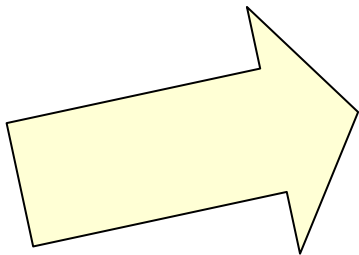


ASA-P Newsletter

The Philadelphia Chapter of the
American Statistical Association



September, 2003



<http://www.amstatphilly.org/>

Check it out!

PRESIDENT'S CORNER

Please join me in welcoming our **newly elected ASA-P officers** for the 2003-2004 term! Diane Miller from GlaxoSmithKline has been elected as Vice President. Michael Mack and Lisa Hickey continue to serve as Treasurer and Secretary, respectively, and I will serve as President. Christie Clark continues her service as our appointed Chapter Representative until the end of 2003. Paul Johansen and Debbie Panebianco will continue their services as Newsletter Editor and Web Master, respectively. Many thanks to Kim DeWoody, our outgoing President, for her dedicated service to the chapter. Christie will become ASA Council of Chapters' District 3 Vice Chair in 2004. Devan Mehrotra from Merck has been appointed our Chapter Representative starting from 2004. Devan is one of our past presidents and the winner of the 2003 Chapter Service Recognition Award. Congratulations to Devan and Christie! Their leadership and contributions over the years are very much appreciated by our membership, and is recognized by ASA Council of Chapters.

We are always eager to hear from our members. If you have **ideas for continued improvement**, recommendations of speakers for future meetings, suggestions of topics for short courses, or simply your preference of location and time of the meetings and short courses, etc., please feel free to contact any member of the chapter officers; contact information is available on page 8 and on the ASA-P website (see address above).

Our **fall meeting on October 9** (see pages 2-5 for details) features presentations on a variety of topics by three outstanding speakers. Dr. John Peterson, GlaxoSmithKline, will present a general approach to confidence regions for optimal factor levels of response surfaces. Next, Dr. William Fairley, Analysis and Inference, Inc, will provide some interesting stories and insights on a consulting statistician's role in legal dispute resolution. Finally, Dr. Cong Chen, Merck and Company, Inc., will discuss his recent work on proportion of treatment effect explained by a surrogate marker. I sincerely hope that you will join us for this stimulating fall meeting. Your participation is vital to the continued success of our chapter. PLEASE RSVP by Friday, October 3 to assist our head-count.

Special thanks to Dr. Amit Bhattacharyya of GlaxoSmithKline for his help in organizing the fall meeting! The tradition of volunteerism and leadership from our chapter members continues.

~ Charles Tan

CALENDAR OF EVENTS

Friday, October 3:	Registration deadline for fall meeting
Thursday, October 9:	ASA-P Fall Meeting
Friday, October 24:	National Quality Month Statistics Symposium
Friday, October 31:	11 th Merck-Temple Conference

ASA-P FALL MEETING

RSVP by **Friday, October 3** to reserve a place

DATE: Thursday, October 9, 2003, 11:30am-3:30pm		
LOCATION: Holiday Inn, 432 Pennsylvania Ave, Fort Washington, PA (1-800-339-0209)		
	TIME	PROGRAM
LUNCH DETAILS: <u>Buffet:</u> Fresh Fruit Salad; Tossed Garden Salad; Sirloin Tips with Mushrooms; Baked Chicken with Herb Seasoning; Meatless Baked Ziti; Wild Rice; Vegetable Medley; Rolls and Butter; Assorted Cakes; Freshly Brewed Coffee, Decaf, Tea, Iced Tea	11:30-Noon Noon-1:00 1:00-1:05 1:05 - 1:50 1:50 - 2:35 2:35 - 2:45 2:45 - 3:30	Meeting check-in and payment Lunch Introduction – <i>Diane Miller (Vice President, ASA-P)</i> A General Approach to Confidence Regions for Optimal Factor Levels of Response Surfaces – <i>John Peterson (GlaxoSmithKline)</i> A Consulting Role in Dispute Resolution – <i>William B. Fairley (Analysis and Inference, Inc.)</i> <i>Break – Assorted Cookies and Sodas</i> Proportion of Treatment Effect Explained by a Surrogate Marker – <i>Cong Chen (Merck)</i>
Cost: \$30 including lunch; \$15 without lunch and for full-time students.		

