

# ASQ Statistics Division Newsletter

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# Message from Chairman

With great pleasure I welcome all members of this new division! We are indebted to the Chemical Division for its support of our efforts to form the Statistics Division, and we want to record our thanks to its members for their assistance. We would also like to thank the Biomedical Division for its gift of \$2,000 in seed money to help us get started. We look forward to participating with these two divisions and all others of the ASQC-- in worthwhile cooperative projects in the future.

To switch from the future to the past, I recall that, when I was living in Japan about thirty years ago, I saw first-hand the quality of manufactured goods in that country. It stunk. Flimsy toy cars, for example, were made from used beer cans.

Things have changed. Now the quality of manufactured goods from Japan is generally high. (Now Japanese toys sometimes are even mistaken for the real articles. A complaint in one country about poor quality pens imported from Japan--a complaint that reached ambassadorial levels--dissolved when it was discovered that these pens were exported by the Japanese as toys but sold by sharp businessmen in the importing country as real pens.) When working in Nigeria not too long ago I bought a Japanese car which, on one trip, I drove north to the southern edge of the Sahara and west into Upper Volta over roads and non-roads of jarringly poor quality; for a year that car took a licking but kept on ticking. No problems. Upon returning to the States, I bought an American car. Sometime after having its defective axle replaced, I drove it to northern Wisconsin. There a spring broke.

I am not saying that Japanese products are always superior to American ones. As we all know, there are many high quality goods made in the United States. What I am saying, though, is that things have changed in Japan over the past thirty some years. Spectacular gains have been made in the area of quality. Statistical quality control played an important part in this development, with a leading role being played by Dr. W. Edwards Deming. A comprehensive educational program involving all levels of personnel--from top management to workers--was a centerpiece of this effort. Practical courses, publications, and conferences were everywhere. People used what they learned.

Can U.S. industry undergo a similar transformation, becoming more conscious of quality at every level and more capable of making quality products, and in particular putting into practice in design departments and on production lines effective statistical quality control procedures? Can things change here? Maybe. Maybe not. But I believe the Statistics Division should set its sights high. It should try to have a real impact on American industry and other elements of our economy. Of course, more is involved than statistical quality control but we should try to be a positive catalyst for a general move in this desired direction (I say "desired" in part because there are signs that U.S. consumers increasingly value quality in making purchasing decision). If we don't try, who will?

If you would like to get actively involved in shaping the plans for this Division, and doing some work, please contact your Regional Councilor, me, or one of the other officers. We especially would like to hear from persons interested in Standards. Contact Oswald Wiliner, (412) 452-5000, extension 6585.

# Statistics Division Officers

William G. Hunter, Chairman  
University of Wisconsin Madison  
Department of Statistics  
1210 West Dayton Street  
Madison, Wisconsin 53706

Otto Dykstra, Jr., Chairman-Elect  
Burroughs Wellcome Co.  
P.O. Box 1887  
Greenville, North Carolina 27834

Wendell F. Paulson, Treasurer  
56 Ashwood  
Irvine, California 927114

Diane L. Dietrich, Secretary  
University of Arizona  
Systems Engineering  
Tucson, Arizona 85721

# Advisory Board Appointed for Statistics Division

The following persons have been appointed members of the Advisory Board of the Statistics Division by the Chairman:

G.E. P. Box	J. S. Hunter
A. J. Duncan	N. L. Johnson
R. A. Freund	W. H. Lawton
H. O. Hartley	F. C. Leone
J. D. Hromi	L. S. Nelson

They will provide advice and counsel to the Division with regard to plans, programs, and policy.

# Regional Councilors

1. James R. King  
TEAM  
Box 25  
Tamworth, [NH](#) 03886
2. Joseph J. Tsiakals  
[Eastman Kodak Co.](#)  
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Kodak Park Divisions  
[Rochester, NY](#) 14650
3. Thomas W. Calvin  
13 Malstorm Rd.  
Wappingers Falls, [NY](#) 12590
4. Bovis Abraham  
Dept. of [Statistics](#)  
[University of Waterloo](#)  
[Waterloo, Ontario](#)  
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5. Frank Alt  
Dept. of [Mgmt. Science & Statistics](#)  
[University of Maryland](#)  
College Park, [MD](#) 20742
6. H. James Harrington  
[IBM Corp.](#)
9. Carlos Moreno  
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7162 Reading Rd. 12 W 26  
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10. Gregory F. Gruska  
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11. William M. Mead  
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[Lynchburg, VA](#) 24505
12. John S. White  
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[University of Minnesota](#)  
[Minneapolis, MN](#) 55455
13. Ron Askin  
Dept. of Ind. & Mgmt. Eng.  
[University of Iowa](#)  
[Iowa City, IA](#) 52242
14. Kenneth E. Case  
[Oklahoma State University](#)  
[School of Ind. Engineering](#)  
[Stillwater, OK](#) 74074

