
BIOGRAPHICAL SKETCH

NAME Robert J. Kavlock	POSITION TITLE Research Biologist		
eRA COMMONS USER NAME Kavlock			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
University of Miami	B.S.	1969-73	Biology
University of Miami	Ph.D.	1973-77	Embryology
Federal Executive Institute (Class 321)		2006	Leadership

A. POSITIONS and HONORS**Research and Professional Experience:**

2005- Director, National Center for Computational Toxicology, ORD, USEPA
 2004-2005 Special Assistant (Computational Toxicology) to NHEERL Director
 1999-2000: Acting Associate Director for Health, NHEERL (June-January)
 1989-2004: Director, Reproductive Toxicology Division, NHEERL, USEPA, RTP, NC
 1981-1989: Chief, Perinatal Toxicology Branch, DTD, HERL, USEPA, RTP, NC
 1979-1981: Res. Biologist, Perinatal Toxicology Branch, DTD, HERL, USEPA, RTP, NC
 1977-1979: Research Associate, Dept. of Biology, Univ. of Miami, Coral Gables, FL
 Adjunct Associate Professor, Department of Pharmacology, Duke University
 Adjunct Assistant Professor, Department of Zoology, NCSU

Professional Societies and Affiliations:

Memberships: Society of Toxicology, including Developmental and Reproductive Toxicology Specialty Section and the North Carolina Society of Toxicology; Teratology Society
 Editorial Boards: Toxicological Sciences (1994-2000); Teratogenesis, Carcinogenesis and Mutagenesis (to 2003); Journal of Toxicology and Environmental Health, Part B (current); Journal of Children's Health (2002-); Birth Defects Research, Part B (2003-present); Neurotoxicology and Teratology (2006-present).

Honors and Awards:

US EPA/ORD Statesman of the Year, 2007; US EPA Bronze Medals, 2004; Computational Toxicology Design Team, 1998, for efforts on Harmonized Reproductive Testing Guidelines; US EPA Science Achievement Award, 1995 for efforts on validation of benchmark dose methodology; US EPA Scientific and Technological Achievement Awards: Level I, 1994; Level II, 1983, 1984, 1984, 1986, 1993; Level III, 1983, 1984, 1985, 1985, 1987, 1989, 1992, 1993 for various peer reviewed scientific publications; US EPA Silver Medal, 1985 for development of an in vivo screening procedure for developmental toxicity; Best Paper of the Year Award, Fundamental and Applied Toxicology, 1995; President, Teratology Society, 2001; President, Reproductive and Developmental Toxicology Specialty Section, 1997; President, North Carolina Society of Toxicology, 1999

Selected Invitations at National & International Symposia:

Gene Environmental Interactions in Reproduction, Malmo, Sweden, Feb 2008; European Chemicals Agency, October 2007; Duke University SBRP Symposium on HTS Assays, October 2007; 6th World Congress on Alternatives to Animals in Research, Tokyo, August 2007; American Chemistry Council, Washington, August 2007; 2nd Low Dose Workshop on Low Dose Effects of Environmental Toxicants, Berlin, April 2007; US EPA Office of Pesticide Programs, Washington, Feb.2007; Duke University School of the Environment, Durham, NC Jan. 2007; US EPA Science Policy Council, Dec. 2006; National Academy of Science Committee of Risk Assessment, Washington, Dec 2006; 4th International Academic Conference on Environmental and

Occupational Medicine, Kunming, China, Oct. 2006; US EPA Office of Drinking Water, Sept. 2006; American Association of Pharmaceutical Sciences, San Antonio, Oct. 2006; US EPA Regional Science Liaisons, April 2006; UK ORNL Bioinformatics Summit, April 2006; Society of Toxicology, San Diego, March 2006; US EPA Region 6, Dallas, Jan 2006; European Commission Science Delegation, RTP, Jan 2006; Arizona State University Workshop on Genetics and Environmental Regulation; Jan. 2005; National Academy of Science Committee on the Future of Toxicology, Jan. 2005; National Academy of Science Workshop on Sustainability in the Chemical Industry, Feb. 2005; US EPA National Risk Management Research Laboratory, Cincinnati, Feb. 2005; US EPA Office of Science Coordination and Policy, Mar 2005; Forum, Aspen, July, 2005; Research Triangle Institute, RTP, July 2005; Oak Ridge National Laboratory Ecogenomics Meeting, Knoxville, July, 2005; 5th World Congress on Alternatives to Animals in Research, Berlin, August 2005; University of North Carolina Developmental Toxicology Program, October 2005; Board of Scientific Councilors, Jan, 2004; FDA Science Forum, Washington DC, Jan 2004; US/EU Bilateral Meeting on Chemical Safety, Charlottesville, VA, Apr 2004; EPA Office of International Affairs United Kingdom Science Exchange, Aug 2004; National Academy of Sciences Future of Toxicology Committee, Sept 2004;; National Toxicology Program Workshop on Thyroid Toxicity, Washington DC, Apr 2003; US EPA Science Advisory Board, Washington DC, Sept 2003

