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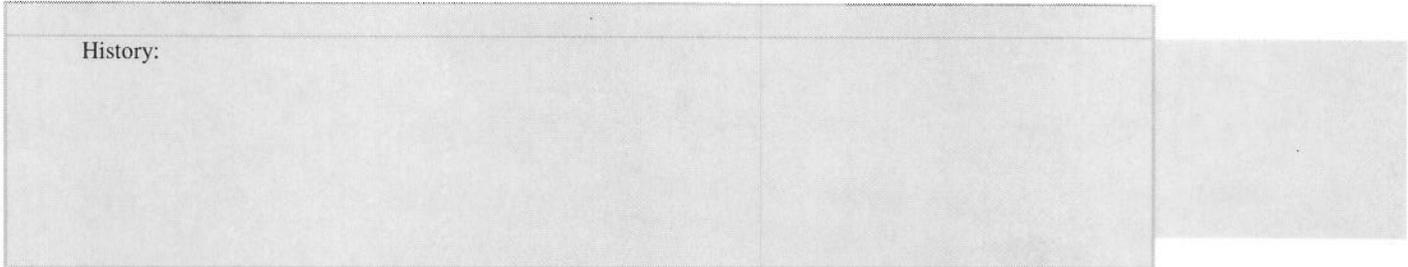02/13/2008 06:50 PM

To <Jay.Bassin@emsus.com>

cc

bcc

Subject SPRG comments

History:

Hi Jay,

Finished last week and then forgot to send the comments. They are attached. Let me know if you need clarification/amplification of anything.

Mike

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Comments on Preliminary Remediation Goals for
Radionuclides in Outdoor Surfaces (SPRG)

Michael Ginevan
M.E. Ginevan & Associates

1. The calculator is really the SPRG Search tab – this should be made clear somehow (a tutorial?). Would it be more appropriate to call the site something like a data resource? This might be more accurate.

2. When one opens the user manual tab it should open in a new window – the way it works now is that the calculator page is closed when the manual is opened. Trying to refer to the manual while using the calculator is frustrating.

3. I have found that the calculator (the SPRG search tab) works sporadically in Firefox – should the documentation note Internet Explorer only? In the same vein, has anybody tried it on a Mac?

4. Some entries are accepted that don't make sense – that is, I specified "F_{CD} (fraction of time spent in compartment) unitless" as 2. I think this only makes sense as 0-1, you need to do range checking. If we increase FCD from 1 to 2 PRG is smaller by a factor of 2 but does this make sense? Some other entries may have the same problem

5. The diagram on page 1 is nice but could we add some live links – that is when you click on "HEAST" you get the HEAST link? Actually live diagrams might be a nice organizing principal for a lot of this material.

6. Obviously I cannot check all equations but the sources are pretty well documented and the math makes sense. One issue that may not be addressed is the "sunbather" scenario. That is in certain cases people actually recline on a surface – this is a worst case for gamma emitters. I recognize that this is uncommon but it came up once for me. If it's there I missed it.

7. One problem that might want to be highlighted is the sample support issue – the goals are "reasonable maximum exposure (RME) concentrations." I would take these to be upper confidence bounds on the arithmetic mean concentration, but operationally we certainly do not want to remove all material above the goal because typically the data are right skewed and removing all samples above even an upper bound on the mean would result in an average much below the mean.

8. One issue that I'm not sure is adequately addressed is that radiation exposure can be a very small area exposure compared to chemicals. That is, if one simply sits in one spot, the amount of chemical exposure will usually be nil but radiation exposure for gamma emitters particularly can be pretty substantial. This adds a dimension to point 7 above – we have to know what the PRG numbers apply to in terms of sample size – 50 cm^2 surface measurements are more variable than 500 cm^2 measurements. I think the PRG number calculations assume a uniform concentration – which is reasonable, but I think some guidance has to be given or explicitly referenced to allow users to relate the PRG's to actual measurements. That is, what

concentration (average/upper bound/something else) from what area (square meters?) should the PRG's be compared to?

M.E. Ginevan & Associates

Statistical Consultation and Mathematical Modeling for the Health and Environmental Sciences

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Professional Profile

Dr. Michael E. Ginevan is the proprietor of M.E. Ginevan and Associates. Dr. Ginevan has more than 30 years experience in the application of statistics and computer modeling to problems in public health and the environment, and in the conduct of environmental, epidemiologic, and risk assessment studies. He is the author of "Statistical Tools for Environmental Quality Measurement," and over 50 other publications in the areas of statistics, computer modeling, epidemiology, and environmental studies.

