Welcome to the summer issue of our newsletter.

The results of our May elections are in and I would like to extend my congratulations and a warm welcome to Felicity Enders who has been elected to serve as Section Chair in 2016. In this election, 258 out of a total of about 660 section members cast ballots, reflecting a very decent participation rate for a volunteer professional organization (and it is actually somewhat higher than the overall participation rate in the ASA elections). Next year, we will be voting for both Section Chair (for 2017) and Representative to the Council of Sections (3-year term, 2016-2018). If any of you might be interested in running, please email your name and contact information to Steven Grambow who will be chairing this year’s nominations committee.

Congratulations also go to Bart Holland, who is the recipient of our section’s “Outstanding Teaching Award” this year. Bart is with the Division of Biostatistics and Epidemiology, Department of Preventive Medicine and Community Health, New Jersey Medical School, Rutgers University. He has taught biostatistics and public health students, as well as medical students, and has received multiple excellence-in-teaching awards. Bart will receive his award at our mixer at JSM.

Yes, JSM is almost upon us. Our section will be the primary sponsor of 2 invited panels, 2 topic-contributed and 1 contributed paper sessions, 3 posters, 2 breakfast roundtables and 1 lunch roundtable.
Look for the schedule and summary our sponsored and co-sponsored activities elsewhere in this newsletter. Many thanks are due to Jose-Miguel Yamal and to Jeffery Szychowski (Program Chairs for 2014 and 2015, respectively) for their work in organizing these sessions. We will also have a poster of our section’s history during a session sponsored by the Committee on ASA Archives and Historical Materials, on Wednesday, 8/6, at 10:30am. Finally, don’t forget our section’s mixer, which will be held on Monday, 8/4, at 5:30pm, at the Hancock room of the Westin. Come enjoy snacks and drinks and meet fellow section members. We will also have a drawing for books and other goodies.

I am looking forward to seeing many of you in Boston. Have a great summer.

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http://www.cityofboston.gov/visitors/

http://www.bostonfrogpond.com/

http://www.walktothesea.com/
Yes, here is another reason to stop by the TSHS Section mixer on Monday night. Come view our test site. On behalf of our development team (we’ve grown to 12!) and our community of 16 associates (additional members always welcome), we will be announcing and showcasing the piloting of our first cluster of resources - vetted data sets with accompanying teaching materials. Special thanks go to Dennis Pearl, Director of the Consortium for the Advancement of Undergraduate Statistics Education (CAUSEweb.org) for his invaluable advice and support in these first days. We are learning so much. But we need you, too. Consider being a part of this effort in any way you can. Portal community engagement is critical to the portal’s viability.
Big Data: A Revolution That Will Transform How We Live, Work, and Think

Authors: Viktor Mayer-Schönberger and Kenneth Cukier
Publisher: Eamon Dolan/Houghton Mifflin Harcourt; 1st edition
Year of Publication: March 2013
Number of Pages: 256
ISBN-10: 0544002695
Price: $27 Hardcover list price
Formats: Hardcover, paperback, eBook (available on Nook and Kindle), audio (available on Audible)
Amazon url: www.amazon.com/Big-Data-Revolution-Transform-Think/dp/0544227751

Big Data by Viktor Mayer-Schönberger and Kenneth Cukier is targeted primarily towards a business audience; however, the impact of the big data revolution, as the authors call it, will significantly impact the health sciences. It is important for medical researchers to understand the zeitgeist of this movement, and how this analytical worldview can help or hinder their research. Big Data does a nice job presenting how the massive change in scale of data has corresponded with changes in how some analysts engage with the data. The book emphasizes four major changes.

1. The "datafication" of everything.
2. Using as much data as possible, what the book refers to as "N = All".
3. Embracing messy data.
4. Forgoing causality and focusing solely on correlation.

"Big data" is an appropriately vague term. Big data problems have been around a long time. What is striking is how vast the realm of big data has become and how quickly its territory continues to grow. Answering important questions using big data is not new, particularly to health science researchers. Many landmark epidemiological studies have relied on leveraging huge, messy datasets to reveal important associations. But the worldview of big data analysis is not being shaped by epidemiologists and statisticians. Indeed, this book presents a sense that the old guardians of good data analysis are outdated with mindsets too limited to exploit the wondrous opportunities of today's big data.
The book closes with the powerful example of Mike Flowers. New York City mayor Michael Bloomberg appointed Flowers the city's first "director of analytics", and Flowers took on the task of identifying illegal conversions. Illegal conversions, buildings retrofitted to contain many more apartments than safety codes permit, were too often responsible for deadly fires. A small task force of 200 inspectors had little success in choosing which of the 25,000 complaints they received per year would lead to illegal conversions and which to false alarms or minor infractions. Flowers believed they could do better by leveraging the vast data available on the buildings. In picking his team, he eschewed traditional statisticians whom Flowers found prone to raise arcane mathematical objections rather than come up with creative solutions.

