
# ANNUAL DEMING CONFERENCE ON APPLIED STATISTICS AND MANAGEMENT

**SPONSORED BY**

AMERICAN SOCIETY FOR QUALITY
METROPOLITAN SECTION--STATISTICS DIVISION
AMERICAN STATISTICAL ASSOCIATION
BIOPHARMACEUTICAL DIVISION

**April 23 - April 25, 2001 - 3-hour Tutorial Conference**
**April 25 - April 27, 2001 - Short Courses**
Holiday Inn North, Newark Airport

See registration page and website
**http://www.demingconference.org**
for further details

DEMING CONFERENCE
DATED TIME SENSITIVE MATERIAL

William I. Martin
Customized Management Systems, Ltd.
18-65 211 St., Suite 2F
Bayside, NY 11360-1814

METROPOLITAN SECTION

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American Society for Quality

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# 56th Deming Conference

## Program Overview

**See details on following pages**

| | Track 1<br>**Applied Statistics** | Track 2<br>**Biopharmaceutical** | Track 3<br>**Management & Statistics for Quality** |
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### TUTORIALS

### Monday, April 23rd

| | | | |
|---|---|---|---|
| AM | **Recursive Partitioning in the Health Sciences with Emphasis on Genetic Studies**<br>Prof. Heping Zhang<br>*Yale University School of Medicine* | **Mixed Effects Models in S and S-Plus***<br>Dr. Jose Pinheiro<br>*Bell Labs., Lucent Technologies* | **Statistical Thinking and Six Sigma**<br>Dr. Roger W. Hoerl<br>*General Electric*<br>Dr. Ronald D. Snee<br>*Six Sigma Breakthrough Technology* |
| PM | **Recent Advances in Analysis of Animal Studies of Pharmaceutical Safety**<br>Dr. Keith Soper<br>*Merck Research Laboratories* | **The Box-Jenkins Manual Adjustment Chart***<br>Prof. J. Stuart Hunter<br>*Princeton University* | **Six Sigma: Silver Bullet or Empty Promises**<br>Mr. Greg Gruska<br>*The Third Generation, Inc.* |

### Tuesday, April 24th

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|---|---|---|---|
| AM | **ETRANK® Procedure - an Alternative Approach to Parametric Methods in Handling Missing Data**<br>Dr. Richard Entsuah<br>*Wyeth-Ayerst Research* | **Experiments, Planning, Analysis and Parameter Design Optimization***<br>Prof. C. F. Jeff Wu<br>*The University of Michigan* | **Leadership And Organizational Energy**<br>Mr. Barry Graziano/*Bracco Diagnostics*<br>**Quality Management Past, Present & Future**<br>Mr. Edwin S. Shecter/*TQRI* |
| PM | **Permutation Tests***<br>Dr. Phillip Good<br>*Talus Solutions* | **Biostatistical Methods: The Assessment of Relative Risks***<br>Prof. John M. Lachin<br>*George Washington University* | **If you ain't Doin' Statistics, You ain't Doin' Quality**<br>Mr. David Laney/*Bell South* |

### Wednesday, April 25th

| | | | |
|---|---|---|---|
| AM | **Group-Sequential Inference and Interim Monitoring with EaSt-2000**<br>Dr. Cyrus R. Metha<br>*Cytel Software Corporation* | **Applied Survival Analysis***<br>Prof. David W. Hosmer Jr.<br>*University of Massachusetts* | **Introduction to Robust Design**<br>Prof. Tom Barker<br>*Rochester Institute of Technology* |
| PM | Course 1 (see below) begins at this time | **Regression Analysis by Example***<br>Prof. Samprit Chatterjee<br>*New York University* | **Hands-on Sampling**<br>Prof. Joyce Nilsson Orsini<br>*Deming Scholars MBA Program at Fordham University/W.E. Deming Institute* |