In addition to his broad statistical background, he has had extensive training and research experience in the biological sciences, including epidemiology, ecology, and genetics. He has also been an effective interdisciplinary project leader and manager in academia, government, and private industry, and in a diversity of problem areas, including biostatistics, epidemiology, risk assessment, and environmental monitoring. Dr Ginevan is adept at making intricate statistical analyses understandable to persons with relatively little mathematical knowledge, and is effective in communicating complex scientific issues to lay audiences.

Dr. Ginevan is a founder and past Secretary of the American Statistical Association (ASA) Section on Statistics and the Environment, a recipient of the Section's Distinguished Achievement Medal, a past Program Chair of the ASA Conference on Radiation and Health and a Charter Member of the Society for Risk Analysis. He has served on numerous review and program committees for ASA, the U.S. Department of Energy, The U.S. Nuclear Regulatory Commission, the National Institute for Occupational Safety and Health, the National Cancer Institute, and the U.S. Environmental Protection Agency. He also served as a member of the National Academy of Sciences Committee on Health Risks of the Ground Wave Emergency Network.

Credentials and Professional Honors

Ph.D., Mathematical Biology, University of Kansas, 1976
M.S., Zoology, University of Massachusetts at Amherst, 1971
B.S., Biology, State University of New York at Albany, 1968

Distinguished Achievement Medal, American Statistical Association Section on Statistics and the Environment, 1993; Sigma Xi, 1978; University of Kansas Dissertation Fellowship, 1975 Hungerford Memorial Fellowship, 1974

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Prior Experience

Principal Scientist, The Sapphire Group, 2006
Principal Scientist, Exponent, 2004-2006
Vice President and Principal Scientist, Blasland Bouck and Lee Inc, 2002–2004
Principal, M.E. Ginevan & Associates, 1991–2002
Deputy Director, Office of Epidemiology and Health Surveillance, United States Department of Energy, 1991–1993
Principal Scientist, Biostatistics and Epidemiology, RiskFocus Division, Versar Inc., 1990–1991
Senior Scientist, Biostatistics and Epidemiology, RiskFocus Division, Versar Inc., 1988–1990
Senior Science Advisor, Biostatistics, Environ Corporation, 1987–1988
Biostatistician, United States Nuclear Regulatory Commission, 1982–1986
Assistant Statistician and Group Leader, Division of Biological and Medical Research, Argonne National Laboratory, 1978–1982
Research Associate, Environmental Research Laboratory, Center for Research Inc., University of Kansas, 1976–1978

Professional Affiliations

- American Association for the Advancement of Science, (member, 1975–present)
- American Statistical Association, (member, 1976–present)
- Biometrics Society, (member, 1975–present)
- International Environmetrics Society, (member, 1997–present)
- Sigma Xi, (member, 1975–present)
- Society for Epidemiologic Research, (member, 1983–present)
- Society for Risk Analysis, (Charter Member)
- Society for Toxicology and Applied Pharmacology, (member, 2000-present)

Academic Appointments

- Courtesy Assistant Professor, University of Kansas. (1977-1978)

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Consulting and Advisory Appointments

- Peer Reviewer, EPA draft guidance document entitled: "Guidance for choosing a sampling design for Environmental Data Collection (EPA QA/G-5S)," (2001)
- Program Chair Elect/Program Chair: American Statistical Association Section on Risk Analysis (1999–2001)
- Member, Strategic Planning Committee, ASA Section on Statistics and the Environment (1994–1995)
- Member, Planning Committee, 11th ASA Conference on Radiation and Health (1993–1994)
- Member, Steering Committee, ASA/NSF Ethics and Statistical Experts Project (1993–1995)
- Councilor, Washington Area Chapter, Society for Risk Analysis (1990–1992)
- Secretary, ASA Section on Statistics and the Environment. (1990)
- Member, Planning Committee, 9th ASA Conference on Radiation and Health (1989–1990)
- Chairman, 8th ASA Conference on Radiation and Health (1987–1989)
- Vice Chairman, ASA Committee on Statistics and the Environment. (1987-1989)
- Member, ASA Committee on Nuclear Regulatory Research, (1985–1990)
- Vice Chairman, 7th ASA Conference on Radiation and Health, (1986–1987)
- Member (representing the Society for Risk Analysis), Planning Committee for the 9th Symposium on Statistics, Law, and the Environment (1986)
- Consultant, Tabershaw Occupational Medicine Associates, Study design: occupational health study of workers exposed to low level electromagnetic fields, (1981)
- Member, Peer Oversight Committee, U.S. Environmental Protection Agency Terrestrial Biomonitoring Program, 1978–1981
- Planning Group, U.S. Environmental Protection Agency Terrestrial Biomonitoring Program, (1977)
- Consultant, Kansas State Attorney General's Office, Furnished advice and testimony on quantitative and ecological aspects of environmental litigation (1977–1978)

