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### Message from the SPES Associate Editor

*Jim Rutherford, Chevron Oronite Company LLC*

It is hard to admit failure but here it is—I was unable to get anyone to offer a feature article for this issue of the newsletter. I wish I could blame someone.

Please, consider contributing a feature article for the next issue of the newsletter. I'll share one more time the quote from the previous SPES Associate Editor without further documentation:

"... it has a two-page limit. This equates to about 1600 words, or less if the article has figures. Most authors initially write more, and then have to cut it down to that length. The level should not be that of a research journal. It's more the level of something cool or interesting that you would want to show your colleagues. I emphasize that this is a service to the profession, a way for one person to *help* many by sharing something useful or interesting."

Send me ideas or drafts any time. To avoid failing twice I will need to pass on an edited version of the feature article by November 1. So if I don't see an idea or a draft from someone by the beginning of October, I might have to start writing something myself.

### Message from the Q&P Associate Editor

*Esteban Walker*

Another summer is upon us. I will be spending a couple of months at the Cleveland Clinic as a consultant. I hope that your summer plans are also exciting. In this issue you will find the first note of Fred Faltin as Chair, information about activities at the 2002 JSM, information about the Q&P Research Conference and the usual section in which relevant articles are reviewed. Do not forget to read about the special hands-on session on how to use the Baldrige Award at the 2002 JSM.



## Message from the Q&P Chair

*Frederick W. Faltin, Quantitative Management Consulting*

Hello, everyone! As I prepare this update of our Section's activities, I'm reminded—and would like to remind you—that this will most likely be the last hard-copy SPES/Q&P Newsletter you'll ever receive! If all goes as planned, the December Newsletter later this year will go all-electronic for the first time. What this means, obviously, is that the time is at hand to make sure ASA has your email address, and that you keep your email address up to date in the future just as you've always updated your snail mail address in the past. While I'm happy to report that we now have email addresses for the great majority of Q&P members, there are still some of you who need to give this your attention. Just go to [www.amstat.org](http://www.amstat.org), click on Members Only, and you'll be on your way.

That's just one of the various initiatives our Section has under way to try to make Q&P membership more valuable and informative. The focus of our tactical and strategic plans over the last several years has consistently been to make communication to and among our members easier, to assure that professional development opportunities will be available wherever possible, and to broaden the reach of our Section so that we can do all of the above on a more comprehensive scale. As 2001 Chair Eric Lagergren pointed out in his Newsletter message last December, we've made considerable progress toward these goals. Here's an update on those activities, with a little editorial comment along the way.

### Going Electronic

Several of you have remarked to me regarding your concern that the Section's move to electronic communication may result in a deluge of junk email issuing forth from Q&P. Rest assured that I share that concern myself, and that the precedents we set this year will therefore adopt restraint as our watchword. We're doing this in a couple of ways. First, we're growing our emphasis on Q&P's website, ably administered by webmaster Ramon Leon, as our principal source of Section information (more on this later). The website is always there at your fingertips with updated information on conferences, news, and contacts of interest to our members. And because it's a "pull" source, it will only pop up when you want it to. Second, Q&P's working policy regarding Section email to our members is that email will ONLY be sent by or on behalf of the Chair, with his/her direct participation (such as the 2 emails you received earlier this year announcing and updating the Quality & Productivity Research Conference, which is an official function of our Section). So you'll get two Newsletters per year, plus about 3–4 other emails from the Q&P Chair on items of special interest. Period.

In keeping with our thrust to make information available to our members all the time, we're migrating information formerly published in print media to our website. There you'll find news and notices, conference and seminar information, and links to related organizations of interest to our members. We're increasingly posting items

not just from ASA, or Q&P, but also from other societies, universities, etc., all with the aim of anticipating what you'll find useful and valuable as a Q&P member. So start making it a practice to hit the Q&P homepage now and then to see what's up; just go to the [www.amstat.org](http://www.amstat.org), then click on Sections, and Quality & Productivity, and you're there! (And while you're thinking of it, hit the Officers link to drop me a line with your ideas and suggestions as to how we can make Q&P even more valuable to our members.)

In line with ASA's and Q&P's migration toward electronic communications and web-based information, our Publication Officer's role is changing, as well. Our new PO, Mark Vandeven, took the hand-off from predecessor Gwen Stimely in fine fashion (thanks to both of them for a smooth transition). Mark is increasingly devoting his efforts to publicity, as well as publications, with the goal of heightening our Section's profile within the professional community, and looking for ways to grow our membership so that we can do more to positively influence Q&P education and practice. He'd welcome your suggestions!

