JULY 2016 • Issue #469

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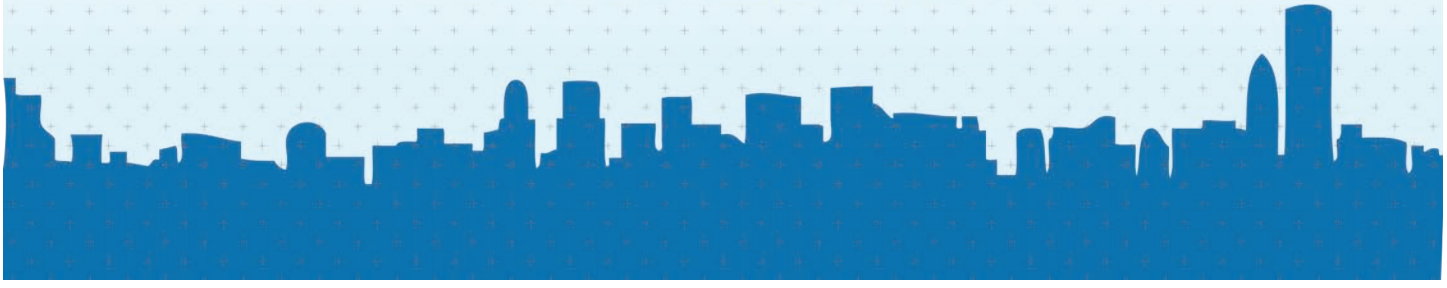

AMSTATNEWS

JULY 2016 • ISSUE #469

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Amstat News welcomes news items and letters from readers on matters of interest to the association and the profession. Address correspondence to Managing Editor, *Amstat News,* American Statistical Association, 732 North Washington Street, Alexandria VA 22314-1943 USA, or email *amstat@amstat.org*. Items must be received by the first day of the preceding month to ensure appearance in the next issue (for example, June 1 for the July issue). Material can be sent as a Microsoft Word document, PDF, or within an email. Articles will be edited for space. Accompanying artwork will be accepted in graphics file formats only (.jpg, etc.), minimum 300 dpi. No material in WordPerfect will be accepted.

Amstat News (ISSN 0163-9617) is published monthly by the American Statistical Association, 732 North Washington Street, Alexandria VA 22314-1943 USA. **Periodicals postage paid** at Alexandria, Virginia, and additional mailing offices. POSTMASTER: Send address changes to *Amstat News,* 732 North Washington Street, Alexandria VA 22314-1943 USA. Send Canadian address changes to APC, PO Box 503, RPO West Beaver Creek, Rich Hill, ON L4B 4R6. Annual subscriptions are $50 per year for nonmembers. *Amstat News* is the member publication of the ASA. For annual membership rates, see *www.amstat.org/join* or contact ASA Member Services at (888) 231-3473.

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Printed in USA © 2016
American Statistical Association

The American Statistical Association is the world's largest community of statisticians. The ASA supports excellence in the development, application, and dissemination of statistical science through meetings, publications, membership services, education, accreditation, and advocacy. Our members serve in industry, government, and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare.

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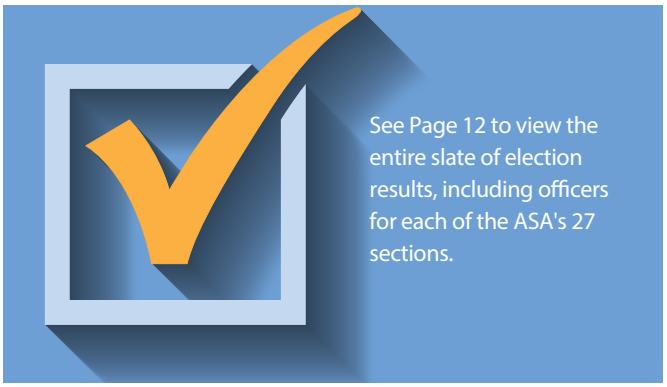

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Classroom to Collaboration: Tips for a Successful Transition

STAT*tr@k* is a column in *Amstat News* and a website geared toward people who are in a statistics program, recently graduated from a statistics program, or recently entered the job world. To read more articles like this one, visit the website at *http://stattrak.amstat.org*. If you have suggestions for future articles, or would like to submit an article, please email Megan Murphy, *Amstat News* managing editor, at *megan@amstat.org*.

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Applied Statisticians: Get the Most Out of JSM

This column is written for statisticians with master's degrees and highlights areas of employment that will benefit statisticians at the master's level. Comments and suggestions should be sent to Megan Murphy, *Amstat News* managing editor, at *megan@amstat.org*.

Online Articles

The following articles in this issue can be found online at *http://magazine.amstat.org*.

Robert Johnston (of UNICEF) contacted **Statistics without Borders (SWB)** for support in analyzing the time stamps and GPS points collected during UNICEF's nutrition surveys to validate the surveys' sample selection techniques. The SWB team on this project developed three tests that could be used to review the quality of interviewer-selected samples in such situations. Read about the challenges SWB faced developing these tests at *http://magazine.amstat.org*. To learn more about Statistics without Borders' other projects, or to get involved, visit the website at *http://community.amstat.org/statisticswithoutborders/home*.

Next Month …

We'll have the results of the Poster and Project competitions, as well as an interview with the current ASA executive director, Ron Wasserstein.

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We Have Some Serious Explaining to Do

Rob Santos, Chief Methodologist, Urban Institute

A search of *The New York Times* for the word **"statistician"** during the past 30 days turned up three hits, whereas a search for "psychologist" resulted in 56 hits and "economist" a whopping 204 hits. Do psychologists and economists really have more to say that's newsworthy than statisticians do? Probably not, yet clearly someone thinks they do. Statisticians have lots of important information to convey, and society would be well-served if we had a greater media presence. Two of my presidential initiatives involve media training for statisticians, and the 2016 JSM President's Invited Speaker is an award-winning science journalist for National Public Radio, Joe Palca. For this month's column, I have invited ASA Vice President Rob Santos, who is leading the implementation of one of the initiatives, to discuss these initiatives and provide his insightful thoughts on statisticians and the media. In addition to being an ASA vice president, Rob is the Urban Institute's chief methodologist and a past president of the American Association for Public Opinion Research. – Jessica Utts

As statisticians, we have some serious explaining to do. Our association tagline proclaims *promoting the practice and profession of statistics.* It's an elegant, simple statement with a big footprint that includes everything from teaching to advocacy. It also speaks to a statistician's role as a public spokesperson. The media thirsts for experts who can explain and visualize quantitative data and insights, yet statisticians generally have not been offered the opportunity to provide their perspectives. Indeed, our association could greatly benefit from bolstering the ranks of statistical spokespeople.

Shout-Outs to Current Media Spokespeople: STATS.org and Others

All too often, we see misinterpretations of statistical results in the media and public discourse. Take the 2016 presidential primaries, for instance. More often than not, the media declared one candidate was "running ahead" of their opponent by a few percentage points when the margins of error did not support such inference. In fact, STATS.org—a partnership between the ASA and Sense About Science—published a blog post (*http://bit.ly/1ZErQPJ)* on this very issue last fall.

STATS.org
Sense About Statistics

Robert Santos

And what about our old friend, the *p*-value? ASA member Regina Nuzzo published an article (*http://go.nature.com/1gq9dtd*) in *Nature* expressing in easy-to-understand terms the over-reliance of statistical significance (alone) in scientific research. More recently, the ASA undertook the onerous task of developing a statement on *p*-values (download the PDF here: *http://bit.ly/1U75vcp*) that has enjoyed wide distribution in the scientific community.

There are more examples, but it seems the plethora of misinterpretations and missed opportunities for statisticians to show leadership in a spokesperson role dwarfs the instances in which we have had the opportunity to step forward. The need to expand our visibility in the media is without question. I'll share some good news on this later, but first let's consider a statistician's role as an 'explainer.'

Target members to receive this training include statistical professionals at all stages of their careers, as well as teachers, academics, and students.

An essential part of being a statistician involves communicating with people about how statistics work, what they can and cannot tell us, and why there are always limitations due to inherent uncertainty. Indeed, our efficacy as statisticians often depends on our ability to digest the needs of a study, translate them into an effective design, and later communicate the results of analyses. The teaching of statistics is deeply rooted in theories of probability and mathematics, as well as applications to real-world problems in manufacturing, government, social science, health, teaching, hard sciences, etc.

Yet, students of statistics are not uniformly afforded the opportunity to acquire and practice communication skills, especially to nonstatistical audiences such as the general public. If we wish to 'promote the practice and profession of statistics,' we should be able to speak to different audiences in terms they understand—be they fellow colleagues, scientists from other fields, policy makers and government officials, the media, students, or even the public. But, what is the ASA's role in and contribution to helping our membership acquire or hone their communication skills?