Science Advisory Boards/Panels

- Member, National Research Council Committee on Health Risks of the Ground Wave Emergency Network, (1990–1993)
- Consultant, U.S. Environmental Protection Agency, Science Advisory Board, Radiation Advisory Committee. Review of the Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP) (2002–2003)
- Consultant, U.S. Environmental Protection Agency, Science Advisory Board, Radiation Advisory Committee. Review of the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) (1996–1998)

to develop models for radon exposure in radium dial painters, and developed large-scale models to predict population exposure to particulate air pollution.

Epidemiology

Involved in the review of epidemiologic studies of Vietnam veterans to determine the extent to which adverse health effects are associated with herbicide exposure. Reviewed the alleged association between intrauterine phthalate exposure and reduced ano-genital distance in human male infants. Reviewed the epidemiologic literature on the association between the use of the Cox-2 inhibitors Celebrex and Bextra and heart attacks, and the literature on asbestos exposure and subsequent risks of lung cancer and mesothelioma.

Reviewed a variety of epidemiologic topics, including the effects of pesticide exposure on human health, cancer risks of electric field exposure, and studies of the cancer risk associated with water chlorination. Performed epidemiologic investigations of the possible association between particulate air pollution and human health, and of cancer clusters in occupational exposure settings. Provided a comprehensive review of an occupational epidemiology study of cancer and exposure to radiation and chemicals conducted at the Rocketdyne Division of Boeing North American and assisted Boeing in presenting the results of this review to their workers.

Dr. Ginevan is a past Deputy Director of the Office of Epidemiology and Health Surveillance at the U. S. Department of Energy (DOE), and has served as the principal expert in epidemiology at the U.S. Nuclear Regulatory Commission (NRC), and at two large consulting firms, ENVIRON, and RiskFocus, a Division of Versar Inc. In these positions he has reviewed numerous epidemiologic issues, including the health risks of environmental tobacco smoke (for the Federal Aviation Administration), both occupational and residential radon exposure, and exposure to ionizing radiation (including claims of cancer clusters alleged to have been caused by nuclear power plants). He has also reviewed epidemiology studies to better evaluate occupational risks for benzene, asbestos, vinyl chloride, and coke oven emissions, and environmental risks of exposures to chemicals in groundwater, lead in soil, and formaldehyde in building materials. He has conducted statistical evaluations of case-control studies of leukemia and diagnostic X-rays, and led a cross-sectional study of environmental pollution and human birth weights. As an author of the National Research Council Report, "Assessment of the Possible Health Effects of Ground Wave Emergency Network," he provided a complete review of the epidemiology literature on the effects of electromagnetic fields on human health.

Led an effort to develop a Health Surveillance System for all DOE workers, and participated in "rapid response studies" of alleged cancer clusters and alleged sick building syndrome at DOE facilities. At RiskFocus, assisted Occidental Chemical Corporation in upgrading the quality of their worker health surveillance program and in an investigation of alleged sick building syndrome associated with a lawsuit against a homebuilder. At the United States Nuclear Regulatory Commission, developed plans for epidemiology studies of nuclear power plant workers and, using data from uranium miners, modeled the risks of lung cancer caused by exposure to radon daughters (radioactive materials) and cigarette smoking. As a consultant to Tabershaw Occupational Medicine Associates, planned studies of electric utility workers, aimed at evaluating the reproductive health effects of exposure to electric fields and possible confounding factors. At Argonne National Laboratory, conducted investigations of possible

associations between diagnostic x-rays and leukemia risk, and of geographic trends in human birth weights as indicators of environmental stress and performed statistical analyses of data from the radium dial painters study.

Risk Analysis and Probability of Causation Evaluations

Recently completed an extensive risk assessment of the relationship between the presence soft drink vending machines in schools and the risk of obesity in the student population. This work was published in the journal Risk Analysis.

