

DAVID WILLIAM GAYLOR

EDUCATION

- 1951 B. S., Statistics, Iowa State University
- 1953 M.S., Statistics, Iowa State University
- 1960 Ph. D., Statistics, North Carolina State University

EXPERIENCE

Dr. Gaylor is a nationally recognized leader in the fields of biometry, statistics, and health risk assessment who recently joined Sciences International after retiring from the FDA National Center for Toxicological Research (NCTR), where he served as the principal advisor to the NCTR Director/FDA Associate Commissioner for Science on matters related to the planning, development, implementation and administration of health risk assessment policies reaching across a wide range of FDA's activities. In a prior position with the NCTR, he was Director of the Biometry and Risk Assessment Division where he was responsible for the administration and scientific direction of the Biometry and Risk Assessment program. In that position, he developed experimental protocols and provided statistical analyses of experiments in carcinogenesis, teratogenesis, mutagenesis, and neurotoxicity, and developed techniques to advance the science of quantitative health risk assessment. Dr. Gaylor also serves as an Adjunct Professor of Statistics for the University of Arkansas for Medical Sciences and the University of Arkansas at Little Rock. He is a Fellow of the American Statistical Association and the Society for Risk Analysis, and a member of the Biometric Society, Society for Regulatory Toxicology and Pharmacology, and the Teratology Society. Dr. Gaylor has served on more than 70 national and international work groups and committees on many aspects of biometry, toxicology, and health risk assessment. He is currently a member of the editorial board of Risk Analysis, Human and Ecological Risk Assessment, Regulatory Toxicology and Pharmacology, and Toxicology and Industrial Health. Dr. Gaylor has published more than 160 journal articles and 25 book chapters, and made over 100 presentations at scientific conferences on bio-statistics and health risk assessment issues.

- ***Associate Director for Risk Assessment Policy and Research NCTR.***
Served as principal advisor for the National Center for Toxicological Research (NCTR) Director/FDA Associate Commissioner for Science on matters relating to the planning, development, implementation and administration of health risk assessment policies affecting the FDA's programs.
- ***Director, Biometry and Risk Assessment Division, NCTR*** - Responsible for the scientific direction and administration of the Biometry and Risk Assessment program. Provide statistical design and analyses of experiments in carcinogenesis, teratogenesis, mutagenesis, and neurotoxicity. Develop experimental protocol and data analysis techniques to improve the evaluation of the safety of chemicals. Provide sampling plans, statistical analyses, and quality control for chemistry, diagnostics, and diet preparation. Evaluate the risks of disease from exposure to food, drug, and industrial chemicals. Develop techniques for quantitative health risk assessment.

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DAVID WILLIAM GAYLOR (continued)

- **Chief, Biometry Branch, National Institute of Environmental Health Sciences.** Responsible for scientific direction and administration of the Biometry program. Provide statistical designs and analyses of experiments in the areas of carcinogenesis, teratogenesis, and mutagenesis . Develop experimental protocol and data analysis techniques to improve the evaluation of safety of environmental agents. Perform analyses of epidemiological data. Evaluate the safety of food, drug, and industrial chemicals.
- **Consulting Statistician, Research Triangle Institute.** Consultant to industries and government agencies on the design and analysis of experiments in the physical sciences: reliability of electronic equipment, chemical process control and optimization.
- **Statistician, Atomic Laboratory.** Responsible for the design and analysis of research experiments in the physical sciences to develop better materials for atomic power reactors. Provide sampling plans and statistical analyses for the reliability and safety of reactor components.
- **Statistician, Nuclear Aircraft Research Facility.** Responsible for the design and analysis of experiments to evaluate the effects of nuclear radiation on aircraft materials, lubricants, and electronics.
- **Statistician, Hanford Atomic Products Operation.** Responsible for the statistical design and analysis of experiments to estimate the biological effects of radioactive substances, chemical and nuclear process control and optimization.

