo extrapolatin for high throughput prioritization and decision making. *Toxicol In Vitro* 47:213-227.
- Becker RA, Dreier DA, Manibusan MK, Cox LA, **Simon TW**, Bus JS. (2017) How Well Can Carcinogenicity Be Predicted By High Throughput "Characteristics of Carcinogens" Mechanistic Data? *Regul Toxicol Pharmacol* 80:185-196

- **Simon TW**, Zhu Y, Dourson ML, Beck N. (2016) Bayesian Methods for Uncertainty Factor Application for Derivation of Reference Values. *Regul Toxicol Pharmacol* 80:9-24.
- Beck NB, Becker RA, Erraguntla N, Farland WH, Grant RL, Gray G, Kirman C, Lakind JS, Lewis RJ, Nance P, Pottenger LH, Santos SL, Shirley S, **Simon T**, Dourson ML. (2016) Approaches for describing and communicating overall uncertainty in toxicity characterizations: U.S. Environmental Protection Agency's Integrated Risk Information System (IRIS) as a case study. *Environ Int* 89-90:110-128.
- Becker RT, Patlewicz G, **Simon TW**, Rowlands JC, Budinsky RA (2015) The adverse outcome pathway for rodent liver tumor promotion by sustained activation of the aryl hydrocarbon receptor. *Regul Toxicol Pharmacol* 73:172-90.
- **Simon TW**, Budinsky RA, Rowlands JC. (2015) A Model for Aryl Hydrocarbon Receptor-Activated Gene Expression Shows Potency and Efficacy Changes and Predicts Squelching due to Competition for Transcription Co-activators. *PLOS ONE*, 10(6):e0127952
- Becker RA, Friedman KP, **Simon TW**, Marty MS, Patlewicz G, Rowlands JC. (2014) An exposure:activity profiling method for interpreting high-throughput screening data for estrogenic activity-Proof of concept. *Regul Toxicol Pharmacol* **71:**398-408.
- Patlewicz G, **Simon TW**, Rowlands JC, Budinsky RA, Becker RA. (2015) Proposing a scientific confidence framework to help support the application of adverse outcome pathways for regulatory purposes. *Regul Toxicol Pharmacol* **71:**463-477.
- **Simon TW,** Simons SS Jr., Preston RJ, Boobis AR, Cohen SM, Doerrer NG, Fenner-Crisp PA, McMullin T, McQueen CA, Rowlands JC (2014) The Use of Mode of Action Information in Risk Assessment: Quantitative Key Events / Dose-Response Framework (Q-KEDRF) for Modeling the Dose-Response for Key Events. *Crit Rev Toxicol* 44 Suppl 3:17-43.
- Budinsky, RA, Schrenk D, **Simon T**, Van den Berg M, Reichard JF, Silkworth JB, Aylward LL, Brix A, Kaminski N, Perdew G, Starr TB, Walker NJ, Rowlands JC (2014) Mode of action and dose-response framework analysis for receptor-mediated toxicity: the aryl hydrocarbon receptor as a case study. *Crit Rev Toxicol* **44**(1):83-119
- Patlewicz G, **Simon T**, Goyak K, Phillips RD, Rowlands JC, Seidel SD, Becker RA. (2013) Use and Validation of HT/HC Assays to support 21st century toxicity evaluations. *Regul Toxicol Pharmacol* 65(2):259-68.
- Stephens ML, Andersen M, Becker RA, Betts K, Boekleheide K, Carney E, Chapin R, Devlin D, Fitzpatrick S, Fowle JR, Harlow P, Hartung T, Hoffmann S, Holsapple M, Jacobs A, Judson R, Naidenko O, Pastoor T, Patlewicz G, Rowan A, Scherer R, Shakih R, **Simon T**, Wolf D, Zurlo J. (2013) Workshop Report: Evidence-based Toxicology for the 21st Century: Opportunities and Challenges. *ALTEX* **30**:74-103.
- Patlewicz G, **Simon T**, Goyak K, Phillips RD, Rowlands, JCR, Seidel S and Becker RA (2013) Use and Validation of HT/HC Assays to Support 21st Century Toxicity Evaluations. *Regul Toxicol Pharmacol* 5:1-7.
- Kirman C, Budinsky, RA, Yost L, Baker BF, Zabik JM, Rowlands JC, Long TF, **Simon T** (2011) Derivation of Soil Clean-Up Levels for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) Toxicity Equivalence ($TEQ_{D/F}$) in Soil Through Deterministic and Probabilistic Risk Assessment of Exposure and Toxicity. *Human and Ecological Risk Assessment* **17**(1): 125-158.
- Budinsky RA, LeClyuse EL, Ferguson SS, Rowlands JC, **Simon T** (2010) Human and Rat Primary Hepatocyte CYP1A1 and 1A2 Induction with 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD), 2,3,7,8-Tetrachlorodibenzofuran (TCDF) and 2,3,4,7,8-Pentachlorodibenzofuran (4-PeCDF). *Toxicol Sci* **118**(1):224-235.
- **Simon T** (2010) Just Who is at Risk? The Ethics of Environmental Regulation. *Hum Exp Toxicol* **30**(8):795-819.
- **Simon T**, Kirman, CR, Aylward LL, Budinsky RA, Rowlands JC (2009) Estimates of Cancer Potency of 2,3,7,8-Tetrachlorodibenzo(p)dioxin using Linear and Non-linear Dose-Response Modeling and Toxicokinetics. *Toxicol Sci* **112**(2):490-506.
- **Simon T**, Kirman, CR, Aylward LL, Budinsky RA, Rowlands JC, Long T (2008) Estimates of Cancer Potency For 2, 3, 4, 7, 8-Pentachlorodibenzofuran Using Both Nonlinear and Linear Approachs. *Toxicol Sci* **106**(2):519-537.

- **Simon T**, Britt JK, James RC (2007) Development of a Neurotoxic Equivalence Scheme of Relative Potency for Assessing the Risk of PCB Mixtures. *Regul Toxicol Pharmacol* **48:**148-170.
- **Simon T** and Manning R (2006) Development of a Reference Dose for the Persistent Congeners of Weathered Toxaphene based on *in vivo* and *in vitro* effects Related to Tumor Promotion. *Regul Toxicol Pharmacol* **44:**268-281.
- **Simon T** (2000) In Defense of Risk Assessment: a Reply to the Environmental Justice Movement's Critique. *Human and Ecological Risk Assessment* **6**(4)**:**556-560.
- Englehardt JD, **Simon T** (1999) Order Amid Uncertainty. *Civil Engineering*, American Society of Civil Engineers, **69**(6):8A-13A.
- **Simon T** (1999) Two-Dimensional Monte Carlo Simulation and Beyond: A Comparison of Several Probabilistic Risk Assessment Methods applied to a Superfund Site. *Human and Ecological Risk Assessment* **5**(4):823-843.
- **Simon T** (1997) Combining Physiologically Based Pharmacokinetic Modeling with Monte Carlo Simulation to Derive an Acute Inhalation Guidance Value for Trichloroethylene. *Regul Toxicol Pharmacol* **26**:257-270.
- **Simon T**, Barnes K (1995) Olfaction and Prey Search in the carnivorous leech, *Haemopis marmorata*. *J Exp Biol* **199:**2041-2051.
- **Simon T**, Derby CD (1995) Mixture Suppression with inhibition for binary mixtures from whole cell patch clamp studies of *in situ* olfactory receptor neurons of the spiny lobster. *Brain Res* **678**(1-2):213-224.
- **Simon T**, Schmidt, J, Calabrese RL (1994) Modulation of High Threshold Transmission Between Heart Interneurons of the Medicinal Leech by FMRF-NH2. *J Neurophysiol* **71:**454-466.
- **Simon T**, Opdyke CA, Calabrese RL (1992) Modulatory effects of FMRF-NH2 on the outward currents and oscillatory activity in heart interneurons of the medicinal leech. *J Neurosci* **12**(2):525-537.
- **Simon T**, Edwards DH (1990) Light-evoked walking in crayfish: Behavioral and neuronal responses triggered by the caudal photoreceptor. *J Comp Physiol A* **166:**745-755
- Hershey SJ, **Simon T**, Baste C (1975) Histochemical localization of cytochrome oxidase in gastric mucosa. J Histochem Cytochem 4:271-282.