Directions: From the PA Turnpike, take Exit 339 – Fort Washington. After the tollbooth, follow the left-hand lane under the overpass. (DO NOT TAKE THE ROUTE 309 RAMP.) The hotel is 1/8 mile on the left. From Route 309, take the Fort Washington exit. (DO NOT TAKE THE EXIT FOR THE PA TURNPIKE.) Exiting will put you onto Pennsylvania Avenue. Stay in the left-hand lane. The hotel is 1/8 mile on the left.

Registration: Please register by Friday, October 3 to Ms. Risa Cuebas at cuebasr@wyeth.com, **specifying company/institution, whether or not you will be eating lunch, and if you are a student. PLEASE REGISTER IN ADVANCE** so that we have an accurate count for both lunch and number of seats. Pay by cash or check at the meeting. You may also register by mail: send information to Ms. Risa Cuebas, Wyeth Research COL B-5, P.O. Box 42528, Philadelphia, PA 19101.

A General Approach to Confidence Regions for Optimal Factor Levels of Response Surfaces

John Peterson, Ph.D.

GlaxoSmithKline, King of Prussia

Abstract

For a response surface experiment, an approximate hypothesis test and an associated confidence region is proposed for the minimizing (or maximizing) factor-level configuration. Carter et al. (1982, *Cancer Research*) show that confidence regions for optimal conditions provide a way to make decisions about "therapeutic synergism". The response surface may be constrained to be within a specified, bounded region. These constraint regions can be quite general. This allows for more realistic constraint modeling and a wide degree of applicability, including constraints occurring in mixture experiments. The usual assumption of a quadratic model is also generalized to include any regression model that is linear in the model parameters. An intimate connection is established between this confidence region and the Box-Hunter (1954) confidence region for a stationary point. As a by-product, this methodology also provides a way to construct a confidence interval for the difference between the optimal mean response and the mean response at a specified factor level configuration. The application of this confidence region is illustrated with two examples, one about combination chemotherapy and one about a drug formulation mixture experiment. Extensive simulations indicate that this confidence region has good coverage properties.

Biosketch

John J. Peterson, Ph.D. is Director of Statistics in GlaxoSmithKline Pharmaceuticals' Statistical Sciences Department. John received his BS in Applied Mathematics and Computer Sciences from the State University of New York at Stony Brook. He received his PhD from the Pennsylvania State University. His research interests include response surface optimization as applied to problems in the pharmaceutical industry such as assay optimization, pharmaceutical process optimization, and combination drug studies.

A Consulting Role in Dispute Resolution

William B. Fairley, Ph.D.

Analysis and Inference, Inc., Swarthmore

Abstract

Resolutions of disputes generally turn on proof of key, relevant facts. Facts are obscured in a fog of uncertainty. Decisions nonetheless must be made, and they are made under an adversarial system. The law recognizes and indeed embraces the existence of uncertainty in its standards of proof, such as preponderance of the evidence or proof beyond a reasonable doubt. Statistics able to cut through the fog are a very helpful aid to legal fact finding and to resolving disputes. Several factors reward objectivity in such work, notwithstanding built-in

pressures towards bias. Case studies from the speaker's consulting assignments illustrate the diverse applications of statistics in dispute resolution.

Biosketch

William B. Fairley, Ph.D. is the President of Analysis and Inference, Inc., a research and consulting firm he founded in 1979 which focuses on statistics, economics and finance. Clients and sponsors of his research include corporations, government agencies, law firms, and non-profit organizations. He received his Ph.D. in Statistics from Harvard University. His research interests include: risk analysis, accidents, and health; audits, surveys, theft, and fraud; law, liability, and damages; discrimination; finance, regulation, and insurance; statistics of public policy; and probability theory. His publications span four decades, and have appeared in journals such as JASA, Statistics and the Law, Harvard Law Review, Risk Analysis, Jurimetrics, and Chance.