Selected Expert Committees/Advisory Panels/Organizing Committees:

NIEHS SBPR Peer Review Panel, Sept 2007; Chair, EPA International Science Forum on Computational Toxicology, 2007; OCED Molecular Screening Initiative Working Group (2005-present); WHO/IPCS Working Group on Principles for Evaluating Health Risks to Children, 2003-2006; Chair, EPA Workshop on a Framework for Computational Toxicology, 2003; Chair, WHO/IPCS and Japan MOE Workshop on Research Needs for Endocrine Disruptors, 2003; ILSI Workgroup on Human Framework for Using MOA Information to Evaluate Human Relevance of Animal Toxicity Data, 2002-2004; EPA/NIEHS/ACC Scientific Frontiers in Developmental Toxicity Risk Assessment, 2002 American Chemistry Council Focal Area Leader, Long Range Research Initiative, 2002-2005; NTP/NIEHS Endocrine Disruptors Low-Dose Peer Review, 2000; IPCS/WHO Steering Group for International State-of-Science Assessment of Endocrine Disruptors, 1997-2002; ; Reviewer, European Commission Framework Calls, 2001, 2002, 2004, 2007; NIH ALTX-4 Study Section, Standing Member, 1997-2001; CIIT Science Advisory Committee, 1996-2001; Chair, NTP Center for Evaluation of Risk to Human Reproduction Expert Panel on Phthalates, 1999-2000 and 2005); IARC Monograph Working Groups, Volumes 36, 41, 47, 54, 58, 73, and 79; IARC Handbooks of Cancer Prevention, Volumes 2 and 4.

Selected Assistance/Advisory Support to the Agency:

Chair, US EPA/ORD Technical Qualifications Review Board for Science and Technology Positions (2007-2009); Chair, EPA/ORD Computational Toxicology Design Team (2003) and Implementation Steering Group, 2004-present; NHEERL Genomics Program Steering Committee, 2001-2002; Endocrine Disruptor Methods Validation Subcommittee (EPA FACA), 2001-2003; Co-Organizer, Japanese NIES/US EPA Workshop on EDCs, Tokyo, February 2000; NHEERL Human Health Research Strategy Implementation Team, 2001-2003; Chair, NHEERL Branch Chief Career Ladder Committee, 1997-1998; Chair, ORD Endocrine Disruptor Research Strategy Committee, 1995-1998; Chair, EPA Workshop to Develop Research Needs for Endocrine Disruptors, 1995; Chair, HERL Communications Issues Committee, 1992 ;EPA Working Group on Harmonized Testing Guidelines for Reproductive and Developmental Toxicity, 1991-1999; Co-Chair, HERL(NHEERL) Technical Qualifications Board, 1989-1997; Co-Chair, ORD RIHRA Topic IV Subcommittee (Biologically Based Dose Response Models), 1988-1993; HERL/OHR Organizational Goals Committee, 1988; Chair, OHR/HERL Mission Statement Committee, 1987; EPA Working Group on Developmental Toxicity Testing Guidelines, 1984-1985.

B. SELECTED PUBLICATIONS (selected from 160 total).

- Houck, K.A. and Kavlock, R.J. (2007). Understanding mechanisms of toxicity: Insights from drug discovery. *Toxicol and Appl. Pharm.* (in press).
- Kavlock, R.J. (2007). Computational Toxicology. AltTox.Org Way Forward Discussion Commentary (www.AltTox.org)
- Dix, DJ, Houck, KA, Martin, MT, Richard, AM, Setzer, RW and Kavlock, RJ (2007). The ToxCast Program for Prioritizing Toxicity Testing of Environmental Chemicals. *Toxicol. Sci.*, 95(1); 5-12.