Abstracts

- **Simon TW**, Zhu Y, Dourson ML, Beck NB. (2016) Bayesian Methods Application: Proof of Concept and Pitfalls. Society of Toxicology Annual Meeting, New Orleans, LA
- **Simon TW**, Beck NB (2015) Bayesian Methods for Uncertainty Factor (UF) Application: Proof of Concept. Society of Risk Analysis Annual Meeting, T2-A.3, Arlington, VA
- Canady RA, **Simon TW**. (2015) Disruptive Arrival of Big Data to Food Intake Assessment. Society of Risk Analysis Annual Meeting, M2-H.1, Arlington, VA
- Ruiz P, **Simon T**, Mumtaz M (2014) Interpreting NHANES Biomonitoring Data: Dioxins. Abstract 96d, The Toxicologist—An official Journal of the Society of Toxicology, Volume 138, Issue 1, March
- Becker R, **Simon T**, Patlewicz, G, Kennedy S, Farhat A, Budinsky R. (2014) Improving The Development Of Adverse Outcome Pathways: Lessons Learned From The AHR Rodent Liver Tumor and AHR Avian Teratogenicity/Embryolethality AOPs. Abstract 2253 The Toxicologist—An official Journal of the Society of Toxicology, Volume 138, Issue 1, March
- **Simon T**. (2014) Evidentiary Standards for Neuroactive and Neurotoxic Drug Testing (2014) Abstract 723, The Toxicologist—An official Journal of the Society of Toxicology, Volume 138, Issue 1, March
- Becker R, Patlewicz G, **Simon T**, Goyak K, Phillips R, Rowlands JC, Seidel S. (2013) Validation of High-Throughput and High-Content (HT/HC) Assays to Support 21st Century Toxicity Evaluations. Abstract 2267. The Toxicologist—An official Journal of the Society of Toxicology, Volume 132, Issue 1, March
- **Simon T,** Stephens M, Yang Y, Manning R, Rowlands JC, Budinsky RA (2012) Applying the "Science and Decisions" Conceptual Models" to Dioxin. Abstract 133. The Toxicologist CD—An official Journal of the Society of Toxicology, Volume 126, Issue 1, March

- **Simon, T**, Rowlands JC, Budinsky RA (2011) The Toxic Equivalence Factor for 2,3,7,8-Tetrachlorodibenzofuran (TCDF): Toxicokinetic and Toxicodynamic Considerations. Organohalogen Compounds 73:1003-1006.
- **Simon T** (2010) Using Human In Vivo AHR Activation as a Functional Dose Metric for Risk Assessment based on Chloracne, Effects in Keratinocytes and Background CYP Induction. Organohalogen Compounds 62:582-585.
- **Simon T**, Budinsky RA, Rowlands JC, Abel TA (2010) Linear vs. Nonlinear Extrapolation for Dose-Response Assessment of TCDD. Organohalogen Compounds 72:1418-1421.
- Haws L, Tachovsky A, Staskal D, Aylward L, Burkhalter B, Urban J, **Simon T**, Harris M (2010) An Evaluation of the Influence of Different Soil Cleanup Levels on the Concentration of Dioxin-Like Compounds in Human Serum. Organohalogen Compounds 72:1448-1449.
- Harris M, Tachovsky A, Staskal D, Aylward L, Burkhalter B, **Simon T** (2010) Serum Concentrations of Dioxin-Like Compounds in a Population of Midland Michigan: An Evaluation of the Impact of Soil Exposures. Organohalogen Compounds 72:1442-1443.
- **Simon T**, Goodrum PE (2010) A Comparison of Three Different Methods of Childrens' Soil Ingestion. The Toxicologist, #1916
- Haws L, Tachovsky A, Staskal D, **Simon T**, Burkhalter K, Harris MA (2010) Evaluation of the Impact of Soil Exposures to Dioxin-Like Compounds on Body Burden in a Population in Midland, Michigan. The Toxicologist, #1871
- Harris MA, Tachovsky A, Staskal D, **Simon T,** Burkhalter K, et al. (2010) Assessment of the Impact of Various Soil Cleanup Levels on Serum Concentrations of Dioxin-Like Compounds in Humans. The Toxicologist, #1872
- **Simon T** (2009) Cancer Potency Estimates for 2,3,7,8-TCDD developed from the National Toxicology Program Bioassay Results, The Toxicologist, Program #EA1-2251
- **Simon T** (2009) Why Humans are Less Sensitive to PCBs than Rhesus Monkeys, The Toxicologist #EA4-2254
- Kirman C, Budinsky R, Yost L, Rowlands C, Long T, **Simon T** (2008) Development of a Direct Contact Criterion (DCC) for 2,3,7,8-TCDD in Soil Using Deterministic and Probabilistic Methods. Organohalogen Compounds 70:1204-1207.
- Kirman C., Crouch E, Aylward L, **Simon T**, Budinsky R, Landenberger B, Long T (2007) Cancer Potency Estimate For 2, 3, 4, 7, 8-Pentachlorodiobenzo(P)Dioxin (4-PeCDF) The Toxicologist, Program #1561, p323.

Book Chapters

- Vinas R and **Simon TW** (2017) Risk Assessment in the 21st Century: New Technologies and Techniques in *History of Risk Assessment in Toxicology, 1st Edition*, Sol Bobst, Ed., Academic Press, ISBN: 9780128095324
- **Simon T,** Edwards DH (1990) The Caudal Photoreceptor: A Multifunctional Sensory Neuron may select its Outputs by Spike Frequency. In *Frontiers in Crustacean Neurobiology*, Wiese K, Krenz W-D, Tautz J, Reichert H, Mulloney B (eds.) Birkhauser-Verlag, Basel, Boston, Berlin ISBN: 978-3-0348-5691-1

Grants, Awards and Honors

2012-15 Grant from the Dow Chemical Company. Development of a model of the effects of the availability of coregulator proteins on gene transcription.

2009 Honorable Mention, Risk Assessment Specialty Section of the Society of Toxicology, best paper of the year: Simon T, Kirman, CR, Aylward LL, Budinsky RA, Rowlands JC (2009) Estimates of Cancer Potency of 2,3,7,8-Tetrachlorodibenzo(p)dioxin using Linear and Non-linear Dose-Response Modeling and Toxicokinetics. Toxicological Sciences 112(2), 490-506.

2005 Recognition from the SouthWire Company for innovative approaches to Environmental Cleanup

2005 EPA Bronze Medal for Testimony in the Norman Mayes case in Knoxville, TN that led to additional UST regulations being passed by the State of Tennessee

2005 EPA Bronze Medal for Developing Guidance on Monitoring Land Use Controls

2002 EPA Science Achievement Award for Probabilistic Risk Assessment Guidance

1995 EPA Bronze Medal for Commendable Service; For leadership in setting the example in self-directed work team management and in setting the example in "fast-track" multimedia environmental investigation and cleanup

1992 Environmental Education Enterprises Scholarship in Environmental Science, "Principles of Environmental Drilling and Sampling," Association of Engineering Geologists, Atlanta, GA

1992 Special Award from the Vice President for Research, Georgia State University, "Evolution of different prey choice and feeding strategy in two related species," $1000

1989 National Research Service Award F32 NS08394-01A1 from NIH-NINCDS "Modulation of Ionic Channels in an Oscillatory Network, Emory University, $41,000

1989 Honorable Mention, Donald B. Lindsley Prize in Behavioral Neuroscience for Ph.D. Thesis, Honorable Mention for Ph.D. thesis, "The Neural Basis of Light Evoked Walking in Crayfish," Society for Neuroscience

Education

1989 Ph.D. Neurobiology & Behavior, Georgia State University, Atlanta, GA
1971 B.A. Biology, Middlebury College, Middlebury, VT

Professional Memberships

- 2006 – Roundtable of Toxicology Consultants
- 1995 - Society of Toxicology
- 1997 – Society for Risk Analysis
- 1984 – 1993 Society for Neuroscience
- 2016 - The Toxicology Forum