### COURSES

### Wednesday April 25th PM, Thursday, April 26th and Friday, April 27th

| Course 1 | Course 2 |
|---|---|
| **Resampling Methods: Guide for Practitioners***<br>Dr. Cyrus R. Metha/*Cytel Software Corporation*<br>Dr. Phillip Good/*Information Research*<br>Dr. Michael Chernick/*Biosense Webster* | **An Overview of Dr. Deming's Principles***<br>Prof. William J. Latzko<br>*Fordham University/Latzko Associates* |

**All AM sessions meet from 8:30 AM to 11:30 AM. All PM sessions meet from 1:00 PM to 4:00 PM.**

***Book available at conference, see enclosed book list.**

## Monday April 23rd

### Track 1 AM

**RECURSIVE PARTITIONING IN THE HEALTH SCIENCES WITH EMPHASIS ON GENETIC STUDIES**

*Professor Heping Zhang, Yale University, School of Medicine*
*Moderator: Ivan Chan*

The basic ideas of recursive partition with a simple health-related application will be presented. This is a powerful data-mining tool that has found useful applications in the health sciences including drug development, e.g., the definition of symptoms (Pfizer used for its famous pill), the identification of patients with ideal dose response or side-effects. Due to confidentiality, such examples in pharmaceutical developments will not be presented, although the connection will be made explicitly. A quick and brief introduction to genetic association and linkage analyses will be given. Then, the use of recursive partitioning for identifying candidate genes will be illustrated.

### Track 2 AM

**MIXED-EFFECTS MODELS IN S AND S-PLUS**

*Dr. Jose Pinheiro, Bell Labs, Lucent Technologies*
*Moderator: Fred Balch*

Mixed-effects models provide a powerful tool for analyzing grouped data, because they model flexibly the within-group correlation often present in this type of data. Examples of grouped data include repeated measures, longitudinal data, multilevel data, and some split-plot experiments, being collected in a wide variety of areas. The tutorial will provide an overview of the application of linear and nonlinear mixed-effects models in the analysis of grouped data, using the NLME software for S (S-PLUS and R) that we have developed to illustrate the different stages of model fitting. A unified model-building strategy for both linear and nonlinear models will be presented and applied to the analysis of real data sets from a variety of areas, including pharmacokinetics, agriculture, and manufacturing. Strong emphasis will be placed on the use of graphical displays at the various phases of the model-building process, starting with exploratory plots of the data and concluding with diagnostic plots to assess the adequacy of a fitted model.

### Track 3 AM

**STATISTICAL THINKING AND SIX SIGMA**

*Dr. Roger W. Hoerl, General Electric*
*Dr. Ronald D. Snee, Six Sigma Breakthrough Technology*
*Moderator: Janice Shade*

Considerable work has been done in recent years on developing the concepts of statistical thinking and showing the relationship between statistical thinking and statistical methods. Along the way, process, variation and data have been identified as the key elements of statistical thinking. Following the successes of Motorola, Allied-Signal and General Electric many companies are implementing the Six Sigma; a statistically-based approach to business improvement. This session defines statistical thinking and illustrates its use. It is then shown how statistical thinking and its key elements are utilized by the Six Sigma approach. It is concluded that Six Sigma is an effective method for deploying statistical thinking in an organization. The session will be interactive giving the participants ample opportunity to ask questions and share experiences.

### Track 1 PM

**RECENT ADVANCES IN ANALYSIS OF ANIMAL STUDIES OF PHARMACEUTICAL SAFETY**

*Dr. Keith Soper, Merck Research Laboratories*
*Moderator: Ivan Chan*

Animal studies remain an essential means to assess the safety of novel compounds. Statistical methods evolve to obtain maximum information with the fewest possible number of animals, and in response to changes in regulatory guidelines. This session will focus on two main topic areas: (1) The ongoing controversy over adjustment for multiplicity of statistical tests in rodent carcinogenicity studies. All methods seek to maximize power while controlling the 'false positive' rate given separate analysis of many different tumor types. Recent research results by Westfall and Soper will be presented. (2) Some of the novel assays promoted or mandated by FDA or by ICH, a collaborative effort of regulatory, industry, and pharmaceutical scientists from Japan, Europe, and the United States. These assays use fewer animals or provide new information to assess safety. A cooperative effort by 54 laboratories to validate transgenic rodent assays for carcinogenicity will be summarized. In each case statistical methods need to adapt to new features of the data to extract maximum information. The session does not require a background in animal studies. Points will be illustrated with real data. Methods presented are generally available using commercially available software.