EMPLOYMENT HISTORY

2003	Senior Statistician, Sciences International, Inc., Alexandria, VA
2000 - 2002	Vice President, Dose Response/Biostatistics, Sciences International Inc., Alexandria, VA
1996 - 2000	Associate Director for Risk Assessment Policy and Research, National Center for Toxicological Research (NCTR), FDA, Jefferson, Arkansas
1972 - 1996	Director, Biometry and Risk Assessment Division, NCTR, FDA, Jefferson, Arkansas
1968 - 1972	Chief, Biometry Branch, National Institute of Environmental Health Sciences, NIH, Research Triangle Park, NC
1962 - 1968	Statistician, Research Triangle Institute, Research Triangle Park, NC
1960 - 1962	Statistician, Vallecitos Atomic Laboratory, General Electric Co., Pleasanton, CA
1955 - 1957	Statistician, Nuclear Aircraft Research Facility, General Dynamics Corp., Ft. Worth, TX
1953 - 1955	Statistician, Hanford Atomic Products Operation, General Electric Co., Richland, WA

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DAVID WILLIAM GAYLOR (continued)

UNIVERSITY AFFILIATIONS

- 1987 - Adjunct Professor of Mathematics and Statistics, University of Arkansas at Little Rock
- 1972 - Adjunct Professor of Statistics, University of Arkansas for Medical Sciences, Little Rock, AR
- 1968 - 1972 Adjunct Associate Professor of Statistics, North Carolina State University. Taught an advanced graduate course on the Analysis of Variance. Directed theses for three Ph.D. candidates.

PROFESSIONAL AFFILIATIONS

American Statistical Association
Biometric Society
Society for Risk Analysis
Society of Regulatory Toxicology and Pharmacology
Risk Assessment and Policy Association
Teratology Society

HONORS

Fellow, Academy of Toxicological Sciences, 2000
Food and Drug Administration Commendable Service Award, 1997
Distinguished Achievement Medal, Section on Statistics and the Environment, American Statistical Association, 1993
Fellow, Society for Risk Analysis, 1992
U.S. Public Health Service Special Recognition Award, 1992
U.S. Senior Executive Service Performance Award, 1992
U.S. Senior Executive Service Performance Award, 1987
Food and Drug Administration Award of Merit, 1980
Fellow, American Statistical Association, 1977
Frank Wilcoxon Prize, American Society for Quality Control, Outstanding Paper on Practical Application in Technometrics, 1970
Shewell Award, Technical Conference of the Chemical Div., American Society for Quality Control, 1968

EDITORIAL BOARDS

Toxicology and Industrial Health, 2000-present
Regulatory Toxicology and Pharmacology, 1998-present
Human and Ecological Risk Assessment, 1994-present
Risk Analysis, 1980-present

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DAVID WILLIAM GAYLOR (continued)

COMMITTEES/WORK GROUPS

National Research Council, Subcommittee on Acute Exposure Guideline Levels, 1998 - present.

Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, Panel on the Evaluation of Exposure Limits to Nerve Agents for the U.S. Army, 2000.

U.S. Army, Program on Chemical Demilitarization, Pine Bluff Chemical Incinerator Facility, Quantitative Risk Assessment Panel, 2000-present.

U.S. Food and Drug Administration. Consultant to the Transmissible Spongiform Encephalopathies (Mad Cow Disease) Advisory Committee, 2000-present.

World Health Organization/Food and Agriculture Organization, Joint Expert Committee on Food Additives-Mycotoxins, 2000-2001.

Radiation Effects Research Foundation (U.S./Japan Atom Bomb Casualty Commission), Hiroshima, Japan, Chair of the Multinational Peer Review Panel of the Statistics Program, 2000-2001.

U.S. Environmental Protection Agency, FIFRA, Science Advisory Panel, 1998-2000.

Joint Food and Agriculture/World Health Organization Expert Committee on Food Additives, Residues of Veterinary Drugs in Food, 1998-99.

Health Canada/U.S. EPA External Peer Review Workshop on Formaldehyde, 1998.

U.S. Environmental Protection Agency, Benchmark Dose Workgroup, 1997 to present.

U.S. Food Safety Institutes, Interagency Risk Assessment Consortium, 1997-2000.