### The Quality & Productivity Research Conference

By the time you read this, the 19th annual QPRC will have been held in Tempe, Arizona, and I'm sure it will have been another solid success. With corporate sponsorship by Honeywell, and hosted by the Arizona State University, this year's conference theme was Quality of Design for Products and Processes. Under the leadership of QPRC Steering Committee Chair Jeff Hooper, and Conference Chair Doug Montgomery, the conference program looked just great. On the continuing education front, there were three tutorial sessions during the conference itself, plus a full-day short course offered the day before the conference by Prof. Geoff Vining of Virginia Tech on "An Introduction to Generalized Linear Models." Thanks to Honeywell, Jeff, Doug, and the full committee and staff for a job very well done!

### The Mary G. Natrella Scholarship

In conjunction with the QPRC again this year, our Section awarded the Mary G. Natrella Scholarship to deserving students interested in pursuing careers in quality and productivity. The MGNS is a merit-based award comprised of a \$1000 scholarship, plus travel assistance to attend the annual Quality & Productivity Research Conference. It honors Mary G. Natrella, who worked for thirty-six years as a statistician at the National Bureau of Standards (now NIST) before her retirement in 1986. This year's selection committee was chaired by Prof. Norma Hubele of Arizona State. Thanks to Norma and the full committee for volunteering their time to perform one of our Section's most important activities.

### Special Issue of *Amstat News* Upcoming in September

This year's September issue of the *Amstat News* will be a special careers issue. In cooperation with the ASA office

and editorial staff, Q&P has organized contributions on A Day in the Life of a Six Sigma Black Belt by three Black Belts representing leading service, manufacturing, and financial companies. It should be interesting to compare and contrast their experiences. Be sure to watch for it!

### The 2002 Joint Statistical Meetings

Everyone's gearing up for this year's JSM, to be held August 11–15 in New York City. Once again there will be a number of Q&P Invited Sessions, and several Continuing Education courses sponsored by our Section. Look for details elsewhere in this edition of the Newsletter. Many thanks to Program Chair Angie Neff Patterson and Continuing Education Chairs Steve Zayac and Tim Robinson for their fine work in getting things ready for another successful JSM. If you have ideas or suggestions for next year's program, please contact Chair-elect Lonnie Vance, Program Chair-elect Christine Anderson-Cook, or CE Chairs Steve and Tim (again!) via the Q&P homepage Officers' link.

And remember to attend not just the sessions and courses that interest you, but our regular Q&P Section meetings, as well. Our Tactical Planning Meeting will be Sunday afternoon, August 11, from 1–5 p.m. (location TBA), and the regular Section business meeting will be either Tuesday or Wednesday morning (specific time and location TBD as of this writing; check your program upon arrival). We welcome your participation and suggestions, and are always looking for someone to take over and run the Section competently for a change!

But above all, remember to attend our joint SPES/Q&P mixer Tuesday evening. There'll be high spirits, great company, scintillatingly witty repartee between the SPES and Q&P Chairs—and free wine, beer, and munchies (plus, with a little luck, door prizes) to reward you for putting up with all of the above. See you there!

### A Few Closing Thoughts

I'm happy to report that, for the first time this year, Q&P will be contributing to the program of the Fall Technical Conference. Our Program Chair-elect, Christine Anderson-Cook, has responded on our behalf to an invitation from the sponsoring organizations to join the FTC's technical program committee.

At the risk of stating the obvious (but easily overlooked), this Newsletter only happens as long as our Associate Editor, Esteban Walker, does the very substantial amount of work required to pull it together (not to mention banging heads to get the recalcitrants like me to contribute what they owe); thanks, Esteban!

Q&P is an all-volunteer organization, so nothing happens unless somebody steps up and does it for all of us. Those people are the Q&P Executive Committee, and the volunteers who assist them, and I'd like to thank them all for doing a great job so far this year. I encourage all of you to contribute your ideas and volunteer whatever time you can; it's fun and rewarding, and a great way to do something positive for our colleagues in the Q&P profession. Come join our meetings at the JSM and we'll tell you how!



# SPES

## Message from the Incoming SPES Chair

*Chuck Bayne, Oak Ridge National Laboratory*

A third of the year is over, and I'm still trying to figure out what I'm doing. Fortunately, SPES has a great support system to guide aimless wanderers like myself. Our executive committee has been a great support with advice from officer nominations to suggestions for guest speakers. But how do you find all the chiefs and Indians in the SPES tribe? One of the best resources is the SPES web page <http://www.amstat.org/sections/spes/> constructed by our webmaster, Randy Tobias. You can find almost everything about SPES on this page. For SPES business, the officers are listed, previous minutes, and the SPES Operating Manual. Since 1997, Walter Morgan has compiled the SPES Operating Manual which describes the duties of each officer.