- Martin, MT, Brennan, R, Hu, W, Ayanoglu, E, Lau, C, Ren, H, Wood, CR, Corton, JC, Kavlock, RJ and Dix, D. (2007). Toxicogenomic Study of Triazole Fungicides and Perfluoroalkyl Acids in Rat Livers Accurately Categorizes Chemicals and Identifies Mechanisms of Toxicity. *Toxicol. Sci.* 97(2): 595-613.
- Rogers, JM and RJ Kavlock (2007). Developmental toxicity. In: Casarett & Doull's Toxicology: The Basic Science of Poisons, 7th edition. Curtis D. Klaassen, editor. McGraw-Hill, Inc., New York, NY, 301-331.
- Kavlock, R, Barr, D, Boelkeheide, K, Breslin, W, Breysse, P, Chapin, R, Gaido, K, Hodgson, E, Marcus, M, Shea, K and Williams, P. (2006). NTP-CERHR Expert Panel update on the reproductive and developmental toxicity of di(2-ethylhexyl phthalate). *Repro. Toxicol.* 22:291-399.
- Kavlock, RJ, Ankley, GT, Collette, T, Francis, E, Hammerstrom, K, Fowle, J, Tilson, H, Schmieder, P, Veith, GD, Weber, W, Wolf, DC, and Young, D. (2005). Computational Toxicology: framework, partnerships and program development. *Repro. Tox.* 19:281-290.
- Kavlock, RJ and Cummings, A (2005). Mode of Action: Reduction of Testosterone Availability-Molinate-induced Inhibition of Spermatogenesis. *Crit. Rev. Tox.* 35:685-690.
- Cummings, A and Kavlock, RJ (2005). A systems biology approach to developmental toxicology. *Repro. Toxicol.* 19:281-290.
- Cummings, A and Kavlock, RJ (2004). Gene-environment interactions: A review of effects on reproduction and development. *Critical Reviews in Toxicology* 34:461-485.
- Wery N, Narotsky MG, Pacico N, Kavlock RJ, Picard JJ, Gofflot F. (2003). Defects in cervical vertebrae in boric acid-exposed rat embryos are associated with anterior shifts of hox gene expression domains. *Birth Defects Res Part A* 67(1):59-67.
- Daston, GP, Cook, JC and Kavlock, RJ (2003). Uncertainties for endocrine disruptors: our view of progress. *Tox. Sci.* 74:245-252
- Rockett, JC, Kavlock, RJ, Lambright, C, Parks, LG, Schmid, JE, Wilson, VS, Wood, C and Dix, DJ (2002). DNA arrays to monitor gene expression in rat blood and uterus following 17 β -estradiol exposure: biomonitoring environmental effects using surrogate tissues. *Tox. Sci.* 69:49-59
- Damstra T, Barlow, S, Bergman A, Kavlock R and Van Der Kraak, G, editors (2002). International Programme On Chemical Safety Global Assessment Of The State-Of-The-Science Of Endocrine Disruptors. World Health Organization, Geneva.
- Setzer RW, Lau C, Mole ML, Copeland MF, Rogers JM, and Kavlock RJ. (2001). Toward a biologically based dose-response model for developmental toxicity of 5-fluorouracil in the rat: a mathematical construct. *Toxicol Sci.*; 59(1):49-58.
- Goldman, JM, Laws, SC, Balchak, SK, Cooper, RL and Kavlock, RJ (2000). Endocrine-disrupting chemicals: prepubertal exposures and effects on sexual maturation and thyroid activity in the female rat. A focus on the ESTAC recommendations. *Critical Reviews in Toxicology* 30(2):135-196.
- Barlow, S, RJ Kavlock, JA Moore, SL Schantz DM Sheehan, DL Shuey, and JM Lary (1999). Teratology Society position paper: The developmental toxicity of endocrine disruptors to humans. *Teratology* 60(6):365-375.
- Reiter, LW, C DeRosa, RJ Kavlock, G Lucier, MJ Mac, J Melillo, RL Melnicj, and T Sinks (1998). The U.S. Federal framework for research on endocrine disruptors and an analysis of research programs supported during Fiscal Year 1996. *Environ Health Persp* 106(3):105-113.
- Kavlock, RJ and GP Daston (1997). Handbook of Experimental Pharmacology, Vol. 124 Drug Toxicity in Embryonic Development. Vol I and II: Advances in Understanding Mechanisms of Birth Defects: Morphogenesis and Processes at Risks. (610 pgs). Springer-Verlang, Heidelberg, Germany, ISBN 3-540-61259-9; ISBN 3-540-61261-0.
- Cooper, RL and RJ Kavlock (1997). Endocrine disruptors and reproductive development: A weight-of-evidence overview. *Journal of Endocrinology* 152:159-166.
- Kavlock, RJ and GT Ankley (1996) A perspective on the risk assessment process for endocrine-disruptive effects on wildlife and human health. *Risk Analysis* 16(6):731-739.
- Kavlock, RJ, GP Daston, C DeRosa, P Fenner-Crisp, LE Gray, S Kaattari, G Lucier, M Luster, MJ Mac, C Maczka, R Miller, J Moore, R Rolland, G Scott, DM Sheehan, T Sinks and HA Tilson (1996). Research needs for the risk assessment of health and environmental effects of endocrine disruptors: A Report of the U.S. EPA sponsored workshop. *Environmental Health Perspectives* Vol. 104, Supplement 4, pp 715-740.