International Life Sciences Institute, Risk Science Institute, Working Group on Common Mechanisms of Toxicity and Organophosphates, 1997-1998.

U.S. Environmental Protection Agency, Science Advisory Board, Environmental Health Committee, Review of Neurotoxicity Risk Assessment Guidelines and Review of Rodent Thyroid Tumors, 1996.

Department of Energy, Office of Energy Research, Health Effects Grant Review Panel, 1996.

U.S. Environmental Protection Agency, Risk Assessment Forum, Benchmark Dose Workshop, 1996.

U.S. Environmental Protection Agency, Health Risk Assessment Grant Review Panel, 1995-1996.

Food and Drug Administration, Center for Food Safety and Applied Nutrition, Quantitative Risk Assessment Committee, 1995-2000.

U.S. Environmental Protection Agency, Health Effects Research Laboratory, Endocrine Disruptors Workshop, 1995.

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DAVID WILLIAM GAYLOR (continued)

International Life Sciences Institute, Risk Science Institute, Dose Selection Work Group, 1994-1996.

National Academy of Sciences, National Research Council, Committee on Comparative Toxicity of Naturally Occurring Carcinogens, 1993 to 1996.

National Academy of Sciences, National Research Council, Committee on Toxicology, 1993 to 1999.

U.S. Environmental Protection Agency/American Industrial Health Council/International Life Sciences Institute, Benchmark Dose Workshop, 1993.

Food and Drug Administration, Center for Devices and Radiation Health, Toxicology Risk Assessment Committee, 1992 to 2000.

U.S. Environmental Protection Agency/National Toxicology Program, Panel on Reduced Protocols for Carcinogenicity Testing, 1992.

American Statistical Association, Sec. Environ. and Statistics, Planning Committee for Conference on Risk Assessment, 1991-1993.

International Life Sciences Institute, Risk Science Institute, Cancer Dose-Response Work Group, 1991-1993.

U.S. Dept. Health and Human Services, Committee to Coordinate Environmental Health and Related Programs, Risk Assessment Subcommittee, 1991-1994.

Environmental Protection Agency, Environ. Engineering Committee, Municipal Solid Waste Recycling Subcommittee, 1990-1991.

U.S. Dept. Health and Human Services, Fluoride Review Committee, 1990-1991.

Environmental Protection Agency, Environmental Criteria Assessment Office, Program Review Task Force, 1990.

Food and Drug Administration, Commissioner's Review of the Nitrofurans Decision, 1989-1990.

Electric Power Research Institute, Manufactured Gas Site Waste Advisory Committee, 1989 to present.

American Statistical Association, Sec. Environ. and Statistics, Planning Committee for Conference on Risk Assessment, 1991-1993.

International Life Sciences Institute, Risk Science Institute, Cancer Dose-Response Work Group, 1991-1993.

U.S. Dept. Health and Human Services, Committee to Coordinate Environmental Health and Related Programs, Risk Assessment Subcommittee, 1991-1994.

Environmental Protection Agency, Environ. Engineering Committee, Municipal Solid Waste Recycling Subcommittee, 1990-1991.

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DAVID WILLIAM GAYLOR (continued)

U.S. Dept. Health and Human Services, Fluoride Review Committee, 1990-1991.

Environmental Protection Agency, Environmental Criteria Assessment Office, Program Review Task Force, 1990.

Food and Drug Administration, Commissioner's Review of the Nitrofurans Decision, 1989-1990.

Electric Power Research Institute, Manufactured Gas Site Waste Advisory Committee, 1989 to 2000.

Environmental Protection Agency, Workshop on Quantitative Models for Developmental Toxicological Risk Assessment, 1987.

Committee on Risk Assessment, Office of Science and Technology Policy and the National Science Foundation, 1986-1989.

FD&C Red No. 3 Peer Review Panel, Food and Drug Administration, 1986-1987.

National Center for Toxicological Research, Workshop on Reproductive and Developmental Risk Assessment, Steering Committee, 1987.

Environmental Protection Agency, Science Advisory Board, Dioxin Panel, 1988-1989.