Invited Lectures

2017 "Scientific Issues with the "New" TSCA Risk Assessment Process," ACI Toxic Tort and Environmental Litigation Conference, Chicago, IL

2016 "Bayesian Methods for Application of Uncertainty Factors," Society of Toxicology Annual Meeting, New Orleans, LA

2016 "Quantitative Prediction of Phenotypic Change from High Throughput Assay Results," EPA Workshop on In Vitro to In Vivo Extrapolation, February, Research Triangle Park, NC

2015 "Bayesian Methods for Application of Uncertainty Factors," Society for Risk Analysis Annual Meeting, Arlington, VA

2015 "A New Look at Toxicity Factors for Toxaphene related to Fish Consumption in the Great Lakes," Presentation to The Great Lakes Consortium for Fish Advisories

2014 "Quantitative Key Event Relationships in the Adverse Outcome Pathway (AOP) for AHR-Mediated Rodent Liver Tumor PromotionQuantitative Key Event Relationships in the Adverse Outcome Pathway (AOP) for AHR-Mediated Rodent Liver Tumor Promotion," Invited Speaker at a meeting sponsored by the National Institute of Environmental Health Sciences held in Bethesda, MD

2014 "Evidentiary Standards for Neuroactive and Neurotoxic Drug Testing" Invited Speaker in a workshop at the 2014 meeting of the Society of Toxicology.

2013 "Current Outlook for Improving Uncertainty and Risk Communication." Invited Speaker at Understanding and Communicating Uncertainty in Hazard Assessment, a workshop sponsored by the Center for Advancing Risk Assessment Science and Policy (ARASP) of the American Chemistry Council (ACC).

2013 Four Lectures in Graduate Level Environmental Risk Assessment and Risk Communication, University of Georgia, Athens, GA, Spring 2013

2012 Four Lectures in Graduate Level Environmental Risk Assessment and Risk Communication, University of Georgia, Athens, GA, Spring 2012

2011 "The Toxic Equivalence Factor for 2,3,7,8-Tetrachlorodibenzofuran: Chemical-Adjustment Factors for Addressing TEF Uncertainty." Dioxin 2011, Brussels, Belgium, August 23, 2011

2010 "Linear vs. Nonlinear Extrapolation for Dose-Response Assessment of TCDD," Dioxin 2010, San Antonio, TX, September 15

2010 "Using Human in vivo AHR Activation as a Functional Dose Metric for Risk Assessment Based on Chloracne, Effects in Keratinocytes and Background CYP Induction," Dioxin 2010, San Antonio, TX, September 13

2009 "Dose Thresholds in Cancer Risk Assessment: Yes, they do exist." University of Georgia, Department of Environmental Health Science, Athens, GA, October 26

2008 "Toxaphene – How Bad is this Pesticide?" University of Georgia, Department of Environmental Health Science, Athens, GA, October 9

2008 "Nagging Questions about PCBs" University of Georgia, Department of Environmental Health Science, Athens, GA, October 7

2008 "Toxicology of Polychlorinated Biphenyls (PCBs)," Georgia Power Toxic Substances Control Act Training, Georgia Power Headquarters, Atlanta, GA, July 24.

2008 "Neurotoxic Modes of Action of Polychlorinated Biphenyls and Brominated Flame Retardants: Implications for Environmental Regulation", National Institute of Environmental Health Science 5th PCB Workshop: New Knowledge gained from old pollutants, May 16-22, Iowa City, IA, invited by Dr. P.R.S. Kodavanti

2007 "Neurotoxic Equivalence Scheme of Relative Potency for Assessing the Risk of PCB Mixtures," Dioxin 2007, Tokyo, Japan, invited by Dr. P.R.S. Kodavanti of EPA, September.

2007 "Probabilistic Risk Assessment and Exposure," University of Georgia, Department of Environmental Health Science, Athens, GA

2006 "Toxaphene – the World's Most Misunderstood Pesticide," University of Georgia Department of Environmental Health Science Seminar Series, Athens, GA

2005 "Regulatory Perspectives on Probabilistic Risk Assessment." Society for Risk Analysis and Interstate Regulatory Council Workshop. Michigan State University, East Lansing, Michigan

2004 "New Directions in Environmental Issues: an EPA Perspective." Panel Discussion at the Georgia Environmental Law Seminar, Saint Simons Island, GA

2003 "Probabilistic Approaches to Dose-Response Assessment." Lecture to EPA's Risk Assessment Forum, Washington, DC

2000 "Probabilistic Risk Assessment: Step by Step," Sponsored by NIEHS, EPA and the University of Florida, Safety Harbor, FL

1999 "EPA's New Guidance on Citizen Involvement in Superfund Risk Assessment – What Lawyers and Risk Professionals Need to Know." Panel Discussion at the Society of Risk Analysis Annual Meeting, Atlanta, GA

1999 "Calculating Cleanup Levels with Monte Carlo: Regulatory Concerns and Perspective." Within a symposium organized by Scott Ferson, Society for Risk Analysis Annual Meeting, Atlanta, GA

1999 "Practical Issues in the Use of Probabilistic Risk Assessment and Its Application to Hazardous Waste Sites," sponsored by NIEHS, EPA and the University of Florida, Sarasota, FL

1996 "Evaluating the Risk of Liver Cancer from Occupational Exposure to Trichloroethylene with PBPK Modeling and Monte Carlo Simulation." Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Key Experience

Litigation Support / Work for Legal Application

2018 **Expert Consultation and Deposition about interpretation of postmortem drug levels in blood**
Provided verbal opinions to attorneys; gave deposition testimony to opposing counsel.

2017 Expert Testimony on Phosphatidylethanol (PEth) in Blood
Gave testimony (examination and cross-examination) in Bartow County, GA family court to provide context to PEth blood levels as a marker of chronic alcohol consumption

2017 Expert Consultation about alcohol as a factor in a motor vehicle death in a dram shop matter
Provided consultation and wrote an expert report using antemortem and postmortem alcohol estimations and the ability of servers to recognize impairment/intoxication.

2017 Expert Testimony about the effects and disposition of marijuana in a Workman's Comp case
Underwent examination and cross-examination about the significance of measurements of THC and its metabolite THCCOOH as a causal factor in a traffic accident.

2017 Expert Testimony in a DUI case
Provided testimony about the validity of a reading from the Alcometer V-XL and alcohol pharmacokinetics.

2017 Expert Litigation Support (ongoing) about occupational exposure to solvents at a Cement Plant
Developed model of exposure to solvent vapors occurring in a testing laboratory with multiple fume hoods to assess the effects of mixed solvent exposure on cognitive deficits in a worker.

2017 Expert Opinion on Phosphatidylethanol (PEth) in Blood
Peth concentrations provide a measure of the amount of chronic alcohol consumption; provided an estimate of daily alcohol use corresponding to specific Peth concentrations.

2017 Expert Opinion on Drug Use by a Truck Driver
Considered deposition and blood test results to determine if the use of Adderall was a contributing factor to an accident.

2017 Expert Opinion on Alcohol Blood Testing
Read medical records and blood test for alcohol to determine if a blood test about 15 hours after an injury was useful in determining impairment at the time of the injury.

2017 Expert Report on THC Test Results in Blood and Urine and Cognitive/Psychomotor Effects
Considered medical records and drug test results from an employee injured at work to conclude whether marijuana use may have contributed to the injury.

2016 Expert Consultation on Chemicals found in Floor Coverings and Possible Links to Multiple Chemical Sensitivity
Examined material safety data sheets, deposition transcripts and the scientific literature to determine the whether a manufactured floor covering could account for effects in humans. Testimony expected in early 2017.

2016 Expert Consultation on the Effects of Prescribed Anti-Depressants, Opiates and Epilepsy Medications during Pregnancy
Wrote an opinion about the effects of these various drugs during pregnancy, including possible effect on the infant after its birth.

2016 Expert Consultation on Effects of Anti-Depressant and Opiate Drugs in Humans
Provided a written opinion regarding the combined effects of a selective serotonin reuptake inhibitor, a benzodiazepine and an opiate on an individual's mental state. Exposure to these drugs likely occurred from a poisoning attempt.

