

TEACHING of STATISTICS in the HEALTH SCIENCES

Patrick Arbogast

From the Section Chair



Hello TSHS members! A statistician is out hunting with two friends. They spot a 10-point buck 30 yards away. One friend shoots and misses 10 feet to the left. The other shoots and misses 10 feet to the right. In great excitement, the statistician jumps up and yells, “You got him!”. Yes, a lame joke, but I wanted to start off with something other than “Happy Summer”.

So, Happy Summer! I hope that everyone is having a good one. Well, the 2009 JSM in Washington, DC is just around the corner, and, as in previous years, we have another exciting one. I’d like to extend my gratitude and appreciation to Carol Bigelow (2009

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TSHS Program Chair) and Mary Gray (2009 TSHS Program Chair-Elect) for setting up an outstanding program. Program details for our invited and contributed sessions as well as our coffee roundtable are provided later in this newsletter. Also, I’d like to invite all TSHS members to our Business Meeting and Mixer on Monday, August 3rd, at 5:30pm in Room 205 of the Walter E. Washington Convention Center.

Our Section is also planning activities for the 2010 JSM meeting in Vancouver, BC. Please contact Mary Gray (2010 TSHS Program Chair) or Jodi Lapidus (2010 TSHS Chair) for ideas.

On behalf of the TSHS Section, I would like to congratulate Motomi Mori as our TSHS Chair-Elect (2010 Chair), Constantine Daskalakis as Secretary/Treasurer, and Cyndy Long as our Section's Council of Sections Representative. I also would like to congratulate Robert Greevy as our new Book Review Editor. If you have recently reviewed a book that you think may be of interest to our Section, please contact Robert

(e-mail address at the end of this newsletter).

In addition, we have approved revisions to our Section Charter. Please check it out at www.bio.ri.ccf.org/ASA_TSHS/html/charter.htm.

I'd also like to encourage everyone that if you have any ideas or suggestions for improving our Section or ways that the Section can better serve its members, please do not hesitate to contact me.

I look forward to seeing everyone in Washington, DC, either at a talk or checking out the memorials

(all work and no play...). either at the JSM or via e-mail. See you in DC!

FROM THE PUBLICATIONS OFFICER

Robert A. Oster, Ph.D., University of Alabama at Birmingham

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Please be on the look out for an article that TSHS will publish in the July issue of *Amstat News*. In this article, we will recognize our award recipients for 2008, briefly describe the awards that our section will be offering this year, and then describe our program at this year's JSM in Washington, DC. Most of the article will be devoted to a description of our JSM program.

We hope that this article, and any article that we publish in *Amstat News*, will generate interest in TSHS among ASA members who do not currently belong to the section, and encourage TSHS members to remain active in the section. The primary purpose of these articles is to keep ASA members informed of TSHS activities and to show everyone that TSHS is an active section!

I will provide an update on the TSHS website (http://www.bio.ri.ccf.org/ASA_TSHS) in my next column. In the meantime, feel free to send me ideas for keeping the website up-to-date or for content that you would like to see included on the website.

I hope that all of you are enjoying the summer and that you are making plans to attend JSM 2009. I look forward to seeing you there!

That is all for this column. I will have another column for you in the fall 2009 issue of this newsletter!

From the Program Chair: TSHS at JSM 2009

Hard to believe but, yes, JSM is just around the corner. It's been a pleasure to work with Scott Evans (2008 Section Chair), Patrick Arbogast (2009 Section Chair), Jodi Lapidus (2008 Program Chair, 2009 Section Chair Elect) plus the many folks who have graciously stepped up to contribute to what promises to be an excellent representation of our section at this year's meeting in Washington, DC. Search the online program, mark your calendar, come drink coffee with us, and be sure to attend our presentations! We have two invited sessions, a contributed papers session, a coffee roundtable, and a mixer.



The first invited session is **Monday August 3, 2:00-3:50**: *"Best Teaching Practices for Statistics in Translational Research"*. (Location: Conference Center Room 159B). We have four speakers, including Deborah Dawson (University of Iowa), Andrea Foulkes (University of Massachusetts), Steve Granbow (Duke University) and Taylor Pressler (Ohio State). All have acquired insights into communication of the richness of statistical thinking that are not found on a bookshelf, that come only with years of experience, and that are especially relevant to the intersection of the classroom and the laboratory.

In the evening of **Monday August 3, from 5:30 p.m. – 7:00 p.m.**, the TSHS section will conduct its business meeting and mixer. The hour is quite civilized and so shouldn't interfere with the rest of your evening. Both the meeting and mixer are open to all JSM participants. Location: Convention Center Room 205.

