



# American Statistical Association

SAN FRANCISCO BAY AREA CHAPTER

SPECIAL EDITION OF THE NEWSLETTER

## SUMMER 1987 Calendar

AUG 12 WED Predictive Statistical Control Charts for Dynamic Process Control (ASQC)

AUG 17-20 MON-THUR Joint Statistical Meetings (ASA, ENAR, WVAR, IMS)

## STATISTICS TASK GROUP OF THE ASQC - SANTA CLARA VALLEY SECTION

**SPEAKERS:** Rahman Azari, University of California at Davis  
Fred Khorasani, Intel Corporation

**TOPIC:** Predictive Statistical Control Charts for Dynamic Process Control

Most widely used control charts such as Shewhart and CUSUM are based on their assumption of independent observations. However, in many industrial applications, this assumption is rarely valid. Quite often the observations are correlated within the samples, between the samples, or both. This is due to the sampling method and the nature of the manufacturing process. Therefore, the usual control charts may result in erroneous conclusions and costly consequences. In this presentation alternative methods for control charting of correlated datasets using multivariate and time series modeling are given. These methods are applied to data from a wafer manufacturing process, and the results are compared. It will be shown that the control charts based on time series modeling have the added advantage of being predictive and therefore can be used as a tool for dynamic process control.

**DATE:** Wednesday, August 12, 1987 at 4:00 p.m.

**PLACE:** Intel Corporation Auditorium  
Santa Clara Building 9  
3601 Juliette Lane  
Santa Clara

**DIRECTIONS:** Take Montague Exit from Highway 101. At the first light turn left onto Mission College Blvd. At the next light, turn left into Intel parking lot. For additional information, call Fred Khorasani (408) 496-9998.

**PRESIDENT**  
Elizabeth S. King  
(415) 938-9417

**PRESIDENT-ELECT**  
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(916) 752-7623

**VICE-PRESIDENT  
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(415) 493-5000 x2181

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Anna Bagniewska  
(415) 855-5289

**COUNCIL of CHAPTERS  
REPRESENTATIVE**  
Barbara Kamm  
(415) 855-6163

EMPLOYMENT OPPORTUNITIES

### Syntex Laboratories has the following job opening:

BIostatistician I/II

Design, analyze and report Phase IV clinical trials; determine appropriate experimental designs, statistical analysis techniques, and report formats; perform statistical analyses using micro and mainframe computers, and write statistical reports. Must be able to work independently, under pressure, and with medical and other non-statistical staff.

Requirements: MS in biostatistics with 5-10 years of clinical trials experience, or Ph.D. with 1-10 years experience.

If interested, contact:

Laurie Peltier  
Syntex Laboratories  
3401 Hillview Ave.  
Palo Alto, CA 94303  
(415) 855-5914

Lucho Bravo  
Syntex Laboratories L-1108  
3401 Hillview Ave.  
Palo Alto, CA 94303  
(415) 855-6297

### Failure Analysis Associates, a nationwide engineering and scientific consulting firm, has the following vacancies at its Palo Alto Office:

1. SENIOR STATISTICIAN (Reference #GF)

Responsibilities include:

- Developing procedures to perform statistical analyses using a large volume of accident data
- Coordinating and managing tasks performed by research assistants and junior-level statisticians.

Requirements: Ph.D. in Statistics; a doctorate-level degree in an engineering discipline and strong statistics background may qualify. Familiarity with experimental and survey designs and knowledge of statistical packages such as SAS and SPSS desirable. Must be able to convey highly complex issues to both technical and non-technical personnel.

2. BIostatistician (Reference #RP.1)

Duties include:

- Quantitative analyses of occupational and environmental epidemiologic studies; health risk assessments; statistical modeling
- Critical review of the health risk literature
- Writing reports describing risk assessments

Requirements: A Master's degree or Ph.D. degree in Statistics or Biostatistics. Good computing skills and familiarity with statistical packages are highly desirable. Applicants should have 3 or more years of relevant experience.

Excellent remuneration and benefits package. Applicants should send a resume to:

Personnel Manager  
Failure Analysis Associates  
P.O. Box 51470  
Palo Alto, CA 94303

## 1987 JOINT STATISTICAL MEETINGS

The 1987 joint meeting of the ASA, IMS, and the Biometrics Society will be held in San Francisco on August 17-20. Elsewhere in this newsletter are the titles of the special and invited sessions; they are reproduced from the April issue of Amstat News. The preliminary program will appear in the June issue of Amstat News.

