

Sarjinder Singh



# Thinking Statistically

*Elephants Go to School*

## Highlights

Statistics, population, sample; bias; lottery method, random numbers table method, idea of SRSWR, SRSWOR, stratified, systematic, cluster, multistage sampling; survival analysis; experimental and observational studies; graphs: pie, bar, dot, line, stem and leaf, histogram; central values: mean, median, mode; variation: range, mean absolute deviation, variance, standard deviation, coefficient of variation; box plot: quartiles and outliers; empirical rule, Tchebysheff's rule; Z-score; probability, sample space, events, Venn diagram, tree diagram, conditional and marginal probabilities, additive and multiplicative laws; discrete variables, binomial and Poisson distributions; continuous variables, uniform and normal distributions; distributions of sample proportion and mean, central limit theorem, point and interval estimates; null and alternative hypotheses, type I and type II errors, large sample tests for single and two means and proportions; small sample tests for single and two means, chi-square test, F-ratio, one way ANOVA, correlation and regression analysis, scatter plots and fun!

## Attractions

- Over 145 solved examples to enhance your stat/math skills.
- Over 280 unsolved LUDIs for practice.
- Over 726 interesting pictures for learning stat/math.
- Interesting artificial stories to write new tales.



**Sarjinder Singh** is an Assistant Professor at St. Cloud State University, St. Cloud, MN, U.S.A. He authored another book, "Advanced sampling theory with applications: How Michael 'selected' Amy" (2003) vol. 1 & 2, pp. 1-1247, Kluwer Academic Publishers, The Netherlands. He is Editor-in-Chief of an international journal, "Model Assisted Statistics and Applications", IOS press, The Netherlands. He is also an Associate Editor of the two journals, "Communications in Biometry and Crop Science" and "Metodologia de Encuestas". Sarjinder has published more than 100 research papers. He was honored with the Young Scientist Award-1994 (Gold Medal) by the Indian Society of Agricultural Statistics, New Delhi, India. In 2005, he was elected as a member of the International Statistical Institute, The Netherlands. He introduced several novel ideas like higher order calibration, hybridizing imputation and calibration, bias filtration, hidden gangs, several new randomized response models, median estimation in two-phase sampling, and model assisted chi-square distance function.



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Forewords by David Robinson & Stephen Horn