2016 Opinion on the Interpretation of Positive Urine Tests for Marijuana following Weight Loss
Wrote an opinion regarding the increases observed in the levels of THC-COOH (metabolite of THC from marijuana) in urine that are due to release of THC from fat. The THC was likely used several weeks or months prior to testing.

2016 Consultation about the Association of Disinfection Byproducts in Drinking Water with Various Health Effects
Conducted an investigated of the scientific literature regarding a claim that chlorine and trihalomethanes were associated with a range of diseases, including kidney disease and cancer.

2015-16 Expert Report on the Toxicity of Dioxin-like Chemicals
Provided a report and deposition on differences in toxicity of the various dioxin-like chemicals.

2015 Consultation with a Water Utility regarding the Health Effects of Radium in Drinking Water
Worked with a health physicist to develop a joint opinion about the health effects of radium and potential treatment technologies to enable the utility in an acquisition.

2015 Deposition to State and Federal Environmental Regulators and Private Sector Attorneys about the Effects of Selenium on Human Health
Provided deposition regarding the toxicity of selenium discharged into streams near Appalachian coal mines.

2015 Expert Report on the Likelihood of Fungal Eye Infection after Contact with Fertilizer
Investigated exposure of plaintiff to airborne fertilizer particles during spreading operations. The fertilizer particles entered the eye and fungal infection of the cornea ensued. Wrote a report that resulted in immediate settlement in favor of the plaintiff.

2015 Expert Opinion on the Toxicity and Health Effects of Synthetic Cannabinoids
In January, provided a memorandum to the Fairfax County, VA Police Department detailing the health effects of synthetic cannabinoids used in the illegal drugs known as “spice” or “K-2.”

2014-15 Development of Statistical Background Screening Methods for Use at a Potential Superfund Site
In December, provided a comparison to background for concentrations of arsenic and polycyclic aromatic hydrocarbons at a site currently going through the Hazard Ranking System.

2008-14 Expert Consultation and Deposition on Regulatory Decisions at a Superfund Site
Provided an expert report to attorneys about how the presence of dioxin-like chemicals and PCBs affected the regulatory activities/decisions at a Superfund site in New England. In 2014, provided a deposition in Wash., DC.

2014 Report on TSCA Compliance Status of Recent Data and Publications on the Health Effects of Chromium
Prepared a report on the determinations of whether these data and publications could be considered “new” information. The purpose was to provide attorneys with risk information as indicated in the 1978 TSCA Section 8(e) Policy Statement on Substantial Risk Notifications to EPA.

2010 Rebuttal Report on Hexavalent Chromium
Prepared a report rebutting a report submitted by the expert working for opposing counsel regarding the health and environmental effects of hexavalent chromium.

2008-10 Expert Testimony regarding the Effects of Inorganic Mercury
Provided an expert report to attorneys in a child custody matter regarding the long term neurological and psychological effects of inorganic mercury. Provided expert testimony on this matter in family court in Fulton County, GA regarding the toxicity of inorganic mercury.

2009 Consultation and Statistical Modeling regarding the Dose-Response of Perfluoroctanoic Acid (PFOA) in Humans
PFOA is used in the production of Teflon. Provided consultation about dose-response modeling as a sub-contractor to a consulting firm in Tallahassee, FL to be used in litigation support.

2009 Expert Consultation regarding USEPA's new Arsenic Toxicity Criterion
Provided a memorandum to attorneys and personnel from electric companies on the ramifications of EPA's proposed change in the oral cancer slope factor for Arsenic.

2008 Risk Communication and Expert Consultation regarding Aerosol Emissions
Retained as an expert in toxicology by attorneys for Georgia Power to provide scientific consultation and risk communication regarding emissions of several inorganic chemicals from power plants.

2007 Pro Bono Evaluation of Exposure to para-dichlorobenzene (PDB)
Provided an expert report on exposure and potential liver damage in an individual working in a botany laboratory in which PDB was used as an insect fumigant for plant specimens.

2006 Assessment of Possible Drug/Alcohol Impairment in for Workman's Compensation
Examined quick urine drug screen results showing alcohol and marijuana use and developed an assessment of possible impairment.

2006 Expert Consultation on the Recent History of Arsenic Regulation by EPA
Provided a memorandum detailing the history of arsenic regulation as a soil contaminant by EPA headquarters and by Region 4 EPA (Southeast) since 1988 to support the efforts of attorneys regarding a Superfund site.

2006 Consulting Expert regarding Indoor Dampness and Mold
Served as a consulting expert regarding adverse effects of exposure to indoor dampness, associated mold and bacteria and the disinfectant chemicals used in the cleanup.

2003-4 Model of Chemical Release from a Railroad Tank Car
Developed a mathematical model for the release and dispersion of a dense gas, ethyl acrylate, from a railroad tank car. The gas produced organoleptic effects, and at higher exposure, toxic effects. Source characteristics were obtained using basic physical chemical principles. Dispersion modeling was performed for dense gas dispersion in complex terrain.

2003 Expert Testimony in EPA vs. Norman C. Mayes
As an EPA toxicologist, provided testimony to Administrative Law Judge Barbara Gunning regarding the health effects of benzene and other fuel components and environmental sampling around underground storage tanks.

2002-4 Air and Exposure Modeling and PBPK Model Development of Creosote Exposure at a Wood Treatment Facility
Developed a comprehensive database of chemicals in wood preservative made with coal tar creosote, a mathematical model of the air concentrations of these chemicals at a wood treatment facility, and a second model for human internal exposure to these chemicals that included ingestion, inhalation and dermal routes.

2001-2 Expert Testimony regarding Calibration of the Intoxilyzer 5000
Developed testimony regarding the calibration procedures of the Intoxilyzer 5000, the "breathalyzer" used in Georgia for DUI testing. Charges in DUI cases were dropped prior to his testimony in the three cases in which Dr. Simon was involved.

2000 Chemical Release from a Railroad Tank Car
Developed a model of release and transport of acrylamide from a railroad tank car for use in litigation.

TEACHING

2014 Instructor, Environmental Risk Assessment and Communication, EHSC 8110, University of Georgia
Taught a graduate level course In the School of Public Health using his textbook, "Environmental Risk Assessment: A Toxicological Approach."

2008 Lecture on the Toxicology of PCBs
Developed and presented a training segment as part of the Toxic Substance Control Act (TSCA) training for electric power company personnel at the Georgia Power Company.

2008 Introduction to Risk Assessment, a two-day class for the Ontario Ministry of Environment
With another scientist, developed and taught a class on risk assessment for newly hired Ministry personnel.

2005 Probabilistic Risk Assessment and Statistics, a short course to Michigan Department of Environmental Quality
With another scientist, presented a 1 ½ day class on probabilistic risk assessment and statistics as part of a workshop sponsored by the Society for Risk Analysis and Interstate Technology Regulatory Council.

2003 Graduate Course in Simulation Modeling, Georgia State University
Taught a graduate level course in Simulation Modeling including statistics, probabilistic methods and time-dynamic differential equation models.

2003 Short Course to Ontario Ministry of Environment on Probabilistic Risk Assessment
With another scientist, developed and taught a class on probabilistic risk assessment, including probabilistic approaches to dose-response to personnel at the Ontario Ministry of Environment in Toronto, Canada

2001-06 University of Georgia Graduate Course in Environmental Risk Assessment
On three separate occasions, taught a graduate-level class on Environmental Risk Assessment lasting 15 weeks, 3 hours per week.

2001 Short Course to Texas Natural Resources Conservation Commission on Probability Distributions
With another scientist, developed and taught a class on statistics and probability distributions to data to TNRCC personnel.

2000 Workshops on Probabilistic Risk Assessment
Performed as an EPA toxicologist. In 1999 and 2000, worked with Dr. Steve Roberts of the University of Florida to organize two workshops on PRA sponsored by EPA, NIEHS and the University of Florida.

1999 Short Course to Texas Natural Resources Conservation Commission on Probabilistic Risk Assessment
With another scientist, developed and taught a class on probabilistic risk assessment to TNRCC personnel.

1997 Short Course to Navy Environmental Health Center personnel on Probabilistic Risk Assessment
With another scientist, developed and taught a class in probabilistic risk assessment Navy personnel in Norfolk, VA.