Since the April issue, a few titles and the names of several speakers have been announced. They include:

### Monday, August 17

- 8:30 a.m. General Methodology Lecture #1 will be presented by G.P. Patil of Penn State University, "Encountered Data, Statistical Ecology, Environmental Risk Analysis, and Weighted Distributions".
- 12:30 p.m. Economic Outlook Luncheon (Fee Event)  
Professor Milton Friedman will present his outlook for the economy.
- 2:00 p.m. Congressman Mervyn Dymally will chair a formal congressional hearing by the House Subcommittee on Census and Population about "The Impact of Population Undercount."

### Tuesday, August 18

- 8:30 p.m. ASA Presidential Address  
Barbara Bailer will speak on "Statistical Practice in Research: The Essential Interactions".

### Wednesday, August 19

- 8:30 a.m. General Methodology Lecture #2 will be presented by N.A.C. Cressie of Iowa State University, "Statistics of Spatial Data".
- 4:00 p.m. The R.A. Fisher Lecture will be given by F. Mosteller of Harvard University.

For the convenience of those Chapter members who are not members of the ASA, a preregistration form has been included in this Newsletter. Chapter members with questions about the joint meeting: Those in the vicinity of Davis, call Alvin Wiggins (916) 752-7623; those in the East Bay, call Elizabeth King (415) 938-9417; those in San Francisco and Marin County, call Arlene Frazier (415) 622-8422; others should call Kelvin Lee (415) 493-5000, #2528.

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### VOLUNTEERS NEEDED - 1987 JOINT STATISTICAL MEETINGS

The Chapter is issuing a plea for members to volunteer to man the INFORMATION BOOTH or the PRESS ROOM at the Joint Statistical Meetings, to be held at the San Francisco Civic Auditorium. Members will be needed at the INFORMATION BOOTH (to answer questions about transportation, dining, how to get to tourist sites, etc.) from Sunday, August 16 through Thursday noon, August 20.

Please contact Dr. Dean Fearn at California State University, Hayward [(415) 881-3447] if you can volunteer some time or Elizabeth King [(415) 938-9417] if you have any questions. Some books from the Publishers' Exhibits will be available to students who work.

### SURVEY OF THE CHAPTER

The new Chapter officers are in the process of making plans for 1987-88, and they would like your input about Chapter activities. What do you want out of the local ASA Chapter membership? How might the Chapter improve its function and/or services to better meet your needs? Although Chapter memberships exceed 500, attendance at Chapter meetings generally average about 30 people. We would like to organize activities to get more members involved. Please take several minutes to complete the enclosed questionnaire, and return it to Kelvin Lee, 515 Tiller Lane, Redwood City, CA 94065. If it is more convenient, call him with your comments at (415) 493-5000, #2528.

To refresh your memory, fifteen meetings were held in 1986-87. The list of speakers:

	<u>General Applic</u>	<u>Joint</u>	<u>Biostat</u>
Sept	Arlene Frazier		Alvin Wiggins
Oct	George Milliken		Allen Izu
Nov		Dorit Carmelli	
Dec	Michael Orkin		
Jan			Alice Whittemore
Feb	Laurence George		Stuart Beal
March	Janet Williams		Anthony Thrall
April	Andrew Carey		Nicholas Jewell
May		Barbara Bailar	
June		Michael Tarter	

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### POSITION WANTED

Statistician looking for leadership position in quality field. Five years industrial consulting experience with 3-year experience implementing Dr. Deming's techniques. Has MS in Statistics from Univ of Wisconsin (Madison) with research work under Dr. George Box. Strengths include experimental design, SPC, QC, and Taguchi methods. Adept with SAS, Fortran, Minitab, JASS, and IMSL subroutines. For further information, contact Tim Kramer, 4725 Sheboygan #232, Madison, WI 53705. (608) 238-8134/9934.

# 1987 Joint Statistical Meetings

ASA • ENAR • WNAR • IMS

San Francisco • August 17-20



## SPECIAL AND INVITED SESSIONS

**MONDAY, AUGUST 17**  
8:30 a.m.-10:20 a.m.

GENERAL METHODOLOGY LECTURE I  
ASA, ENAR-WNAR, IMS

HOW MUCH IS YOUR EX-SPOUSE WORTH? VALUING HOME PRODUCTION INTERNATIONALLY, IN THE U.S., AND LEGALLY  
*Caucus for Women in Statistics, ASA Comm. on Women in Stat., Bus. & Econ. Stat. Sec., Soc. Stat. Sec.*

PROBABILITY AND ARTIFICIAL INTELLIGENCE IN MEDICINE  
*Bio. Sec., ENAR-WNAR, IMS, Biopharm. Sec., Soc. Stat. Sec.*