New Initiatives Inspiring Members to Media Engagement

The ASA is spearheading several initiatives to not only be more publically visible, but to help its members sharpen their media skills. First, the association has built-in infrastructure on its staff with Steve Pierson, ASA director of science policy, and Ron Wasserstein, ASA executive director. Moreover, Jill Talley, the ASA's public relations manager, recently joined the staff. These individuals each have roles in promoting statistics to a wide range of audiences. But, as strong as the ASA infrastructure may be, that will not suffice. Our members can and should have leadership roles as spokespeople on behalf of the statistical community. And on that front, we have even more good news.

The ASA is launching two initiatives to strengthen the presence of statisticians in the media: the Media Training Program and Statistical Media Ambassador Program. The Media Training Program is designed to provide statisticians with the basics for interacting with, and communicating to, journalists and the public. This forum will cover print, audio, and visual media such as blog posts, op-eds, in-person and telephonic interviews with journalists, and social media. Target members to receive this training include statistical professionals at all stages of their careers, as well as teachers, academics, and students.

Being a media expert involves a long road of practice and preparation. Considering that, media training cannot be an instantaneous, transformative session, but rather a starting point from which one's skills can more readily be sharpened with experience and reflection over time.

Spanning up to two full days of training and exercises, depending on the types of media training desired (e.g., blogging vs. interviews with journalists), the Media Training Program will kick off at the ASA office in Alexandria, Virginia, this November. As the chair of the work group responsible for developing this program, I encourage you to consider attending, as space is limited for this pilot program. An official announcement will be made in the coming months.

The Statistical Media Ambassador Program, on the other hand, is designed for senior-level statisticians with media experience who wish to take their game to the next level and become a recognized statistical spokesperson for the ASA. Ambassadors in this program will support STATS.org and pledge to be available when journalists engage the ASA for an expert statistical spokesperson. Terms of service are expected to be three years with about a dozen or so statisticians on board at any point in time.

This program consists of formal training, complete with videotaped mock interviews, and provides an exceptional opportunity for senior-level statisticians to stretch and challenge themselves, advance our profession, and just have fun. Wendy Lou, professor at the University of Toronto and a

Council of Chapters Representative to the ASA Board of Directors, chairs the work group responsible for designing the program. Like the Media Training Program, the Statistical Media Ambassador Program is expected to formally launch in 2017.

BONUS—National Public Radio's Science Correspondent Joe Palca to Speak at JSM

Going hand-in-hand with the Media Training and Statistical Media Ambassador programs as a means to promote our profession, grow the capacity of our members, and educate consumers, this year's prestigious President's Invited Address will feature National Public Radio's (NPR) award-winning science correspondent, Joe Palca.

A PhD scientist and journalist, Palca covers an array of scientific breakthroughs and highly technical concepts over the airwaves, doing so in a way that embraces simplicity and verve to maximize audience comprehension and enjoyment. He will present his own experience and perspective on the unique challenges in the scientific news-making process, and his address will elucidate the importance of communicating our value to the media and the public. A can't-miss session at JSM, Palca will address attendees on August 1 at 4:45 p.m.

Joe Palca, award-winning science correspondent and this year's prestigious President's Invited Address speaker at JSM August 1 at 4:45 p.m.

My Media Story

Statisticians and data scientists, by the interdisciplinary and meaningful nature of our work, deserve to be trained in media interactions and need not feel overwhelmed in communicating with reporters. My own recent experience working with the media demonstrates the value of such interaction and emphasizes the importance of media training.

In March, I was invited to write an op-ed piece for the *LA Times* (*http://lat.ms/1qbqi3H)* on the state of political polling in the U.S. presidential primaries. The request came on the heels of the New Hampshire and Michigan primaries, where voting outcomes defied pollsters' predictions. While not having been involved in polling for years, I remained close to the polling community and followed their methods and performance. I also knew that just about everything there was to say from a statistical methods perspective had already been published in the media by polling scholars.

Rather than simply recounting technical details that already had been published, I used this platform to provide thoughts about why pre-election polling results can sometimes be wrong and why we should expect capricious discrepancies to continue. Instead of talking about noncoverage and nonresponse bias or the finer points of prediction modeling for likely voters, I addressed how new technology (including social media) fundamentally changed how people consume and react to information and how concerns about privacy and identity theft altered public behavior in polling and voting. I suggested that heavy use of social media had motivated those who otherwise would not vote (e.g., younger voters) to show up at the polls. Predicting if and when historical nonvoters will vote is difficult using traditional models that heavily rely on past voter behavior. Thus, I offered a framework to explain why past methods won't work as well in a society that increasingly embraces and is motivated by new technology.

As an ambassador to our profession, I wanted to show the public that statisticians not only know our statistical theory and its applications, but we can also offer insights that help the public understand why unexpected things happen. The op-ed was published Easter Sunday.

Yes, we statisticians need to promote our profession. And it can be challenging, fun, and rewarding. We hope you will join us in the effort to train a cadre of statistical media ambassadors and a new crop of media-savvy statisticians. As I stated at the beginning of this column, we have some serious explaining to do. Let's get ready to roll! ■

Highlights of the April 2016 ASA Board of Directors Meeting

ASA President Jessica Utts convened the board's first meeting of the year at the ASA's headquarters in Alexandria, Virginia. The highlights of the meeting follow.

Discussion Items

- The board heard a report on the response to the ASA Statement on *P*-Values and Statistical Significance and discussed plans for following up on the statement.

- Roger Tourangeau, president-elect of the American Association of Public Opinion Research (AAPOR), discussed ideas for collaborations between AAPOR and the ASA. As a result of the discussion, two joint task forces have been formed to develop a white paper on detecting data falsification in surveys and consider how to improve the climate for surveys, especially with regard to essential data collection activities of the federal government.

- The board had the opportunity to hear about and discuss funding activities and priorities with three senior leaders from research funders: Chaitan Baru, senior adviser for data science in the NSF Computer and Information Science and Engineering Directorate; Michelle Dunn, senior adviser for data science training, diversity, and outreach in the NIH Office of the Associate Director for Data Science; and Henry Warchall, senior adviser in the NSF Division of Mathematical Sciences, Mathematical and Physical Sciences Directorate.

Action Items

- A revised version of the ASA's Ethical Guidelines for Statistical Practice (*www.amstat.org/about/ethicalguidelines.cfm*) was approved by the board, which thanked Howard Hogan and the other members of the Committee on Professional Ethics for a job very well done.

- The board passed a resolution saying "the ASA will not sign contracts for meetings in any state that passes laws that discriminate against individuals based on gender, sexual orientation, disability, race, ethnicity, religion, age, national origin, gender identity or expression, veteran status, or other protected status."

- At the recommendation of search committees and the Committee on Publications, the board appointed the following editors for terms to begin next year:

  Regina Liu, Rutgers University, and **Hongyu Zhao,** Yale University, co-editors, *JASA* Theory and Methods

  F. Jay Breidt, Colorado State University, *JASA/TAS* Reviews

  Scott Evans, Harvard University, *CHANCE* (2nd term)

  Frank Bretz, Novartis, *Statistics in Biopharmaceutical Research*

- The SPAIG Award was reinstated after a multi-year hiatus.

- Journal prices were reviewed and an increase of 5% on institutional North American and international print and online prices for 2017 was approved. There is no increase planned for ASA member rates for print subscriptions.

- Five proposals through the Member Initiative Program were funded by the board.

- The board approved funding to make the ASA a sponsor of the 2016 Data Science and Applied Analytics (DSAA) Conference.

Reported Items

- On the financial side, Mingxiu Hu, ASA treasurer, reported to the board on the status of the ASA's investments. Last year was not a good one for equities, but our investments are still in good

shape overall. Associate Executive Director and Director of Operations Steve Porzio reported on the 2015 ASA end-of-year financials. The ASA operated at $237,000 in the black during 2015. He said the ASA continues to be in good financial condition and that 2016 net income is also expected to be in the black. The board received the ASA's 2015 audit, which was once again a "clean audit," and thanked Porzio and the staff for its great work in that regard.

- As part of the ongoing development of board members, the ASA's auditor reviewed the basics of fiduciary responsibilities for nonprofit boards.

- Nell Sedransk, director of the National Institute of Statistical Sciences (NISS), discussed the transitions taking place at NISS and looked at future directions of the organization.

- Trevor Butterworth and Rebecca Goldin reported to the board on the activities and plans for STATS.org, the ASA's media outreach in partnership with Sense About Science USA. Exciting plans for statistics training workshop development for media personnel were discussed. Response to current workshops and to STATS.org in general has been very good.