Product Liability and Safety Evaluations

2013 Presentation to a French Government Agency on Product Safety
Provided a report with estimates of both toxicity and exposure to rail workers on the use of a synthetic dielectric compound manufactured by a company in the UK. Met with French government personnel to discuss the report.

2012 Assessment of Risk from Metal Plating Flaking from an Auxiliary Faucet used with a Water Filter
Developed risk estimates for water consumers from dissolved metals and metal flakes from the faucet. This assessment was used internationally and therefore incorporated World Health Organization methodology.

Regulatory Toxicology

2018 Lead Author of a Document Developing Toxicity Reference Values for Inorganic Arsenic
The report was developed for Health Canada, the Canadian equivalent of the US EPA. Data from many large epidemiologic studies were used for exposure-response modeling and development of TRVs such as reference doses and cancer slope factor. Custom software to perform the modeling was developed in the R software language.

2017 Report to Chemical Industry Trade Group on Perfluorinated Compounds
These compounds have been used for stain resistance and waterproofing for many years. They are ubiquitous in the environment and human body burden. The report provides advice about which compounds bear the least risk to human health.

2016-17 Lead Author of a Toxicological Review of Inorganic Arsenic and Organic Arsenicals
The review was developed for Health Canada, the Canadian equivalent of the US EPA and the purpose was to examine the feasibiity of the integrating human, animal and in vitro laboratory data to provide an updated toxicity evaluation of arsenic.

2016 Publication titled "How Well Do HTS Carcinogen Characteristics Predict Carcinogenicity?"
Provided statistical analysis, graphics and narrative development for this paper in collaboration with scientists from universities and industry trade groups.

2016 Analysis of Chemical Similarity for Abuse Liability of Candidate Drug Molecules
Conducted a statistical analysis of chemical similarity between two candidate drugs and substances on the DEA Controlled Substance List to address the issue of potential abuse liability.

2015-16 Whitepaper on Causal Associations between Flame Retardant Exposure and Firefighters' Diseases
Developed for the Flame Retardants Alliance.

2015 Adverse Outcome Summary Pathways for Chemicals with Uncertainty about the Mode of Action
Adverse outcome pathways (AOPs) are being used by EPA and OECD to form a data wiki for eventual interpretation of high-throughput in vitro data. Developed separate summaries of AOPs for four chemicals carcinogenic in animals using the assumption of mutagenicity as mode of action and hyperplasia/cell proliferation as the mode of action.

2015 Revision of the Toxicity Factor for the Pesticide Toxaphene for use at the Hercules site in Brunswick, GA
Developed a revised estimate of the toxicity criterion (Reference Dose) for the pesticide toxaphene for use in a new risk assessment for the Hercules site in Brunswick, Georgia.

2014-15 Report on Bayesian Statistical Methods used in the NRC (2014) Review of IRIS
Developed a report examining 24 toxicity factors from EPA's Integrated Risk Information System database, the subject of a recent review by the National Research Council. The report compared EPA's methods with those recommended in the NRC report.

2014 Presentation on arsenic and chromium at EPA's Integrated Risk Information System (IRIS) Bimonthly Meeting
In June, presented mode of action information for arsenic and hexavalent chromium at EPA's IRIS meeting. The purpose of these meetings is to seek input from stakeholders for development of IRIS risk assessments.

2013 Presentation on Quantitative Methods for Mode of Action Analysis to EPA's Bimonthly IRIS Meeting
In December, presented slides and discussion to EPA and other stakeholders based on the paper written with ILSI/HESI titled "The Use of Mode of Action Information in Risk Assessment: Quantitative Key Events / Dose-Response Framework (Q-KEDRF) for Modeling the Dose-Response for Key Events."

2013-16 Development of Wiki files on the Adverse Outcome Pathway for the Organisation for Economic Cooperation and Development (OECD)
Wrote and edited webpages for use in the new AOP Wiki sponsored by OECD, EPA and others. The purpose of the collection of AOPs and the Wiki is to contextualize in vitro data for use in risk assessment.

2013 Preparation of a Report Providing Derived LD50 Values for Metals in Fly Ash
Doses of fly ash representing the LD50 for metals were developed for fly ash produced by an incinerator operated by a large county government in southern California.

2013 Development of Evidence Tables for EPA's Integrated Risk Information System (IRIS) Assessments
Developed tabular format for presenting mode of action and toxicity information consistent with the National Academy of Sciences' Review of the Environmental Protection Agency's Draft IRIS Assessment of Formaldehyde. Presented the tables and accompanying rationale to EPA IRIS staff using hexavalent chromium as an example.

2013 Development and Presentation of Responses to Charge Questions for EPA's Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel
Wrote responses on physico-chemical screening and the rainbow trout Expert System for estrogenic effects; presented the responses at the FIFRA/SAP meeting at EPA Headquarters.

2012 Review of EPA's Toxicological Review of Ammonia
Reviewed the EPA draft document for ammonia to determine consistency with recommendations from the National Academy of Sciences. Presented results at EPA's IRIS listening session on Ammonia.

2012 **Review of 2012 Texas Commission on Environmental Quality (TCEQ) "Guidelines to Develop Toxicity Factors"**
TCEQ develops its own toxicity criteria and does not depend on EPA's IRIS database. Prepared comments on the guidance for submission to TCEQ.

2012 **Preparation of a White Paper and manuscript for publication on Validation of EPA's ToxCast™ Suite of High Throughput In Vitro Assays**
Wrote narrative paper and manuscript for a chemical industry trade group on issues with validation of these assays for chemical screening and prioritization.

2011 **Development of Physiologically-based Pharmacokinetic Models for Dioxin, PCBs, DDT, Hexachlorobenzene and Organophosphate Pesticides for use as teaching tools at the Agency for Toxic Substances and Disease Registry (ATSDR)**
Developed PBPK models in Berkeley Madonna software for use as teaching aids for personnel at ATSDR.

2011 **Review of EPA's Physiologically Based Pharmacokinetic Model for Acrylonitrile Used in the IRIS Risk Assessment**
Reviewed the MATLAB computer code and output for optimization of parameters used in this model.

Toxicology And Regulatory Analysis of Dioxin-Like Chemicals including Polychlorinated Biphenyls

2012-15 **Modeling of Dioxin-induced Gene Expression in Breast Cancer Cells**
Developed a model of gene expression using stochastic simulation methods that reproduced several phenomena such as non-monotonic dose response curves.

2012 **Development of a Margin of Exposure for Enzyme Induction from Dioxin Exposure for Comparison with Recent EPA Toxicity Factors for a Weight-of-Analysis**
Using data from both humans and laboratory test species, determined the dose at which an increase in thyroid hormone metabolism could be expected and compared this dose with the current EPA reference dose based on thyroid effects in newborns.

2011 **Inclusion of 2009 Reference Dose for 2,3,7,8-Tetrachlorodibenzodioxin (TCDD) in the ITER and TOXNET databases**
Presented conclusions from a 2009 publication to a peer review panel convened by Toxicology Excellence in Risk Assessment (TERA) for placement in the International Toxicity Estimates for Risk Assessment (ITER) database and linked to the TOXNET database at the National Library of Medicine.

2011 **Developed a Revised Toxic Equivalence Factor (TEF) for 2,3,7,8-Tetrachlorodibenzofuran (TCDF)**
TCDF is a dioxin-like chemical that is metabolized and eliminated within hours in contrast to other dioxin-like chemicals that persist in the body for many years; developed an estimate of the TCDF TEF that incorporates this rapid metabolism for presentation at an international conference in Brussels, Belgium.

2011 **Alliance for Risk Assessment Presentation on Dioxin using Science and Decisions Conceptual Models**
Presented results from the application of dose response methods described National Research Council's 2009 Report "Science and Decisions: Advancing Risk Assessment" to dioxin. The audience was an expert panel that included several of the authors of the NRC report.

2010 **Report on Biota-Sediment Accumulation Factor (BSAF) for Aroclor 1260, a Commercial PCB Mixture**
Provided a review and commentary on the development of a BSAF for Aroclor 1260 (PCB mixture) and its general applicability to PCB contaminated sites.

