résumé

JANICE D. CALLAHAN
President
Callahan Associates Inc.

SUMMARY

Dr. Callahan has been a statistical consultant since 1969. In 1982 she formed Callahan Associates Inc. (CAI) to offer statistical services. Her experience covers clinical trials, quality control, environmental impact studies, econometric modeling and artificial intelligence. She is expert in ANOVAs, linear and non-linear regression, categorical data analyses such as log-linear models and logistic regression, discriminant analysis and CART, and time series analysis such as Box-Jenkins models. CAI licenses SAS and owns BMDP.

EMPLOYMENT HISTORY

8/82 to present   *Callahan Associates Inc.*

Dr. Callahan offers consulting to over 25 biotech companies. With physician principal investigators she identifies end-points, designs data collection forms, establishes experimental designs, calculates sample sizes, analyzes data and writes the results into reports submitted to the Food & Drug Administration (FDA) for product approval. Statistical techniques used include ANOVAs, repeated measures ANOVAs, logistic regression, Fisher's Exact tests and regression. She has participated in the design, analysis and submittal of numerous successful 510Ks, IDEs, PMAs, and NDAs. She works with design engineers and quality control staffs in determining design and analysis plans for Taguchi-type parameter designs for both control and noise factors. She analyses results of these studies to determine optimal manufacturing parameter settings. She works with assay development teams in developing statistical methods for qualifying and validating assays.

 Dr. Callahan provided consulting services for 6 years to contractors on a California Coastal Commission mandated study of Southern California Edison's nuclear generating station at San Onofre. She performed and interpreted canonical correlations, principal components, discriminant analyses, ANOVA, ANCOVA, MANOVA and multiple regressions in analyzing biological data. Non-linear models were fit to sediment size distributions. Linear programming methods were used to estimate stratified sample sizes. She developed and interpreted first and second order autoregressive errors regression models for estimating effects of the hot water discharge on irradiance measurements. She performed categorical log-linear model tests on kelp plant survival rates. She studied relationships between kelp growth and irradiance using multiple regression with

multicollinearity problems and influence points. She developed sampling plans for studying fish abundance on artificial reefs. She used bootstrapping methods to estimate the variance of a complicated ratio estimate.

Dr. Callahan has worked on a number of projects for the Navy Personnel Research and Development Center (NPRDC). All of these projects were aimed at developing statistical techniques for exploratory analysis of surveys with hundreds of questions and tens of thousands of respondents. She derived supply/demand models for predicting Navy C-schools' instructor needs. She used Categorical Analysis/Regression Trees (CART) to develop decision rules used within an expert system to predict these needs. She produced a methodology using TETRAD for developing or re-specifying structural equation models. This technique was then used to study characteristics of Navy recruiters. She developed a technique for identifying interactions among a large number of categorical variables. This technique was used to analyze NPRDC surveys. This work has resulted in four papers published in the research literature.

1978 to 1982   *Computer Sciences Corporation*

Dr. Callahan managed 11 scientists on projects for the Navy Ocean Systems Center.

1969 to 1978   *Faculty member*

Dr. Callahan taught statistics courses, consulted, and worked on research projects at Roger Williams College, Bristol, R.I., and the University of Rhode Island, Kingston, R.I.

EDUCATION

Ph.D., Mathematical Statistics
        Johns Hopkins University, Baltimore, Maryland

B.S., Applied Mathematics and Engineering Physics
        The University of Wisconsin, Madison, Wisconsin