STATISTICAL PACKAGES IN TIME SERIES  
*Bus. & Econ. Stat. Sec., Sec. on Phys. & Engr. Sci., Sec. on Stat. Comp.*

ADMINISTRATIVE OFFICE OF THE COURTS: NEW STATISTICS  
*Soc. Stat. Sec.*

APPLICATIONS OF RECENT METHODOLOGY IN REGRESSION\*  
*Stat. Comp. Sec.*

THE MISSING, THE HOMELESS, AND THE VICTIM: COUNTING THE HARD TO COUNT

*Sec. on Surv. Res. Meth.*  
SPECIAL INVITED PAPER

IMS

TIME SERIES ANALYSIS  
I'

10:30 a.m.-12:20 p.m.

JASA THEORY & METHODS INVITED PAPER  
ASA

EPIDEMIOLOGIC METHODS (Dedicated to the Memory of Bernard G. Greenberg)  
*Bio. Sec., ENAR-WNAR*

CASE STUDIES IN QUALITY AND PRODUCTIVITY  
*Sec. on Phys. & Engr. Sci., ASA Comm. on Quality & Productivity*

USING THE SIPP TO ANALYZE FAMILY COMPOSITION AND INCOME DYNAMICS  
*Soc. Stat. Sec.*

STATISTICAL COMPUTING: EDUCATION AND FUTURE  
*Stat. Comp. Sec., Sec. on Stat. Educ.*

WALD LECTURE I  
IMS

12:30 p.m.

ECONOMIC OUTLOOK LUNCHEON  
*Bus. & Econ. Stat. Sec.*

2:00 p.m.-3:50 p.m.

THE IMPACT OF POPULATION UNDERCOUNT (Congressional Hearing)  
*ASA Comm. on Govt. Stat.*

STATISTICAL ISSUES IN CHRONIC DISEASE NUTRITION TRIALS  
*Bio. Sec., ENAR-WNAR*

ECONOMETRIC MODELS OF COST AND PRODUCTION FUNCTIONS: SOME COMPARISONS  
*B. Econ. Stat. Sec.*

A PROSPECTIVE LOOK AT THE TAGUCHI METHOD IN THE U.S.A.  
*Sec. on Phys. & Engr. Sci., ASA Comm. on Quality and Productivity*

COMPUTER-AIDED EXPERIMENTAL DESIGN  
*Stat. Comp. Sec., Sec. on Phys. & Engr. Sci.*

SURVIVAL ANALYSIS  
IMS

RECENT DEVELOPMENTS ON SEQUENTIAL ESTIMATION  
144C

QUANTILE DATA ANALYSIS  
IMS

4:00-5:50 p.m.

PRESIDENT'S INVITED ADDRESS  
ASA

**TUESDAY, AUGUST 18**  
8:30 a.m.-10:20 a.m.

JASA APPLICATIONS INVITED PAPER  
ASA

META ANALYSIS OF CLINICAL TRIALS  
*Biopharm. Sec.*

APPLICATIONS OF RECENT METHODOLOGY IN BAYESIAN ANALYSIS OF DYNAMIC MODELS: THE KALMAN FILTER AND BEYOND\*  
*Bus. & Econ. Stat. Sec., Bio. Sec., Sec. on Phys. & Engr. Sci.*

STATISTICS FOR AN AGING SOCIETY  
*Soc. Stat. Sec.*

QUALITY CONTROL PROGRAMS IN ACADEMIA AND INDUSTRY  
*Sec. on Stat. Educ., ASA Comm. on Quality & Productivity*

NEW METHODOLOGY IN STATISTICAL GRAPHICS  
*Sec. on Stat. Graphics, Stat. Comp. Sec.*

MEASURING THE CONCENTRATION OF PERSONAL WEALTH IN THE UNITED STATES, 1962-1983  
*Sec. on Surv. Res. Meth.*

SPECIAL INVITED PAPER  
IMS

SMALL SAMPLE ASYMPTOTICS  
IMS

NONPARAMETRIC STATISTICS  
IMS

10:30 a.m.-12:20 p.m.