Without spoiling the story, I will say it makes an excellent closing argument for Big Data's impassioned case for this new way of seeing data analysis. This is the strength of the book. Not that it is correct or that its arguments are flawless (far from it). But that it captures the hype. It does so with a hint of self-awareness, warning in the introduction that big data will surely suffer the rise and fall of "Silicon Valley's notorious hype cycle" while knowing this book itself must be part of that cycle.

The book is filled with numerous interesting examples, though it does not seek to provide an analysis of the examples outside of reinforcing the four main themes. For example, it does not discuss the distinctions between modeling for prediction and modeling for inference. From the perspective of the examples presented, big data analysis appears to be purely about predictive modeling; questions of inference and causality are rare at best. The consequence of this notion is revealed in this seemingly naïve statement from the introduction. "If millions of electronic medical records reveal that cancer sufferers who take a certain combination of aspirin and orange juice see their disease go into remission, then the exact cause of their improvement in health may be less important than the fact they lived." … Unless, of course, doctors start prescribing aspirin and orange juice to cure cancer. Cavalierly disregarding over a century of careful thought by the old guardians of good data analysis will result in big data analysts learning all of those lessons the hard way. Big data will transform health sciences research. The active engagement of statisticians will be essential to ensure that transformation is for the better.

This book does a great job capturing the spirit of the big data movement, both its strengths and its shortcomings. It dives into several chapters of philosophical musings about the impact of big data on the human experience and various big data related policy questions. These chapters are less about reflecting the views of the time and more about musing over some of the questions and concerns related to big data. They are armchair philosophy, but fun. Easy to disagree with, and thus nice fodder for our own excursions as armchair philosophers.
Dear TSHS Section Members:

We are very excited about this year’s JSM speakers and topics! Below I provide details of our two invited panels and then list a number of other sessions sponsored or co-sponsored by TSHS or that may be of interest to TSHS members. We look forward to seeing you at the sessions!

Jose-Miguel Yamal

**Flipping the Biostatistics Classroom**, Monday, 8/4/14, 2:00 PM – 3:50 PM, Activity #213

Panelists: Rebecca R. Andridge, Ohio State University  
Megan L. Neely, Duke University  
Kristin L. Sainani, Stanford University  
Todd A. Schwartz, University of North Carolina at Chapel Hill

Abstract: "Flipping" the classroom has gained traction in recent years in a range of disciplines and across a spectrum of education levels, ranging from high school to graduate school, and is a hot topic in today's technology-savvy society. In a typical flipped classroom, students are introduced to topics outside of classroom time via methods such as instructional videos, which replace traditional in-class lectures, thus enabling students to learn at their own pace. Class time is then spent on activities such as problem solving and group work, tasks that would be assigned as homework in a traditional classroom setting. This allows the instructor to take a hands-on approach, helping students through specific problem areas and seeing first-hand where students are struggling. The idea of the flipped classroom has been around since the 1990s though it has grown in popularity in recent years as technology has improved in terms of quality, cost, and availability. Panelists will share their experiences using the flipped classroom model across a range of health sciences and to a diverse array of students.
Great Expectations: Training Future Biostatisticians for Careers in Interdisciplinary Bio medical Research, Wed, 8/6/2014, 10:30 AM - 12:20 PM, Activity # 482

Panelists: Michelle Dunn, National Cancer Institute
Melissa D. Begg, Columbia University
Tor D. Tosteson, Geisel School of Medicine at Dartmouth
Brian Scott Caffo, Johns Hopkins University
Lisa Sullivan, Boston University School of Public Health

Abstract: Increasingly, successful careers in academic and other research environments require that statisticians go beyond consulting to become full-fledged collaborators and independent interdisciplinary researchers. Notable examples of fields where this has already occurred include genomics, health policy, and "Big Data." Fulfilling these new expectations requires a rethinking of the priorities for training programs in statistics and biostatistics. This panel discussion will consider recent initiatives and practical training at all levels. Specific issues covered will include evolving career tracks, reforming the curriculum in biostatistics, and the impact on statistical research priorities. Consideration will be given to the current trends in research funding paradigms and educational technology as they may affect future career trajectories and training needs.

Quick Search on the Activity # for Details:
http://www.amstat.org/meetings/jsm/2014/onlineprogram/index.cfm

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<tr>
<th>Activity #</th>
<th>Session Type</th>
<th>Topic / Title</th>
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<td>Technology's Impact on Statistics Education: Past, Present, and Future</td>
<td>Sun 8/3</td>
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<td>The Statistical Classroom: Student Projects Utilizing Student-Generated Data</td>
<td>Sun 8/3</td>
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<td>A.M. Roundtable Discussion</td>
<td>Teaching Statistics to Medical Researchers Using an Online Program: Experience from the Harvard Catalyst Certificate in Applied Biostatistics</td>
<td>Mon 8/4</td>
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<td>97</td>
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<td>Building Precursors to Big Data: Teaching Undergraduate Data Science Early and Often</td>
<td>Mon 8/4</td>
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### Call for 2015 Invited Session Proposals

Jeff Szychowski, 2015 Program Chair

The Boston meeting is quickly approaching and the 2015 meeting to be held in Seattle is only a year away. The program committee for JSM 2015 is soliciting ideas for invited session topics now through September 4, 2014. These sessions include invited papers, invited panels and invited posters. The invited paper sessions consist of 2-6 speakers, invited panels have 3-6 panelists providing commentary on a topic and invited posters have 10-12 participants with posters addressing a common theme. The organizer would select the topic, invite speakers, and secure commitments.