Extensive involvement in the analysis of toxicological data sets and in cancer risk modeling for toxic materials. Served as an expert witness in risk assessment in two toxic tort litigations. The first involved risks of PCB's from a hazardous waste site, while the other involved probability of causation calculations to support the defense of an alleged defective product. Conducted large ecological risk assessment studies for pesticides. In one, developed statistical analyses and Monte Carlo models to predict the risks that a pesticide might pose to the reproductive success of birds. Conducted analyses of data from both mesocosm and fish life cycle studies to determine the environmental risks posed by an herbicide.

Broadly involved in the analysis of rodent bioassay data, provided risk assessments for toxic materials and hazardous waste sites, modeled the risks of indoor air pollution and radiation exposure to airliner passengers, and performed probability of causation calculations in support of litigations defending alleged radiation injury. Provided cancer risk modeling for less-than-lifetime exposures, and probability of causation calculations in support of two toxic tort litigations. Led risk studies of the risks of electric field exposure in office buildings, and directed two large risk assessments, one for coal gasification and the other for advanced battery technologies.

Environmental Characterization and Monitoring

Dr. Ginevan's recent book "Statistical tools for environmental quality measurement" deals with the statistical bases of environmental characterization studies. Recent projects include statistical analysis of chemical concentrations in dust samples from buildings adjacent to the World Trade Center (WTC) Site to evaluate whether or not there is a consistent chemical "signature" in this dust, evaluations of PCB and dioxin congener profile data to determine the likely source of contamination, and a comprehensive evaluation of the National Antimicrobial Monitoring System (NARMS) designed to assess its value in critical decision making.

Designed monitoring programs for environmental residues of pesticides, developed survey designs for pesticide residues in food products, developed statistical designs for indoor air monitoring studies, and has provided reviews of the adequacy of the environmental sampling programs at several hazardous waste sites. Provided reviews of guidance on the Data Quality Objectives / Data Quality Assessment Process (DQO/DQA) and, acting as a consultant to EPA's Science Advisory Board, providing reviews of the Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP) and the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM).

Michael Ginevan, Ph.D.

Developed and critiqued sampling plans for hazardous waste sites, planned air monitoring programs to verify incinerator performance, evaluated environmental surveys of poly-aromatic hydrocarbons, and helped plan a large air quality survey for Valdez, Alaska. Provided statistical advice to the EPA in the areas of monitoring ambient air quality and, as a member of a Science Advisory Board subcommittee, indoor radon. Participated in the planning and oversight of the EPA's terrestrial biomonitoring program, and consulted with the Kansas State Attorney General's Office in the area of environmental monitoring.

Databases and Data Quality Objectives

Assisted in the development of a number of large databases. Most recently he has been involved in evaluation of historical databases of herbicide use, troop locations, and military action during the Vietnam War and has helped translate these data into a modern relational database. He has also assisted the pesticide industry in development of a large pesticide use database and has worked with the Agricultural Reentry Taskforce in developing a large database of worker exposure information.

As part of an ecological risk assessment study, played a central role in the development of the pesticide residue database used in this study, and was also responsible for the development and implementation of both analytic and graphical statistical procedures for data exploration and quality assurance. The actual database included more than 20,000 pesticide residue measurements.

At DOE, managed development of the CEDR system from 1991 to 1993. The CEDR database system was developed by the U.S. Department of Energy (DOE) to make all of the data collected by the DOE epidemiologic studies available to the scientific community. These data include 12 distinct studies, and more than 30,000 individual records. Dr. Ginevan played a major role in defining the information necessary to make CEDR a "user friendly" system, and in defining data quality assurance criteria for these data. Today, CEDR is complete and is available through the Internet.

At the United States Nuclear Regulatory Commission, planned development of a dosimetry database for nuclear power plant workers, and developed statistical methods that might be used to better estimate worker exposure from the resulting data.

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Michael Ginevan, Ph.D.

Michael E. Ginevan: Bibliography

Ginevan, M.E. 2007. Statistical Tools for Ratio Data. In: Introduction to Environmental Forensics. B. Murphy and R.D. Morrison Eds. In Press

Ginevan, M.E. 2006. Bootstrap Estimators for the Distribution of the Arithmetic Mean of Multiply Left-Censored Data. Invited paper 2006 International Environmetrics Society Annual Meeting, Kalmar Sweden. +

Ginevan, M.E. and D.W. Watkins. 2006. Dose-response errors and detection of biological thresholds. American Statistical Association 2006 Annual Meeting Abstracts. pg 275. +

Tardiff, R.G., M.L. Carson, and M.E. Ginevan. 2006. Updated Weight of Evidence for an Association Between Adverse Reproductive and Developmental Effects and Exposure to Disinfection Byproducts. J. Regul. Tox. Pharm. 45(2): 185-205.