Also listed on the SPES web page are conferences important to SPES members and those members that have helped plan the programs. Max Morris, Vijay Nair, and Derek Bingham have planned the program for the Spring Research Conference in Ann Arbor, MI on 20-22 May. Russell Lenth will coordinate the SPES Invited Speaker's program at the Joint Statistics Meetings in New York on 11-15 August. Christina Mastrangelo has contributed to the Fall Technical Conference theme of "Learning and Discovery—Building the Future Through Quality and Statistics" to be held at Valley Forge, PA on 17-18 October.

Future Gordon Research Conferences, SPES Publications, Chemometrics Committee, Outreach and Education, and many other SPES activities can be found on the SPES Web site. So take a look and use it as a source for SPES information.

After learning about all of the SPES activities, you may wish to participate as a member of a committee or make a suggestion to improve the organization. Just e-mail your interest to one of the SPES officers. Where do you find officers' e-mail addresses? Guess! If you like the personal touch, join us at the SPES and Q&P Mixer at the JSM in New York at 5:30 pm on Tuesday. We will have food and drink and door prizes! Last year we gave away books, SAS manuals, T-shirts, software packages, and other valuable items (even Fred Hulting won a Pillsbury doughboy). Don't be shy about getting involved in SPES. There are lots of resources and friendly people to help.

## SPES Program Highlights for the Joint Statistical Meetings

Russ Lenth  
2002 SPES Program Chair

There are many good reasons to attend the Joint Statistical Meetings, to take place August 11–15 in New York City. SPES-sponsored sessions comprise 14 of those good reasons.

The three invited sessions are:

“Statistical Signal and Image Processing”, organized by Prem Goel, 4:00-5:50 on Sunday, August 11. Speakers are Alfred Hero, Robert Nowak, and Anuj Srivastava.

“Experimental Design and Dimension Reduction in Gene Expression (Microarray) Data (Chemometrics Session)”, organized by David Gruben, 10:30-12:20 on Tuesday, August 13. Speakers are David Rocke, Bin Yu, and Kathleen Kerr.

“Design of Experiments and Linear Models: A Session in Memory of Oscar Kempthorne”, organized by John Stufken, 2:00-3:50 on Wednesday, August 14. Speakers are Ching-Shui Cheng, Rosemary Bailey, and David Harville.

SPES is sponsoring four topic contributed sessions on computer experiments (organized by Michael Trossett), measurement issues (Mark Vangel), statistical applications in the computer industry (Bonnie Ray), and classification, prediction, and estimation (Li Zhang). SPES has seven regular contributed-paper sessions with themes such as reliability and aging, experimental design, signals and patterns, and multivariate methods for process data. Add to that five roundtable luncheons, some poster sessions, and several co-sponsored sessions, and you see that there is plenty to hold our section members' interests. It looks like this will be the biggest JSM program ever.

For more details, visit the JSM program web page at <http://www.amstat.org/meetings/jsm/2002/onlineprogram/index.cfm>, and do a “search by sponsor” (select “Section on Physical & Engineering Sciences”).

### There is Such a Thing as a Free Lunch

The ASA Section on Statistics in the Physical and Engineering Sciences (SPES) is offering Young Investigator Awards to pay the price of a SPES roundtable luncheon for ten students attending the New York Joint Statistical Meetings. Students interested in applying for an award should contact

Mark Vangel  
Department of Biostatistical Science  
Dana-Farber Cancer Institute  
44 Binney Street, M232  
Boston, MA 02115-6084  
[vangel@jimmy.harvard.edu](mailto:vangel@jimmy.harvard.edu)

Applicants please provide your name, university, email address, phone number, and a list of luncheon topics most preferred (top choice, second choice, etc.) from the list below. The deadline is July 1, 2002.

#### Roundtable Luncheon Discussion Leaders and Topics

- Andrew Gelman, Columbia University  
"Bayesian Methods in Applied Decision Making"
- Will Guthrie, National Institute of Standards and Technology  
"Using the Web for Statistical Consulting and Education"
- Karen Kafadar, University of Colorado–Denver  
"Length Biased Sampling in Scientific Studies"
- Eric Lagergren, Kraft Foods Research  
"Experiment Design in the Food Industry"
- Herbert Lee, Duke University  
"Neural Networks—Theory and Practice"

### Volunteers Needed for SPES Presentation Awards Program at JSM 2002

William Li  
SPES Awards Committee Chair

As SPES members, many of you are already familiar with the awards that the Section gives each year for the best presentations at the Joint Meetings.