- ASA Vice President Jeri Mulrow reported to the board on the activities of the committees that make up the ASA's Membership Council. For each, she reported on its major accomplishments of the past year and its anticipated activities for the coming year. Regular communication between the board and the various committees is essential to efficient operation of the association.

- Equally important to the efficiency and effectiveness of the ASA are the chapters and sections, so, as it always does, the board heard detailed reports from the governing boards of both groups and their respective activities. The Council of Chapters Governing Board is considering ways to get more chapter representation at JSM. The Council of Sections Governing Board is addressing issues related to the cap on the number of topic-contributed sessions at JSM.

- President Jessica Utts reported on the progress of her strategic initiatives for 2016. (All initiatives of the ASA presidents are based on the ASA's strategic plan.) The four initiatives are (1) getting information about careers in statistics into high-school statistics classes; (2) prioritizing the statistics education research agenda (as a help to funders); (3) developing media training for statisticians; and (4) creating a "statistical ambassadors' roundtable." All these initiatives are coming along on schedule.

- President-elect Barry Nussbaum introduced to the board three areas of interest for developing specific initiatives during 2017. He said he wants to find ways to increase member engagement, improve communication, and reach out to young people as they consider career choices. He proposed specific ideas and asked for feedback. The board provided considerable feedback, which Nussbaum will use to formalize the initiatives. These initiatives will be formally presented to the board at a later meeting.

The board meets again July 29-30 in Chicago immediately prior to JSM. ■

2016 Board of Directors

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Barry Nussbaum, President-elect

David Morganstein, Past President

Jeri Mulrow, 3rd-Year Vice President

Rob Santos, 2nd-Year Vice President

Kathy Ensor, 1st-Year Vice President

Dan Jeske, 3rd-Year Council of Chapters Representative

Wendy Lou, 2nd-Year Council of Chapters Representative

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Anna Nevius, 2nd-Year Council of Sections Representative

Eileen King, 1st-Year Council of Sections Representative

Ming-Yen Cheng, International Representative

David van Dyk, Publications Representative

Ron Wasserstein, Executive Director and Board Secretary

ASA LEADERS REMINISCE

Lynne Billard

In the 19th installment of the Amstat News *series of interviews with ASA presidents and executive directors, we feature a discussion with 1996 ASA President Lynne Billard.*

Q In the 1980s, you worked on research projects designed to increase understanding of the incubation period of the human immunodeficiency virus. This was at a time when AIDS was poorly understood and greatly feared. What misunderstandings about HIV and AIDS did you and your research partners address in this research, and what were the ramifications on public health education in the United States?

A The most important collaboration on HIV/AIDS was our work (Medley et al. in 1987 and 1988; Billard et al. in 1990) on the mean incubation period between becoming infected with HIV and being diagnosed with AIDS. The data set consisted of the entire U.S. data of those who had received infected blood transfusions and been diagnosed. Prior to our work, this incubation period was effectively calculated by averaging the times for known diagnosed individuals. The basic set-up is that we had truncated data. However, unlike then-truncated data sets, we only had those observations that had actually been diagnosed (i.e., the start and end points were known).

There were clearly other observations out there, but we did not know about them yet because they were still undiagnosed. This meant we did not have any truncated times, nor did we know how many there were. Therefore, we had to build a model that included distributions of the unknown truncated times and that estimated the number of unknown observations.

Billard

Another innovation was to divide the data into age groups—young children, adults, and the elderly. The results differed by age group—the mean incubation period, based on a Weibull distribution, was shorter for the young, about two years with a standard deviation of 1.25, because their immune systems were not fully developed. We saw a similar result for the elderly, with a mean of about 5.6 years and standard deviation of 2.1, because they were receiving blood transfusions reflecting their not-so-healthy condition. More importantly, the average time for adults was 8.1 with a standard deviation of 3.6; this quickly became a *10-year* figure.

At the time, 17- to 25-year-olds were viewed as being the most vulnerable cohort and also a cohort most influenced by their peers. However, when this incubation period was closer to 10 years—instead of 2-3-4 years—rather than seeing their friends diagnosed while still college mates, so to speak, 10 years meant those college friends were no longer close by to influence their behavior. Thus, for the health educators, it was imperative to make radical changes to the way they approached this issue.

The impact of these results are still vivid to me. Let me back up a bit. I had gone on leave to Imperial College to work with David Cox on some other topic. The week before arriving, Roy Anderson, a renowned population biologist who at the time was unfamiliar with epidemics, approached David for help with the data he had obtained from CDC [Centers for Disease Control and Prevention]. David knew I had worked in epidemic theory and so asked if we could change plans to work on this issue. Sure! That was July or maybe early August of 1986. By October, the mathematics was completed; however, I did not know how to run their computer and we did not want to wait until my return to Georgia in January of 1987. Therefore, one of Anderson's doctoral students, Graham Medley, was brought in to assist in the programming on the Imperial computer. By November, we had our results.

They were startlingly different from previous results. David and I knew the mathematics was correct. The only question was whether there were enough data to ensure robustness; the 1990 paper answered that question affirmatively. Armed with the health education knowledge, rather than statistical rigor, we were convinced by the ethical humanitarian arguments that the results had to be announced then and not later. Therefore, I went back to my office and proceeded to write it all up.

By early 1987, I mailed the draft manuscript to David. Soon thereafter, the journal *nature* asked for a summary of the 1987 paper; the rest of my draft contained the details that came out in the *Proceedings of the Royal Society B* in 1988. I always think of those two papers as one.

It was only *yesterday*—or so it seems; actually, it was 1987—when I heard the first public service announcement on NPR whilst driving into work on the education of the public about the ramifications of being infected with HIV. It was stupefying. I just sat there and marveled that statistics could come up with a real-life result so quickly, a result that would alter the way people saw things, at least as they related to this disease.

Years later, in 2014, when working on a medical boat on the Amazon River, a health teacher from Oregon relayed a story explaining how those NPR announcements changed her life. We marveled at the *smallness* of our world. Here we were, an Australian and an American in Brazil discussing work done in England. Somehow, Alaska came into the equation, too. Such is the impact of, or should we say the breadth of, the world of, statistics!

Lynne Billard earned her BS with first class honors from Australia's New South Wales University in 1966. As an undergraduate student, she was employed as a statistician with the Department of Main Roads in Sydney in 1963–1964 and as a statistician with the Colonial Sugar Refinery in 1964–1965. She earned her PhD in 1969, again from Australia's New South Wales University.

Billard then held the position of lecturer at the University of Birmingham through 1970. She has since served on the faculty of the University of Waterloo, Florida State University, and the University of Georgia. She has also been a visiting faculty member with SUNY at Buffalo and Stanford University and a research fellow with the Naval Postgraduate School and University of California at Berkeley. In 2009, Billard was named an honorary professorial fellow by the University of Melbourne. She also held several administrative positions while with the University of Georgia, including head of the department of computer science and statistics from 1980–1984, head of the department of statistics from 1984–1989, and associate to the dean from 1989–1991. She was named a distinguished university professor by the University of Georgia in 1992.

Billard has published more than 250 articles in a wide range of journals, as well as eight books. In 1990, she received the ASA's Outstanding Statistical Application Award for her work with Graham F. Medley, David R. Cox, and Roy M. Anderson on the distribution of the incubation period for AIDS, which was published in the *Proceedings of the Royal Society, London, Series B 233* in 1988.

In addition to being the 1996 ASA president, Billard was international president of the International Biometric Society from 1994–1995. She has served on countless national and international committees for the ASA, International Biometric Society, International Statistical Institute, Institute of Mathematical Statistics, Committee of Presidents of Statistical Societies, Interface Foundation of North America, and American Association for the Advancement of Science. She says the most interesting of these experiences was the appointment to the secretary of commerce's Census 2000 Advisory Board.

Billard has also received numerous awards, including ASA Fellow in 1980, Samuel S. Wilks Award in 1999, and ASA Founder in 2003. Recently, she was inducted into the Slovenian Statistical Society as an honorary fellow.

Q You established the "Pathways to the Future," an annual National Science Foundation workshop from 1988 to 2004 that focused on mentoring women who had recently received PhDs in statistics and wanted academic careers. How did the focus of these workshops evolve over its 16-year life?

A Let me first say that, for some of those years, the Office of Naval Research also funded these workshops; however, the original funding did originate with NSF [National Science Foundation].

It would be great to be able to say that inequities had evolved to the disappearing point to the extent that the workshops were no longer necessary. Unfortunately,

Lynne (left) with her mother, Chris Billard, in 2001. The UNSW mathematics cadetship (see Q3) and her mother were key ingredients to Lynne's career.

while perceptions are that these inequities no longer exist, the data suggest otherwise. By and large, initial hiring is not a problem. Problems lie in inequitable promotion and tenure rates and in salaries. Karen Kafadar and I reported on this in 2015 in *Advancing Women in Science*, where we looked at national academic data up to 2014. Both these aspects depend on subjective evaluation of faculty work in varying ways. Therefore, the need for the workshop focus still pertains today.