Monterey and Cottle Roads  
San Jose, CA 95093

7. C. Anthony Miller  
831 E. Burns Avenue  
Ridgecrest, CA 93555

8. Peter. R. Nelson  
Dept. of Statistics  
Ohio State University  
Columbus, OH 43210

15. Harrison M. Wadsworth, Jr.  
School of Ind. and Systems  
Engineering  
Georgia Institute of Technology  
Atlanta, GA 30332

# ASQC Presidential Welcome

I am delighted to have the honor of serving as ASQC President during the birth of the Statistics Division. When Chairman Bill Hunter asked me to contribute a message, it seemed to me to be a rare opportunity. A new Division does not appear very often.

To me, the ASQC is a family in more than a sense of fellowship. It is a community of individuals pooling their uncommon skills in the common interest. The individual, while participating in section activities, identifies a need that can only be fulfilled by a division. The information is transferred and Presto! the entire society moves ahead one notch.

Certainly the most basic of needs for all of us is the comprehension and handling of statistics. Without numerical information in its most precise form, we cannot complete our responsibility to management and other fellow employees. And without the tools to first comprehend and then explain the analysis, we are equally impotent.

This is one of the reasons that I am pleased to learn that the Statistics Division has chosen the development of the Statistical Reference Series as its major project. These short monographs on specific topics will enable the technician (and the manager) to understand particular tests enough to perform them. Over 30 topics have been selected for these booklets. Two are already out and more are in process.

As this new Division provides a more visible home to the many statisticians who serve our profession both in industry and academia, I know it will be of practical benefit to the practitioners. Congratulations, and welcome.

You are a great team; here's to a great future!

Philip Crosby  
President, ASQC

# ASQC Technical Director Welcome

It is with great personal pride and joy that I welcome the Statistics Division into being in the Society and the General Technical Council. As the staff liaison to divisions and technical committees I have watched, with great interest, the growth of the Statistics Technical Committee over the last six years, since joining the staff.

The projects of the Glossary and Tables for Statistical Quality Control, the fine work in support of our statistical standards activities, particularly the revision of our definition standards A1, A2, and A3, and the inauguration of the "ASQC Basic References in Quality Control: Statistical Techniques". These have been a source of inspiration to our technical area as we move into a new era in the Society.

I am particularly pleased with the enthusiasm that your Division leadership has generated in the formation of this Division. The Division provides a meaningful "home" for the statistical practitioners in industry and the universities, and further stimulates this backbone of our society's technical structure. I know that I speak for the staff in wishing the new Division a prosperous and challenging future. You have already accomplished much and are continuing to set a pace with many excellent papers at the Annual Technical Conference; two new tutorials last year and this year again, based on books from the Statistical Techniques Reference Series. You are to be particularly congratulated on the course on "How to Conduct Continuous Sampling" that will be offered in Atlanta on May 19, the day before the Conference. I encourage all Division members to come to this year's Conference and see your Division in action.

You are a great team; here's to a great future!

Robert Abbott  
Technical Director, ASQC



# ASQC 34<sup>th</sup> ANNUAL TECHNICAL CONFERENCE: Statistics Division Sessions

Monday, May 19, 1980

Statistics Division Short Course:

- "[How to Perform Continuous Sampling](#)"

Instructor: Kenneth S. Stephens

Registration: Contact Frank B. Alt (301-454-5147)

College of Business and Management

[University of Maryland](#) at College Park

College Park, [MD](#) 20742

Tuesday, May 20, 1980

10:30 a.m.-12:00 noon: Statistical Techniques - Tutorial

- "How to Perform Skip-lot and Chain Sampling", by K. S. Stephens.

1:30 p.m.-3:00 p.m.: Statistical Techniques - Tutorial

- "How to Test Normality and Other Distributional Assumptions", by S. S. Shapiro

3:30 p.m.-5:00 p.m.: Statistical Techniques in Simulation

- "Speed and Quality of Random numbers for Simulation, II", by E. J. Dudewicz
- "Dependence Concepts and Applications in Probabilistic Modeling", by S. J. Kotz.
- "Multivariate Modeling in Simulation: A Survey", by B. W. Schmeiser and R. Lal.

Wednesday, May 21, 1980

10:30 a.m.-12:00 noon: Statistical Techniques in Quality Control

- "Poisson Approximation - Developments in Reliability", by R. Serfling
- "Effective Double Sampling Plans", by R. D. Guild.
- "The Analysis of Staggered, Nested Factorials", by J. R. Smith and J. M. Beverly.