On **Tuesday morning, August 4, from 8:30 to 10:30**, our oral poster presentations will be available for viewing in CC-L Street Bridge. Following is the contributed papers session from **10:30 am to 12:20 pm**: *"Teaching Tools for Basic Statistical Literacy in the Health Sciences"*. We are hosting seven speakers: Robert Curley (University of Central Oklahoma), Felicity Enders (Mayo Clinic), Stephen Looney (Medical College of Georgia) Harry Norton (Carolinas Medial Center), Mary Kay Rayens (University of Kentucky), Paul Stephenson (Grand Valley State University), and Rochelle Tractenberg (Georgetown University Medical Center). As the title suggests, the session is wonderfully practical in its orientation. No doubt you'll come away with some fresh ideas for your own teaching.

Our coffee roundtable is **Wednesday August 5 from 7:00 – 8:15 a.m.**, room to be determined. Title: *"When Less is More: What are the Fundamental Statistical Concepts Health Science Students Need?"* Please set your alarm and come join us.

Our second invited session is later in the morning on **Wednesday August 5 from 10:30-12:20**: *"Distance Teaching in Practice – Bring your Laptop and Experience for Yourself"*. This will be a rare "hands on" event and should be both fun and educational. Our four speakers are Doc (Lawrence) Muhlbaier (Duke University), Jacob Oleson (University of Iowa), Penny, Pekow (University of Massachusetts), and Guillaume Weisang with Dominique Haughton (Both of Bentley College). Keep your fingers crossed. With luck, Dominique will be teaching us "live" from France. Til then, happy summer!

Carol Ripkova

Oster Chosen for Achievement Award

Cynthia R. Long



Bob Oster

This year's Distinguished Achievement Award goes to **Robert Oster** of the University of Alabama at Birmingham. Oster has served the TSHS in many capacities over the past 10 years. Following his appointment as Program Chair-elect in 1999, he was the book review editor from 2001-2003 and then elected as the 2004 section chair. During his 3 years in the chair-elect, chair, and past-chair roles, Oster took on several initiatives including leading the charter revision committee and establishing this biannual Distinguished Achievement Award to recognize outstanding service to the section.

In 2006, Bob stepped in on short notice to fill out the term of the vacated publications officer position and is currently serving a second term. He has also contributed many articles to the TSHS newsletter over the past decade and is an active member of the section executive committee, offering his assistance wherever needed.

Our section is dependent on the tireless, volunteer efforts of members such as Oster. Congratulations and thank you!

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Future Award Winner – maybe **YOU?**

Hey, even if you don't win an award, you'll get more out of your TSHS membership if you are active in the section. Here are a few suggestions:

- If you're at JSM, join us! We have a mixer August 3 – come out and meet the leaders and active members. Plus, please come to our sessions (See list on [page 3](#)).
- Our book review editor, Robert Greevy, would love it if others had reviews they wanted to do. His contact information is at the end of the newsletter ([here](#)).
- Consider a role in the section. Talk to our chair about possible tasks that need doing. We can always use help organizing sessions, for example. Or perhaps you'd like to do a round table breakfast or lunch for TSHS. Or teach a short course.
- Last but not least, based on his message this issue, our chair could use some new statistics/math jokes... Maybe you could tell him about the 5 out of 4 people found to have problems with fractions. Or that $2 + 2 = 5$ (but only for large values of 2). I always tell my students (and yes, some do laugh!) that "polygon" is what you say when you parrot flies away. Then I ask why she takes an umbrella. (In case it rains, she'll be Polly unsaturated).

BOOK REVIEW

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Robert Alan Greevy, Jr, PhD
Assistant Professor of Biostatistics
Vanderbilt University School of Medicine



Rob Greevy, Jr.

Title: Sams Teach Yourself SQL in 10 Minutes (3rd Edition) (Paperback)
Author: Ben Forta
Publisher: Sams
Year of Publication: 2004
Number of Pages: 256
ISBN-10: 0672325675
ISBN-13: 978-0672325670
Price: \$19.99 (USA list price)

With the increasing size and complexity of datasets being used in the health sciences, data management skills and tools are strikingly sparse in the curricula of many programs. We teach using relatively small, pre-cleaned datasets – with good reason. If we consistently gave our students complex, dirty data, they would expend most of their time and energy on data management and not on learning the statistical methods. So can we fit data management into an overflowing curriculum that does not allow for truly integrating it into courses directly? Is it possible to teach the basics of SQL using minimal class time and not overburdening the students with too much out of class work? It is with these questions in mind that *Sams Teach Yourself SQL in 10 Minutes* caught my interest.