Given the unfortunate but stark reality, the workshop would open with presentation of the latest data, followed by several discussions and sessions designed to help participants not become victims to those realities. This included addressing issues such as the importance of publishing their research; how to respond to deflating referee reports—deflating at these early stages of a career since most young researchers are so sure "everyone" will acknowledge and appreciate their work—the importance of attending and presenting their work at meetings; and grants, teaching, promotion, and tenure—the usual steps along an academic career. The success rate of pathways alumnae is very gratifying indeed.

Q Prior to earning your PhD from the University of New South Wales, you worked during summers as a statistician for the Department of Main Roads in Sydney and for the Colonial Sugar Refinery. How did these experiences shape your ambition for a career in statistics, and how did they influence your approach to research?

A Well, not at all. The summer jobs came after I had embarked on statistics and were arranged by my university for statistics students. Over my schooling, any elective chosen was always what was perceived to be the hardest of the available choices. My mathematics cadetship required that I do two honors mathematics programs. Statistics was considered the most difficult of all the (three) mathematics options offered. Pure mathematics was a given, so statistics was by default my other choice. However, while I may have landed in statistics by an unorthodox route, I was very glad to discover this most exciting world. So, back to your question, yes, it was nice to engage in real-life statistical work. Some of those experiences have fueled many illustrations in my teaching over the years.

Q Of the well over 250 publications you have published, which was the most interesting to you? Why?

A Which *one*? There are many interesting and satisfying papers, depending on the context in which the work was undertaken. However, given the importance of the results, this has to be the two-paper set of HIV/AIDS papers that we discussed earlier. That said, the derivation of the mathematical results was fun to do, too.

Q Your most recent book, *Symbolic Data Analysis: Conceptual Statistics and Data Mining*, takes a very different and interesting approach to data mining. What is the most innovative way you have seen symbolic representation of data implemented into statistical analyses since you and Edwin Diday published this book in 2006?

A First, a brief description of symbolic data is that they are hypercubes in p-dimensional space, instead of points as in classical data. Some data arise naturally, but most will be products of aggregations of larger data sets.

One example is interval-valued observations (e.g., low vs. high stock prices over time, minimum and maximum daily temperatures, etc.). Take two samples of size n=1 with interval observations over [9, 11] and [0, 20], respectively. Any analysis based on the midpoints only will give the same results—which are usually incorrect—when clearly the intervals are different and so analyses should give differing results. It is the internal variations that distinguish symbolic analyses from classical ones.

Probably the most exciting analyses so far are the principal component analyses of interval observations with the PCA projections being polytopes; you can read more about this in the *Journal of Computational and Graphical Statistics* (Le-Rademacher and Billard, 2012). Even more interesting is the fact that the output principal components are histogram-valued observations, not points nor intervals. ■

COMING UP
Please return to this column next month, when we will feature an interview with current ASA Executive Director Ron Wasserstein.

Staff Spotlight: **New Science Policy Fellow Amy Nussbaum**

Steve Pierson, ASA Director of Science Policy

Photo by Sara Davidson

Nussbaum

The ASA is excited to welcome Amy Nussbaum to the ASA as the inaugural science policy fellow. Nussbaum started May 31 in her work to amplify the ASA's science policy efforts to raise the profile of statisticians in policy making and advocate on behalf of the statistics community. Initially, Nussbaum will work on a variety of ongoing projects—from STEM education to forensic science—while also exploring new science policy activities.

Originally from Illinois, Nussbaum completed her PhD in statistical science from Southern Methodist University. Her graduate research was on the statistical challenges of analyzing personality assessment data within the greater field of psychology and culminated in her dissertation, *Analysis of Longitudinal Latent-Variable Models with Two Sources of Measurement Error.* Her PhD adviser is Cornelis Potgieter.

Nussbaum spent the 2016 spring semester teaching Introduction to Statistical Methods in the statistical science department at SMU and Experimental Statistics I and II for SMU's MS in Data Science program.

Crediting SMU's statistical sciences department's emphasis on the ability to communicate statistical concepts and results in a clear and concise manner, Nussbaum expressed her interest in, qualifications for, and beliefs around the ASA science policy fellowship position, saying, "As statisticians, we have a responsibility to present analyses objectively and ethically, and we should be held accountable for abusing our skills or misleading others. We also have a duty to tell a story of our results in such a way that anyone could understand without getting bogged down in complicated terminology or trivial minutiae. Complicated examples are rarely helpful, and it is a skill to present illustrations that paint a picture of the concepts without burdening people with unnecessary complexities." Nussbaum has a particular interest in public policy regarding statistical literacy and encouraging young women in STEM fields.

She began her academic career at Wheaton College, a small liberal arts school in suburban Chicago, where she studied mathematics and psychology while always keeping a career in statistics in mind. She realized as an undergraduate that combining ideas from separate arenas almost always resulted in a deeper understanding of complex concepts and stronger solutions to difficult problems, and that collaborating with others brings out the best in herself.

In her free time, Nussbaum enjoys traveling, trying new restaurants, and reading—especially presidential biographies. She is particularly glad to be living and working in the Alexandria area, since it has such a rich history. ■

Lisa LaVange

G. David Willimason

LaVange Elected ASA President

Williamson Elected Vice President

Lisa LaVange, director of the Office of Biostatistics in the Center for Drug Evaluation and Research (CDER) at the U.S. Food and Drug Administration (FDA), has been elected the 113th president of the ASA. LaVange will serve a one-year term as president-elect beginning January 1, 2017. Her term as president becomes effective January 1, 2018.

The ASA membership also elected G. David Williamson, senior science adviser at the U.S. Centers for Disease Control and Prevention (CDC), as an ASA vice president.

"Statistics is experiencing great strides these days, from the expansion of undergraduate degree programs across the country to the surge in employment opportunities associated with the data revolution. And yet, with that energy and growth, come challenges," said LaVange. "It could be experts in other fields who lack statistical training or even statisticians experiencing difficulty communicating about their work to lay audiences. My work in government, academia, and private industry has allowed me to grasp the big picture and relate to the experiences of statisticians everywhere. I look forward to working with the ASA Board, staff, and members to expand the value and understanding of our profession and the critical role statistics plays in all aspects of life."

At FDA, LaVange is responsible for developing policies and procedures to guide statistical review of regulatory submissions in addition to coordinating biometric research to evaluate drugs and therapeutic biologics and providing comprehensive statistical services to CDER scientific and regulatory programs. In doing so, she oversees the work of more than 170 statistical reviewers. Prior to joining the FDA, LaVange was a professor in the Gillings School of Global Public Health at The University of North Carolina at Chapel Hill. She also spent 10 years in the pharmaceutical industry as vice president

of biostatistics and data management for Inspire Pharmaceuticals, Inc., and as vice president of statistics for North American clinical development at Quintiles, Inc.

Elected as an ASA Fellow in 2004, LaVange has held numerous leadership positions, including JSM program chair, general methodology program chair, and section program chair. She was editor-in-chief of the ASA-SIAM book series, co-editor of the journal *Pharmaceutical Statistics*, and associate editor of *Statistics in Biopharmaceutical Research*.

LaVange earned her PhD in biostatistics from The University of North Carolina at Chapel Hill in 1983, her master's in mathematics from the University of Massachusetts at Amherst in 1976, and her undergraduate degree in mathematics from The University of North Carolina at Chapel Hill in 1974.

G. David Williamson is senior science adviser and executive director of the Statistical Advisory Group at the CDC and an adjunct professor in the department of biostatistics and bioinformatics in the school of public health at Emory University and Georgia Southern University. Prior to that, he was the associate director of science at the CDC's National Center for Injury Prevention and chief science officer in the Office of Surveillance, Epidemiology, and Laboratory Science.

He earned his PhD in biostatistics from Emory University in 1987; two master's degrees in statistics and biology from Virginia Tech and Georgia Southern, respectively; and an undergraduate degree in biology from the Georgia Institute of Technology in 1973.

Among his appointments with the ASA, Williamson became a fellow in 2004 and was Joint Program Committee chair of JSM in 2000. Active on awards and membership committees, Williamson also served as vice chair of the Committee on Meetings from 1999–2002; was a member of the Fellows Nominating Committee of the Statistics and the Environment Section from 2004–2006; and was program chair of the Statistics in Epidemiology Section in 1997.