These awards, based on audience evaluations, honor each speaker who gives one of the four best presentations in SPES-sponsored regular and special-topic contributed paper sessions. Over the past dozen years the awards program has recognized many outstanding speakers and has helped SPES contributed sessions rise to a level of quality that stands out among all of the activities at the Joint Statistical Meetings.

To be successful, however, the awards program requires the efforts of many volunteers each year. With this in mind, I hope that some of you will volunteer to help with the data collection for this year's awards. If you decide to volunteer, your responsibilities would include distributing evaluation forms to the audience in each session you agree to cover, and evaluating the speakers in your sessions yourself.

Volunteers are needed for all of the regular and special topic contributed sessions primarily sponsored by SPES. The session numbers are 20, 67, 77, 150, 180, 241, 245, 311, 356, 383, and 396. The detailed session information can be found at the ASA web site. If you would like to volunteer, please contact William Li at [wli@csom.umn.edu](mailto:wli@csom.umn.edu) or (612) 625-6841. Volunteers, as well as award winners, will be recognized on the SPES web site. Thank you.

# Q&P/SPES Sessions at JSM2002

| Date/Time                   | Session Title  | Session Type       | Sponsors  |
|-----------------------------|--|--------------------|-----------|
| <b>Saturday, August 10</b>  |  |                    |           |
| 8:15 am–4:15 pm             | Using WinBUGS for Bayesian Analysis of Industrial and Physical Sciences Data                                 | Cont. Ed.          | Q&P       |
| <b>Sunday, August 11</b>    |  |                    |           |
| 8:00 am–4:00 pm             | Robust Parameter Design for Product/Process Improvement  | Cont. Ed.          | Q&P       |
| 8:15 am–4:15 pm             | Statistical Methods for Reliability Data   | Cont. Ed.          | Q&P, SPES |
| 1:00 pm–5:00 pm             | Section on Quality and Productivity Tactical Planning Meeting (closed)                                       | Cmte/Business      | Q&P       |
| 2:00 pm–3:50 pm             | Data Mining in Practice  | Invt. Papers       | SPES, Q&P |
| 2:00 pm–3:50 pm             | Design and Analysis of Gene Expression Microarray Experiments  | Cont. Papers       | SPES      |
| 2:00 pm–3:50 pm             | Modeling of Physical Data  | Cont. Papers       | SPES      |
| 4:00 pm–5:50 pm             | Statistical Signal and Image Processing  | Invt. Papers       | SPES      |
| 4:00 pm–5:50 pm             | Statistics Consulting in an Academic Institution   | Topic Cont. Papers | Q&P       |
| 4:00 pm–5:50 pm             | Nonparametric Inference I  | Cont. Papers       | SPES      |
| <b>Monday, August 12</b>    |  |                    |           |
| 8:30 am–10:20 am            | Meeting the Challenges of a Changing Energy Industry   | Invt. Papers       | SPES      |
| 8:30 am–10:20 am            | Adaptive Statistical Methods in Imaging  | Invt. Papers       | SPES      |
| 8:30 am–10:20 am            | The Impact of Technological Changes on Statistical Consulting  | Invt. Papers       | Q&P       |
| 8:30 am–10:20 am            | Statistical Applications in the Computer Industry  | Topic Cont. Papers | SPES, Q&P |
| 8:30 am–10:20 am            | Estimation in the Physical Sciences  | Cont. Papers       | SPES      |
| 10:30 am–12:20 pm           | Machine Learning and Statistics—A Beneficial Interface   | Invt. Papers       | SPES      |
| 10:30 am–12:20 pm           | Use of Web-Based Methods to Broaden the Reach of Statistics  | Invt. Papers       | Q&P       |
| 12:30 pm–1:50 pm            | Roundtable Luncheons (Fee Events)  | Roundtable Lunch   | SPES      |
| 2:00 pm–3:50 pm             | Applications and Advances in Designs of Computer Experimentations  | Topic Cont. Papers | SPES      |
| 2:00 pm–3:50 pm             | Reliability and Aging  | Cont. Papers       | SPES      |
| 2:00 pm–3:50 pm             | Statistical Process Control: Methods for Improved Monitoring Performance                                     | Cont. Papers       | Q&P, SPES |
| <b>Tuesday, August 13</b>   |  |                    |           |
| 8:00 am–9:30 am             | Quality & Productivity Section Executive Committee Meeting (closed)  | Cmte/Business      | Q&P       |
| 8:00 am–11:00 am            | Section of Physical and Engineering Sciences Executive Committee (closed)                                    | Cmte/Business      | SPES      |