National Academy of Sciences, National Research Council, Committee on the National Monitoring of Human Tissues, 1988-1989.

Environmental Protection Agency, Risk Assessment Forum, Cancer Risk Assessment Guidelines Workshop, 1989.

International Life Sciences Institute, Carcinogenesis Work Group, 1986-1987.

Food and Drug Administration, Expert Witness, FD&C Blue No. 2, 1986-1987.

Environmental Protection Agency, FIFRA Science Advisory Panel, 1986.

Environmental Protection Agency, Consensus Workshop on the Evaluation of Maternal and Developmental Toxicity, 1986.

Food and Drug Administration Color Additives Science Review Panel, 1985-1987.

Environmental Protection Agency, Science Advisory Board, Environmental Health Committee, 1985-1994.

Environmental Protection Agency, Science Advisory Board, Task Force on Risk Assessment Guidelines, 1985.

Executive Committee, Biopharmaceutical Section, American Statistical Association, 1984-1986.

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DAVID WILLIAM GAYLOR (continued)

Interagency Work Group on Nitrite Carcinogenicity, 1984-1989.

Third National Institute of Environmental Health Sciences Task Force for Research Planning, 1984.

Steering Committee of the Southeast Regional Health Research and Development Field Program, Veterans Administration Medical Center, Little Rock, AR, 1984-1987.

Risk Estimation Panel, Consensus Workshop on Formaldehyde, 1983.

Biometric Society, Eastern North American Region Advisory Board, 1983-1986.

National Academy of Sciences, Committee on Toxicology, 1981-1987.

National Toxicology Program, Federal Formaldehyde Panel, 1980.

National Academy of Sciences, Panel on Water Re-Use, 1979-1981.

Food and Drug Administration, FD&C Red No. 40 Work Group, 1978-1981.

Food and Drug Administration, Polychlorinated Biphenyls Work Group, 1978-1979.

Great Lakes Research Advisory Board Task Force on Health Effects on Non-NTA Detergent Builders, 1977-1979.

Interagency Epidemiology Work Group, 1977-1979.

Interagency Regulatory Liaison Risk Assessment Subgroup, 1977-1979.

Executive Committee, Biopharmaceutical Subsection, American Statistical Association, 1976-1977.

Second National Institute of Environmental Health Sciences Task Force for Research Planning in Environmental Health Science, 1976.

Food and Drug Administration Toxicology Advisory Committee, 1975

Statistics Committee, Conference on Carcinogenesis Testing in the Development of New Drugs, National Academy of Sciences, 1974.

Chairman and Organizer, Conference to Explore the Statistical Aspects of Safety Evaluation and the Effect of the Delaney Clause, Food and Drug Administration, 1973.

Statistics Committee, Working Conference on Principles of Protocols for Evaluating Chemicals in the Environment, National Academy of Sciences, 1973.

Chairman, Statistics Committee, NCTR Task Force Conference, 1972.

Teratogenesis Panel, Secretary's (Mrak) Commission on Pesticides and their Relationship to Environmental Health, U.S. Dept. HEW, 1969.

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DAVID WILLIAM GAYLOR (continued)

Carcinogenesis Panel, Secretary's (Mrak) Commission on Pesticides and their Relationship to Environmental Health, U.S. Dept. HEW, 1969.

PUBLICATIONS

Gaylor, D.W. Equivalence of two estimates of product variance. Journal American Statistical Association 51: 451-453, 1956.

Gaylor, D.W. and Anderson, R.L. The construction and evaluation of some designs for the estimation of parameters in random models. Institute of Statistics Mimeo. Series, No. 256 (Ph.D. thesis), North Carolina State University, 1960.

Gaylor, D.W. Precision of fixed-time vs. fixed-count measurements. Analytical Chemistry 34: 1670-1671, 1962.

Gaylor, D.W. and Sweeny, H.C. Design for optimal prediction in simple linear regression. Journal American Statistical Association 60: 205-216, 1965.

Addelman, S., Gaylor, D.W. and Bohrer, R.E. Sequences of combination chemotherapy experiments. Biometrics 22: 730-746, 1966.