2010 **Rapporteur at a Workshop on Dose-Response Approaches for Nuclear Receptor-Mediated Modes of Action**
Led panel discussion and provided the presentation of the report for the panel examining the mode of action of the aryl hydrocarbon receptor that mediates gene expression from dioxin-like chemicals.

2010 **Risk Assessment for Dioxin based on the Occurrence of Chloracne in Humans**
Developed a risk assessment for 2,3,7,8-tetrachlorodibenzo-p-dioxin based solely on data from humans and presented the work at the Dioxin 2010 meeting in San Antonio, TX.

2010 Analysis of Responses of Human and Rodent Liver Cells to Dioxin-Like Chemicals
Conducted statistical analysis of genomic and proteomic data in response to three dioxin-like chemicals from human and rodent tissues *in vitro.*

2010 Cancer Slope Factors and Toxicity Equivalence Factors for Dioxin-Like Chemicals based on Internal Doses
Developed a comparison of the toxicity of four dioxin-like chemicals based on tissue concentrations from National Toxicology Program bioassays using physiologically-based pharmacokinetic modeling and dose response models.

2009 Evaluation of Toxicity Equivalence Factors for Dioxin-like Chemicals based on external doses
Developed a comparison of methods used to develop values for TEFs used in risk assessments of dioxin-like chemicals.

2009 EPA Federal Advisory Committee Act (FACA) Workshop on DIoxin
Attended workshop on the risk assessment of 2,3,7,8-tetrachlorodibenzodioxin (TCDD); provided public commentary on EPA's proposed methods for revising the 2003 dioxin reassessment.

2008 Review of PCB Ecotoxicology Information in the Baseline Ecological Risk Assessment for the LCP Chemical Superfund Site, Brunswick, GA
Reviewed the toxicity assessment for PCBs for the ecological risk assessment for this site to ensure consistency with the values and approach used in the human health risk assessment.

2007 Comparison between Blood Levels of Dioxin in residents of Midland, MI and those in rats associated with Adverse Effects
Conducted a comparison between human blood levels of 2,3,7,8-TCDD and 2,3,4,7,8-PeCDF measured in humans in the University of Michigan Dioxin Exposure Study and estimated blood levels in rats from bioassays published by the National Toxicology Program in 2006.

2007 Development of a Risk Assessment Methodology Based on Changes in Gene Expression
With very recent information on dioxin-related gene expression changes in the liver, developed a method for using these changes as a biomarker for the progression to type 2 diabetes.

2007 Whitepaper on the Non-cancer effects on humans of Dioxin-like Chemicals
Collected scientific information related to potential and actual human health effects from published studies of the Yu-Cheng/Yusho poisoning, the Seveso exposure, the BASF plant exposure and the Viet Nam Ranchhands (Agent Orange handlers) and others to assess the likelihood of various health outcomes from dioxin exposure.

2007 Soil Cleanup Standards for Dioxin related to the Georgia Hazardous Substances Response Act for a secondary copper smelter
Develop a dioxin cleanup level in soil for consideration by the Georgia EPD that included an epidemiological study of dioxin in the blood of workers at the smelter.

2005 Development of Surrogate Values for Reported Dioxin Concentrations Below the Analytical Detection Limit
Performed as an EPA toxicologist; the use of contract-specified reporting limits as nondetect surrogates for dioxin analysis leads to large overestimates of soil concentrations; identified a more accurate nondetect surrogate value based on the actual chemical analysis.

2005 Reassessment for the Need for PCB Congener Analysis at the Anniston/Solutia PCB Site
Performed as an EPA toxicologist; compared results from PCB cancer bioassays of the cancer potency of dioxin-like PCBs.

2004-5 Geostatistical modeling of dioxin concentrations in soil at Superfund Sites in Florida
Performed as an EPA toxicologist; these analyses demonstrated that cleanup at these sites had been successful and appropriate for the predicted land use; the analyses also showed that dioxin occurring off-site was unrelated to on-site contamination.

Human Health and Ecological Risk Assessment and Risk Communication

2014 **Development of a Probabilistic Risk Assessment for Nellis Dunes Recreation Area, Nevada**
Worked in conjunction with academic scientists at the University of Nevada, Montana State University and the University of South Carolina to use newly developed information of the geology of Nellis Dunes and site-specific toxicity bioassays of dust to complete a risk assessment for exposure to dust at this recreation area.

2012 **Participation on a Risk Assessment Team developing methodology to assess a Superfund site consisting of a large area floodplain**
Evaluated risk assessment options and land use to support cleanup decisions at an impacted area comprising several square miles and many river miles.

2010 **Screening Level Ecological Risk Assessment (SLERA) for a site in Flowery Branch in Hall County, Georgia**
At an industrial park near an interstate highway, the area of potential ecological concern consisted of a storm-water retention pond and a stream. Investigated the site and developed the SLERA document for submission to the Georgia Environmental Protection Division.

2009 **Streamlined Human Health and Ecological Risk Assessments to support Removal Action at the Nabesna Mine Site in Nabesna, Alaska**
This site is located in the Wrangell-St. Elias National Park and was a functioning gold mine in the early 20th century with high concentrations of metals associated with mine tailings and acid mine drainage; developed both risk assessments to support a non-time-critical action at the site.

2009 **Development of Georgia Risk Reduction Standards (RRS) for Drexel Chemical Company in Cordele, GA and another site in North Georgia**
Calculated Georgia RRS values for this site; negotiated in person and by teleconference with Georgia Environmental Protection Division personnel regarding the appropriate use of toxicity criteria.

2009 **Risk Communication and Regulatory Review related to the TVA Coal Ash Spill in Kingston, TN**
Provided risk communication at public availability session for both the American Coal Ash Association and TVA; reviewed submissions to EPA developed by TVA.

2008 **Quality Assurance for Fish Consumption Risk Assessment on the Passaic River**
Reviewed and provided comments on both the accuracy and conceptualization of the risk assessment.

2008 **Development of Georgia Risk Reduction Standards for Trivalent and Hexavalent Chromium and several Volatile Organic Chemicals**
Calculated numerical standards under Georgia's Hazardous Site Response Rule 391-3-19 as a subcontractor in support of a property sale and transfer

2008 **Evaluation of Soil Concentrations of Arsenic with an Emphasis on Local Background at a Power Plant**
Developed a report for submission to the Georgia Environmental Protection Division regarding a release of waste material containing arsenic that occurred by storm water runoff; the report considered the geology and local background concentration and included a statistical analysis.

2008 **Statistical Evaluation of Solvent Data in Groundwater and Critique of ATSDR Health Assessment of a Superfund Site**
Provided a report that included suggestions and comments on the ATSDR Report. Performed a statistical analysis to refine the conclusions reached and critiqued the methodology for the Health Assessment.

2008 **Investigation into the Scientific Basis of Land Disposal Limit of 50 parts per million for PCBs**
Under the 1979 Toxic Substances and Control Act (TSCA), EPA has placed an upper limit of 50 ppm for land disposal of PCBs. Investigated the scientific basis of this value for application at a former chlor-alkali plant site in North Carolina.

2008 **Review of Cleanup Target Levels of Florida Department of Environmental Protection**
Provided a review of the Cleanup Target Levels used for regulation by Florida Department of Environmental Protection.

2007 Evaluation of Calculation Methods for the Georgia Risk Reduction Standards of the Georgia HSRA Program
Examined RRS values for soil and groundwater developed for a site in north Georgia and provided an explanation of the rationale underlying discrepancies in the calculated values.

2007-9 Risk Assessment for the Exposure to Mercury and PCBs from contact with Marsh Sediment and Consumption of Fish and Game Birds at the LCP Chemical Superfund Site, Brunswick, GA.
Conducted a risk evaluation for sediment exposure and, fish consumption with development of site-specific fish consumption estimates and a site-specific sediment exposure estimate for an updated Remedial Investigation Report for submission to the US Environmental Protection Agency.

2007 Pro Bono Evaluation of Georgia DNR Fish Advisories for PCBs and Mercury
Evaluated current fish advisories near Brunswick, GA for Dr. Randy Manning, the Georgia state toxicologist.