### Track 2 PM

**THE BOX-JENKINS MANUAL ADJUSTMENT CHART**

*Professor J. Stuart Hunter, Princeton University*
*Moderator: Walter R. Young*

This tutorial's objective is the exposition of both the practice and theory underlying the Box-Jenkins Manual Adjustment chart, a new Quality tool. Graphical exposition will be emphasized. Supporting spread-sheet computations will be employed. To "control" a process, industrial or pharmaceutical, one must be prepared to both adjust and to monitor its performance. The BJ chart is a simple graphical tool designed to keep a process on target with minimum mean square variability using manual adjustments. The chart's performance is directly analogous to that employed by automatic control algorithms. The Shewhart chart in turn serves to monitor the adjusted process to insure on target, minimum variance performance. Through adjustment and monitoring the charts assist process operators in the control of their processes. Topics discussed will include the Shewhart, Cusum and EWM charts Deming's funnel, SPC-EPC (Statistical versus Engineering Process Control), autocorrelation, stationary and non-stationary time series, the variogram, estimation, constructing the BJ chart, proportional and integral control, bounded adjustment, when and when not to adjust.

### Track 3 PM

**SIX SIGMA: SILVER BULLET OR EMPTY PROMISES**

*Mr. Gregory F. Gruska, Third Generation, Inc.*
*Moderator: Russ Ferretti*

The six sigma approach is advertised to be a proven and successful financially focused program that transforms client corporations to best-in-class stature. It is also described as a philosophy, methodology, and a breakthrough strategy to solve problems. Six sigma quality is defined as achieving reduction in the variation which allows for a 1.5 sigma shift while yielding product defect levels of 3.4 PPM or less.

## Tuesday April 24th

### Track 1 AM

**ETRANK® PROCEDURE - AN ALTERNATIVE APPROACH TO PARAMETRIC METHODS IN CLINICAL MISSING DATA ANALYSIS**

*Dr. Richard Entsuah, Wyeth-Ayerst Research*
*Moderator: Jacqueline Kennedy*

Present software programs (SAS-Proc Mixed, BMDP5V, SOLAS, NORM) for handling incomplete longitudinal data could yield biased inference under mis-specified models for the premature dropout process. The assumption of missing at random (MAR) or missing completely at random (MCAR) usually is not reasonable for clinical trials where discontinuation is treatment related. ETRANK® and Etrank Graph a non-parametric-randomization software which uses efficient scoring systems, reasons for patient discontinuation, proportion of dropouts and direction of treatments in longitudinal trial will be discussed. An overview of this procedure and the running of the software in windows version will be demonstrated. Discussion involving other methods will also be presented. Data examples using ETRANK® and other likelihood models, single imputation or multiple imputation and summary measures will be discussed.

### Track 2 AM

**EXPERIMENTS: PLANNING, ANALYSIS AND PARAMETER DESIGN OPTIMIZATION**

*Professor Jeff Wu, University of Michigan*
*Moderator: Walter R. Young*

This tutorial will describe modern tools in design and analysis of experiments. It covers robust parameter design for product/process improvement, choice of optimal fractional factorial designs using minimum aberration and related criteria, choice of orthogonal arrays, modeling and analysis strategies including graphical plots and exploitation of interactions. It will be divided between methodologies and illustration with real experiments. Target audience includes practicing statisticians, engineers, experimental scientists and academics. Background in basic regression and analysis of variance assumed. No prior background in experimental design required.