Gaylor, D.W. and Merrill, J.A. Augmenting existing data in multiple regression. Technometrics 10: 73-81, 1968.

Gaylor, D.W. and Hartwell, T.D. Expected mean squares for nested classifications. Biometrics 25: 427-430, 1969.

Gaylor, D.W. and Hopper, F.N. Estimating the degrees of freedom for linear combinations of mean squares by Satterthwaite's formula. Technometrics 11: 691-706, 1969.

Courtney, K.D., Gaylor, D.W., Hogan, M.D., Falk, H.L., Bates, R.R. and Mitchell, I.A. Teratogenic evaluation of 2,4,5-T. Science 168: 864-866, 1970.

Goldsmith, C.H. and Gaylor, D.W. Three stage nested designs for estimating variance components. Technometrics 12: 487-498, 1970.

Gaylor, D.W., Lucas, H.L. and Anderson, R.L. Calculation of expected mean squares by the abbreviated Doolittle and square root methods. Biometrics 26: 641-655, 1970.

Hartwell, T.D. and Gaylor, D.W. Estimating variance components for two-way disproportionate data with missing cells by the method of unweighted means. Journal American Statistical Association 68: 379-383, 1973.

Haseman, J.K. and Gaylor, D.W. An algorithm for non-iterative estimation of multiple missing values for crossed classifications. Technometrics 15: 631-636, 1973.

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- Cummings, W.B. and Gaylor, D.W. Variance component testing in unbalanced nested designs. *Journal American Statistical Association* 69: 765-771, 1974.
- Hoel, D.G., Gaylor, D.W., Kirschstein, R.L., Saffiotti, U. and Schneiderman, M.A. Estimation of risks of irreversible delayed toxicity. *Journal Toxicology Environmental Health* 1: 133-152, 1975.
- Holson, J.F., Scott, W.J., Gaylor, D.W. and Wilson, J.G. Reduced inter-litter variability in rats resulting from a restricted mating period, and reassessment of the litter effect. *Teratology* 14: 135-141, 1976.
- Collins, T.F.X., Ruggles, D.I., Holson, J.F., Schumacher, H.J., Gaylor, D.W. and Kennedy, G.L. Teratological Evaluation of FD&C Red No. 2 - A collaborative government-industry study. I. Introduction, Experimental materials and procedures. *J. Toxicology Environmental Health* 1: 851-856, 1976.
- Holson, J.F., Schumacher, H.J., Gaylor, D.W. and Gaines, T.B. Teratological Evaluation of FD&C Red No. 2 - A collaborative government-industry study. IV. NCTR's Study, *J. Toxicology Environmental Health* 1: 867-874, 1976.
- Holson, J.F., Gaylor, D.W., et al. Teratological Evaluation of FD&C Red No. 2 - A collaborative government-industry study. V. Combined findings and discussion. *J. Toxicology Environmental Health* 1: 875-885, 1976.
- Gaylor, D.W. Extrapolation models for risk assessment at low exposure levels. Proceedings of the Conference on Risk Assessment and Health Effects of Land Application of Municipal Wastewater and Sludges: 297-302. Univ. of Texas at San Antonio, 1977.
- Green, H.G., Nelson, C.J., Gaylor, D.W. and Holson, J.F. Accuracy of birth certificate data for detecting facial cleft defects occurring in Arkansas children. *Cleft Palate Journal* 16: 167-170, 1979.
- Bingham, E., Rodricks, J.V., Anderson, E.L., Gaylor, D.W., Heller, R.A., Keller, A.M., Kover, F. and McLaughlin, J. Identification of potential carcinogens and risk estimation. *J. Natl. Cancer Instit.* 63: 241-268, 1979.
- Nelson, C.J., Holson, J.F., Green, H.G. and Gaylor, D.W. Retrospective study of the relationship between agricultural use of 2,4,5-T and cleft palate occurrence in Arkansas. *Teratology* 19: 377-384, 1979.
- Littlefield, N.A., Farmer, J.H., Gaylor, D.W. and Sheldon, W.G. Effects of dose and time in a long-term, low-dose carcinogenic study. *J. Environ. Path. Tox.* 3: 17-34, 1980.
- Gaylor, D.W. The ED01 Study: Summary and Conclusions. *J. Environ. Path. Tox.* 3: 179-183, 1980.
- Gaylor, D.W. and Kodell, R.L. Linear interpolation algorithm for low dose risk assessment of toxic substances. *J. Environ. Path. Tox.* 4: 305-312, 1980.
- Kodell, R.L., Farmer, J.H., Gaylor, D.W. and Cameron, A.M. Influence of cause-of-death assignment on time-to-tumor analyses in animal carcinogenesis studies. *J. Natl. Cancer Instit.* 69: 659-664, 1982.