2007 Georgia Risk Reduction Standards for PCBs, mercury and other chemicals in Soil and Groundwater at the LCP Chemical Superfund Site
Prepared detailed calculations of soil and groundwater screening values based both on direct exposure and transfer of chemicals from soil to groundwater.

2006-10 Risk Assessment for the Residential Exposure Scenario for PCBs and mercury in Upland Soils at the LCP Chemical Superfund Site, Brunswick, GA.
Conducted a risk evaluation for residential exposure. The original risk assessment for the LCP site did not include an estimate of risk to on-site residents or other human receptors with a small exposure unit (ca. 0.5 acres). This risk evaluation will be part of an updated remedial investigation to submit to USEPA.

2006-7 Risk Assessment for Consumption of Estuarine Fish containing Toxaphene Residues by Coastal Georgia Residents related the Hercules Chemical Superfund Site in Brunswick, GA
Developed fish consumption estimates for coastal Georgia residents based on the previous surveys in the Brunswick area used along with published work on the toxicity of toxaphene to support a probabilistic risk assessment for fish consumption prepared for USEPA.

2006 Development of a Physiologically-based Pharmacokinetic Model for Copper in Migratory Birds for Ecological Risk Assessment of Mine-Associated Tailings Ponds
High copper concentrations in water associated with acid mine drainage may be toxic to birds; developed of a PBPK model of copper absorption, distribution, metabolism and excretion (ADME) in juvenile ducks and adult geese; conducted a feasibility study of incorporating the physiological changes associated with migration into the model.

2006 Development of a Preliminary Risk Assessment for Selenium as part of a Proposal to Address Overall Effects of Selenium in a River System
Developed human health and ecological risk estimates for selenium migrating from coal piles into a river. These estimates included consumption of fish and water by humans.

2006 Evaluation of Georgia DNR Fish Advisories near Brunswick, GA
Conducted an evaluation of fish advisories for Toxaphene and PCBs published by the Georgia Department of Natural Resources.

2006 Development of a white paper presenting the history of Probabilistic Risk Assessment (PRA) at EPA
Reviewed EPA guidance documents and scientific literature and produced a document that detailed this complete history of PRA at EPA and suggested likely uses of PRA in the future.

2005 Risk Communication regarding solvents in groundwater at Augusta, Georgia
As an EPA toxicologist, provided information to citizens at a public meeting regarding the possible health effects of tetrachloroethylene and trichloroethylene in groundwater relating to a RCRA site.

2005 Review of Proposed Arsenic Toxicity Assessment to be placed on EPA's IRIS Database
As an EPA toxicologist and consensus reviewer for EPA's IRIS database, reviewed and provided comment on proposed changes to the arsenic toxicity assessment.

2004-5 Risk Communication to Community Against Pollution (CAP), a citizens group in Anniston, AL
As an EPA toxicologist, developed a relationship with CAP and presented information on the health effects of PCBs at several public and community meetings.

2004 Providence Park Ecological Risk Assessment
Conducted a screening ecological risk assessment (SLERA) for a site in Fulton County, GA

2004 Risk Communication regarding Trichloroethylene
As an EPA toxicologist, provided information to the Citizen's Advisory Group (CAG) at Anniston Army Depot and a group of concerned citizens about the health effects of trichloroethylene.

2003-5 Development of EPA's *Guidance on Surface Soil Cleanup at Hazardous Waste Sites: Implementing Cleanup Levels*
As an EPA toxicologist, developed a guidance document that presented methods for applying risk-based cleanup levels as area averages rather than not-to-exceed levels.

2003 Soil Cleanup Strategy for a Skeet Range at Naval Air Station Cecil Field in Jacksonville, FL.
As an EPA toxicologist, used both geostatistics and exposure assessment to refine the size of the area needing remediation.

2000 Discussion of Florida's Secondary Drinking Water Standards based on Organoleptic Effects
As an EPA toxicologist, investigated the biological basis of Florida's secondary drinking water criteria for aluminum, iron, manganese and silver for which secondary standards based on esthetics (smell and taste) were below health-based criteria.

2000 Memorandum presenting *Amended Guidance on Ecological Risk Assessment at Military Bases: Process Considerations, Timing of Activities, and Inclusion of Stakeholders*
As an EPA toxicologist, authored a memo that enabled ecological risk assessments at DOD facilities to be completed in a timely manner and ensures that risk assessment activities occur at times consistent with DOD funding schedules.

1996-9 Development of *Risk Assessment Guidance for Superfund, Part 3. Process for Conducting Probabilistic Risk Assessment*
As an EPA toxicologist, made significant contributions to this guidance, which received EPA's Science Achievement Award in 2001.

1995 Region 4 Bulletins: Regional Risk Assessment Guidance
As an EPA toxicologist, authored Region 4 risk bulletins on Toxicity Assessment and on Development of Remedial Goal Options.

Additional Work in Toxicology

2014-16 Development of an Adverse Outcome Pathway Document for a Mutagenic Mode of Action for Cancer
Worked with individuals from both government and the private sector, collaborated on a manuscript detailing the mode of action / adverse outcome pathway for liver tumorigenesis in animals and humans by aflatoxin B1, a toxin produced by fungi and ubiquitous in grains and ground nuts.

2009-16 Ongoing Scientific Consultation on the Health Effects of Hexavalent Chromium
Provides ongoing support for toxicological and risk assessment information for toxicological issues related to hexavalent chromium for a Fortune 100 company.

2010 Statistical Analysis of Reproductive Endpoints in Rats Exposed to Flame Retardant Chemical
Performed statistical analysis of dichotomous data for reproductive endpoints to inform a European consortium about the most appropriate methods for data analysis.

2009 Responses to EPA Charge Questions for Review of the 2009 Toxicological Review of 1,4-Dioxane
Wrote responses to EPA's "Charge to External Reviewers for the Toxicological Review of 1,4-Dioxane" related to uncertainty analysis, physiologically-based pharmacokinetic (PBPK) modeling and Benchmark Dose modeling.

2009 **Physiologically-based Pharmacokinetic Models for Methylmercury, Arsenic, Cadmium and Bisphenol-A for use as teaching tools**
Translated existing models into the Berkeley Madonna computer software for use as teaching aids for personnel at the Agency for Toxic Substances and Disease Registry.

2008 **Whitepaper on the Ethics of Environmental Regulation and Compounding Conservatism in Risk Assessment for the Ontario Ministry of the Environment**
Used historical sources, philosophical literature and modern scientific publications to provide an understanding of the extent to which environmental regulations and standards are based on the precautionary principle.

2008 **Assessment of Conservatism of Soil and Groundwater Standards for the Ontario Ministry of the Environment**
Assessed the level of conservatism of proposed environmental media standards using statistical methods.

2007 **Expert Panel Developing a Protocol for Toxicity Testing of a Legacy Pesticide MIxture**
Served on a panel to refine a protocol for toxicity testing of soil considering both individual pesticide isomers and mixtures.

2004 **Consultation with EPA Region 4 Mercury Study Group**
As an EPA toxicologist, provided information to a group of Region 4 personnel to address a newspaper editorial regarding human health and mercury.