### Track 3 AM

**LEADERSHIP AND ORGANIZATIONAL ENERGY**

*Mr. Barry R. Graziano*
*Moderator: Stephen Jones*

The purpose of leadership is to accomplish objectives and create an environment of cooperation. We will study a model that identifies leadership as the key factor that increases the probability of success of your endeavor. This session will forge links from the best thinkers on leadership, starting with Dr. Deming's Theory of Profound Knowledge. We will survey key elements from John Kotters's: leading and driving change. The impact of emotion on leadership will be explored with highlights of work from Pete Hartwick and Daniel's Goleman's intriguing exploration of emotional intelligence. The presentation will focus on human interaction, behavior and the skills that leaders need and use to get things done in a work environment. The goal is to clearly identify the skills that allow leaders to energize people to do what ever needs to be done. We will explore the question, what is this energy and how is it created and managed? The difference between leadership and management and the need for harmonization of both will be elucidated. There is a difference and understanding it makes all the in the difference in the world.

**QUALITY MANAGEMENT-PAST, PRESENT & FUTURE**

*Mr. Edwin Shecter, TQRI*
*Moderator: Susan Watson*

The presentation will review quality management practices, past, present and future. Included will be discussions on where we have been and how we have evolved into today's Quality systems.

We are beset with new challenges. Some of these are the balanced scorecard, knowledge management, six sigma, Baldridge, ISO and its offspring, Lean manufacturing, teams, customer satisfaction, creating action, globalization, supply chain management, corporate memory, learning organizations, kanban. I plan to discuss opportunities and challenges. There are no pat answers, but the forward thinking organization needs to be aware and address those issues that impact its ability to stay competitive in their field.

Further how leading companies are coping and dealing with these issues are planned. The tools available and the latest thoughts of leaders who apply quality as a management tool.

### Track 1 PM

**PERMUTATION TESTS**

*Dr. Phillip Good, Talus Solutions*
*Moderator: Walter R. Young*

This tutorial will present selected applications to illustrate how to develop exact, robust univariate and multivariate tests for two-sample paired and unpaired comparisons of means and variances. Advanced topics include the analysis of contingency tables, multi-factor designs, and censored data.

### Track 2 PM

**BIOSTATISTICAL METHODS: THE ASSESSMENT OF RELATIVE RISKS**

*Professor John M. Lachin, George Washington University*
*Moderator: Jacqueline Kennedy*

This tutorial will cover the following topics with potential applications in clinical trials: Choice of scale for the analysis of group differences; Efficiency of stratified versus unstratified analyzes in randomized clinical trials Homogeneity and Association The two-stage random effects model and composite analyzes (meta analyzes); The robust information sandwich variance estimate; Analysis of count data in clinical trials, e.g. adverse effects Summary of event rates and relative risks, adjustments for over-dispersion using a two-stage random effects model Poisson regression models and allowing for over-dispersion in Poisson regression models Generalization of survival analysis techniques to the analysis of recurrent events; kernel smoothed intensity estimates the Aalen-Gill test and the multiplicative intensity model.

### Track 3 PM

**"IF YOU AIN'T DOIN' STATISTICS, YOU AIN'T DOIN' QUALITY."**

*Mr. David B. Laney, Bell South*
*Moderator: Ravi Manchi*

Why have so many "Total Quality" initiatives failed? Obviously, because they didn't do it right. Almost invariably what is missing is an adequate appreciation for the importance of Profound Knowledge. An essential ingredient of Profound Knowledge is knowledge of statistics. Simply put, Management by Data is better than Management by Opinion. This presentation is very down-to-earth, even light-hearted at times, making its points with real world examples of the Better Way.