Ginevan, ME. 2005. Using log-ratio-log plots to assess the association between chemical species in environmental samples. Proceedings of the 2005 American Statistical Association Annual Meeting: 2473-2476.

Forshee RA, Storey, ML, and Ginevan ME. 2005. A Risk Analysis Model of the Relationship Between Beverage Consumption from School Vending Machines and Risk of Adolescent Overweight. Risk Analysis 25: 1121-1135.

Whitmyre GK, Ross JH, Ginevan ME, and Eberhart D. 2005. Risk-based restricted entry intervals. In: Occupational and Residential Exposure Assessment for Pesticides. pp. 45–69; C.A. Franklin and J.P. Worgan (eds.), John Wiley, NY.

Splitstone DE and Ginevan ME. 2004. A Bayesian approach to determining the "paternity" of environmental contamination. Proceedings of the 15th Annual Conference of TIES, The International Environmetrics Society, Portland, Maine, June 28–July 1, 2004. +

Ginevan ME. Soft drinks and obesity. Journal of Pediatrics 2004. 144(4): 555–556.

Lamb, J.C, B.H. Neal, M.E. Ginevan, J.S. Bus, and W.M. Mahlburg. 2003. Herbicide Effects on Embryo Implantation and Litter Size. Environmental Health Perspectives 111. A450.

Ginevan, M.E. 2003. Bootstrap-Monte Carlo Hybrid Upper Confidence Bounds For Right Skewed Data. Proceedings of the 2003 American Statistical Association Annual Meeting. 1609-1612

Ginevan, M.E., and D.E. Splitstone. 2003. Statistical Tools for Environmental Quality Measurement. Chapman & Hall / CRC. 352 PP.
Ginevan, M.E. 2002. Assessment of the National Antimicrobial Monitiring System (NARMS) and its value in critical decision making. International Journal of Infectious Diseases 6: 3S8-3S15.

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Michael Ginevan, Ph.D.

Ginevan, M.E. and D.E. Splitstone, 2002. Bootstrap upper bounds for the arithmetic mean of right-skewed data, and the use of censored data. Environmetrics 13: 443-464.

Ginevan, M.E. 2001. *Radon.* In: Encyclopedia of Environmetrics. John Wiley, NY.

Price, P, M. Ginevan, and T. Barry. 2001. Qualitative and Quantitative Uncertainty Analysis. In: Residential Exposure Assessment: A Source Book. S.R. Baker, J. Driver, and D. McCallum. Eds. pp 313-330. Kluwer Academic/Plenum. NY.

Ginevan, 2001. Using Statistics in Health and Environmental Risk Assessments. In: *A Practical Guide to Understanding, Managing, and Reviewing Environmental Risk Assessment Reports.* S.L. Benjamin and D.A. Belluck eds. pp 389-411. Lewis Publishers, New York.

Graves, C.G., M.E. Ginevan, R.A. Jenkins, and R.G. Tardiff. 2000. Doses and lung burdens of environmental tobacco smoke constituents in nonsmoking workplaces. Journal of Exposure Analysis and Environmental Epidemiology 10: 365-377.

LaKind, J.S., R.A. Jenkins, D.Q. Naiman, M.E. Ginevan, C.G. Graves, and R.G. Tardiff. 1999. Use of Environmental Tobacco Smoke Constituents as Markers for Exposure. Risk Analysis 19: 359-373.

LaKind, J.S., M.E. Ginevan, D.Q. Naiman, A.C. James, R.A. Jenkins, M.L. Dourson, S.P. Felter, C.G. Graves, and R.G. Tardiff. 1999. Distribution of Exposure Concentrations and Doses for Constituents of Environmental Tobacco Smoke. Risk Analysis 19: 375-390.

LaKind, J.S., C.G. Graves, M.E. Ginevan, R.A. Jenkins, D.Q. Naiman, and R.G. Tardiff. 1999. Exposure to Environmental Tobacco Smoke in the Workplace and the Impact of Away-From-Work-Exposure. Risk Analysis 19: 349-358.

Ginevan, M.E. and Driver, J. H. 1998. Modeling Event Distributions in Time: The Case of Correlated Occurrences. Workshop on Probabilistic Methods in Risk Assessment. Society for Risk Analysis Annual Meeting.