DAVID WILLIAM GAYLOR (continued)

- Goad, P.T., Hill, D.E., Slikker, W. and Gaylor, D.W. The effect of dietary fortification on blood ethanol concentrations, caloric consumption, and weight gain during ethanol consumption in mice. Drug-Nutrient Interactions 1: 213-228, 1982.
- Farmer, J.H., Kodell, R.L. and Gaylor, D.W. Estimation and extrapolation of tumor probabilities from a mouse bioassay with survival/sacrifice components. Risk Analysis: 27-34, 1982.
- Ciriesemer, R.A. (chairman). Report of the federal panel on formaldehyde. Environ. Health Perspectives 43: 139-168, 1982.
- Gaylor, D.W. Mathematical approaches to risk assessment: squamous cell nasal carcinoma in rats exposed to formaldehyde vapor. Formaldehyde Toxicity, ed. James Gibson, 279-283, Hemisphere Publ. Corp., N.Y., 1983.
- Casciano, D.X and Gaylor, D.W. Statistical criteria for evaluating chemicals as positive or negative in the hepatocyte/DNA repair assay. Mutation Res. 122: 81-86,- 1983.
- Kodell, R.L., Haskin, M.G., Shaw, G.W. and Gaylor, D.W. CHRONIC: A SAS procedure for statistical analysis of carcinogenesis studies. J. Statis. Comput. Simulation 16: 287-310, 1983.
- Gaylor, D.W. The use of safety factors for controlling risk. J. Toxicol. Environ. Health 1 1: 329-336, 1983.
- Greenman, D.L., Gaylor, D.W., Highman, B., Farmer, J.H., Norvell, M.J. and Gass, G. Normeoplastic changes induced in female C3H mice by chronic exposure to diethylstilbestrol or 17 beta-estradiol. J. Toxicol. Environ. Health 11: 843-856, 1983.
- Hughes, D.H., Bruce, R.D., Hart, R.W., Fishbein, L., Gaylor, D.W., Smith, J.M. and Carlton, W.W. A report on the workshop on biological and statistical implications of the ED01 study and related data bases. Fund. Appl. Toxicol. 3: 129-136, 1983.
- Hogue, C.J.R., Gaylor, D.W. and Schulz, K.F. Estimators of relative risk for case-control studies. Amer. J. Epidem. 118: 396-407, 1983.
- Krewski, D., Crump, K.S., Falmer, J.H., Gaylor, D.W., Howe, R., Portier, C., Salsburg, D., Sielken, R.L. and Van Ryzin' J. A comparison of statistical methods for low dose extrapolation utilizing time-to-tumor data. Fund. Appl. Toxicol. 3: 140-158, 1983.
- Kodell, R.L., Gaylor, D.W., Greenman, D.L., Littlefield, N.A. and Farmer, J.H. Response to the Society of Toxicology task force re-examination of the ED01 study. Fund. Appl. Toxicol. 3:No. 7-8, 3a-8a, 1983.
- Wolff, G.L., Gaylor, D.W., Frith, C.H. and Suber, R.L. Controlled genetic variation in a subchronic toxicity assay: susceptibility to induction of bladder hyperplasia in mice by 2-acetylamino-fluorene. J. Toxicol. Environ. Health 12: 255-265, 1983.
- Littlefield, N.A., Nelson, C.J. and Gaylor, D.W. Benzidine dihydrochloride: I. Risk assessment. Fund. Appl. Toxicol. 4: 69-80, 1984.