**Wednesday April 25th**

### Track 1 AM

**GROUP-SEQUENTIAL INFERENCE AND INTERIM MONITORING WITH EaST-2000**

*Dr. Cyrus R. Metha, Cytel Software Corporation*
*Moderator: Kalyan Ghosh*

It is now standard practice to incorporate formal data monitoring procedures into the design and conduct of long-term clinical trials. Specialized statistical methods are needed for such interim monitoring in order to balance the ethical and financial advantages of stopping a study early against the risk of an incorrect conclusion. Research in this area has progressed rapidly over the past 20 years and methods have been developed to meet the key practical needs. This tutorial presents a unified formulation that permits easy implementation with many types of designs and a great variety of endpoints. Specific topics will include the generation of stopping boundaries, early stopping for benefit, harm, futility, or equivalence, the preservation of the type-1 and type-2 errors, the computation of the error spending function, sample size re-estimation using information based sequential monitoring, conditional power, and inference following early stopping. These concepts will be illustrated through a case study of the beta blocker heart attack (BHAT) clinical trial implemented in the newly released EaSt-2000 software.

### Track 2 AM

**APPLIED SURVIVAL ANALYSIS**

*Professor David W. Hosmer Jr., University of Massachusetts*
*Moderator: Jacqueline Kennedy*

This tutorial focuses on the analysis of time to event data. Methods for estimation, interpretation and comparison of survival functions will be presented along with an introduction to the semi-parametric proportional hazards model (Cox model). Special emphasis is placed on the interpretation and presentation of the results.

### Track 3 AM

**INTRODUCTION TO ROBUST DESIGN**

*Professor Thomas B. Barker, Rochester Institute of Technology*
*Moderator: Ravi Manchi*

Learn how to produce quality products in spite of environmental problems, materials' difficulties and the like from a world expert on Robust Design. This session addresses the three stages to the design of a product or process. Explore the factors that deliver a product that is on target with low variation and low cost. This workshop will introduce participants to the fundamentals of Robust Design to allow product and process designs to achieve goals of the Six Sigma mandate.

### Track 2 PM

**REGRESSION ANALYSIS BY EXAMPLE**

*Professor Samprit Chatterjee, Department of Statistics & OR, New York University*
*Moderator: Walter R. Young*

Regression analysis provides a conceptually simple method for investigating relationships among variables. Carrying out a successful application of regression analysis, however, requires a balance of theoretical results, empirical rules, and subjective judgement. The tutorial will concentrate on commonly occurring problems that arise in analyzing real life data. Topics that we will discuss include: autocorrelated errors, multicollinearity, qualitative variables, transformation, regression diagnostics, variable selection. The tutorial will focus on methodology for effectively fitting regression models to data. The material will be presented via examples. The emphasis will not be on theory but analysis. Emphasis will be on residual analysis making extensive use of graphics.

### Track 3 PM

**HANDS-ON SAMPLING**

*Professor Joyce Nilsson Orsini*
*Deming Scholars MBA Program at Fordham University/ W. E. Deming Institute*
*Moderator: Susan Watson*

Attendees will learn how to use statistical inference to study a population from a sample thereof, learn when and how to use stratification, multistage and replicated plans. This will be a working session wherein attendees will formulate a question (or problem) for a simple study, identify appropriate frames, design a sampling plan, determine the appropriate sample size, carry out the study, calculate statistics of interest and estimates of sampling error. Attendees will work in small groups on actual problems. What think you?

### ENTERTAINMENT AND SIGHTSEEING

Free transportation from all Newark passenger terminals is available to the adjacent, modern and comfortable Holiday Inn North which has an excellent restaurant and nightclub as well as HBO. Direct public transportation to the Port Authority Bus Terminal, Macy's, and the World Trade Center in Manhattan; the points of interest in Newark; and the train stations in Newark and Hoboken is easy and inexpensive. Complete information will sent with your registration confirmation.

Manhattan has many popular attractions and it's only a 20 minute bus ride away. You can extend your stay over either of the two weekends at the low weekend rate.

Newark has the largest mainland Portuguese colony in this country. There are a number of fine inexpensive Portuguese restaurants (some of which feature fado singers) and shops which sell Portuguese goods and edibles. Specialties include tile wall plaques, lace, embroidery, ornate crockery and seafood.