| 8:30 am–10:20 am            | Statistics in Quantitative Finance and Risk Management   | Invt. Papers       | Q&P       |
| 8:30 am–10:20 am            | Compositional and Ratio Data: Statistical Theory and Environmental Applications                              | Invt. Papers       | SPES      |
| 8:30 am–10:20 am            | Experimental Design  | Cont. Papers       | SPES, Q&P |
| 8:30 am–10:20 am            | Tools and Methods for Quality Improvement  | Cont. Papers       | Q&P, SPES |
| 10:30 am–12:20 pm           | Experimental Design and Dimension Reduction in Gene Expression (Microarray) Data (Chemometrics Session)      | Invt. Papers       | SPES      |
| 10:30 am–12:20 pm           | Multivariate Data Reduction Using Statistical Software   | Invt. Papers       | Q&P       |
| 10:30 am–12:20 pm           | Integrating Six Sigma and Quality Into Academic Curricula  | Invt. Papers       | SPES, Q&P |
| 12:30 pm–1:50 pm            | Roundtable Luncheons (Fee Events)  | Roundtable Lunch   | Q&P       |
| 2:00 pm–3:50 pm             | Technometrics Invited Paper Session  | Invt. Papers       | SPES      |
| 2:00 pm–3:50 pm             | Computer Experiments   | Topic Cont. Papers | SPES      |
| 2:00 pm–3:50 pm             | Applications of Statistics to Measurement Problems in Applied Science and Engineering                        | Topic Cont. Papers | SPES, Q&P |
| 5:30 pm–7:30 pm             | Section on Physical and Engineering Sciences & Section on Quality and Productivity Members Meeting and Mixer | Cmte/Business      | SPES, Q&P |
| <b>Wednesday, August 14</b> |  |                    |           |
| 8:30 am–10:20 am            | Statistical Leadership in Business and Industry  | Invited Panel      | Q&P, SPES |
| 8:30 am–10:20 am            | Simulation and Monte Carlo   | Topic Cont. Papers | SPES      |
| 8:30 am–10:20 am            | Using Statistics to Solve Marketing Problems   | Cont. Papers       | Q&P       |
| 8:30 am–10:20 am            | Nonparametric Inference II   | Cont. Papers       | SPES      |
| 8:30 am–10:20 am            | Some Problems in Bayesian Inference  | Cont. Papers       | SPES      |
| 10:30 am–12:20 pm           | Failure Data and Life Testing  | Cont. Papers       | SPES, Q&P |
| 10:30 am–12:20 pm           | Applications in Quality Improvement: From Government to Golf   | Cont. Papers       | Q&P, SPES |
| 12:00 pm–1:50 pm            | Regular Cont. Posters  | Cont. Posters      | SPES, Q&P |
| 12:30 pm–1:50 pm            | Roundtable Luncheons (Fee Events)  | Roundtable Lunch   | Q&P       |
| 2:00 pm–3:50 pm             | Design of Experiments and Linear Models: A Session in Memory of Oscar Kempthorne                             | Invt. Papers       | SPES, Q&P |
| 2:00 pm–3:50 pm             | Signals and Patterns   | Cont. Papers       | SPES      |
| <b>Thursday, August 15</b>  |  |                    |           |
| 8:30 am–10:20 am            | Graphical Methods in Bayesian Statistics   | Invt. Papers       | SPES      |
| 8:30 am–10:20 am            | How To Use the Baldrige Criteria—A Hands On Session  | Invited Panel      | Q&P       |
| 8:30 am–10:20 am            | Multivariate Methods for Process Data  | Cont. Papers       | SPES, Q&P |
| 8:30 am–10:20 am            | Topics in Survival Analysis  | Cont. Papers       | SPES, Q&P |
| 10:30 am–12:20 pm           | Visualization Technology and Geographic Information Science  | Invt. Papers       | SPES      |
| 10:30 am–12:20 pm           | Data Mining Gene Expression Microarrays  | Invt. Papers       | Q&P       |
| 10:30 am–12:20 pm           | Classification, Prediction and Estimation in the Computing Industry  | Topic Cont. Papers | SPES, Q&P |

## Q&P Sponsored Sessions at JSM 2002

Be sure to check out the JSM 2002 sessions sponsored by the Quality and Productivity (Q&P) Section of ASA. In addition to the sessions described below (of which Q&P is the primary sponsor) there are 16 other Invited and Contributed sessions cosponsored by Q&P. See the online program for more information.

### Invited Sessions

“Use of Web-Based Methods to Broaden the Reach of Statistics”—will explore and provide examples of statistical resources currently available on the Internet and new ways that Web-based methods could be leveraged to promote the use of statistics.

“Statistical Leadership in Business and Industry”—will explore various leadership models for Statisticians in Business and Industry.