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DAVID WILLIAM GAYLOR (continued)

- Goad, P.T., Hill, D.E., Slikker, W., Kimmel, C.A. and Gaylor D.W. The role of maternal diet in the developmental toxicology of ethanol. *Toxicol. Appl. Pharm.* 73: 256-267, 1984.
- Gaylor, D.W., Lyon, M.F., Albert, R., Brown, C.C., Cohn, M.S., Sielken, R. and Wright, M. Consensus Workshop on Formaldehyde: Risk Estimation Panel Report. *Environ. Health Perspectives* 58: 354-358, 1984.
- Gaylor, D.W., Chen, J.J., Greenman, D.L. and Thompson, C.H. Occurrence of tumors among litters of BALB/c female mice. *J. Natl. Cancer Instit.* 74: 803-809, 1985.
- Gaylor, D.W., Chen, J.J. and Kodell, R.L. Experimental design of bioassays for screening and low dose extrapolation. *Risk Analysis* 5: 9-16, 1985.
- Gaylor, D.W. Closing remarks. Proceedings of the Symposium on Long-Term Animal Carcinogenicity Studies: A Statistical Perspective. Biopharmaceutical Section of the American Statistical Association, pp. 113-114, Washington, D.C., 1985.
- Gaylor, D.W. Discussion of papers on the design and analysis of tumorigenicity studies and bioavailability experiments. Proceedings of the Biopharmaceutical Section of the American Statistical Association, pp. 140-141, Washington, D.G., 1985.
- Gaylor, D.W., Frith, C.H. and Greenman, D.L. Urinary bladder neoplasms induced in BALB/c female mice with low doses of 2-acetylaminofluorene. *J. Environ. Path. Toxicology Oncology* 6: 127-136, 1985.
- Schieferstein, G.J., Littlefield, N.A., Gaylor, D.W., Sheldon, W.G. and Burger, G.T. Carcinogenesis of A-aminobiphenyl in BALB/cStCrlf C3HC/NCTR mice. *European J. Cancer Clinical Oncology*: 865-873, 1985.
- Littlefield, N.A. and Gaylor, D.W. Influence of total dose and dose rate in carcinogenicity studies. *Fund. Appl. Toxicology* 15: 545-550, 1985.
- Littlefield, N.A., Blackwell, B-N., Hewitt, C.C. and Gaylor, D.W. Chronic toxicity and carcinogenicity studies of gentian violet in mice. *Fund. Appl. Toxicol.* 5: 902-912, 1985.
- Chen, J.J. and Gaylor, D.W. The use of decision-theoretic approach in regulating toxicity. *Reg. Toxicol. Pharm.* 6: 274-283, 1986.
- Hart, R.W., Freni, S.C., Gaylor, D.W. et al. Final Report of the Color Additive Scientific Review Panel. *Risk Analysis* 6: 117-154, 1986.
- Chen, J.J. and Gaylor, D.W. The upper percentiles of the distribution of the log rank statistic for small numbers of tumors. *Commun. Stat. Simulation. Comp.* 15: 991-1002, 1986.
- West, R.W., Sheldon, W.G., Gaylor, D.W. et al. The effects of saccharin on the development of neoplastic lesions initiated with N-methyl-N-nitrosourea in the-rat urothelium. *Fund. Appl. Toxicol.* : 585-600, 1986.

