

# ASAP Newsletter



**The Philadelphia Chapter of the American Statistical Association**

**September 2009**

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

## UPCOMING EVENTS

Date	Event	Location
September 14	ASAP Summer Meeting	RPS, Fort Washington, PA
October 2	ASQ/PSU GV Symposium	Penn State Great Valley
October 16	Temple Conference	Doubletree Hotel, Plymouth Meeting, PA

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## PRESIDENT'S CORNER

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Well, as summer rolls down, time is approaching to once again look forward to our valuable seminar offerings. As was recently sent in an announcement, we will be holding the ASAP summer seminar on September 14<sup>th</sup> at a very nice venue in convenient Fort Washington, PA, offered to us by our own member Christie Clark from RPS Consulting. The topic we selected is one that crosses a statistician's discussion almost daily in the current world – Bayesian Statistics. Whether a sworn frequentist or hard-core Bayesian, dialogue between the two is needed to clarify when one approach has a clear advantage over the other, why this advantage exists and how do we explain the advantage of the selected method to non-statisticians. Ironically, in today's world, we get a request and insistence to use Bayesian approaches from people who do not know what they are. It is definitely a new buzzword – used almost as frequently as “Adaptive Design.” Not to belittle either of these approaches, it is of value for us as statisticians to know when they are best applied and when they can add unneeded complexity.

In our seminar, Dr. Larry Gould from Merck will be reviewing his careful look at this question as it applies to multi-center studies and as discussed in a paper he has recently published (“**Bayesian analysis of multicentre trial outcomes**” in *Statistical Methods in Medical Research* 2005; 14:249-280). The ongoing question accompanying this discussion will be: How does this approach improve on a compatible frequentist approach? I am certain Dr. Gould will provide us with some good discussion points in addressing this question.

Finally, one more important point. We have launched a Chapter initiative to recruit into the Chapter, the many ASA members who are living in the Philadelphia area but are not members of this Chapter. Recognize, with the disappearance of corporate sponsorship that has happened over the past year, chapter membership, although very modest in cost to any individual member, predominantly funds all Chapter activities and allows us to put together such informative quarterly seminars at the most reasonable cost of any similar training. So ask your statistical colleague “Are You a Philadelphia Chapter member?” If the answer is no, simply direct them to our website [www.amstatphilly.org](http://www.amstatphilly.org), and let them know of the worthwhile ASAP activities you have participated in. Or simply pass on their name to us. Right now, we know that only 50% of area ASA members are ASAP Chapter members. So, there is a lot of untapped talent we can bring into our Chapter.

Hope to see you in September!

Dennis Cosmatos, Dr.P.H.  
ASAP Chapter President

## 2009 Summer Meeting Announcement

- Date:** Monday September 14, 2009
- Time:** 12:00 – 2:30 PM
- Location:** RPS Inc., 520 Virginia Drive, Fort Washington, PA
- Fee:** \$15.00 (includes lunch)

**Dr. Larry Gould** from Merck Research Labs will present *Bayesian Analysis of Continuous and Categorical Data from Multicenter Trials*. This event is hosted by the Philadelphia Chapter of the American Statistical Association.

Lunch will be available from 12 PM. The meeting will end by 2.30 PM. Attendance is limited. Please register in advance at <http://asap2009summermeeting.eventbrite.com>; no on-site registration will be accepted. We hope to see you there!

### ABSTRACT

Bayesian methods provide flexibility in the analysis of data from multicentre trials that would be difficult to achieve by other means. This presentation illustrates useful applications of Bayesian methods to the analysis of multicentre trials, with emphasis on insights that would be difficult to obtain using conventional frequentist methods. Two trials provide data for illustration: a large multicentre trial comparing two doses of a drug with placebo with respect to an essentially continuous measurement for which the original analysis revealed a significant treatment by centre effect, and a large multicentre trial with intraclass correlation induced by a categorical outcome of up to four episodes of heartburn reported by individual patients. The data from both trials had been analysed previously using conventional frequentist methods. Both sets of data were reanalysed using Bayesian and empirical Bayesian methods; all of the analyses provided the same conclusions for the key questions regarding treatment differences. The Bayesian methods provided some insights useful for model checking and also provided a way to explore some important quantitative aspects about the magnitude of treatment effects.

## **American Society for Quality: National Quality Month Statistical Symposium**

In celebration of National Quality Month, the Philadelphia Section of ASQ and the Engineering Division of Penn State Great Valley are proud to once again sponsor a symposium on statistical methods useful to quality practitioners. This year's theme is **Statistics for Assessment and Improvement**. The aim is to give attendees some useful facts and tools that can translate readily into practice. The format is a plenary keynote session followed by two parallel sessions.

### **Our Keynote Speaker:**

We are most fortunate and honored to have **Dr. J. Stuart "Stu" Hunter** professor emeritus of the School of Engineering and Applied Science as our keynote speaker. His talk is entitled **Health and Informatics: The Quality Management Challenge**. The unfolding opportunities for Quality Professionals will be discussed.

### **Session I: Designed Experiments**

**Mr. Nelson Lee Afanador**, Process Scientist in Global Vaccine Technology and Engineering in the Manufacturing Division of Merck & Company will preview his Fall Technical Conference Paper coauthored with Principal Engineer, Julia O'Neill, entitled **Designed Experiments for Biopharmaceutical Process Development: Challenges and Opportunities**. The talk will highlight some of the unique experimental design challenges in bio-manufacturing processes posed during process development and optimization.