“Data Mining Gene Expression Microarrays”—will examine methods for data mining gene expression arrays, including improvement of data quality by use of special data transformations, and the application of clustering and outlier detection methods.

### Contributed Sessions

“Tools and Methods for Quality Improvement”—ridge analysis with noise variables, failure root cause analysis, control charts for non-normal data, and techniques for quantifying measurement and inspection error

“Applications in Quality Improvement: From Government to Golf”—evaluating website usability, quality control of data capture, measuring quality of responses to customer inquiries, applying Six Sigma methods to learning assessment, and identifying critical factors for improved performance in sports.

“Statistical Process Control: Methods for Improved Monitoring Performance”—methods for designing Phase I control charts, as well as methods for improving the monitoring performance and change detection capability of control charts.

## Quality and Productivity Roundtable Luncheons at the 2002 JSM



The following are the roundtable luncheons organized by the Q&P Section:

### Tuesday, August 6th

- “Six Sigma Black Belts: What Do They Need to Know?” By Roger Hoerl, General Electric Company
- “Aging, Degradation, and Lifetime Prediction” by Joanne Wendelberger, Los Alamos National Laboratory

### Wednesday, August 7th

- “Participating in the Baldrige National Quality Awards: What’s in it for Me?” by Richard Carlson, HealthPartners
- “How to Avoid DOE Disaster” by Shari Kraber, Stat-Ease, Inc

Members need to sign up for the roundtable luncheons in advance, so look for further details in the registration package for the Joint Statistical Meetings. If you have any questions about these events, please feel free to contact Christine Anderson-Cook at (540) 231-8583 or [candcook@vt.edu](mailto:candcook@vt.edu)



## You Might Have Missed...

Esteban Walker  
Editor

**MacLeod, Alasdair and Baxter, Lynne, "The Contribution of Business Excellence Models in Restoring Failed Improvement Initiatives",** *European Management Journal*, Volume 19, number 4, pp. 392-403, August 2001.

I recommend this paper to potential readers for several reasons. First is that the paper begins with excellent sections outlining some of the common experiences with failure of what the authors term "quality initiatives" such as TQM. The authors give an excellent overview of some of the literature on this subject. Secondly, they discuss some of the published information re the viability of "business models" such as that of the Baldrige Award, the Yalding Improvement Plan, and the EFQM (European Foundation for Quality Management). They cite the results for "Baldrige Index" stock funds, which have consistently outperformed the Standard and Poor's 500 by ratios such as 3.8 to 1 or 4.8 to 1 in various years. Of course, as with most studies of this kind, it is hardly possible to clearly sort out whether companies who will provide good returns adopt the Baldrige Award model, or whether companies who adopt the Baldrige Award model will obtain good returns. That is, the direction of the causation corresponding to the correlation, if there is any causation, is not totally clear. I believe that readers will do well to familiarize themselves with this interesting article. (reviewer: William C. Parr)

**Bartholomew, Doug, "Cost vs Quality: Must Quality Take a Haircut When Manufacturers Aggressively Trim Costs?",** *Industry Week*, Vol. 250, No. 12, pp. 34-41, Sept. 2001.

This article discusses the effects that reductions in cost can have in the perceived quality of a product. The author uses several cases, mostly in the auto industry, to make his point. The article quotes a past resident of the Institute of Industrial Engineers: "a lot of these [product] designers have been in industry over 30 years, yet they don't understand the cost of quality—how pinching a penny now can cost you a hundred times over in the future. It is kind of the American mistake." The Bridgestone/Firestone-Ford controversy is discussed and the point is made that the reputation of both companies was seriously damaged. Moreover, the repercussions of this affair are hard to quantify partly because many of them have not been felt, yet. The author suggests that auto manufacturers are well known for "cutting corners". An example given is the wide use in new vehicles of temporary spare tires, which resulted in substantial savings on tens of millions of vehicles. The author states: "Unfortunately, the switch—of which buyers were never informed—resulted in reduced quality for the consumer."

The article discusses the effect of recalls by DaimlerChrysler, Isuzu, and Ford and suggests that some

of the problems were known before the product was launched.