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- Gaylor, D.W. and Chen, J.J. Relative potency of chemical carcinogens in rodents. Risk Analysis : 283-290, 1986.
- Kodell, R.L., Gaylor, D.W. and Chen, J.J. Standardized tumor rates for chronic bioassays. *Biometrics* 42: 867-873, 1986.
- Kodell, R.L., Gaylor, D.W. and Chen, J. J. Standardizing tumor rates with respect to competing risks in chronic bioassays. Proc. Biopharm. Sec. of the Amer. Stat. Assoc.: 82-84, 1986.
- Gaylor, D.W. Relative potency of chemical carcinogens in rodents. Proceedings of the Fed. Amer. Soc. Exper. Biol. Sympos. on the Biol. Bases for Interspecies Extrapolation of Carcinogenicity Data, 1986;
- Hogue, C.J.R., Gaylor, D.W. and Schulz, K.F. The case-exposure study: a further explication and response to a critique. Amer. J. Epidem. 124: 877-883, 1986.
- Kodell, R.L., Gaylor, D.W. and Chen; J.J. Consequences of using average lifetime dose rate for intermittent exposures to carcinogens. Risk Analysis : 339-345, 1987.
- Gaylor, D.W., Suber, R.L., Wolff, O.L. and Crowell, J.A. Statistical variation of selected clinical pathological and biochemical measurements in rodents. Proc. Soc. Exper. Biol. Med. 185: 361-367, 1987.
- Gaylor, D.W. Estimation of cancer risk of heptachlor from rodent data. Proc. of the Workshop Heptachlor Contamination of Breast Milk: Health and Scientific Issues: University of Arkansas for Medical Sciences: 44-47, 1987.
- Gaylor, D.W. Linear-nonparametric upper limits for low-dose extrapolation. Proc. Biopharm. Sec. Of the Amer. Stat. Assoc.: 63-66, 1987.
- Chen, J.J. and Gaylor, D.W. Carcinogenic risk assessment: comparison of estimated "safe" doses for rats and mice. *Environ. Health Perspect.* 72: 305-309, 1987.
- Kimmel, C.A. and Gaylor, D.W. Issues in qualitative and quantitative risk analysis for developmental toxicology. *Risk Analysis* 8: 15-20? 1988.
- Gaylor, D.W. Applicability of cancer risk assessment techniques to-other toxic effects. Toxicol. Indust. Health 4: 453-459, 1988.
- Chen, J.J., Kodell, R.L., and Gaylor, D.W. Using the biological two-stage model to assess risk from short-term exposures. Risk Analysis 8: 223-230, 1988.
- Gaylor, D.W., Sheehan, D.M., Young, J.F., and Mattison, D.R. The threshold dose question in teratogenesis. *Teratology* 38: 389-391, 1988.
- Gaylor, D.W., Radlubar, F.F., and West, R.W. Estimates of the risk of bladder tumor promotion by saccharin in rats. *Regulatory Toxicol. Pharmacol.* 8: 467-470, 1988.

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Gaylor, D.W. Quantitative risk analysis for quantal reproductive and developmental effects. Environ. Health Perspectives 79: 243-246, 1989.

Kodell, R.L., Chen, J.J., and Gaylor, D.W. A note on the role of background tumor incidence in risk assessment for carcinogens. Regulatory Toxicol. Pharmacol. 9: 141-146, 1989.

Gaylor, D.W. Estimation of cancer risk. Drug Info. J. 23: 303-307, 1989.

Felton, R.P. and Gaylor, D.W. Multistrain experiments for screening toxic substances. J. Toxicol. Environ. Health 26: 399-411, 1989.

Littlefield, N.A., Blackwell, B.-N., Allen, R.R., and Gaylor, D.W. Chronic toxicity and carcinogenicity studies of sulfamethazine in B6C3F1 mice. Food Chem. Toxicol. 27: 455-463, 1989.

Gaylor, D.W. Preliminary estimates of the virtually safe dose for tumors obtained from the maximum tolerated dose. Regulatory Toxicol. Pharmacol. 2: 101-108, 1989.

Littlefield, N.A., Blackwell, B.N., Allen, R.R., and Gaylor, D.W. Chronic toxicity and carcinogenicity studies of gentian violet in Fisher 344 rats. Food Chem. Toxicol. 27: 239-247, 1989.

Kodell, R.L. and Gaylor, D.W. On the additive and multiplicative models of relative risk. Biometrical J. 31: 3S9-370, 1989.

Sheehan, D.M., Young, J.F., Slikker, W., Jr., Gaylor, D.W. and Mattison, D.R.. Workshop on risk assessment in reproductive and developmental toxicology: addressing the assumptions and identifying the research needs. Reg. Toxicol. Pharmacol. 10: 110-122, 1989.

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