STATISTICS IN SPORTS  
*ASA Council of Chapters*

IMPROVING THE EFFECTIVENESS OF STATISTICAL CONSULTANTS: A LIVE DEMONSTRATION  
*Stat. Div. of American Soc. for Quality Control, Sec. on Stat. Educ.*

NON-STANDARD CLINICAL TRIALS—DESIGN AND ANALYSIS  
*Bio. Sec., ENAR-WNAR, Biopharm. Sec.*

HOW GOOD ARE ECONOMETRIC MODELS?  
*Bus. & Econ. Stat. Sec.*

RESPONSE SURFACE METHODOLOGY  
*Sec. on Phys. & Engr. Sci., Sec. on Stat. Graphics*

POLICE HANDLING OF DOMESTIC VIOLENCE  
*Sec. on Surv. Res. Meth., Soc. Stat. Sec.*

PARALLEL PROCESSING IN STATISTICS  
*Stat. Comp. Sec.*

WALD LECTURE II  
IMS

2:00 p.m.-3:50 p.m.

TECHNOMETRICS INVITED PAPER  
*ASA, American Soc. for Quality Control*

ENVIRONMENTS AND TOOLS FOR DISPLAYING STATISTICAL DATA  
*Nat. Computer Graphics Assn., Sec. on Stat. Graphics*

STATISTICAL ISSUES IN ESTIMATION OF PROGRESS AGAINST CANCER  
*ASA Comm. on Women in Stat., Caucus for Women in Stat., Bio. Sec., ENAR-WNAR, Biopharm. Sec.*

**SHEAPE COMPARISONS**

*Bio. Sec., ENAR-WNAR, Sec. on Stat. Graphics*

**MAKING STATISTICS MORE EFFECTIVE IN SCHOOLS OF BUSINESS**

*Bus. & Econ. Stat. Sec., Sec. on Stat. Educ.*

**CAUSAL MODELS IN SOCIAL SCIENCE**

*Soc. Stat. Sec., Bio. Sec., ENAR-WNAR, Bus. & Econ. Stat. Sec.*

**SPECIAL INVITED PAPER**

**PROBABILISTIC ANALYSIS OF ALGORITHMS**

*IMS*

**NONPARAMETRIC INFERENCE FOR WEAKLY DEPENDENT RANDOM VARIABLES**

*IMS*

**4:00 p.m.-5:50 p.m.**

**APPLICATIONS OF STATISTICS IN METEOROLOGY AND CLIMATOLOGY**

*American Meteorological Soc., Sec. on Phys. & Engr. Sci.*

**EXACT INFERENCE FOR CATEGORICAL DATA**

*Bio. Sec., ENAR-WNAR*

**ACCOUNTING FOR ERRORS IN VARIABLES IN STATISTICAL INFERENCE**

*Bus. & Econ. Stat. Sec., Bio. Sec., ENAR-WNAR, Soc. Stat. Sec.*

**1990 CENSUS UNDERCOUNT AND ADJUSTMENT**

*Soc. Stat. Sec.*

**STATISTICAL TEXT PROCESSING**

*Stat. Comp. Sec.*

**COMPLIANCE AND COST CONTROL: TAXES, WELFARE, AND STUDENT LOANS**

*Sec. on Surv. Res. Meth.*

**SPECIAL INVITED PAPER**

*IMS*

**8:30 p.m.**

**PRESIDENTIAL ADDRESS**

*ASA*

**WEDNESDAY, AUGUST 19**

**8:30 a.m.-10:20 a.m.**

**GENERAL METHODOLOGY LECTURE II**

*ASA, ENAR-WNAR, IMS*

**STATISTICAL NEEDS AND IMPROVEMENT IN RISK ASSESSMENT**

*Bio. Sec., ENAR-WNAR, Biopharm. Sec.*

**DATA ANALYSIS PROBLEMS IN TIME SERIES ANALYSIS**

*Bus. & Econ. Stat. Sec.*

**APPLICATIONS OF RECENT METHODOLOGY IN INDUSTRIAL MIXTURE EXPERIMENTS\***

*Sec. on Phys. & Engr. Sci., ASA Comm. on Quality & Productivity*

**MICROS AND SUPERMICROS IN UNDERGRADUATE STATISTICAL EDUCATION**

*Sec. on Stat. Educ., Stat. Comp. Sec.*

**MANPOWER EXPERIMENTS: DESIGN, EXECUTION, ANALYSIS**

*Sec. on Surv. Res. Meth.*

**BOOTSTRAP AND COMPUTER INTENSIVE METHODS**

*IMS*

**MARKOV PROCESSES**

*IMS*

**10:30 a.m.-12:20 p.m.**

**SPECIAL INVITED PAPER**

*ASA*

**APPLICATIONS OF RECENT METHODOLOGY IN BIostatistics\***

*Bio. Sec. ENAR-WNAR*

**DRUG APPROVAL IN MORE THAN ONE COUNTRY**

*Biopharm. Sec.*

**FIELD AND FOLLOW-UP STUDIES IN RELIABILITY**

*Sec. on Phys. & Engr. Sci., Bio. Sec., ENAR-WNAR, ASA Comm. on Quality & Productivity, IMS*