The overall message of this article is that reductions in cost should come from a more efficient use of resources by the whole supply chain. Simplistic measures to reduce costs can reduce the quality and tarnish the image of the product and the company. Even though the article is somewhat disorganized, it can be used as a source of cases from the auto industry. (reviewer: Esteban Walker)

**Fornell, Claes, "The Science of Satisfaction",** *Harvard Business Review*, Vol. 79, No. 3, pp. 120-1, March 2001.

Organizations are in a constant pursuit of the elusive "customer satisfaction". One of the major hurdles in that pursuit is the lack of an operational definition and thus the fundamental problem of measuring customer satisfaction. This note, written by the Director of the National Quality Research Center at the University of Michigan, describes the purpose of the American Customer Satisfaction Index (ACSI). The ACSI is a quarterly measure of customer satisfaction, "...based on thousands of interviews with customers across more than 200 individual companies and agencies in 35 industries. Companies are scored on a scale from 1 to 100..." The note explains a few of the metrics used in the ACSI and points out that the top 50% of ACSI firms generated an average of \$42.5 billion in market value added, as compared with only \$23.2 billion for the bottom 50%. This type of information can be used very effectively to promote process improvement efforts in organizations. A wealth of information about the ACSI can be found at <http://www.theacsi.org/index.htm>. (reviewer: Esteban Walker)

**Poister, Theodore H. and Harris, Richard H. "Building Quality Improvement over the Long Run – Approaches, Results, and Lessons Learned From the PennDOT Experience",** *Public Performance & Management Review*, Vol. 24 No. 2, pp. 161-176, December 2000,

The authors describe the development and evolution of a mature quality program in the Pennsylvania Department of Transportation, over a period of more than 15 years. In 1978, PennDOT was so poorly managed that it was the principal issue in the gubernatorial election that year. The newly elected governor, Dick Thornburgh, was given a mandate to clean it up. By 1986, under the newly appointed Transportation Secretary, Dr. Thomas Larson, it had developed a reputation as the best managed agency in Pennsylvania state government, and one of the best managed state transportation departments in the country.

This article tracks the ups and downs of its journey to quality, starting with quality circles, and evolving

through the Employees Idea program, the Productivity Improvement Fund, Quality Breakthrough Teams, Performance Indices, Strategic Planning, Customer Surveys, Benchmarking, and Agility, culminating with the establishment of the Center for Performance Excellence. Results included a dramatic improvement in a performance indicator of highway ride quality, as measured by the International Roughness Index, as well as a substantial reduction in maintenance backlog. Problems, missteps, false assumptions, and continuing challenges are detailed, and a detailed summary of lessons learned is given.

Overall, this is an enjoyable and educational paper, summarizing a very successful implementation of quality management. (reviewer: James L. Schmidhammer)

**Kimes, Sheryl E. "How Product Quality Drives Profitability: the Experience at Holiday Inn" *The Cornell Hotel and Restaurant Administration Quarterly*, Vol. 42, no. 3, pp. 25-28, June, 2001.**

This article describes the results of a study undertaken by Dr. Kimes to determine if a connection could be made between quality management and financial success in the hotel industry. Data were obtained on operational and quality performance of 1135 hotels franchised by Holiday Inn Worldwide. The hotels were studied between February 1990 and January 1993. Quality information was obtained through semi-annual hotel inspections and customer satisfaction surveys. The study focused on ratings of the hotel's physical facilities, including common facilities (lobby, public restroom, dining facilities, lounge facilities, corridors, recreation area, meeting area, kitchen, exterior, and back-of-house) and guest rooms (guest room and guest bath). If a hotel failed at least one item in a particular area, it was considered defective in that area. Operating performance was measured using revenue per available room (RevPAR), normalized using a market index that accounts for local conditions that affect hotel occupancy.

Average market-adjusted RevPAR for hotels that were not defective in a particular area was compared with average market-adjusted RevPAR for hotels that were defective in a particular area. These differences were summarized in an exhibit, for each area, and for 6 time points over the 3 year study period. The exhibit clearly shows that even a single defect can cost the hotels money. Most money was lost by defects in exterior, guest room, and guest bath. If a deficient hotel is defined as a hotel with at least one defect in each of these 3 areas, the average RevPAR was nearly \$3 less for deficient hotels compared with non-deficient hotels. This adds up to an estimated loss of \$20 million over the 3-year period studied.

As a faculty member in a business school, I find it refreshing to see an article like this that actually measures the effects of quality in dollars and cents. (reviewer: James L. Schmidhammer)



## 2002 Fall Technical Conference: Learning and Discovery—Building the Future Through Quality and Statistics

SPES is proud to co-sponsor the 46th Annual Fall Technical Conference to be held October 17–18, 2002 in historic Valley Forge, Pennsylvania just outside Philadelphia. The technical program has been chosen, and the titles of a few of the presentations are:

- Digging in Unburied Treasure: Analysis of Samples from the "Glass Wreck" of Serce Limani
- Data Mining Manufacturing Data
- Fitting Mixture Data Collected from Highly Constrained Regions: Living with Collinearity but Removing its Influence
- Complex Experimental Design and Simple Data Analysis: A Pharmaceutical Example
- Methods for Handling Low Frequency Management Data
- Experimenting with 7.5 Million Pastings: A Sticky Situation
- PID Charts for Process Monitoring
- Designing Experiments for Causal Networks
- Augmenting a Large Mixture Experiment Design Using a Candidate-Point-Free Approach