The theme for JSM 2015 is, “Statistics: Making Better Decisions.” This theme focuses on making an impact on decision makers through better decision making and well-informed policies using data-driven statistical methods and computing tools. We encourage you to submit topics that will appeal to a diverse audience and are closely related to the 2015 theme.

Proposals may be submitted via the online submission system, and we welcome your thoughts. There are a limited number of slots available and selection is competitive. If you would like to discuss an idea before formally submitting a proposal, please do not hesitate to contact me directly (jszychow@uab.edu).

We hope to see you in Boston and Seattle! Jeff Szychowski

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
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<td>570</td>
<td>Contributed Papers Strategies and Examples for Teaching Statistics in Health Science</td>
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<td>Topic Contributed Panel Can Mentoring Enrich Professional Experience for Young Statisticians? An ASA Perspective</td>
<td>Committee on Applied Statisticians</td>
<td>Thu 8/7</td>
<td>8:30am-10:20am</td>
<td>Committee on Applied Statisticians</td>
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Bart K. Holland, Ph.D., was born and raised in New York City and attended the Bronx High School of Science and Columbia College. He developed an interest in public health, and obtained an M.P.H. in biostatistics from Columbia, where he studied under Joe Fleiss. His Ph.D. dissertation, concerning determinants of infant mortality, earned him a Ph.D. from Princeton’s Office of Population Research. His first professional job was writing New Drug Applications in the pharmaceutical industry, but he realized that he had developed a love for communicating the concepts and insights of statistics to a clinical audience, so he sought an academic career. Since 1985, he has taught biostatistics to medical students, residents, fellows, and attending physicians at Rutgers Medical School, winning their teaching awards along the way and publishing papers about effective teaching techniques. He revamped the course curriculum to make it distinctly clinically relevant, and believes that the key factor in teaching clinical audiences is the development of their understanding about what statistical methods are actually doing, rather than the ability to carry out technical procedures or even computer applications: clinicians must be able to explain the methods in plain language. “If they can’t explain what is really going on, and why the procedure gives the desired answer, all the rest is irrelevant,” he says. He provides a one-day intensive refresher course on the principles of statistics, for clinicians new to the campus. His collaboration on grants, which has yielded many papers, is a way to help more senior clinical researchers understand their data. For statisticians, he developed and now directs an M.S. degree program in Pharmaceutical Biostatistics at the Rutgers School of Public Health Newark Campus. He has written two books on probability and statistics, published by the Johns Hopkins University Press, which has also published his translation of a book by physics Nobel laureate Georges Charpak. This latter work is aimed at the general public, and is called, *Debunked! ESP, Telekinesis, and Other Pseudoscience*. Clearly, Dr. Holland is intensely dedicated to education at every level, particularly when it comes to the scientific method and the role of evidence in decision-making. He is delighted be recognized for his efforts, by the Section on Teaching of Statistics in the Health Sciences.
From the Publications Officer

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

The JSM in Boston will begin in a little over a month. I look forward to the JSM each year and also to seeing many of you in attendance.

You can find details of the TSHS JSM program in this issue and in the last issue of our newsletter, as well as online at the ASA website (http://www.amstat.org/meetings/jsm/2014/onlineprogram). Jose-Miguel Yamal, our Program Chair, and Jeffrey Szychowski, our Program Chair-Elect, have done an excellent job in making sure that we have another first-rate JSM program. I look forward to actively participating, along with many of you, in our activities.

Each year, I like to remind you what the TSHS mission statement is: “This Section is devoted to excellence in teaching statistical methods and basic epidemiology and in statistical consulting within the health sciences”. Please let me know about any of your own peer-reviewed and non-peer-reviewed publications that fit in with this statement. This will allow me to acknowledge these types of publications in this newsletter.

Please let me know about any teaching or mentoring awards that you have won at your respective institutions or in statistical (or even non-statistical) organizations. I will be happy to recognize you for your achievements in this newsletter!

I will again remind you of our section website, which can be found at http://community.amstat.org/TSHS/Home/. Your executive committee is trying to keep this modern and up-to-date, but we need your help! The website remains as one of our primary means of communication and exchange of materials. Please send suggestions for this to any member of the executive committee.

Last year, I asked if any of you might be interested in seeing TSHS use any of the social media as alternate means of communication. Since I did not receive any response, I assume that you prefer to stick with our traditional methods of communication (the website and the newsletter). This means that we would appreciate your input in keeping both of these fresh and useful for all section members.

Enjoy your summer! You will hear from me again in fall issue of this newsletter, when I hope to share some interesting things from this year’s JSM. See you in Boston!
From the editor:

Like everyone else who writes for the newsletter, I'm looking forward to JSM in Boston. We have a wonderful lineup of sessions, as usual. Jose-Miguel has provided us with a detailed roadmap (if you want to attend anything other than the sessions in the list, well, you're on your own with that!)

Ed