**INTEGRATED ENVIRONMENTS FOR STATISTICAL COMPUTING ON MICROCOMPUTERS**

*Stat. Comp. Sec.*

**COGNITIVE ASPECTS OF SURVEYS**

*Soc. Stat. Sec., Sec. on Surv. Res. Meth.*

**REITZ LECTURE**

*IMS*

**4:00 p.m.-5:50 p.m.**

**ANALYSIS OF MESSY DATA: A CASE STUDY**

*Bio. Sec., ENAR-WNAR, Stat. Comp. Sec., Sec. on Stat. Graphics*

**HETEROGENEITY AND CONSUMER CHOICE**

*Bus. & Econ. Stat. Sec., Subsec. on Stat. in Marketing*

**TOPICS IN EXPERIMENTAL DESIGN**

*Sec. on Phys. & Engr. Sci., Stat. Comp. Sec.*

**PANEL DISCUSSION—APPLICATIONS OF RECENT METHODOLOGY IN IMPROVING THE QUALITY OF BUSINESS STATISTICS COURSES: A PROCESS APPROACH\***

*Sec. on Stat. Educ., Mu Sigma Rho*

**QUALITY STATISTICS AND GRAPHICS FOR MANAGERS, ENGINEERS, AND SCIENTISTS**

*Sec. on Stat. Graphics, Bus. & Econ. Stat. Sec., Subsec. on Stat. in Marketing*

**IMPROVING THE QUALITY OF EDUCATION: STATISTICS FOR POLICY PURPOSES**

*Sec. on Surv. Res. Meth.*

**GOODNESS-OF-FIT TESTS**

*IMS*

**PROBABILITY AND PHYSICS**

*IMS*

**4:00 p.m.-5:00 p.m.**

**COPSS PRESIDENTS' AWARD, R.A. FISHER AWARD AND LECTURE**

*ASA, ENAR-WNAR, IMS, SSC*

**THURSDAY, AUGUST 20**

**8:30 a.m.-10:20 a.m.**

**STATISTICS IN NUCLEAR RISK ANALYSIS**

*Soc. for Risk Anal., ASA Comm. on Nuclear Reg. Research, Sec. on Phys. & Engr. Sci.*

**APPLICATIONS OF RECENT METHODOLOGY IN BIOPHARMACEUTICAL STUDIES\***

*Biopharm. Sec.*

**RECENT IMPROVEMENTS AND FUTURE DEVELOPMENTS IN BUSINESS SURVEYS**

*Bus. & Econ. Stat. Sec., Sec. on Surv. Res. Meth.*

**EXPERT OPINION: STATISTICAL ISSUES**

*Soc. Stat. Sec., Sec. on Phys. & Engr. Sci.*

**MAKING THE COMPUTER DO MORE WORK**

*Stat. Comp. Sec.*

**ARE HYPOTHESIS TESTS, P-VALUES, AND MULTIPLE COMPARISONS APPROPRIATE TOOLS IN APPLIED RESEARCH?**

*Sec. on Stat. Educ., Subsec. on Teaching Stat. in the Hlth. Sci., Bio. Sec., ENAR-WNAR, Biopharm. Sec.*

**SPECIAL INVITED PAPER**

*IMS*

**PROJECTION PURSUIT**

*IMS*

**10:30 a.m.-12:20 p.m.**

**STATISTICS AND ASSESSMENT OF EQUAL OPPORTUNITIES**

*ASA Ad Hoc Coordinating Comm. for Equal Opportunity in Stat., ASA Comm. on Minorities in Stat., ASA Ad Hoc Comm. on Disabled in Statistics*

**ERRORS-IN-VARIABLES REGRESSION: BIOMETRIC AND ECONOMETRIC PERSPECTIVES**

*Bio. Sec., ENAR-WNAR, Bus. & Econ. Stat. Sec., IMS*

**MODELING EXPERT PROBLEM SOLVING**

*Sec. on Phys. & Engr. Sci., Soc. Stat. Sec.*

**APPLICATION OF RECENT METHODOLOGY IN STATISTICAL GRAPHICS FOR NONSPECIALISTS\***

*Sec. on Stat. Graphics*

**ESTIMATING THE SPREAD OF THE AIDS EPIDEMIC**

*Sec. on Surv. Res. Meth., Bio. Sec., ENAR-WNAR*

**WALD LECTURE III**

*IMS*