The Newark Museum, which is accessible by bus, has a national reputation and the finest collection of Tibetan art in this country. It has an excellent Oriental and African collection. Its Ballantine House is rich in Americana with more than 1600 paintings as well as acclaimed special exhibits.

The conference is also close to the Meadowlands Sports Complex and the Secaucus factory outlets. The outlets carry a huge variety of quality merchandise at bargain prices which is ideal for Christmas shopping especially as there is no sales tax on clothes. Information on museum exhibits and other tourist attractions will be available at the registration desk or we will answer specific questions by mail.

Transmit registration to **Mr. William I. Martin, Customized Management Systems, Ltd., 18-65 211 St., Suite 2F, Bayside, NY 11360-1814.**
Telephone: (718) 631-2375/Fax: (718) 631-2375; E-mail:wim-cms@att.net.

## COURSES: WEDNESDAY APRIL 25TH PM, THURSDAY APRIL 26TH AND FRIDAY APRIL 27TH

8:30 AM - 10:00 AM lecture/10:00 AM - 10:30 AM break/10:30 AM -12:00 PM lecture
12:00 PM - 1:00 PM lunch
1:00 PM - 2:30 PM lecture/2:30 PM - 3:00 PM break/3:00 PM - 4:30 PM lecture

### Course 1

### RESAMPLING METHODS: A GUIDE FOR PRACTITIONERS

*Dr. Cyrus R. Metha, Cytel Software Corporation*
*Dr. Phillip I. Good, Information Research*
*Dr. Michael R. Chernick, Biosense Webster*
*Moderator: Walter R. Young*

This course on hypothesis testing and estimation using only the data at hand is intended for practicing statisticians and others interested in applying,distribution-free statistical methods. Real-world examples with both small and large samples are used to illustrate the many practical applications of the bootstrap, the permutation test, and cross-validation. Topics include bioequivalence, ordered and unordered categorical data, stratified and sparse contingency tables, confidence intervals, correlation, discriminant analysis, mean and variance comparisons, multivariate analysis, nonlinear regression, power and sample size. Lectures, workshops, round-table discussions, and demonstrations of statistical software ensure a through understanding of the material. Software support will be provided by the StatXact, LogXact, and Stata statistical packages.

**TEXTS**

Good PI (2000) Permutation Tests: 2nd Ed. NY:Springer-Verlag.
Chernick MR (1999) Bootstrap methods. NY: Wiley.

**WEDNESDAY-LECTURE 1** (Good)
Introduction to Resampling and Permutation Tests.
Why Resampling?
Two-sample comparison, Correlation, One-Way Analysis,
Randomized Blocks, Fisher's Exact Test

**LECTURE 2** (Mehta)
Exact p-Values.
Exact p-values for 2xC and RxC categorical data.

**THURSDAY-LECTURE 3** (Mehta)
Confidence Intervals. Exact confidence intervals for stratified 2x2 tables and logistic regression.

**LECTURE 4** (Chernick)
Introduction to the Bootstrap.
Applications. Estimating Bias. Error rate estimation in discriminant analysis.

**LECTURE 5** (Good)
Hypothesis Tests.
Comparing variances. One-way comparisons. Multivariate analysis. Assumptions and limitations. Type I Censoring. Interactions

**LECTURE 6** (Mehta)
Power and Sample Size.

**FRIDAY-LECTURE 7** (Chernick)
Bootstrap Applications
Confidence intervals. Bioequivalence. Nonlinear regression.

**LECTURE 8** (Good, Chernick and Mehta)
Resampling Workshop
Student-provided and instructor-assigned problems

**LECTURE 9** (Good and Chernick)
Cross-validation Validation, Cross-validation, and Data Mining

**LECTURE 10** (Good and Chernick)
Which Test Should You Use?

### Course 2

### AN OVERVIEW OF DR. DEMING'S PRINCIPLES

*Professor William J. Latzko, Fordham University; Latzko Associates*
*Moderator: Satish Laroia*

**OBJECTIVE**

To provide understanding of
- How Dr. W. Edwards Deming's methods are used to improve quality.
- Benefits derived from quality as a business strategy
- Requirements for achieving better quality.