The ASA membership also elected:

Jim Lepkowski, professor in the department of biostatistics at the University of Michigan, as Council of Sections Representative to the ASA Board

Julia Sharp, associate professor in mathematical sciences at Clemson University, as Council of Chapters Representative to the ASA Board

Cynthia Bocci of Statistics Canada as the International Representative to the ASA Board

Terri Utlaut, principal engineer and statistician at Intel Corp., as chair-elect of the Council of Sections Governing Board

Alex Hanlon, research professor of nursing at the University of Pennsylvania, as chair-elect of the Council of Chapters Governing Board

Officers for each of the ASA's 27 sections, are featured below:

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Proposals Wanted for REU Sites

The American Statistical Association has received National Science Foundation (NSF) funding to support Research Experience for Undergraduates (REU) sites.

Proposals are due August 15, 2016, for faculty who want to conduct an ASA-coordinated REU site during the summer of 2017.

Each proposal should describe one or more projects for four students. The students should be mostly chosen from other institutions (rather than from the investigator's own). As an integral part of their statistics research, funded proposals will engage students in all stages of the data analysis cycle, including the following:

- Data verification
- Data cleaning
- Data visualization
- Statistical modeling
- Prediction
- Data mining/machine learning/ computational statistics

At least two faculty mentors are necessary for each project. Projects with an interdisciplinary component are also encouraged. Each REU site must take place within a 10-week window, beginning May 15, 2017, and ending August 25, 2017.

Funded proposals will provide stipends for the REU students and faculty mentors. Priority will be given to faculty who have a strong track record as a mentor with undergraduate student researchers and/or a strong track record of independent research with an eagerness to begin working with undergraduate students.

For more information and to download an application, visit *http://bit.ly/1Yy6AfQ*. Questions may be sent to *reu@amstat.org*. Recruitment should target (but not be limited to) women, minorities, and persons with disabilities. Supported students must be U.S. citizens, nationals, or permanent residents.

This material is based upon work supported by the NSF under Grant No. DMS-1560332. ■

The Department of Statistics at Texas A&M University
Invites Nominations for the
Emanuel & Carol Parzen Prize for Statistical Innovation

STATISTICS
TEXAS A&M UNIVERSITY

To promote the dissemination of statistical innovation, the Emanuel and Carol Parzen Prize for Statistical Innovation is awarded in even numbered years to a North American statistician whose outstanding research contributions include innovations that have had impact on practice and whose Ph.D. degree is at least 25 years old. The Parzen Prize is awarded by the Department of Statistics at Texas A&M University and is selected by the members of the Parzen Prize Committee (consisting of three internal faculty members and two external faculty members). The prize consists of an honorarium of $1000 and travel to College Station to present a lecture at the ceremony.

Nominations for the 2016 Parzen Prize should include a letter describing the nominee's outstanding contributions to high impact innovative research in statistics, a current curriculum vita, and two supporting letters. Nominations should be submitted by August 15, 2016 to the Chair of the 2016 Parzen Prize Committee:

Professor Thomas Wehrly
Department of Statistics
Texas A&M University
3143 TAMU
College Station, Texas 77843-3143.

For more information on the Parzen Prize, please visit our website at www.stat.tamu.edu/events/parzenprize/index.html.

Reproducible Research in *JASA*

Montse Fuentes, Coordinating Editor of *JASA* and Editor of *JASA* ACS

Societal impact through scientific advances is predicated on discovery and new knowledge that is reliable and robust and provides a solid foundation on which further advances can be built. Unfortunately, there is evidence many published scientific results will not stand the test of time, in part due to the lack of good scientific practices for reproducibility.

Our statistical profession has a responsibility to establish publication standards that improve the transparency and robustness of what we publish and to promote awareness within the scientific community of the need for rigor in our statistical research to ensure reproducibility of our scientific results. *JASA* is committed to helping lead the effort by presenting solutions that can help improve research quality and reproducibility.

Starting September 1, 2016, *JASA* ACS will require code and data as a minimum standard for reproducibility of statistical scientific research. New infrastructure is being established to support this initiative. Each manuscript will go through the current review process managed by an associate editor (AE), who will assign to one of the reviewers the broad evaluation of the code. A new editorial role—associate editor for reproducibility (AER)—will be added to ensure we meet a standard of reproducibility.

The AER will handle the review of manuscripts that have already gone through the review process and are acceptable for publication based on their scientific merit as judged by the reviewers and AE, pending assessment of the code and data. This assessment will involve the availability of code and data and a broad evaluation of the quality and potential for usability of the code and data by others who might seek to reproduce the work.

Christopher Paciorek, Victoria Stodden, and Julian Wolfson will be *JASA's* first group of AERs. Paciorek is a researcher, lecturer, and statistical computing consultant in the department of statistics at the University of California at Berkeley. Stodden is an associate professor at the University of Illinois, Urbana-Champaign, and Wolfson is an assistant professor at the University of Minnesota. All three have extensive experience in statistical programming.

Reproducibility of scientific research is our ultimate goal, and the code and data requirement is a first step in that direction.

The computer code and data used to derive the results will be made available through the *JASA* website. Alternatively, code and/or data that are available in suitable public repositories with appropriate versioning can be linked to from the *JASA* website.

The submission of code and data will be a condition for acceptance. Exceptions will be made for lack of adherence of this policy for proprietary data, but code will be required in all cases.

Reproducibility of scientific research is our ultimate goal, and the code and data requirement is a first step in that direction. We all have a part in promoting and enabling reproducibility, and we seek your full support to help promote the robustness of our published research. ■

MORE ONLINE
To view the latest issue of *JASA*, visit *www.tandfonline.com/toc/uasa20/current#.V18QeecrItE.*

JQAS HIGHLIGHTS

Featured in June: Basketball, Hockey, Baseball, and Formula One Racing

Mark E. Glickman, *JQAS* Editor-in-Chief

The June 2016 issue (volume 12, issue 2) of the *Journal of Quantitative Analysis in Sports (JQAS)* consists of four articles with applications to basketball, hockey, baseball, and car racing.

"Estimating an NBA Player's Impact on His Team's Chances of Winning" by Sameer Deshpande and Shane Jensen is the Editor's Choice article for this issue and available for free download for the next 12 months. The article develops an approach to evaluating player contributions in the NBA using a two-step process. They first construct a win-probability model for NBA games that estimates the probability of a game outcome as a function of time remaining in the game and the current score difference. Using the fitted probabilities from this model, they evaluate player contributions to the change in the fitted probabilities through Bayesian linear models that control for other players on the court and other important factors. They demonstrate their approach on seven years of NBA play-by-play data and construct player impact scores that permit assessments of players' worth to their teams.

"Formula for Success: Multilevel Modeling of Formula One Driver and Constructor Performance" by Andrew Bell, James Smith, Clive Sabel, and Kelvyn Jones models points scored by drivers in Formula 1 races in a cross-classified multilevel model that partitions variance into team, team-year, and driver levels to measure driver ability conditional on team performance. The linear effects in the model are then allowed to vary by year, track type, and weather conditions using complex variance functions. Using 905 Formula 1 races between 1950 and 2014, the authors address the question of who is the best Formula 1 driver of all time.

"Improved Component Predictions of Batting and Pitching Measures" by Jim Albert decomposes standard measures of batting and pitching performance into subcomponents, and then considers specification of the measures through telescoping products of conditional probabilities. The subcomponents are modeled as multinomial distributions within a Bayesian framework. The approach is demonstrated on Major League Baseball data and applies the decomposition approach to batting averages, on-base percentage, and the Fielding Independent Pitching measure for pitching success.

Finally, "Beating the Market on NHL Hockey Games" by Samuel Buttrey develops a method for predicting the outcome of National Hockey League (NHL) games. The goal-production process is modeled by a pair of Poisson processes, producing goals at a rate that is assumed constant for each manpower situation over the course of a game. The author constructs a betting strategy using the probabilities predicted on 2013–2014 validation data with favorable results.

These articles are available to all members of the Statistics in Sports Section and on a subscription basis from the *JQAS* website, which can be found at *www.degruyter.com/view/j/jqas.* Prospective authors can find the journal's aims, scope, and manuscript submission instructions on site, as well. ■

Successful **JSM Mentoring Workshop** Gives Participants Much to Say

Erin Tanenbaum is a senior statistician at NORC at the University of Chicago. She is the chair of the Committee on Applied Statisticians (CAS) and was especially motivated to write, receive funding for, and eventually lead CAS in their four-year mentoring program starting with the 2012 Member Initiative "Developing and Piloting a Partnership ASA Mentorship Program" since she needed mentoring her first year attending JSM.

"If it hadn't been for my former co-worker, Jeri Mulrow, I might not have returned because I felt like a small fleck in the ginormous conference." Instead, Jeri encouraged Erin to get involved and she happily admits this has made JSM feel much smaller and more obtainable. "I'm thrilled I didn't stop attending because the sessions are of such high quality and diversity. I would have missed a lot if I'd stopped attending."