Proportion of Treatment Effect Explained by a Surrogate Marker

Cong Chen, Ph.D.

Merck Research Laboratories, Blue Bell

Abstract

In time-varying covariate analysis of clinical survival data, it is often of interest to estimate the proportion of treatment effect (PTE), along with its confidence intervals, explained by a surrogate marker. The conventional procedure for such an analysis fits data into two working models separately to estimate the treatment effects before and after adjustment of the covariate. The construction of confidence intervals for the PTE under the conventional procedure is very computationally demanding. To overcome this problem, we propose a new procedure to simplify the computation. Under the new procedure, the treatment effects before and after adjustment of the covariate are simultaneously estimated from a single model. The new procedure not only helps simplify the construction of confidence intervals, but also can be effectively applied to multiple-covariates models for the decomposition of overall treatment effect and for the comparison of PTE among several surrogate markers. The new procedure is applied to the motivating data example from the LIFE study, and demonstrates flexibility that the conventional procedure currently lacks.

Biosketch

Cong Chen, Ph.D. is a Senior Biometrician in the Clinical Biostatistics Department of Merck Research Labs in Blue Bell, PA. He joined the Department in 1999 after receiving his Ph.D. in Statistics from the Iowa State University. He has published and presented papers on a broad range of subjects including survival analyses, measurement error models, correlated binary data, and design of clinical trials. He currently works on cardiovascular studies.

11TH MERCK-TEMPLE CONFERENCE

Friday, October 31, 2003

Plymouth Meeting DoubleTree Hotel

Registration for the 11th Merck-Temple Conference is now open. Cost is \$80, \$25 for full time graduate students, and reduced rates for persons from Merck, Bristol-Myers Squibb, Aventis, and Wyeth. The Conference will again be held at the Plymouth Meeting DoubleTree Hotel. Registration fee includes continental breakfast, lunch, and breaks. Parking is free. We again have a first rate set of speakers including: **Keith Baggerly** (M.D. Anderson Cancer Center); **Raymond Carroll** (Texas A & M University); **Larry Gould** (Merck Research Laboratories); **Daniel Heitjan** (University of Pennsylvania); and **Michael Hughes** (Harvard University). Payment must be by check, but multiple persons can register with one check. All checks must be received at least three days before the meeting, made out to Temple University (Biostatistics), and sent to Boris Iglewicz, Director, Biostatistics Research Center, Department of Statistics, Temple University, 1810 N. 13th Street, Philadelphia, PA 19122. For Conference details, see upcoming events at www.sbm.temple.edu/~biostat, or contact Boris Iglewicz at boris.iglewicz@temple.edu, or by telephone (215) 204-8637.

NATIONAL QUALITY MONTH STATISTICS SYMPOSIUM: FROM DATA TO INFORMATION

Friday, October 24, 2003

Penn State Great Valley

In Celebration of National Quality Month, the Philadelphia Section of ASQ and the Engineering Division of Penn State Great Valley are proud to sponsor a symposium on statistical methods useful to Quality practitioners. This year's theme is the conversion of data to information. The aim is to give attendees some useful facts and tools that translate readily into practice.

Keynote speaker **Connie Borrer** (Drexel University) will discuss, "The Current Role of Statistics in Business and Industry." **Julia O'Neill** (Rohm and Haas) and **Lori Pfahler** (Merck Manufacturing Division) will discuss ways to "Turbocharge Your Tables and Graphs." And **Brian Nottage** (Economy.com) will explain, "How to Know if the Economy is Really Recovering." **Roy Robertson** (Rohm and Haas) will present "Mixed Models in Gage R and R Studies: Applications where Instruments are Treated as Fixed Effects." Finally, **John McCool** (Penn State Great Valley) will discuss "Control Charts for Radial Error."

The symposium runs from 8:30am to 1:00pm, and costs \$30. (\$25. for ASQ members and \$15. for students). To register, call Ms. Ursula Thompson at 610-648-3277. She will ask for your name, company, telephone number and email address. Please register early as space will be limited.