1:30 p.m.-3:00 p.m.: Statistical Techniques in Sampling

- "On the Proper Operation of Attributes Acceptance Sampling", by J. B. Keats and K. E. Case.
- "The Quality Standard for Multiple Group Categories", by B. S. Liebesman
- "Three Class Attribute Sampling Plans in Use", by J. A. Clements.

# CSP Course at ATC

A special course on "How to Perform Continuous Sampling (CSP)" will be offered on Monday, May 19, 1980. The course will start at 7:30 a.m. with a continental breakfast at which the course registrants and course instructor can become acquainted. The formal course sessions will run from 9 a.m. to Noon; pause for a buffet lunch (where, again, the instructor will be available for discussion), then continue 1 p.m. to 5 p.m.

The instructor for this course is slated to be Dr. Kenneth S. Stephens, who has published a booklet on the topic in the [ASQC Statistics Division's](#) series, [The ASQC Basic References in Quality Control: Statistical Techniques](#), and who gave a 1.5 hour tutorial on the topic at the 1979 ATC in [Houston](#) to over 200 persons. Dr Stephens' expertise, substantial industrial and consulting experience, and academic background, combine to make this course an outstanding opportunity. Dr Stephens is currently with the [United Nations Industrial Development Organization](#).

Registration at this course is limited to the first 30 applicants (in order to assure opportunity for instructor-registrant interaction), hence early registration is encouraged. Registration is accomplished by checking the CSP Course box on the Conference Registration form. The course is open only to conference registrants, and the course fee is \$200 (\$150 for each additional registrant from a company) and includes continental breakfast and buffet lunch with the instructor, the [CSP](#) booklet, and course notes. If a hotel room is desired, check the appropriate box on the hotel room request form.

# How the Statistics Division Came to Be

The concept of a Statistics Division is not new. Several times in past years the idea has been discussed, but not until the San Diego meeting of the ASQC did anything come of it. If any one person can be singled out as the catalytic agent to get the idea moving toward reality, it has to be Dick Freund. In his involvement with various national and international standards organizations, he saw the need for a recognized source of statistical expertise for the development of standards and the existing Statistics Technical Committee--at least the active membership--was just too few in number to support the requests for assistance. By default, some statistical standards were being written by people in other disciplines. Outsiders weren't always aware that a lot of statisticians were members of Chemical Division.

In addition, there are a lot of people involved in statistics who have little or nothing to do with chemical applications.

They may well belong to another division of the ASQC, but might also like to belong to a division which is immediately identifiable as statistics-oriented. Also, other divisions may want to seek statistical assistance, and might be more likely to do so from a Statistics Division.

With these considerations in mind, the investigations of whether to form a division and how to form a division began. If Dick Freund might be termed the father of the Statistics Division, the midwife must have been Wendell Paulson. Wendell, first as vice-chairman, then chairman of the statistics Technical Committee, found out what had to be done to form a division and then saw to it that all these things (including extensive paperwork) got done. At the national meetings of the ASQC in Philadelphia in 1977, he was ready with petition forms, model by-laws, and the other necessary documents, and put members of the STC to work on the details. Committees were formed, and the process of collecting signatures began. Wendell maintained dialogues with ASQC headquarters and with those of us doing our various bits. Slowly but surely, everything came together. The last necessary signatures were collected in Houston in 1979, and suddenly, the STC blossomed into the Statistics Division. Those of us who had some small part in the Division's, coming-to-be are very proud of its existence and hope to see it become a potent force in the ASQC.

One more name needs to be mentioned: Bob Abbott, Technical Director of the ASQC, was most helpful and most patient. He worked hard getting us through the paper jungle, and gave us strong support all the way.

Bill Mead

# Organizational Meeting Notes: November 1, 1979

The first meeting of the Statistics Division, was held in conjunction with the Fall Technical Conference of the Chemical Division. The meeting was chaired by Bill Hunter, with 27 people in attendance.

Bill Mead described the origin of the Statistics Division, from the first thoughts at the Fall Technical Conference held in Richmond in 1975, through the awarding of Division status in the summer of 1979.

The role of the the Statistical Division within the ASQC framework was discussed. Of particular concern was the relationship of the Statistics Division with the Chemical Division. Ed Dudewicz identified some non-conflicting activities in statistical support. The first publication in the Reference Series, by Wayne Nelson, appeared at the Houston Annual Technical Conference, and the second, by Ken Stephens, should be released soon. Two others could be released by next. May. Tutorials have been based on these publications. Furthermore, some 43 potential topics have been identified for development into booklets. One of these will be the basis for a short course to be given prior to the next Annual Technical Conference at Atlanta.

Mary Natrella commented on standards, noting that she had a list of suggestions from the ASQC National Office.

Frank Alt, who is Division program chairman, told of three sessions covering nine papers to be presented at the Atlanta Annual Technical Conference.