**Mr. Louis Valente** Marketing product manager for JMP and former process development chemist and Worldwide Synthetic Chemicals Quality Manager for Eastman Kodak, will present **The Role and Challenges of Instituting the Use of Design of Experiments in the Discovery Phase of Chemical Commercialization**. Lou will share a DOE case study that illustrates the importance of leveraging the power of DOE during the discovery phase of chemical commercialization.

### **Session II: Quality Practice**

**Dr. Kailasam Satyamurthy**, Assistant Professor of Engineering and Management at Penn State Great Valley School of Graduate Professional Studies will present a talk entitled **On the Application of Multivariate Statistics in Quality and Continuous Improvement**. Kailasam will explain the extension of control charts and statistical tests to the case where a number of random variables are observed on each item.

**Dr Chris Connors**, chair of the Philadelphia Section of ASQ, and **Mr. Jay Armstrong**, Director of R&D IT Operations Management at GlaxoSmithKline, will present **Statistical Tests for Proportions**. Using examples from business and drug development, Chris and Jay will illustrate how inference may be drawn when one or two proportions are observed.

**Details:**

Friday October 2, 2009  
8:30 am to 1:00 pm  
Penn State Great Valley

Cost: \$35 (includes Continental Breakfast and Box Lunch)

Register with Ursula Thompson at 610-648-3277 or [umt1@psu.edu](mailto:umt1@psu.edu)  
For more information visit [www.gv.psu.edu/PSGV\\_NEWS\\_EVENTS](http://www.gv.psu.edu/PSGV_NEWS_EVENTS)  
and for directions, visit [www.gv.psu.edu/Directions/](http://www.gv.psu.edu/Directions/)

## **USP Students win Undergraduate Statistics Project Competition: CONGRATULATIONS!**

**Gerald (J.T.) Haun**, along with **Adrienne Gallo**, was named the winner of the 2009 Undergraduate Statistics Project Competition at the United States Conference on Teaching Statistics (USCOTS) at the Ohio State University in Columbus, Ohio on June 26. JT was awarded the \$750 first place prize award for his work with Ms. Gallo on the paper titled Hierarchical Linear Modeling of the Effects of Self-Reflection Strategies on Mood. In addition, **Ralph M. Turner**, Ph.D., USP Department of Behavioral and Social Sciences faculty member, was awarded the 2009 first place trophy for top undergraduate statistics mentor for his work with JT and Adrienne who are psychology students at the University of the Sciences in Philadelphia.

The Consortium for the Advancement of Undergraduate Statistics Education (CAUSE), which is a sub-section of the American Statistical Association's Section on Statistics Education, holds the yearly USCOTS meeting. CAUSE's goal is to improve the quality of undergraduate statistics education. The yearly Undergraduate Statistics Project Competition is a part of CAUSE's efforts to spur improvement in undergraduate statistics education and to excite undergraduate students' interest in statistics. The purpose of the contest is to encourage the development of data analysis skills, to enhance presentation skills, and to recognize outstanding work in statistical analysis by undergraduate statistics students. The competition is open to any undergraduate student globally. Projects are judged based on: appropriateness and correctness of data collection (design of the study, methods for collecting data, data cleansing and manipulations, etc.), data analysis methods (both descriptive and inferential), and conclusions and discussion, and overall clarity and presentation of the submitted paper, Power Point slide show, and presentation at the meeting. In addition, the originality and importance of the project and creative analysis are weighted heavily in the judging. Mr. Haun gave a formal presentation of his work at the meeting as a part of the competition—as did the other finalists from UCLA, St. Olaf's College, and the Statistical Institute of India.

# 17<sup>th</sup> Temple Conference on Research Topics in Biopharmaceutical Statistics

*Sponsored by*

**Temple's Biostatistics Research Center**  
**October 16, 2009, Plymouth Meeting Doubletree Hotel**

## **Session 1:**

The future of biopharmaceutical statistics: A management view.

Speakers and discussion:

**Raymond Bain**, Merck & Co., Inc.  
**Bruce Schneider** and **Cyrus Hoseyni**, Wyeth

## **Session 2:**

Graphical displays of safety data in clinical trials.

Speaker and discussion:

**Richard Heiberger**, Temple University  
**Joseph Heyse**, Merck, discussant

## **Session 3:**

Multiple testing and false discovery rate.

Speakers and discussion:

**Yoav Benjamini**, Tel Aviv University;  
**Sanat Sarkar**, Temple University

**Charges:** \$100; Merck and Wyeth employees, \$70; full time graduate students, \$30.  
Charges include registration, breakfast, lunch, breaks, parking.

**Registration:** Registration and web information will start on September 1, 2009. Please send check, email address, and company name to Boris Iglewicz, Biostatistics Research Center, Department of Statistics 006-12, Temple University, 1810 N. 13<sup>th</sup> Street, Philadelphia, PA 19122. For further information, see [www.sbm.temple.edu/biostat](http://www.sbm.temple.edu/biostat), or call Boris Iglewicz, (215) 204-8637.



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