Peer Reviews and Peer Consultations

2018 **Regulatory Toxicology and Pharmacology, Gio B. Gori, Editor,** "Biomonitoring Equivalents for Cyanide"

2017 **Environment International, Lesa Aylward, Editor,** "An analysis of cumulative risks based on biomonitoring data for six phthalates using the Maximum Cumulative Ratio"

2017 **Toxicological Sciences, William H. Farland, Assoc. Editor,** "Identification of novel uncertainty factors for health hazard and risk assessment: Application to cleaning product ingredients"

2097 **Environment International, Lesa Aylward, Editor,** "Excretion of Di-2-ethylhexyl Phthalate (DEHP) Metabolites in Urine is Related to Body Mass Index Because of Reverse Causality"

2017 **Risk Analysis, L. Anthony Cox, Editor, "**Cumulative Low-Dose Response Assessment: An Emergent Model For Carcinogens, Noncarcinogens, And Mixtures"

2017 ***Environment International***, Lesa Aylward, Editor, "An analysis of cumulative risks based on biomonitoring data for six phthalates using the Maximum Cumulative Ratio"

2017 ***Regulatory Toxicology and Pharmacology*****,** Gio Bata Gori, Editor-in-Chief, "Guidelines for Performing Systematic Reviews in the Development of Toxicity Factors"

2017 ***Risk Analysis*****,** Tony Cox, Editor-in-chief, "Cumulative Low-Dose Response Assessment: An Autocorrelated First-Order Model"

2017 ***Chemical Research in Toxicology*****,** F. Peter Guengerich, Associate Editor, "Identification of potential aryl hydrocarbon receptor ligands by virtual screening of industrial chemicals"

2016 ***Combinatorial Chemistry & High Throughput Screening*****,** Rathnam Chaguturu, Editor, **"**A Big Data Approach with Artificial Neural Network and Molecular Similarity for Chemical Data Mining and In-Silico Toxicity Prediction"

2016 ***Science of the Total Environment*****,** Dr. Jay Gan, Editor, "Occurrence, Sources and Estimation of Air-Soil Exchange of Polychlorinated biphenyls in Indian cities"

2016 ***Scientific Research and Essays*****,** Dr. N. J. Tonukari, Editor, "Bayesian Analysis to Detect Change-point in Two-Phase Laplace Model"

2016 ***Environmental Science and Technology,*** Dr. Beate Escher, Assoc. Editor, "Toxicogenomics of Developmental Toxicity of 6-OH-BDE47 in Chicken Embryo"

2016 ***Environmental Health Perspectives*****,** Dr. Martin Van den Berg, Assoc. Editor, "Defining the neurotoxic potential of nondioxin-like polychlorinated biphenyls present in fish from US lakes using a ryanodine receptor-based equivalency scheme"

2016 ***Science of the Total Environment*****,** Dr. Jay Gan, Editor, "Occurrence, Sources and Estimation of Air-Soil Exchange of Polychlorinated biphenyls in Indian cities"

2015 **Structured peer review of a comparison between the effects of tobacco smoke and nicotine vapor from modified risk tobacco products on the lungs of mice**
Answered a series of charge questions and also provided suggestion for future research.

2015 ***Environmental Health Perspectives*****,** Dr. Martin Van den Berg, Assoc. Editor, "Defining the neurotoxic potential of non-dioxin-like PCBs present in fish from US lakes using a ryanodine receptor-based equivalency scheme."

2015 ***IUMB Life*****,** Dr. Angelo Azzi, Editor, "Identification of differentially expressed three novel transcript variants of mouse Arnt gene."

2015 ***Environmental Research*****,** Dr. Jose L. Domingo, Editor, "Antioxidant activity as a potential mechanism explaining the negative influence of lead and cadmium on working memory during aging."

2015 ***Toxicological and Environmental Chemistry*****,** Dr. Sam Kacew, Editor, "Headspace and small chamber studies of airborne diacetyl release from selected food flavoring mixtures: Activity coefficients and air modeling implications"

2015 ***Environmental Research*****,** Dr. Jose L. Domingo, Editor, "Transcriptomic and visual gene-network analysis of silver nanoparticles potentially induced Alzheimer's disease progression in mouse brain neural cells"

2015 ***Environmental Research*****,** Dr. Jose L. Domingo, Editor, "Identification of Free Phthalate Metabolites in Human Cerebrospinal Fluid."

2014 ***Critical Reviews in Toxicology***, Dr. Roger O. McClellan, Editor, "Risk assessments for chronic exposure of children and prospective parents to ethylbenzene (CAS No. 100-41-4)"

2014 ***Environmental Research*****,** Dr. Jose L. Domingo, Editor, "Impact of early-life bisphenol A exposure on precortical dopamine and serotonin systems in juvenile and adult male rats."

2014 ***Environmental Research*****,** Dr. Jose L. Domingo, Editor, "Bisphenol A is associated with insulin resistance and modulates adipokines gene expression in obese children."

2014 ***Human and Experimental Toxicology*****,** Dr. Kai Savolainen, Assoc. Editor, "Global Methaemoglobinaemia Research Output (1940–2013): A Bibliometric Analysis Based on Scopus Database."

2014 ***Human and Experimental Toxicology*****,** Dr. A. Wallace Hayes, Assoc. Editor, "Pharmacokinetic Study of Omeprazole and its Metabolites in Males and Females, Females Exposed to Higher Levels of Omeprazole."

2013 **Consultation to a Water Utility Regarding the Quality of Water Provided to a Community**
Provided initial consultation and coordinated a peer review of a risk assessment of the pesticide toxaphene occurring in trace amounts in the water.

2013 ***Human and Ecological Risk Assessment*****,** Dr. Barry Johnson, Editor, "Assessment of Soil Screening Levels due to Accidental Ingestion of Chrysene and Benzo[k]fluoranthene at Iran's TOR Site."

2012 ***Human and Experimental Toxicology*****,** Dr. A. Wallace Hayes, Editor. "Effect of nicotine pre-treatment on arsenic induced oxidative stress in Wistar rats."

2012 ***Human and Experimental Toxicology*****,** Dr. A. Wallace Hayes, Editor, "Elemental impurities in Nigerian pediatric syrups: Mercury in violation of standard guidelines."

2011 ***Journal of Toxicology and Environmental Health*****,** Dr. Sam Kacew, Editor, "Screening Level Risk Assessment for SAN Trimer Detected in Soil and Groundwater"

2011 ***Human and Ecological Risk Assessment*****,** Dr. Barry Johnson, Ed. "Monte Carlo Simulation-based Health Risk Assessment of Heavy Metal Pollution - A Case Study in the Qixia Mining Area, China"

2011 ***Risk Analysis*****,** Dr. Tony Cox, Editor, "A Gradient Markov Chain Monte Carlo Algorithm for Computing

Multivariate Maximum Likelihood Estimates and Posterior Distributions: Mixture Dose Response Assessment"

2010 ***Environmental Research*****,** Ellen Silbergeld, Ed. " Structural Neuroimaging Evaluation of Adults with Childhood Lead Exposure"

2010 ***Human and Experimental Toxicology,*** Prof. Kai Savolainen, Editor in Chief. "The World Library of Toxicology, Chemical Safety and Environmental Health (WLT)"

2010 ***Journal of Exposure Science and Environmental Epidemiology***, Dr. Natalie Freeman, Assoc. Ed. "Comparison of a toxicokinetic and a questionnaire-based approach to assess methylmercury intake in exposed individuals"

2010 ***Environmental Research***, Dr. Ellen Silbergeld, Ed. "Varying coefficient function models to explore interactions between maternal nutritional status and prenatal methylmercury toxicity in the Seychelles Child Development Nutrition Study"

2009 ***Regulatory Toxicology and Pharmacology*****,** Gio Batta Gori, Ed. "Derived Reference Doses (RfDs) for the Environmental Degradates of the Herbicides Alachlor and Acetochlor: Results of an Independent Expert Panel Deliberation"

2009 ***Environmental Research*****,** Ellen Silbergeld, Ed. "Environmental Policy and Children's Health in Mexico"

2009 ***Toxicological Sciences*****,** Dr. John Lipscomb, Assoc. Editor, "Age-, Dose- and Time-Dependency of Plasma and Tissue Distribution of Deltamethrin in Immature Rats."

2009 ***Chemosphere*****,** Heidelore Fiedler, Ed. "Quantitative structure-activity relationship (QSAR) studies for predicting activation of the ryanodine receptor type 1 channel complex (RyR1) by polychlorinated biphenyl (PCB) congeners"

2009 ***Environmental Research*****,** Ellen Silbergeld, Ed. "Determination of bromadiolone residues in fox faeces by LC/ESI-MS in relationship with toxicological data and clinical signs after repeated exposure."

2008 ***Chemosphere,*** Heidelore Fiedler, Ed. "Tissue Distribution of Polychlorinated Biphenyls and Effects on Alaskan Northern Fur Seals Assessed with Five Congener Classification Schemes"

2008 ***Chemosphere,*** Heidelore Fiedler, Ed. "Levels of Polychlorinated Dibenzo-p-dioxins, Dibenzofurans, and Biphenyls in Southern Mississippi Catfish and Estimation of Potential Health Risks"

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