Chairman Bill Hunter expressed our thanks to the Chemical Division for its encouragement and support, also to the Biomedical Division for its \$2,000 financial support. He shared some ideas on projects for the Statistics Division. He emphasized that there is no need for conflict, since there are so many useful things to do.

# Standards Activities

Statistical standards do exist, e.g., MIL-STD's, [ASQC Standards](#), [ASTM standards](#), [ANSI Standards](#), [ISO Standards](#). There also exists a fairly complicated structure of national and international organizations involved in their development and adoption. Since the formation of [ANSI Committee Z- 1 on Quality Assurance](#) in 1974, Z-1 has been active in reviewing existing standards, recommending revisions, identifying the need for new standards and providing U.S. representation in the [ISO committee TC 69 on Applications of Statistical Methods](#).

Under the U.S. system of voluntary consensus standards [ASQC](#) is an accredited standards-writing organization for [ANSI](#). ANSI Z-1 has asked the [ASQC](#) (especially the Standards Group) to revise or develop several standards in the past few years. Examples of recent revisions are: ASQC Standards A1, A2, A3; ANSI Z 1.9 (which had been identical to MIL-STD-414); ANSI Z 1.4 (which had been identical to MIL-STD-105D). Other existing standards are in need of revision; for example, ASQC Standards B1, B2, B3. Completely new standards need to be developed, and it is expected that the [Statistics Division](#) will be heavily involved.

[Statistics Division](#) members who are able and willing to work in this area are very much needed. We want to achieve the best possible U.S. national standards, and to provide the U.S. with a solid position in its involvement with international statistical standards activities. Interested people should contact Oswald Willner, (412) 462-5000, extension 6585.

Mary Natrella

# Scheduled Statistics Division Meetings for ASQC Annual Technical Conference

The Council Meeting for the Statistics Division will be on Monday, May 19<sup>th</sup> at 8:00 p.m., in the Atlanta Hyatt Regency Italian Suite.

The Statistics Division meeting is scheduled for Wednesday, May 21<sup>st</sup>, at 1:30 p.m., in the Atlanta Marriott Hotel, Tara Room #4.

# 34<sup>th</sup> Annual Technical Conference: Quality Control in Future is Theme

Speakers on such topics as worldwide quality cooperation, operating Quality Control Circles and developing a quality assurance program highlight the [American Society for Quality Control \(ASQC\)](#) 34th Annual Technical Conference, May 20-22, in [Atlanta, GA](#).

Scheduled at the Hyatt Regency Atlanta, other Conference papers emphasizing the theme "Quality in the New Decade" include: reducing vendor quality costs; fabric flaws, automotive quality technology; energy audits and reducing operating cost; product safety and minimizing liability; medical device problem reporting; quality assurance auditing; and some 140 others. Tutorial sessions in the program focus on statistical techniques, audits, energy, quality costs, computer aided quality, inspection and managing the metrology function.

ASQC's concurrent full-scale inspection, testing and quality assurance exhibition will be held at the nearby Atlanta Marriott Hotel. More than 80 booths already have been sold to suppliers of measurement, control, data processing, mechanical testing, nondestructive testing, optical, photographic metallurgical, and other equipment or services for checking of controlling quality. An added attraction, for Conference registrants only, is a special one-day course on "[How to Apply Continuous Sampling](#)." Sponsored by ASQC's new [Statistics Division](#), the limited registration course will be held on Monday, May 19th.

Plant tours during the Conference are scheduled to visit [Lockheed-Georgia Co.](#) (cargo plane assembly), [Delta Air Lines](#) maintenance base, and [General Motors](#) Doraville assembly plant. Other optional events include a riverboat party at Stone Mountain Park, and tours for the registrants' family and friends to the Governor's mansion, Swan House, Tullie Smith House, Atlanta Toy Museum, and antebellum Madison, Georgia, the town General Sherman thought too beautiful to burn.

[ASQC](#) is a society of professionals engaged in management, engineering and scientific aspects of quality and reliability. Its 173 Sections in the United States, Canada, Mexico and Japan serve the Society's more than 32,000 members. Conference details and copies of the preliminary program are available from ASQC, Dept. PI-12, 161 West Wisconsin Ave., [Milwaukee, Wisconsin](#) 53203; telephone (414)272-8575.

NOTICE THAT THE NAME OF [ASQC's](#) ANNUAL EVENT IS BEING CHANGED, BEGINNING IN 1981! [San Francisco](#) will be the first location for [ASQC's](#) "Annual Quality Congress". Announcing the change in and focus for the Society's annual event, [ASQC](#) President Phil Crosby said it is aimed at providing a forum for expanded activities during the Congress, beyond just presentation of papers and exhibits. "More concurrent Division and educational programs are being considered," he added. Crosby noted that the new name will reflect [ASQC's](#) goal of aiding upper management and service professionals as well as quality engineers in finding better ways to better quality.