For those not familiar with SQL (Structured Query Language), pronounced as either “S.Q.L.” or “sequel”, it is a computer language designed for the retrieval and management of data in databases. SQL is the primary language for many of the most popular database management systems (DBMS) such as IBM DB2, Microsoft Access, Microsoft SQL

Server, Oracle, MySQL, PostgreSQL, and Sybase Adaptive Server. In addition, SQL is *supported* by almost all DBMS and some statistical languages, see PROC SQL in SAS. R has a number of packages to use SQL with R data frames and to interface with particular DBMSes.

"So title aside, the book promises to teach the essentials of SQL ... in under 4 hours. Given the immense popularity and utility of SQL, this is a worthy goal. Does Teach Yourself SQL pull it off?"

The answer is surprisingly yes."

So for learning such a powerful tool, “*Teach Yourself SQL in 10 Minutes*” is a big promise. Right off the bat the book clarifies that 10 minutes is the time for each of 22

lessons. Moreover, the book does not teach data cleaning strategies or relational database theory other than a nice introduction to the basics in lesson 1. So title aside, the book promises to teach the essentials of SQL with some attention paid to all of the DBMS mentioned above ... in under 4 hours. Given the immense popularity and utility of SQL, this is a worthy goal. Does *Teach Yourself SQL* pull it off?

The answer is surprisingly yes. Each lesson is focused on a specific function, e.g. “sorting retrieved data”, “joining tables”, or “managing transaction processing”. The material is presented in clear language using a visually appealing format, akin to that popularized by

the "For Dummies" line. Tips and comments are set off in shaded boxes with an icon indicating the nature of the comment, e.g., helpful tip or warning. The code and output are set off with special font, indentation, and labels. The formatting makes scanning for desired information easy. For example, I found I would start reading the description of an operator, jump ahead to an example of code, jump back to the description, skip over comment boxes until the end of the chapter, etc. The nice formatting helps the book achieve its goal of keeping the lessons within 10 minutes. There is one catch. The lessons can be read in 10 minutes, but actually practicing them takes more time.

The book provides example databases online and describes how to get them in appendix A. Appendix B provides a very brief "how to use your DBMS" for each of those listed above. As a self-education tool, it is here that the book is

weak. Immediately, the book rightly encourages the reader to jump to ahead to the appendices to get the examples, but the instructions for accomplishing this are minimal. The computer and internet savvy student will figure it out, but others will get frustrated. It would be beneficial to have some class or lab time dedicated to helping the students install a DBMS and getting them started on the examples. Once started on the examples, the rest of the book is remarkably straight forward.

I recommend *Sams Teach Yourself SQL in 10 Minutes* if you are looking to provide your students with a resource that will let them primarily teach themselves the basics of SQL. If you are developing a full course on data management, *Teach Yourself SQL* is a good book with which to introduce SQL, but expect to also need a more advanced text and other sources for database theory and good data management practices.

2008-2009 TSHS CHARTER REVIEW COMMITTEE FINAL REPORT
Contributed by Bob Oster

On behalf of the 2008-2009 TSHS Charter Review Committee, I want to thank section members for approving the proposed revisions to the TSHS charter in this year's ASA elections. We believe that the revised charter is now up-to-date, reflects the way that we currently govern ourselves as a section, and is consistent with the recommendations that we received from the ASA Council of Sections when they last reviewed our charter. The revised charter (which we will refer to as the 2009 version of the TSHS charter) is now posted on the TSHS website (http://www.bio.ri.ccf.org/ASA_TSHS/html/charter.htm). This document can be either viewed at this website or downloaded as a PDF file. The charter review committee consisted of Patrick Arbogast, Cyndy Long, Scott Evans, and me (as committee chair). I once again want to thank Patrick, Cyndy, and Scott for their assistance with the work of this committee.

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**FROM THE EDITOR**

Welcome to our new book review editor. Hope to see a lot of you at JSM. I have even more jokes, if you want them... :-)

American Statistical Association

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

Section on Teaching Statistics in the Health Sciences

Section web page: http://www.bio.ri.ccf.org/ASA_TSHS/html/index.html

Links to all newsletters: http://www.bio.ri.ccf.org/ASA_TSHS/html/newsletter.htm