Wilkinson, C.F., J.H. Driver, J.H., G.K. Whitmyre, G.K. and M.E. Ginevan. 1998. Encyclopedia of Toxicology (contributing authors). National Library of Medicine, Bethesda, MD.

Ginevan, M.E. and D.E. Splitstone, 1997. Improving remediation decisions at hazardous waste sites with risk-based geostatistical analysis. Environmental Science and Technology. 31: 92A-96A.

Ginevan, M.E. 1997. The Fallacy of Distributional Fitting In Monte Carlo Modeling. Workshop on Probabilistic Methods in Risk Assessment. Society for Risk Analysis Annual Meeting.

Michael Ginevan, Ph.D.

Brown, S.L., J.E. Rossi, and M.E. Ginevan 1987. A Mathematical Model for Dermal Absorbtion from Water. Environmetrics 87 Program Abstracts. pg. 34.+

Miller, D., M.E. Ginevan, and Y. Sternberg. 1987. Assessing Contamination in Ground Water: What is Background? Environmetrics 87 Program Abstracts. pg. 10.+

Ginevan, M.E. and J.R. Viren. 1986. The Role of Uncertainty in Probability of Causation Calculations. Society for Risk Analysis Annual Meeting Program Abstracts. pg. 1. +

Ginevan, M.E. and W.A. Mills. 1986. Assessing the risks of radon exposure: The influence of cigarette smoking. Health Physics 51: 163-174.

Ginevan, M.E. and A. Brodsky. 1985. Definition of minimal dectectable amount for Poisson distributed data. Health Physics 49:170.+

Ginevan, M.E. 1985. A flexible computer model for radon daughter health risk assessment. Proceedings of the International Conference on Radiation Safety in Mining, Vol. 2. Canadian Nuclear Association, Toronto. pp 595-603.

Ginevan, M.E. 1984. A computer code for general analysis of radon risks. U.S. Nuclear Regulatory Commission Report NUREG 1029. 84 + viii pp.

Ginevan, M.E. 1984. Lifetable methodology for radon risk assessment. Final Report - ASA Conference on Radiation and Health: Coolfont IV. pp 43-48.

Ginevan, M.E., W.A. Mills, and J.S. Puskin. 1984. Radiation exposure standards for radon based on lung cancer rates in nonsmokers. Proceedings of the 6th International Congress of IRPA. International Radiation Protection Association, Fachverband Für Stralenschutz e.V. pub. West Berlin. pp.1257-1260.

Ginevan, M.E. and W.A. Mills. 1983. Estimation of radon daughters related lung cancer risk. Health Physics 45: 241-242.+

Ginevan, M.E. and J.S. Puskin. 1983. Delayed effects of A-bomb radiation. Journal of Epidemiology and Community Health 37:85-86.

Carnes, B.A. and M.E. Ginevan. 1983. Estimation of the ridge constant: An approach based on the condition index. Program Abstracts, 1983 Joint Statistical Meetings, Toronto, Canada. p 69.+

Ginevan, M.E. and B.A. Carnes. 1983. A pictorial approach to some concepts in multiple regression analysis. Program Abstracts, 1983 Joint Statistical Meetings, Toronto, Canada. p 81.+

Ginevan, M.E., C.D. Brown, J.J. Bromenshenk, K.C. Chun, N.A. Devine, D. Fingleton, C.A. Reilly, P. Rice, and K. Wilzbach. 1982. Health and Environmental Effects Document on a High BTU Coal Gasification Industry - 1981. ANL/ES-124.

Michael Ginevan, Ph.D.

Ginevan, M.E. and B.A. Carnes. 1982. Approaches to problems of collinearity and dimensionality in studies of disease-environment association. 1981 D.O.E. Statistical Symposium: Proceedings. Brookhaven National Laboratory Report BNL51535. pp 119-124.

Curtiss, J.R.B., M.E. Ginevan, and C.D. Brown. 1982. Spatio-temporal analysis of human birthweight: An indicator of subtle environmental stress?. Proceedings, International Symposium on Health Impacts of Different Sources of Energy (IAEA SM 254). pp 33-50.

Ginevan, M.E. 1981. Reply to Bertell. Health Physics 41:422-424.

Ginevan, M.E. 1981. A Poisson trials approach to interpopulation comparisons of cause of death data. Environmental Research 25:147-159.