- Kavlock, RJ and RW Setzer (1996). The road to embryologically based dose-response models. *Environmental Health Perspectives* 104 (Suppl 1):107-121.
- Kavlock, RJ, BC Allen, EM Faustman, CA Kimmel (1995). Dose response assessments for developmental toxicity:IV. Benchmark doses for fetal weight changes. *J Fund Appl Toxicol* 26:211-222.
- Faustman, EM, BC Allen, RJ Kavlock, and CA Kimmel (1994). Dose-Response Assessment for Developmental Toxicity: I. Characterization of Data Base and Determination of NOAELs. *Fundamental and Applied Toxicology* 23:478-486.
- Shuey, DL, C Lau, RJ Kavlock, JM Rogers, TR Logsdon, RM Zucker, KH Elstein, MG Narotsky, and RW Setzer (1994). Biologically-Based Dose-Response Modeling in Developmental Toxicology: Biochemical and Cellular Sequelae of 5-Fluorouracil Exposure in the Rat Fetus. *Toxicology and Applied Pharmacology* 126: 129-144.
- Kavlock, RJ, TR Logsdon and JA Gray (1993). Fetal Development in the Rat Following Disruption of Maternal Renal Function During Pregnancy. *Teratology* 48(2):247-258.
- Rogers, JM, ML Mole, N Chernoff, BD Barbee, CI Turner, TR Logsdon and RJ Kavlock (1993). The Developmental Toxicity of Inhaled Methanol in the CD-1 Mouse, with Application of Quantitative Dose-Response Modeling for Estimation of Benchmark Doses. *Teratology* 47:175-188.
- Oglesby, LA, MT Ebron-McCoy, TR Logsdon, F Copeland, PE Beyer and RJ Kavlock (1992). In Vitro Embryotoxicity of a Series of Para-Substituted Phenols: Structure, Activity and Correlation with In Vivo Data. *Teratology* 45(1):11-33.
- Kavlock, RJ, GA Green, GL Kimmel, R Morrissey, E Owens, JM Rogers, TW Sadler, HF Stack, MD Waters and F Welsch (1991). Activity Profiles of Developmental Toxicity: Design Considerations and Pilot Implementation. *Teratology* 43:159-185.
- Kavlock, RJ (1990). Structure-activity relationships in the developmental toxicity of substituted phenols: In vivo effects. *Teratology* 41(1):43-59.
- Gray, LE, Jr., JM Rogers, JS Ostby, JM Ferrell, K Gray, and RJ Kavlock (1988). Prenatal dinocap exposure alters the swimming behavior of mice due to agenesis of otoliths in the inner ear. *Toxicol. Appl. Pharm.* 92:266-273.
- Kavlock, RJ, R Short and N Chernoff (1987). Further evaluation of an in vivo teratology screening procedure. *Teratogenesis, Carcinogenesis, and Mutagenesis* 7:7-16.
- Gray, LE, Jr., JM Rogers, RJ Kavlock, JS Ostby, JM Ferrell and KL Gray (1986). Prenatal exposure to the fungicide dinocap causes behavioral torticollis, ballooning and cleft palate in mice, but not rats and hamsters. *Teratogenesis, Carcinogenesis, and Mutagenesis* 6(1):33-43.
- Kavlock, RJ, N Chernoff and EH Rogers (1985). The effect of acute maternal toxicity on fetal development in the mouse. *Teratogenesis, Carcinogenesis, and Mutagenesis* 5(1):3-13.
- Kavlock, RJ and JA Gray (1982). Evaluation of renal function in neonatal rats. *Biology of the Neonate* 41:279-288.
- Chernoff, N and RJ Kavlock (1982). An in vivo screen utilizing pregnant mice. *J. of Toxicology and Environmental Health* 10:541-550.
- Gray, LE Jr., RJ Kavlock, N Chernoff, J Ferrell, J McLamb and J Ostby (1982). Prenatal exposure to the herbicide TOK destroys the rodent Harderian gland. *Science* 215:293-294.