

## **PUBLICATIONS OF DR. WILLIAM FAIRLEY**

### **SAMPLING, AUDITING, AND THEFT AND FRAUD LOSSES**

“Resolving a Multi-Million Dollar Contract Dispute with a Latin Square,” William B. Fairley, Peter J. Kempthorne, Julie Novak, Scott McGarvie, Steve Crunk, Bee Leng Lee, and Alan Salzberg, *The American Statistician*, August 2017.

“Combining Incomplete Information from Independent Assessment Surveys for Estimating Masonry Deterioration,” William B. Fairley, Alan J. Izenman, and Steven M. Crunk, *Journal of the American Statistical Association*, June 2001.

“Inference for Welfare Quality Control Programs,” William B. Fairley, Alan J. Izenman, and Partha Bagchi, *Journal of the American Statistical Association*, September 1990.

“Bricks, Buildings, and the Bronx,” William B. Fairley, Alan J. Izenman and A. Rhett Whitlock, *Chance*, Summer 1994.

“A Question of Theft,” William B. Fairley and Jeffrey E. Glen in Morris DeGroot, Stephen Fienberg and Joseph Kadane, Editors, *Statistics and the Law*, Wiley, 1986.

“Welfare Quality Control Programs: How Much is Misspent by the Welfare System?”, William B. Fairley and Alan J. Izenman, *Chance*, Summer 1989.

“Estimated Public Welfare Quality Control Error Rates and Penalties,” William B. Fairley and David Fairley, in *Bayesian Statistics 3*, Oxford University Press, 1988.

“Establishing Quantity Estimates and Levels of Certainty in Predicting Structural Damage: A Masonry Case Study,” William B. Fairley, Alan J. Izenman, and A. Rhett Whitlock, *Proceedings of the British Masonry Society*, No. 6, March 1994.

### **DISCRIMINATION**

“Statistical Criticism and Causality in *Prima Facie* Proof of Disparate Impact Discrimination,” William B. Fairley and William A. Huber, *Observational Studies*, December 2017 (forthcoming).

“Measures of Discrimination and Protocols for Evidence: The Case of the Spare List,” Steven M. Crunk and William B. Fairley, *Proceedings of the American Statistical Association*, 2008, Statistical Consulting Section.

“Comment on Federal Judicial Center “Statistical Examples Software Prototype: Age Discrimination Example,” William B. Fairley, *Jurimetrics*, Spring 2002.

“A Case of Unexamined Assumptions: The Use and Misuse of the Statistical Analysis of Casteneda/Hazelwood in Discrimination Litigation,” Thomas J. Sugrue and William B. Fairley, *Boston College Law Review*, July 1983.

“Statistical Evidence of Racial Disparities in Death Sentencing: A Critical Analysis of *McCleskey v. Kemp*,” Glenn Dickinson and William B. Fairley in *Human Rights and Statistics: Getting the Record Straight*, Richard P. Claude and Thomas B. Jabine, Editors, University of Pennsylvania Press, 1992.

## **INSURANCE, FINANCE, AND REGULATION**

“Investment Income and Profit Margins in Property-Liability Insurance: Theory and Empirical Results,” William B. Fairley, *Bell Journal of Economics*, Spring 1979. Re-printed in J. David Cummins and Scott A. Harrington, Editors, *Fair Rate of Return in Property-Liability Insurance*, Kluwer-Nijhoff, 1987.

“Investment Analysis Using the Probability Distribution of the Internal Rate of Return,” William B. Fairley and Henry D. Jacoby, *Management Science*, August 1975.

“Pricing Automobile Insurance under a Cross-Classification of Risks: Evidence from New Jersey,” William B. Fairley, T. Jerome Tomberlin, and Herbert I. Weisberg, *Journal of Risk and Insurance*, September 1981, Winner of the 1982 *Journal of Risk and Insurance* Articles Award of the National Association of Independent Insurers.

“Pricing Automobile Insurance under Multivariate Classification of Risks: Additive versus Multiplicative,” Lena Chang and William B. Fairley, *Journal of Risk and Insurance*, March 1979. Winner of the *Journal of Risk and Insurance* Clifford D. Spangler Award of the Alpha Kappa Psi Foundation, 1989.

“An Estimation Model for Multivariate Insurance Rate Classification,” Lena Chang and William B. Fairley in *Automobile Insurance Risk Classification: Equity and Accuracy*, Massachusetts Division of Insurance, 1978.

“Automobile Insurance: Additive versus Multiplicative Pricing,” Lena Chang and William B. Fairley, *1978 Proceedings of the Business and Economic Section*, American Statistical Association, Washington, D.C.

“Capacity and Solvency—The Outside Influence,” William B. Fairley, *Society of Actuaries Record*, Vol. 4, No. 1, 190—196, 1978.

## **RISK ANALYSIS, ACCIDENTS, HEALTH, AND PRODUCT LIABILITY**

“Parametric Inference for Right-Censored Data with Indeterminate Survival Times and Censoring Status,” B.L. Lee, Steven M. Crunk, Maheen Khan, and William B. Fairley, To appear in the: *Journal of Applied Statistics* (2017).

“Estimating Mine Equipment Injury Rates,” William B. Fairley and Tian-Tzer Jeng in B. J. Garrick and W. C. Gekler, Editors, *The Analysis, Communication, and Perception of Risk*, Plenum Press, 1991.

