



## *Applied Meta-analysis using R*

Dr. Din Chen  
*University of Rochester*

and

## *Logistic Regression for Correlated Data*


Dr. Jeffrey R. Wilson  
*Arizona State University*

**\*Two-day Workshop**

**MAY 14-15, 2015 PHOENIX, ARIZONA**

**The Statistics Academy**

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www.stasacademy.org



## Applied Statistics Workshop

### **PREREQUISITES:**

Familiarity with basic statistical methods

### **REGISTRATION FEES:**

- \$395 if you register by April 15
- \$495 after April 15
- \$300 for one day (either day)
- Student fee: \$250
- C.E. credits available


### **PLACE OF CONFERENCE INFORMATION:**

Arizona State University Mercado C C300 502 E. Monroe Street Phoenix, AZ 85004

### **PARKING FOR FACILITY USERS:**

- The Heritage and Science Park Garage is conveniently located across the street on the South/East corner of Monroe and 5th Street.
- Payment for parking will be paid directly to the garage.
- Current rate: the garage charges \$12 for parking.
- To arrange for \$10 PREPAID Parking Chaser tickets, please contact the ASU Parking & Transit Services at 602-496-1023.
- [Parking Map/Directions](#). Parking information can be found [here](#) as well.

**Registration Online:** [www.statsacademy.org](http://www.statsacademy.org)



# Applied Statistics Workshop

May 14-15, 2015 Phoenix, Arizona



## INTRODUCTION



### Learning Objectives

- ✓ Understand the use of meta-analysis
- ✓ Gain basic knowledge of correlated binary data
- ✓ Understand methods for analyzing health data



**Day#1** of this workshop is based on the book: "Applied Meta-Analysis Using R (2013)" published by Chapman and Hall/CRC which provide a most up-to-date and thorough presentation of meta-analysis models for clinical trials, biomedical and public health applications with detailed step-by-step illustrations and implementation using R. The workshop will bring together researchers working in data analysts and health researchers.

**Day#2** of this workshop is based on the book titled "Modeling Correlated Binary Responses: Using SAS, SPSS and R by Wilson, JR and Lorenz. K. (2015) in press. "This book presents recent and existing developments in statistical methods and their applications to correlated binary data and health related research. Modeling Correlated Binary Responses Using SAS, SPSS, and R.

### Audience

Applied data analysts, research physicians, public health researchers, and other biomedical practitioners interested in learning about methods for analysis of medical data and other tools research.

### Topics to be covered

This course will introduce the key concepts in applied biostatistics and the analysis of correlated data and provides the basic review on meta-analysis using fixed-effects and random-effects models as well as the meta-regression illustrated with R packages. Examples will be drawn mostly from medical and epidemiologic research. Course topics include the overview of meta-analysis with rare events in clinical trial, logistic regression with correlated data and hierarchical data analysis as well as models for binary over-dispersed data.

### Course Topics

#### Day #1

1. Meta-analysis models for binary data, such as for risk-ratio, risk difference and odds-ratio
2. Meta-analysis methods for rare events, which are timely for clinical trials of adverse-events.
3. Multivariate meta-analysis and other relevant topics in meta analysis

#### Day #2

1. Logistic regression for correlated data
2. Hierarchical logistic regression models
3. GMM logistic regression models

### Contact Information

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