**WHO SHOULD ATTEND**

Executives, managers and professionals in manufacturing and service organizations.

**DESCRIPTION**

Quality is the key to competitiveness. Dr. W. Edwards Deming has formulated a concept of management that has been found successful by many companies and countries such as Japan. This seminar provides an overview of Dr. Deming's solutions to serious problems. It addresses such questions as: How much of the problem is the clerk's fault? How much is management to blame? Are our problems really that different? Where can we go for solutions?

**PREREQUISITE**

There is no prerequisite for this training. It is designed for executives, managers and professionals of various backgrounds.

**OUTLINE**

- Introduction
- The Lessons of the Red Beads
- The System of Profound Knowledge
- The Deming Theory of Managing for Quality
- Starting a Quality Program

**TEXT**

Four Days with Dr. Deming: A Strategy for Modern Methods of Management By William J. Latzko & David M. Saunders

***INSTRUCTOR***

William J. Latzko is a quality consultant with over 45 years of technical and management experience in manufacturing and service industries. Dr. Latzko has served as Director of Quality Control for Mundet Cork, Director of Management Science and Quality Control for CBS, Columbia Record Club, and Vice President for Quality Control for the Irving Trust. Formerly he was Plant Manager for the Joseph Dixon Crucible Company and for Alpha Metals. He currently teaches at Fordham University Graduate School of Business.

A Fellow of the American Society for Quality Control as well as a Certified Quality Engineer, Dr. Latzko is the Past Chairman of the Quality Management Division of the ASQC. He is also a member of the American Statistical Association and Past Chairman of their Service and Support Committee.

He received the W. Edwards Deming Medal and the Ellis R. Ott Award for joining quality technology and management. He studied statistics under Dr. W. Edwards Deming at New York University.

## REGISTRATION

Please register as early as possible. Hotel reservations must be made directly with Holiday Inn North by **April 14, 2001** as described below. In order to qualify for the advance registration rate, this form must be postmarked by **April 6, 2001**. Payment must accompany the form either by check, which must be included, or by credit card number. We accept American Express, Master Card, and Visa. You may pre-register with invoices, but will be billed at the on-site rate. Make checks payable to "ASQ Metropolitan Section". The American Society for Quality (ASQ) is a tax exempt organization. Federal Tax ID #39-09-12502.

On site conference registrations start at 7:30 AM April23rd through 25th. Transmit registration to **Mr. William I. Martin, Customized Management Systems, Ltd., 18-65 211 St., Suite 2F, Bayside, NY 11360-1814**. Telephone: (718) 631-2375/Fax: (718) 631-2375; E-mail:wim-cms@att.net.

Last Name _____ First Name _____ Mr. ❑ Ms. ❑ Mrs. ❑ Dr. ❑ Other ❑

Organization Name _____ Mailing Address _____

City _____ State _____ Zip _____

Daytime: Telephone _____ Facsimile _____ E-Mail _____

| Day | Monday 4/23/01 | | | | Tuesday 4/24/01 | | | | Wednesday 4/25/01 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **TRACK** | **1** | **2** | **3** | | **1** | **2** | **3** | | **1** | **2** | **3** | **Please indicate conference sessions you plan to attend.** |
| **AM** | | | | | | | | | | | | |
| **PM** | | | | | | | | | ■ | | | |

| **Registration for Conference Tutorial** | **Advance** | **On-Site** | **Amount** |
|---|---|---|---|
| Conference | $480 | $550 | _____ |
| One Day Registration Monday, Tuesday, or Wednesday (circle 1) | $240 | $300 | _____ |
| Student (Proof of full time college status needed) or Retiree | $150 | $175 | _____ |
| **Short Courses** | | | |
| Course 1: Resampling Methods: A Guide for Practitioners** | $1000 | $1050* | _____ |
| Course 2: An Overview of Dr. Deming's Principles** | $650 | $700* | _____ |
| **Book Order Total from other side** | | | _____ |
| **Total Registration and Book Order** | | | _____ |

Lunch and transactions will be provided to all attendees

Credit Card Payment: Card Type: American Express [ ]; Master Card [ ]; Visa [ ]

Card Number: _____ Expiration date: _____

Card Holder Signature: _____

*On-site course registration requires advance notification by 4/6/01 to the Registrar that you intend to register on-site. A $100 discount will be applied for those registering for conference tuturials and Course 1.

