



ASA COC Travel Course



Applied Logistic Regression

Abstract

Medical research increasingly depends on quantitative approaches, while physicians' decision making is becoming strictly based on the evidence of quantified data. Coupled with newly developed methodology such as lasso for high-dimensional data, the logistic regression model has become increasingly popular in health sciences and the standard method in handling binary data. It has also been widely used in other analytically complex problems.

Targeting for statisticians, data scientists and professionals of related disciplines, this intermediate level course aims to provide not only basic theoretical concept and practical training in statistical modeling with particular emphasis on logistic regression using illustrative examples, but also in-depth understanding of this mostly used technique.

Reference textbook: Applied Logistic Regression, 3rd edition by Hosmer, Lemeshow and Sturdivant.

Time & Location

Nov. 8th Saturday 9AM- 4PM (Lecture Time: 9AM-12PM & 1-4 PM)

Lunch Break: 12-1pm (Morning and afternoon refreshment will be provided; Lunch not provided)

Stanford University, Alway Building, Room M106

Registration

Deadline Nov. 7th 11:59 PM Pacific Time

General ASA Members or SFASA Members*	Non-Members	Students
\$130	\$200	\$50

*Joining SFASA membership is only \$9/year (no need to be ASA member). More details please see:

<http://www.sfasa.org/chapinfo.htm>

Registration Online (payment by credit card): <https://www.123signup.com/register?id=yzgph>

For other payment option, please contact the SFASA Treasurer directly by doris.shu@gmail.com.

Cancellation policy:



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All cancellations must be received in writing by email (doris.shu@gmail.com). Cancellations must be received on or prior to November 1st, 2014, and registration refunds are subject to a \$25 cancellation fee. No refund will be made for cancellation requests received after November 1st, 2014. Please allow three weeks for processing refund.

Course Outline

- The Logistic Regression Model
- Estimating and Interpretation of Coefficients
- The Multivariate Case: Statistical Adjustment
- Interaction and Confounding
- Stratified Analysis via Logistic Regression
- Summary Measures of Goodness-of-Fit
- Area Under the ROC Curve
- Numerical Problems
- Examples during the course
 - (More examples shall be found in the Applied Logistics Regression, 3rd Ed)
 - 1) The association of age on the probability of coronary heart disease
 - 2) Factors associated with women giving birth to low birth weight babies
 - 3) Estimating the probability of mortality of ICU patients

Instructor Bio

Stanley Lemeshow joined The Ohio State University in 1999 as a biostatistics professor in the School of Public Health and the Department of Statistics, director of the biostatistics core of the Comprehensive Cancer Center and director of the University's Center for Biostatistics. He was appointed the Founding Dean of the Ohio State University School of Public Health in 2003 and he served in that capacity for 10 years. Dr Lemeshow is internationally known for his expertise in biostatistics and epidemiology, with research focused on statistical modeling of medical data, sampling, health disparities and cancer prevention. He has published extensively in the applied and methodological literature and has co-authored three textbooks for John Wiley & Sons Wiley series, a leading publisher for the scientific, technical and medical communities worldwide. His textbooks are: Applied Logistic Regression (now in its 3rd Edition), Applied Survival Analysis (now in its 2nd edition) and Sampling of Populations; Methods and Applications (now in its 4th edition). In 1995, Dr. Lemeshow was elected Fellow of the American Statistical Association and was awarded the Statistics Section Award of the American Public Health Association. In 2003, Dr Lemeshow was awarded the Wiley Lifetime Award, was elected Fellow of the American Association for the Advancement of Science (AAAS), and was selected Distinguished Graduate Alumnus (Biostatistics) by the University of North Carolina Graduate School Centennial.