This summer will be Tanenbaum's 11th consecutive year attending JSM.

An 'Oval Table' Discussion

In addition to the JSM Mentoring Workshop at JSM this year, the Committee on Applied Statisticians will host an "oval table" discussion for all organizations interested in starting a statistical mentoring program. Committee members will provide "Mentoring in a Box," which provides step-by-step instructions for organizers. Also, there will be an open question-and-answer session, during which other mentoring program organizers will be available to answer questions. The oval table discussion is free, but an RSVP is requested to *donnal@amstat.org*.

JSM 2016 is fast approaching and, as such, it's time for me to reflect on last year's sessions. JSM 2015 was most likely the busiest conference for the Committee on Applied Statisticians to date. Our mentoring initiative reached a fevered pitch as we hosted two mentoring roundtable discussions, a mentoring workshop, and a mixer, as well as assisting with the JSM mentoring program.

The committee worked tirelessly to formulate and build mentoring materials specifically for ASA members, and we shared what we learned with JSM attendees. Over multiple months, our committee met to discuss and sometimes debate the finer points of mentoring. Our hard work paid off, as the **Mentoring Workshop** was a huge success, so much so that we plan to repeat the workshop again this year (see the online program at *www.amstat.org/meetings/jsm/2016/onlineprogram* for up-to-date time and location information) with the Mentoring Award Committee.

This year's workshop is geared for mentors and mentees alike, and the program will include short presentations about getting the most out of mentoring. In addition, we will have panelists who will share their mentoring stories and answer your questions. The session will be held in a room with round tables, so there will be multiple opportunities for attendees to interact with one another and discuss their own challenges and learning opportunities.

Since the format is similar to last year's, I thought I'd share a few comments from workshop attendees and a table leader. We hope to see you at this year's workshop, which is free and open to all conference attendees.

Zachary H. Seeskin, PhD Candidate in Statistics at Northwestern University and a U.S. Census Bureau Dissertation Fellow

"Last summer, at my first JSM in Seattle, I found the Mentoring Workshop to be one of the most valuable sessions I attended. As JSM is a large conference with more than 6,000 statisticians, it can be hard to find chances to meet new people. The Mentoring Workshop helped to make JSM feel smaller and was a great place to meet others. My table included both early career and experienced statisticians, all friendly and eager to share their perspectives. The session included opportunities for casual conversation to discuss some topics suggested by the organizers and for Q+A with a panel of experienced statisticians. I learned about how good mentorship was important to many of the experienced statisticians at our table when they were beginning their careers. One valuable piece of advice was to seek mentors both within and outside of one's organization/department, as both perspectives are helpful when starting a career. I would highly recommend the Mentoring Workshop to graduate students and early career statisticians, and I hope to attend again this summer."

Thilaksha Tharanganie, Assistant Lecturer at Monash University

"This was my first time attending a JSM and I found it a little overwhelming. I was one of the recipients of an Institute of Mathematical Statistics Travel Award, which assisted me with the costs of attending JSM. I networked with peers from all over the world. For me, a highlight of attending the JSM was to attend the workshops, including the Writing Workshop and Mentoring Workshop. The feedback I received from the Writing Workshop mentor, Professor David Banks from Duke University, was invaluable. In addition, I was selected to participate in the JSM mentoring and was matched with a mentor, Ms. Erin Tanenbaum, who is a senior statistician in the statistics and methodology department at NORC at the University of Chicago. She encouraged me to attend the Mentoring Workshop, where I was able to connect with like-minded statisticians. I am immensely grateful for all her advice and for the information I learned at the Mentoring Workshop. It definitely made the conference feel smaller—with over 6,000 statisticians attending each year, it's always helpful to feel more connected with others when you are so far away from home. Overall, my participation in the 2015 JSM opened up doors to the wider world."

David Banks, ASA Fellow and Professor at Duke University

"The Mentoring Workshop at the JSM in Seattle was depressing. Every young person I spoke to was brilliant and charming and working on some amazing project. Most were tackling problems that hadn't even been framed 10 years ago, using tools and concepts that were almost alien to me. I felt like the Neanderthals in William Golding's The Inheritors, or the adults in The Midwich Cuckoos. At first, there didn't seem to be anything useful I could offer them—the mentees are our successors and 'surpassers' and see their way forward pretty clearly. But I found I could contribute a few small things, such as some insight into the oddities of our publication process or tips for work/life balance. They also liked gossip about the old guard. Would I do it again? Yes. It made me feel really old, but probably keeps me younger than I could otherwise manage."

Sarah Kalicin, Senior Statistician at Intel Corporation

Kelly H. Zou, PStat®, ASA Fellow, and Senior Director and Analytic Science Lead at Pfizer Inc.

"Last year, I attended the JSM Mentoring Workshop to support that our association is promoting the development of our fellow statisticians. Mentoring is about helping each other grow so that we all become stronger in how we practice our profession and contribute effectively to our work organizations. While I have been an advocate for mentoring within the ASA, it is always great to hear how others are using mentoring and how to remove any barriers for others in adopting this very effective development tool. In the spirit of mentoring, the more we share our strengths with others, the stronger we become as a profession. I highly recommend everyone to attend the next ASA Mentoring Workshop to learn how you can become both a mentee (to learn something new) and a mentor (to share what you have learned)."

"Dr. Barry D. Nussbaum, the incoming president, forwarded me the workshop flier prior to JSM. It interested me since I've been a mentor through ASA plus my company, Pfizer Inc. I have been quite active in participating in the mentorship process, organized by our Global Asian Alliance (GAA) within my company. In my own career development, a thoughtful and caring mentor became a guiding light. Subsequently, I have become a mentor. Therefore, both as a JSM mentor and as a GAA mentor, I was curious and hopeful that this workshop would shed light on effective mentorship skills.

"The 2015 Mentoring Workshop organizers included a roundtable format for face-to-face interactions, complementary to the one-on-one JSM mentorship. The participants at every table introduced themselves and paid attention to the attendees' particular needs. Among the table, there were familiar faces, including Dr. Lillian Lin, who was a recipient of the Jeanne E. Griffith Mentoring Award from the ASA. The caring table leaders of the workshop asked about the attendees' (mentors and mentees) challenges and dilemmas. Both sides enjoyed two-way interactions through learning, conversing, and sharing.

"My favorite part of the workshop was to listen to three distinguished panelists: David R. Morganstein, professor and very soon dean Sally C. Morton, and dean Sastry Pantula. All of them were past ASA presidents who talked about their background and experience as mentors. There was unique, but common, key take-away messages from each of these leaders in the statistical profession. For example, I enjoyed David's perspective from the industry side, Sally's view as a successful woman statistician, and Sastry's personal background growing up in Asia.

Furthermore, I enjoyed the enthusiasm of the workshop organizers—Erin R. Tanenbaum, Eric A. Vance, and Mark Otto—who represented the Committee on Applied Statisticians and ensured a lively session, including questions from the audience answered by the panelists. The responses by the three panelists were extremely helpful and witty. Overall, I found this workshop engaging and energizing. It was satisfying, reassuring, and heart-warming to know that the journey of being an outstanding statistician was bumpy and that our statistical societies, such as the ASA, are so supportive of fostering a future generation of statisticians.

"The key characteristics of an effective mentor are listening and problem-solving skills. Nowadays, such 'soft skills,' as well as technical prowess, are crucial in business acumen and leadership qualities in the field of statistics, data sciences, and quantitative analytics. The JSM Mentoring Workshop would definitely enhance the professional network, support system, and match-making process to help facilitate mentorship needs.

"Under the big tent for statistics following the 175th anniversary celebration of the ASA, there are abundant opportunities to mentor and be mentored. I would certainly look forward to attending the JSM Mentoring Workshop again in 2016 and beyond! The topic of mentorship brings me the fond memory of and the deep respect for influential statisticians who made a difference in my life." ■

MORE ONLINE
To register for the Joint Statistical Meetings, visit *www.amstat.org/meetings/jsm/2016/registration.*

STAT*tr@k*

Classroom to Collaboration: Tips for a Successful Transition

As students, we anticipate differences between practicing statistics in the classroom and practicing statistics in the real world. We know we will no longer have our textbooks or professors providing us with clearly phrased questions that we are prepared to answer. We know the data will not be as perfect or as small as those textbook examples. We know we will work with nonstatisticians, some of whom think statistics is magic. But anticipating these differences is not the same as experiencing them—the reality can be overwhelming when we start practicing statistics outside the classroom. Come along with me as I provide tips to ease the transition from student to collaborator based on my own experience in a collaborative research lab.