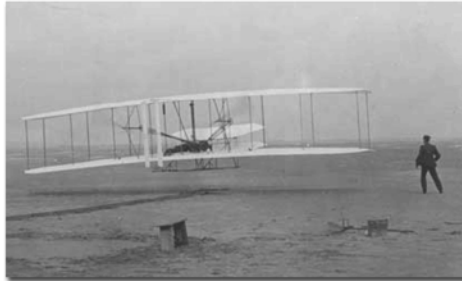
Visit the SPES webpage at [www.amstat.org/sections/SPES](http://www.amstat.org/sections/SPES) for available information about the program. Updates and additional information about registration, short courses, and the non-technical program will be available in the near future.

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# Tenth Annual Spring Research Conference on Statistics in Industry and Technology

June 4–6, 2003      University of Dayton



Wright Flyer, 1903

This flyer is here to remind you to set aside June 4–6th, 2003 to participate in the 10th Annual Spring Research Conference on Statistics in Industry and Technology. It will be held at the University of Dayton, Dayton, Ohio. The next week (June 8–12) is *Aeromat*, a conference at the Dayton Convention Center, sponsored by the ASM Aerospace and Defense Industry Sector. Dayton is the place to be in 2003, as it is the 100th anniversary of flight. A number of celebrations and special exhibits are planned; see <http://www.inventingflight.com> for details.

The Spring Research Conference (SRC) is co-sponsored by the Institute of Mathematical Statistics and the Section on Physical and Engineering Sciences of the American Statistical Association. The SRC provides a continuing forum for promoting statistics in engineering and physical science. Befitting the occasion, the 2003 conference will emphasize aerospace applications, in addition to emerging technologies and traditional applications in industry.

**Program chair:** Russell V. Lenth, Department of Statistics and Actuarial Science, University of Iowa, Iowa City, IA 52242, 319/335-0814, [russell-lenth@uiowa.edu](mailto:russell-lenth@uiowa.edu). Questions and suggestions for the program are welcome.

**Local arrangements:** Peter W. Hovey, Department of Mathematics, University of Dayton, Dayton, OH 45469, 937/229-2964, [peter.hovey@notes.udayton.edu](mailto:peter.hovey@notes.udayton.edu).



**SPES**



## 2002 Quality & Productivity Research Conference

The 2002 QPRC will be held 5-7 June 2002 in Tempe Arizona, sponsored by Arizona State University and Honeywell, Inc. The conference features 15 invited paper sessions on many major aspects of applying statistical methods to industrial quality problems, including transactional and business processes. There are also eight contributed paper sessions and three tutorial presentations. A pre-conference workshop on Generalized Linear Models will be given by Geoff Vining on June 4. There will be a special event to honor George Box for his many contributions to statistical methodology for quality and productivity improvement. Complete conference program, registration materials, and hotel information is available at the conference website,  
<http://ceaspub.eas.asu.edu/ie/2002qprc.htm>.

## How To Use the Baldrige Criteria A Hands On Session

This invited session will present a brief overview of the Malcolm Baldrige National Quality Award Performance Excellence Criteria, and will follow with a hands-on exercise in which participants will analyze case-study data within the results section of a Baldrige application. This will be followed by a debriefing of the exercise, a presentation of the Baldrige analysis, and an overview of the relationship between Baldrige and the field of statistics. The focus of the session is to show how Baldrige criteria may be used in both the private and government sectors for organizational improvement.

**Date/Time:** 08/15/2002, 8:30 AM-10:20 AM

**Sponsors:** Committee on Women in Statistics,  
Section on Quality & Productivity,  
Caucus for Women in Statistics,  
Section on Survey Research Methods

**Presenters:** Cheryl Jennings & David Marker

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## From the Senior Editor:

We are about to take a step toward a paperless newsletter. Starting with the December issue we plan to distribute the newsletter primarily via email. Initially, we will supplement the email distribution with a postcard notice that the newsletter has been published and is available on the section web sites. It is important that each member keep their email addresses current with ASA as this is our only source of addresses for the email list.

We are performing a test of the email list concurrent with this issue. You should have received an email message recently notifying you that the newsletter had been mailed. If you did not receive the email notice, please log on to ASA's members only web site and update your email address. If you don't know your password, check with member services. Insuring the integrity of the email list will greatly smooth our transition to an electronic newsletter. Thanks for your help with this transition, and please contact me with any concerns or problems with delivery of the newsletter.

*Pete Hovey*

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