TEMPLE UNIVERSITY STATISTICIANS HONORED

The Temple University Department of Statistics is pleased to list the following 2003 awards and recognition received by its faculty, graduate students, and alumni:

Faculty

- ◇ Professor **Richard Heiberger**: *Fellow of ASA*
- ◇ Professor **Burt Holland**: *Fellow of ASA*
- ◇ Professor **Boris Iglewicz**: *Don Owen Award from the ASA, San Antonio TX chapter*
- ◇ Professor **Sanat Sarkar**: *\$234,000 NSF 3 year grant titled "New problems in multiple hypothesis testing"*
- ◇ Professor **William Wei**: *Past President of the International Chinese Statistical Association*

Graduate Students

- ◇ **Inna Chervoneva** (Assistant Professor, Thomas Jefferson University, Ph.D. 2003, Dissertation advisor B. Iglewicz): *ENAR Student Paper Competition Award, and Laha Award from the Institute of Mathematical Statistics (IMS)*
- ◇ **Qi Jiang** (Biometrician, Merck Research Laboratories, Ph.D. 2003, Dissertation advisors B. Iglewicz and S. Snapinn): *WNAR Student Paper Competition Award, Society for Clinical Trials, and International Society for Clinical Biostatistics Student Scholarship Award, International Chinese Statistical Association Student Award and Travel Fellowship*

Alumni

- ◇ **Jay Bennett** (Principal Scientist, Telcordia Technologies, Ph.D. 1979, Dissertation advisor J. Singh), *Fellow of ASA*
- ◇ **C. Frank Shen** (Executive Director, Bristol Myers Squibb, Ph.D. 1993, Dissertation advisor, B. Iglewicz): *Fellow of ASA, and President-elect of the International Chinese Statistical Association*
- ◇ **Charles Tan** (Senior Biometrician, Merck Research Laboratories, Ph.D. 1998, Dissertation advisor, B. Iglewicz): *President, Philadelphia Chapter of ASA*

PowerPoint or PowerPoint-less?

When is a picture worth a thousand words? Edward Tufte, the guru of data visualization described by the New York Times as "the Leonardo da Vinci of data," believes that there are situations when an old-fashioned table of numbers is preferable to simplistic bar charts, graphs, or plots. In his recent monograph, "The Cognitive Style of PowerPoint" (www.edwardtufte.com), he argues forcefully that the pre-packaged formatting techniques imposed by this Microsoft program can do more harm than good. "Visual reasoning," he explains, "usually works more effectively when the relevant information is shown adjacent in space within our eyespan...The statistical graphics generated by the PowerPoint ready-made templates are astonishingly thin, nearly content-free."

A picture can be worth a thousand words. But not all pictures are created equally, and careful thought should be given to both the audience and the message in order to convey maximum information content in as useful and easily interpreted a manner as possible.

TREASURER'S REPORT

BALANCE FORWARDED (30-Apr-03):	\$1,737.51
INCOME:	
ASA Chapter Dues	\$1,275.00
Short Course registrations	\$2,105.00
TOTAL INCOME:	\$3,380.00
EXPENSES:	
Short Course Costs (Jul-2003)	
Facility, meals	\$1,832.33
Honorarium to speaker	\$500.00
Expenses of speaker	\$524.88
<i>Sub Total</i>	\$2,857.21
Web site	\$218.95
TOTAL EXPENSES:	\$3,076.16
BALANCE FORWARDED (31-Aug-03):	\$2,041.35

HUMOR BREAK: CONFUSEUS by Guernsey McPearson

www.senns.demon.co.uk/Confuseus.htm

“The study of many subjects brings enlightenment, but statistics brings significance.”

“Mathematics has lemmas, but statistics has dilemmas.”

“Beware! The triangular test is not used for hypotenuse testing.”

“Statisticians expect the average, but on average people do not expect statisticians.”

“Do not give up hope: the statistician may be wrong.”

“Beware of epidemiologists for they are confounding.”

“A statistician can tell you how large your trial will be, but you will not like the answer.”

“Enjoy the result you have found by exploratory data analysis, for you will not find it again.”

“Statisticians are more rigorous in interpreting statistics, but physicians are more imaginative.”

“You can't beta good power calculation.”

2003 - 2004 ASA-P CHAPTER OFFICERS

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* Elected position

**Appointed position

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