Brittney Bailey is a biostatistics PhD student at The Ohio State University who is interested in the analysis of clinical trials with partially clustered designs. As a graduate student researcher, she collaborates with researchers in the Stress & Health Lab of the Wexner Medical Center.

Learn to communicate.

In a collaborative setting, you are often working with nonstatisticians to help answer their questions. You may be brought onto a project at any time, from developing hypotheses and designing a study to running analyses and interpreting results. Regardless of when you are brought on, the first step is discussing the project with someone else. If the field is unfamiliar to you, you should learn enough about it to be able to communicate with your collaborators. Read prior literature or study protocols produced by your collaborators. Google terms or ask your collaborators to explain concepts you do not understand. There may be a lot of back-and-forth as both you and your collaborators become familiar with different terms or concepts.

You are also responsible for interpreting results and making sure your collaborators understand both the results and, to a certain degree, the methods used to obtain the results. You may need to explain the methods or results in several ways, whether it's by using graphics and tables, modifying your wording until they get a better understanding, or tying more abstract ideas to real-world examples.

Establish good working relationships.

Good communication must be maintained for the duration of the project. Be clear about what you expect from your collaborators and what they can expect from you. Take the time to clarify anything you are unsure about and rephrase ideas to ensure you are all on the same page. Respond to messages in a timely manner, even if it's just to acknowledge receipt of the message, and provide progress updates if a task takes longer than expected. Be prepared for meetings by reviewing the project beforehand and having materials ready to present.

Prepare for difficult conversations.

In some cases, you may have to deliver bad news. Maybe the study is not feasible due to sample size limitations or the data are not salvageable due to missingness, measurement errors, or poor data collection.

Maybe you made a mistake at some point in your analyses and the results are no longer significant. In other situations, you may not be comfortable with a task due to ethical or scientific concerns. These are not easy conversations to have, especially when collaborators are under pressure to produce results.

Try to have difficult conversations in person when possible, and maintain a respectful and professional tone in all forms of communication. If you make a mistake, own up to it quickly and make every effort to resolve the problem. When it comes to ethical or scientific concerns, be prepared to stand your ground. You may have to defend your position, but you should not do anything you are not comfortable with. If you are not sure whether your concerns are valid, discuss them with a trusted colleague or mentor before bringing them to your collaborators.

Be patient with less-than-perfect data.

Real-world data can be awful. You may spend a significant amount of time restructuring the data file, renaming variables, and cleaning the data just to get it in a usable format. Before doing anything, be sure to save the original data to a folder where it will never be edited.

Even with an excellent data management system, real-world data are subject to missingness, limits of detection, outliers, and other errors that make analyses more difficult (or sometimes impossible). In many cases, the data do not satisfy the assumptions needed to perform your planned analyses. You might be tempted to transform the data or try a more complex method of analysis, but you must keep in mind the goals of the collaborators and the limitations of what they are comfortable with you doing. You will need to be able to explain your choices to your collaborators, and they will also need to be able to present their results to others. Your approach will often be a balance between correctness and simplicity.

Confidence in your own ability will help you be more productive and alleviate the stress that tends to accompany a lack of confidence.

Continue to learn.

Remember that learning never ends. If you have the benefit of working with a mentor when you begin, take advantage of the opportunity to learn from them and get feedback on your performance. If you are not sure about a method, take the time to read about it—review old notes or textbooks, research online, or reach out to a mentor or colleague. Stay updated on current methods by occasionally browsing journals or conference proceedings. Attend conferences, workshops, and short courses when possible—these are great opportunities to get new ideas and connect with other statisticians and potential collaborators.

Be confident.

Confidence goes a long way. Confidence in your own ability will help you be more productive and alleviate the stress that tends to accompany a lack of confidence. If you interact with your collaborators and present your work with confidence, your collaborators will have more respect for you and more trust in your work. It may take time to build confidence, but you should trust that the years you spent training in statistics have prepared you well for your collaborative role. ■

MASTER'S NOTEBOOK

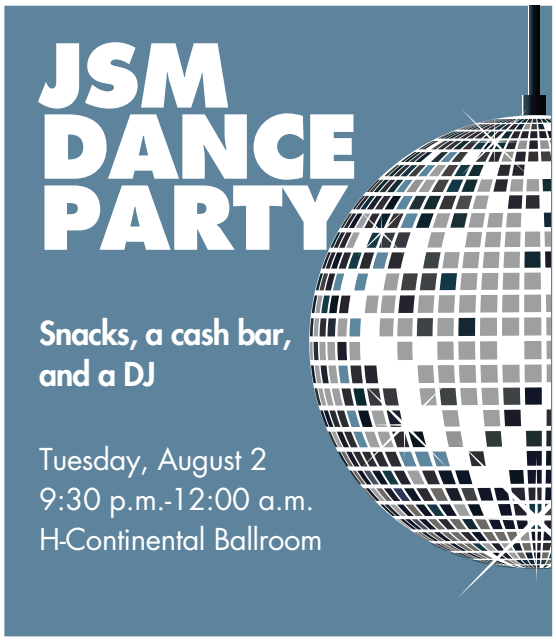
Applied Statisticians: Get the **MOST** Out of JSM

Amit Bhattacharyya is an applied statistician who has worked in the pharmaceutical industry for the last 23 years—most recently, as the senior director at GlaxoSmithKline. Bhattacharyya has also been active with the ASA and other international statistical professional associations. He earned his PhD in statistics from the University of Maryland.

I am delighted to rejoin the ASA Committee on Applied Statisticians (CAS) as a recently appointed member. I am also excited to be part of a new, concentrated effort by the committee to develop awareness and promote careers in applied statistics.

Many of my fellow statisticians are actively registering for the yearly pilgrimage to JSM, the Joint Statistical Meetings. This year, the event will be held in the windy city of Chicago from July 30 to August 4. I am calling on you to engage in thoughtful discussions about various uses of statistical principles and applications.

Appropriately, the theme for JSM 2016 is "The Extraordinary Power of Statistics." JSM is a great venue for networking and learning; it's also where I have met most of my professional colleagues over the decades. Attend your sections' receptions, as well as any reception or business meeting listed in the program that is not closed. These meetings are a good opportunity to meet others working on similar challenges.



If you prefer more of partying opportunity, don't miss the JSM Opening Mixer (enjoy the desserts) on Sunday night and the JSM Dance Party Tuesday night. Also, take the time to enjoy a drink or bite to eat during a reception while learning about the host's contributions to statistics and applications. The Committee on Applied Statistics' Social Mixer will take place August 1 at 5 p.m. in the Hilton, Room 4L.

Volunteering for sections, chapters, committees, initiatives, and other opportunities is one of the best ways to contribute to our profession. In doing so, I have met new people and acquired roles in the organization while having a lot of fun each year at JSM.

With more than 700 technical sessions in addition to short courses and business meetings, it is daunting to decide which sessions to attend. The place to start is the JSM online program (*www.amstat.org/meetings/jsm/2016/onlineprogram*), where a number of events containing an asterisk (*) imply that the paper, panel, or poster is on an applied topic (keep in mind that "applied" is a relative term).

Wearing the hat of an applied statistician, I typically go to the Advanced Search option and look for sessions sponsored by sections familiar to me. Being a biopharmaceutical statistician, that is the section I look up first. CAS also co-sponsors a handful of sessions. And many CAS committee members this year are associated with the Statistical Consulting Section, so I will search by that section, too.

In addition to sessions, there are plenty of continuing education courses to enhance your development in a new area. These are additional-fee events worth considering, as they add value to the JSM experience. If you'd like to learn about a new upcoming area, look for introductory overview lectures, which are usually delivered at a basic level.

For sharing ideas or meeting new people working on similar areas of interest, try out an A.M. (with breakfast) or P.M. (with lunch) roundtable.

I look forward to seeing you in Chicago!