“A Probability Model for Brittle Fracture Turbine Reliability,” Edward M. Caulfield, Michael T. Cronin, William B. Fairley, and Nancy R. Rallis in Chris Whipple and Vincent T. Covello, Editors, *Risk Analysis in the Private Sector*, Plenum Press, 1985.

“Insurance Market Assessment of Technological Risks,” William B. Fairley, Michael B. Meyer, and Paul L. Chernick, in Chris Whipple and Vincent T. Covello, Editors, *Risk Analysis in the Private Sector*, Plenum Press, 1985.

“Market Risk Assessment of Catastrophic Risks,” William B. Fairley, in Howard C. Kunreuther and Eryl V. Ley, Editors, *The Risk Analysis Controversy: An Institutional Perspective*, Springer-Verlag, 1982.

*Design, Costs, and Acceptability of an Electric Utility Self-Insurance Pool for Assuring the Adequacy of Funds for Nuclear Power Plant Decommissioning Expense*, with Paul L. Chernick, William B. Fairley, Michael B. Meyer, and Linda C. Scharff, NUREG/CR-2370, U.S. Nuclear Regulatory Commission, Washington, D.C., November 1981.

“Assessment for Catastrophic Risks,” William B. Fairley, *Risk Analysis*, Vol. 1, No. 3, September 1981.

“Evaluating the ‘Small’ Probability of a Catastrophic Accident from the Marine Transportation of Liquefied Natural Gas,” William B. Fairley, in *Proceedings of the Engineering Foundation Conference on Risk Benefit Methodology and Application*, David Okrent, Editor, Asilomar, California, 1975. Re-published in Fairley and Mosteller, *Statistics and Public Policy*, Addison-Wesley, 1977.

“Accidents on Route 2: Two-Way Structures for Data,” William B. Fairley, in William B. Fairley & Frederick Mosteller, Editors, *Statistics and Public Policy*, Addison-Wesley, 1977.

Discussion of Lester B. Lave and Eugene P. Seskin, “Does Air Pollution Shorten Lives,” William B. Fairley, in John W. Pratt, Editor, *Statistical and Mathematical Aspects of Pollution Problems*, Marcel Dekker, 1975.

## **PUBLIC POLICY**

“Credible Argument: School Finance in a Legal Trial,” William B. Fairley, *Proceedings of the American Statistical Association Annual Meeting* Baltimore, 1999.

*Statistics and Public Policy*, William B. Fairley and Frederick Mosteller, Editors, Addison-Wesley, 1977. (Japanese Translation, Shojin Sha Ltd., 1990)

“Public Policy and Statistics,” William B. Fairley, in the *International Encyclopedia of Statistics*, Vol. 2, William H. Kruskal and Judith M. Tanur, Editors, Macmillan and Free Press, 1978.

Contributor to Stephen E. Fienberg, David Hoaglin, William H. Kruskal, and Judith M. Tanur, Editors, *A Statistical Model: Frederick Mosteller’s Contributions to Statistics, Science, and Public Policy*, Springer-Verlag, 1990.

“Comment on Statistical Defensibility,” William B. Fairley, *The American Statistician*, August 1982.

*Improving Public Safety in Urban Apartment Dwellings: Security Concepts and Experimental Design for New York City Housing Authority Buildings*, William B. Fairley and Michael Liechenstein, New York City Rand Institute, 1971.

“Trial of an Adversary Hearing: Public Policy in Weather Modification,” William B. Fairley and Frederick Mosteller, *International Journal of Mathematical Education in Science and Technology*, Vol. 3, pp. 375—383, 1972.

## **LAW, EVIDENCE, AND DAMAGES**

“Statistics in Law,” William B. Fairley. Article in the *Encyclopedia of the Statistical Sciences*, Vol. IV, Samuel Kotz and Norman L. Johnson, Editors, Wiley, 1983.

“A Bayesian Approach to Identification Evidence,” Michael O. Finkelstein and William B. Fairley, *Harvard Law Review*, Vol. 83, No. 3, January 1970.

“The Continuing Debate over Mathematics in the Law of Evidence,” Michael O. Finkelstein and William B. Fairley, *Harvard Law Review*, Vol. 84, No. 8 June 1971.

“Probabilistic Analysis of Identification Evidence,” William B. Fairley, *The Journal of Legal Studies*, Vol. II, June 1973. Also in Dirk Wendt and Charles Vlek, Editors, *Utility, Probability, and Human Decision Making*, D. Reidel, 1975.

“A Conversation about Collins,” William B. Fairley and Frederick Mosteller, *University of Chicago Law Review*, Vol. 41, No. 2, Winter 1974.

Discussion of “Statistics in the Law,” William B. Fairley, American Statistical Association, *Proceedings of the Social Statistics Section*, Part I, 1976.

“The Many Uses of Forensic Economics and Statistics,” W. Fairley, P. Eden, C. Aller, C. Vencill, M. Meyer, and P. Chernick, *The Practical Lawyer*, Vol. 31, No. 4, pp. 25—36, 1985.

“Evaluation of Structured Settlements,” W. Fairley, P. Eden, C. Aller, M. Meyer, L. Schroeter, and C. Vencill. *Am. Jur. Trials*, Vol. 31, pp. 595—632, 1984.

## **PROBABILITY THEORY**

“The Number of Real Roots of Random Polynomials of Small Degree,” William B. Fairley, *Sankhya, The Indian Journal of Statistics*, Series B, Pt. 2, pp. 144—152, 1976.

*Roots of Random Polynomials*, William B. Fairley, Ph.D. Thesis, Department of Statistics, Harvard University, June 1968.