**Course registration includes texts and materials referenced in Course descriptions.

A discount of 20% will be applied for a group of 5 or more from one organization.

### HOTEL AND TRAVEL INFORMATION

Hotel reservations must be made by **April 14, 2001** to be guaranteed the negotiated rate of $129.99 plus tax. Any remaining rooms will be released after **April 14th**. Reservations may be made by calling (973) 589-1000, identifying yourself as an American Society for Quality (ASQ) conference registrant, and providing the number of a major credit card guaranteeing your first night's stay.

**BY AIR:** Air travel should be arranged into Newark International Airport. Upon arrival, catch the Airport (Monorail Bypass) Courtesy Bus to Pickup Station E on the Airport grounds. Holiday Inn Shuttle Bus runs continuously during peak hours every 10 - 15 minutes. During off-peak hours, use courtesy phone at Station E to call Holiday Inn for pickup or call them on a public phone at (973) 589-1000.

**BY RAIL:** Travel by train to Newark's Penn Station. From there, take taxi to Holiday Inn North on Frontage Road (10-minute ride). Or take public bus # 40 which goes by the Holiday Inn.

**BY CAR:**

| | | | |
|---|---|---|---|
| NJ Turnpike - | Take Exit 14; then second right onto Frontage Road | Rt. 22 - | Take 1/9 North to Frontage Road |
| I-78 or Rt. 24 - | Take Exit 53B to Frontage Road | G.S. Parkway North - | Take Exit 142 to I-78 to Exit 53B to Frontage Road |
| Rt. 1/9 North - | Stay in Local lane to exit marked with a blue sign for Frontage Road | G.S. Parkway South - | Take Exit 140A to Rt. 22 East to 1/9 North to Frontage Road |
| Rt. 1/9 South - | Take exit to Frontage Road, just after North Airport sign | | |

# 2001/56th DEMING CONFERENCE ON APPLIED STATISTICS AND MANAGEMENT

**ORDER FORM FOR BOOKS**

| PUBLISHER/Title/Author | No./Copies | List | Conference |
|---|---|---|---|
| **WILEY** | | | |
| Applied Logistic Regression, 2nd Edition — *Hosmer & Lemeshow* | ❑ | $85 | $61 |
| Applied Survival Analysis: Regression Modeling of Time to Event Data — *Hosmer & Lemeshow* | ❑ | $85 | $61 |
| Biostatistical Methods: The Assessment of Relative Risks — *Lachin* | ❑ | $90 | $65 |
| Bootstrap Methods: A Practitioner's Guide — *Chernick* | ❑ | $75 | $54 |
| Experiments: Planning, Analysis, and Parameter Design Optimization — *Wu & Hamada* | ❑ | $90 | $65 |
| Regression Analysis by Example, 3rd Edition — *Chatterjee, Hadi & Price* | ❑ | $80 | $58 |
| Statistical Control by Feedback and Adjustment — *Box & Luceno* | ❑ | $90 | $65 |
| **ADDISON WESLEY** | | | |
| Four Days with Dr. Deming: A Strategy for Modern Methods of Management — *Latzko & Saunders* | ❑ | $34 | $24 |
| **SPRINGER-VERLAG** | | | |
| Permutation Tests: A Practical Guide to Resampling Methods for Testing Hypothesis, 2nd Edition — *Good* | ❑ | $60 | $48 |
| Mixed Effects Models in S and S-PLUS — *Pinheiro & Bates* | ❑ | $70 | $55 |
| **Total Order** | | | |

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