Collins, J.J., M.E. Ginevan, and R.T. Lundy. 1981. The use of a demographic model for health risk assessments. Environmetrics'81: Summaries of Conference Presentations: 220-221. *

Curtiss, J.R.B., M.E. Ginevan, and C.D. Brown. 1981. Human birthweight patterns as an indicator of environmental health: Comparison of similiar counties in Upstate New York. Environmetrics'81: Summaries of Conference Presentations: 222-223. *

Carnes, B.A., M.E. Ginevan, and J.J. Collins. 1981. Multivariate methods for assessing disease /environment association. Environmetrics' 81: Summaries of Conference Presentations: 212-213. *

Ginevan, M.E., J.R.B. Curtiss, and D. Grahn. 1981. Adult leukemia risk diagnostic x-rays: A reanalysis of the Tri-state leukemia survey data. Nuclear Regulatory Commission Publication NUREG/CR2234. 75+iii pp.

Collins, J.J., B.A. Carnes, and M.E. Ginevan. 1980. Methods of assessing regional versus national patterns in county level health/environmental data. National County Level Data Users Workshop: Reston, VA. 10-16-80.+

Ginevan, M.E., D.D. Lane, and L. Greenburg. 1980. Ambient air concentration of sulfur dioxide affects flight activity in bees. Proceedings of the National Academy of Sciences 77: 5631-5633.

Ginevan, M.E. and D.D. Lane. 1980. A gas exposure system for insects. Journal of Economic Entomology 73:46-48.

Ginevan, M.E. 1980. Non-lymphatic leukemias and diagnostic x-rays: The evidence reconsidered. Health Physics 38:129-138.

Ginevan, M.E. 1979. An inequality involving the binomial distribution with an application to maximizing the power of certain binomial tests. American Statistical Association Meeting Abstracts. p93.+

Ginevan, M.E. 1979. Testing land use map accuracy: Another look. Photogrametric Engineering and Remote Sensing 45:1371-1377.

Michael Ginevan, Ph.D.

Driver, J. H., M. E. Ginevan, and G. K. Whitmyre. 1996. Estimation of potential human health risks associated with dietary exposure to pesticide residues in agricultural commodities: A case study illustrating methods of distributional analysis. Risk Analysis. 16: 763-771.

Ginevan, M.E. and C.G. Graves. 1996. Why linearized multistage confidence limits from Global 86 and Global 92 cannot be used to calculate the LED10, the point of departure in the proposed cancer guidelines. Society for Risk Analysis Annual Meeting Program Abstracts. 102.+

Ginevan, M.E. and D.E. Splitstone, 1995. Risk-based geostatistical analysis of hazardous waste sites: A tool for improving remediation decisions. In: Proceedings of "Challenges and Innovations in the management of hazardous waste." Air and Waste Management Association. Pittsburgh, PA. VIP-52. 540-546.

Ginevan, M.E. 1995. Suspended particulates and daily mortality in Santa Clara County: An exploratory approach. Inhalation Toxicology 7: 803. Also in: Colloquium on Particulate Air Pollution and Human Mortality and Morbidity. University of California Irvine, Air Pollution Health Effects Laboratory. Report 94-02. P1.4.+

Curry, K.K., D.J. Brookman, G.W. Whitmyre, J.H. Driver, R.J. Hackman, P.J. Hakkinen, and, M.E. Ginevan. 1994. Personal Exposures to toluene during use of nail lacquers in residences: results of a preliminary study. Journal of Exposure Analysis and Environmental Epidemiology 4: 443-456.

Ginevan, M.E. 1994. Monte Carlo Simulation: How Many Replications Are Enough? Society for Risk Analysis Annual Meeting Program Abstracts. 88.+

Putzrath, R.M. and M.E. Ginevan, 1994. Improving toxic equivalence factors for PCB's. Proceedings of the Superfund XV Conference, 1457-1463. Hazardous Materials Control Resources Institute, Washington, D.C.

Ginevan, M.E. and R.M. Putzrath. 1994. The Health Risk Assessment Process: Implications for Site Sampling. In: Proceedings of "Cost-efficient acquisition and utilization of data in the management of hazardous waste sites." Air and Waste Management Association. Pittsburgh, PA. VIP-36. 259-267.

Ginevan, M.E. 1993. Bounding the mean concentration for environmental contaminants when all observations are below the limit of detection. American Statistical Association 1993 Proceedings of the Section on Statistics and the Environment. 123-128.

Tenforde, T.S., C.J. Conti, H.K. Florig, O.P. Gandi, M.E. Ginevan, G.H. Harrison, M.M. Henderson, J.R. McDonald, R.M. Santella, J.A.J. Stolwijk, H. Wachtell. 1993. Assessment of the Possible Health Effects of Ground Wave Emergency Network. National Academy Press. Washington, DC. 166+xiii pp.

