Obituary: J.N. Srivastava
1933–2010

Columbia University

Jagdish N. Srivastava (JNS), professor emeritus of statistics at Colorado State University, Fort Collins, will be remembered for his leadership in the statistics profession; his thought-provoking, penetrating and deep questions at meetings and conferences; and his pioneering research contributions in design of experiments, as well as in multivariate analysis, survey sampling, reliability, coding theory, combinatorial theory, and many other areas of statistics and mathematics.

The 1973 conference he organized, “Statistical Design and Analysis of Experiments and Linear Models,” started a new era of statistical design by bringing together leaders from different areas of theoretical and applied statistics, and demonstrating that both “good” design and “efficient” inference are fundamental for extracting pertinent information from the data collected for scientific investigations. With this spirit, JNS founded the Journal of Statistical Planning and Inference (JSPI) in 1975 with cooperation and support from distinguished statisticians all over the world. During this period, he introduced search linear models and search designs, his ground-breaking research. His PhD advisor Professor R.C. Bose remarked that his student JNS now truly surpassed him, the recognition of a great mind and a highly spirited advisor. As a PhD student and postdoctoral researcher at University of North Carolina, JNS also worked with Professor S. N. Roy, and was inspired by Professors R. A. Fisher, J. Neyman, P. C. Mahalanobis, C. R. Rao, J. Kiefer, and H. Chernoff. In design theory, JNS developed the mathematical theory of confounding for asymmetrical factorial experiments (with Professor K. Kishen), optimum balanced designs for fractional factorial experiments, introducing and studying balanced arrays and multidimensional partially-balanced association schemes, leading to the non-commutative algebra of Bose and Srivastava, which is a multi-set generalization of the Bose-Mesner algebra; created the new and influential fields of search linear models and search designs and its application in fractional factorial experiments as well as in figuring out non-additivity presence in row-column designs. In multivariate analysis, he worked on MANOVA with complete as well as incomplete data in estimation, hypothesis testing, classification, and meta-analysis; and a monograph on design and analysis of quantitative multi-response experiments jointly with Professors S. N. Roy and R. Gnanadesikan. In reliability theory, JNS introduced selfrelocating designs (SRD) for comparative experiments. In survey-sampling, JNS introduced a general class of estimators with almost all of the well-known estimators as the special cases. In coding theory, he introduced “Srivastava code”, a class of parameterized errorcorrecting codes. JNS studied quantum mechanics and mathematical logic. Godel’s theorem inspired him to realize the limitations of science. He studied the great religions of the world. He was particularly drawn to the Bhagavad Gita because of his nonsectarian outlook. This interest led him to obtain his 1991 joint appointment in the philosophy department of Colorado State University.

JNS was a fellow of IMS and ASA; an elected member of ISI; a foundation fellow of the Institute of Combinatorics and Applications; and a Fellow of the Third World Academy of Sciences. He was the past president of the Forum for Interdisciplinary Mathematics as well as the International Indian Statistical Association.

JNS is survived by his wife of sixty years Usha, three children and a granddaughter.

By Subir Ghosh, University of California, Riverside