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Michael Ginevan, Ph.D.

Whitmyre, G.K, J.H. Driver, M.E. Ginevan, R.G. Tardiff, and S.R. Baker. 1992. Human exposure assessment I: Understanding the uncertainties. Toxicology and Industrial Health 8: 297-320.

Whitmyre, G.K, J.H. Driver, M.E. Ginevan, R.G. Tardiff, and S.R. Baker. 1992. Human exposure assessment II: Quantifying and reducing the uncertainties. Toxicology and Industrial Health 8: 321-342.

Putzrath, R.M. and M.E. Ginevan. 1991. Meta-Analysis: Methods for combining data to improve quantitative risk assessment. Regulatory Toxicology and Pharmacology 14: 178-188.

Clevenger, M.A., Putzrath, R.M., Ginevan, M.E., Brown, S.L., DeRosa, C.M., and Muntaz, M.M. Risk Assessment of Mixtures: A Model Based on Mechanisms of Action and Interaction. in Risk Analysis: Prospects and Opportunities. pp. 293-303, C. Zervos, K. Knox, L. Abramson, and R. Coppock (eds.), Plenum Press, New York, c. 1991.

Ginevan, M.E. 1990. Discussion of Occupational Studies. Radiation Research 124: 352-353.

Ginevan, M.E. 1990. Electric Fields: Discussion and Summary. In: ASA Conference on Radiation and Health: Health Effects of Electric and Magnetic Fields: Statistical Support for Research Strategies. Chair: M.E. Ginevan. American Statistical Association, Alexandria, VA. pp 119-125.

Ginevan, M.E., and R.G. Tardiff. 1990. Risk assessment for groundwater contaminants: reducing the uncertainty with improved analytic techniques. Presented to the Edison Electric Institute, Washington, DC, July 19, 1990.

Wilkinson, C.W., M.E. Ginevan, and P. Roney. 1989. A Critical Review of the Natural Resources Defense Council's Report, "Intolerable Risk: Pesticides in Our Children's Food." National Agricultural Chemicals Association, Washington, DC. 66+ix pp.

Nagda, N.L, R.C. Fortman, M.D. Koontz, S.R. Baker, and M.E. Ginevan. 1989. Airliner Cabin Environment: Contaminant Measurements, Health Risks, and Mitigation Options. Report No. DOT-P-15-89-5. U.S. Department of Transportation, Washington, DC.

Ginevan, M.E. 1989. Environmental Statistics in the 90's: Coping with the information revolution. In: Challenges for the 90's. B.A. Bailar and F.C. Leone eds. American Statistical Association, Alexandria VA. pp 48-49.

Ginevan, M.E. 1988. Radon as an indoor air pollutant. Statistical Science 3: 371-373.

Ginevan, M.E. 1987. Uncertainty Analysis in Risk Calculation. Environmetrics 87 Program Abstracts. pg. 16.+

Ginevan, M.E. and R.M. Putzrath. 1987. Risk Assessment: A Meta-analytic View of Toxicology. Environmetrics 87 Program Abstracts. pg. 15-16.+

Michael Ginevan, Ph.D.

Ginevan, M.E. and D.D. Lane. 1978. Effects of sulfur dioxide in air on the fruit fly, <u>Drosophila melanogaster</u> . Environmental Science and Technology 12: 828-831.

Ginevan, M.E. 1977. Effects of low level sulfur dioxide exposure on the fruit fly, <u>Drosophila melanogaster</u>: Contributed paper 107; AAAS National Meeting, Denver 2-21-77. (AAAS Publication 77-2).+

Ginevan, M.E. 1976. The potential impact of sulfur dioxide air pollution on insects: An experimental study of <u>Drosophila melanogaster</u>. University of Kansas Technical Report ERL-7602. 98 pp.

Ginevan, M.E. 1976. A gas exposure system for <u>Drosophila</u> and other small insects. Drosophila Information Service 57: 177-178.

Hedrick, P.W., M.E. Ginevan, and E.P. Ewing. 1976. Genetic polymorphism in heterogeneous environments. Annual Review of Ecology and Systematics 7: 1- 32.

Ginevan, M.E. 1971. Genetic control of melanism in <u>Panthea</u> <u>furcilla</u> (Packard) (Lepidoptera: Noctuidae). Journal of the New York Entomological Society 79: 195-200.

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