JSM 2016 Applied Events Recommended by CAS Members

Date	Location	Day	Time	Topic
SHORT COURSES				
07/30/2016	CC-W473	Saturday	8:00 a.m. – 12:00 p.m.	Effective Collaboration, Part I (ADDED FEE)
07/31/2016	CC-W473	Sunday	1:00 p.m. – 5:00 p.m.	Effective Collaboration, Part II (ADDED FEE)
07/31/2016	CC-W473	Sunday	8:00 a.m. – 12:00 p.m.	Preparing Statisticians for Leadership: How to See the Big Picture and Have More Influence, Part II (ADDED FEE)
APPLIED SESSIONS				
07/31/2016	CC-W183b	Sunday	4:00 p.m. – 5:50 p.m.	Making the Most of R Tools
07/31/2016	CC-W176a	Sunday	4:00 p.m. – 5:50 p.m.	Administrative Records and Data Disclosure
08/01/2016	CC-W183c	Monday	2:00 p.m. – 3:50 p.m.	The Extraordinary Power of Statistical Collaboration
08/01/2016	CC-W183b	Monday	10:30 a.m. – 12:20 p.m.	Benefit-Risk Evaluation in Medicine
08/02/2016	CC-W183a	Tuesday	8:30 a.m. – 10:20 a.m.	A Roadmap for Promoting Statistical Collaboration
08/02/2016	CC-W179b	Tuesday	10:30 a.m. – 12:20 p.m.	Consulting, Collaboration, Communication, and Impact
08/03/2016	CC-W176c	Wednesday	8:30 a.m. – 10:20 a.m.	Extraordinary Power of Remote Collaboration and Team Science
08/03/2016	CC-W183a	Wednesday	10:30 a.m. – 12:20 p.m.	Global Challenges and Collaboration in Biopharmaceutical Statistics
08/03/2016	CC-W196c	Wednesday	2:00 p.m. – 3:50 p.m.	Collaboration Among Academia, Industry, and Government and the Role of ASA
08/04/2016	CC-W176c	Thursday	8:30 a.m. – 10:20 a.m.	My Life as a Statistical Consultant
08/04/2016	CC-W183a	Thursday	8:30 a.m. – 10:20 a.m.	Outside the Closed Door: Industry Statisticians Discuss the DMC Process
COMMITTEE OF APPLIED STATISTICIANS SPECIAL EVENTS				
08/01/2016	H-4L	Monday	5:00 p.m. – 6:00 p.m.	Social Mixer
08/02/2016		Tuesday	10:30 a.m. – 11:30 a.m.	Mentoring Workshop for New and Seasoned Mentors and Mentees

Note: View the online program for up-to-date times and locations.

The Makings of a Survey Methodologist—and a Survey Methodology Conference

QDET2 Chair Talks About Her Experiences in the Field

November will mark the second International Conference on Questionnaire Design, Development, Evaluation, and Testing (QDET2). We invited the chair of the conference, Amanda Wilmot, to discuss her experience in survey research and share what she hopes participants will learn from attending QDET. For information about the QDET2 conference, visit *ww2.amstat.org/meetings/qdet2.*

Amanda Wilmot is a senior study director at Westat with 30 years of professional experience in survey research. She is part of Westat's Instrument Design, Evaluation, and Analysis (IDEA) Services group. During her career, Amanda has managed large-scale government surveys covering a range of social policy issues and specialized in the development of data collection instruments. She currently chairs the organizing committee for the 2016 International Conference on Questionnaire Design, Development, Testing, and Evaluation (QDET2), which will take place in Miami, Florida, in November of this year.

Tell us about your research background.

My working life has provided me with a series of opportunities that have led me in directions I could not have foreseen. I began my survey research career at the U.K. Office for National Statistics (ONS) in London, joining their Social Survey Division (SSD) after leaving university. It was in SSD that I learned about survey research from renowned experts in the field and went on to manage large-scale surveys in the U.K., including the National Travel Survey, Family Resources Survey, and the National Diet and Nutrition Survey of adults. When I first started work, we were still using mainframe computers and a response rate of anything less than 80% was considered poor! The world of survey research has certainly become much more complicated since then, chasing ever-declining response rates and finding new and innovative ways to motivate the time-strapped public to take part.

In 2002, I was given the opportunity to attend the first-ever Conference on Questionnaire Development, Evaluation, and Testing (QDET) in Charleston, South Carolina, chaired by Jennifer Rothgeb from the U.S. Census Bureau. This was a real turning point in my life. I had always had a particular interest and flare for the front-end survey data-collection phase, and attending the conference meant I was able to learn from and network with others from around the world with the same interest. I could never have known that, more than 10 years later, I would be asked to take Jennifer's role and

chair the organizing committee for the second QDET conference, which will take place in November of this year in Miami, Florida.

Soon after the 2002 conference, I was given another opportunity by ONS to head up a team of quantitative and qualitative methodologists specializing in the development of data collection instruments for social surveys. Through the use of various survey pretesting methods, I was able to experience and understand the true meaning of language and how it evolves from the survey respondent's perspective. It was during this time that I led the team in developing a harmonized question on sexual identity that could be used on social surveys and for equality-monitoring purposes. At that time, [it was] something that had not been undertaken on quite that scale.

When the ONS moved its headquarters from London to South Wales, another opportunity arose for me to pursue my growing interest in cross-national questionnaire design. I took a position at the University of Leicester working with my long-time mentor, professor Howard Meltzer, to develop the European Health and Social Integration Survey questionnaire. Professor Meltzer was an adviser to the UN [United Nations], WHO [World Health Organization], OECD [Organisation for Economic Co-operation and Development], and EC [European Commission] committees on disability issues. It was his wish to see Europe measure disability from the perspective of the barriers to social integration as reported by the respondent, rather than using the classic medical model in which disability is simply the consequence of a health problem. Sadly, professor Meltzer passed away in 2013, but it was my great privilege to be able to help support the survey through its implementation in 28 European countries. In fact, I will be presenting on that work at QDET2.

Moving to the United States was another amazing opportunity for me to work with some of the world's leading survey methodologists, and this was when I truly learned the meaning of the phrase "two nations divided by a common language." In the U.S., pavement is apparently something you drive on, not walk on! A trolley is something to convey passengers, not to move groceries around the grocery store. And I should have asked for potted plants in the local garden center and not pot plants, which is the British-English term!

What interested you about your current position at Westat?

It was the chance to work with a group of like-minded and highly skilled individuals specializing in questionnaire design and pretesting who really care about data quality. We get to work on a range of different topics and apply cutting-edge methodologies, so life is never boring. It is a very stimulating environment in which I feel privileged to be a part of.

What is QDET2, and what do you hope participants will gain from attending the conference?

QDET2 will be the first international conference of its kind in 14 years specifically devoted to survey questionnaire design and the methods used for questionnaire development, evaluation, and testing. The vision from the start was to bring together questionnaire design specialists from across the world (from both the public and private sectors) to discuss methodology and new developments in pretesting and evaluation of survey questionnaires. The conference aims to set the benchmark for best practices in the field, as well as provide a forum for discussing areas for future research. Participants will hear from industry thought leaders, learn about real-world case studies from survey agencies, and, of course, have the opportunity to network with international peers and colleagues.

What are some of the challenges you have faced organizing the conference?

Obviously, a conference of this scale is going to be a lot of work and require a huge time commitment—I probably underestimated that aspect. But we have a strong group of volunteers on the various committees taking responsibility for different aspects of the conference, including the program, publications, and training committees—and not forgetting the all-important events committee! A big help to me at the start was being able to talk with Jennifer Rothgeb and learn from her experiences organizing the first QDET. Jennifer will be joining us at the conference and will speak about what came out of the 2002 QDET. I would also like to mention that our ASA conference planner, Naomi Friedman, has been amazing in guiding us throughout the process.

MORE ONLINE
To read the 2015 interview with Mario Callegaro and Gordon Willis, visit *http://magazine.amstat.org/blog/2015/09/01/surveyresearch.*

What part of the conference are you most excited about?

That is a difficult question to answer because we already have an incredible line-up of invited and contributed presentations, preconference short-courses given by leading experts in the field, and, of course, not one—but two—keynote speeches to reflect the overall aims of the conference. Gordon Willis from the National Institutes of Health and the guru of cognitive testing will kick off day one with his keynote titled "Questionnaire Design, Development, Evaluation, and Testing: Where in the World Are We?" And Mario Callegaro, from Google UK and a leading expert in web survey methodology, will follow on day two with "Questionnaire Design, Development, Evaluation, and Testing: What's the Future Look Like?" There will also be a conference book published by Wiley showcasing the best papers. We have tried to vary the learning experience for conference attendees, as well. The program is interspersed with workshops, demonstrations, and roundtable discussions. So, on reflection, the biggest reason to be excited is the potential for facilitating knowledge exchange at the international level.

What does the future hold for questionnaire designers?

You will need to come to the conference to find out!

Do you have an example of a 'bad' survey question?

Not so much a 'bad' survey question, but an example of how language and meaning evolves. I have always been interested in social history. Census forms are really interesting in this regard. The disability question from the 1901 U.K. Census form, for example, still collected information about whether anyone in the household was a lunatic, imbecile, or feebleminded—probably a question we would want to cognitively test these days!

What advice can you give to someone who would like to pursue a career in questionnaire design as a survey methodologist?

You really need to have a passionate interest in people and their use of language. I would suggest that if you are interested in specializing in the design and development of survey data collection instruments, then a good grounding in survey methods and experience of applying them in a real-world context is crucial. ■

QDET2

International Conference on Questionnaire Design, Development, Evaluation, and Testing

Registration Form

November 9–13, 2016 • Hyatt Regency Miami —Miami, FL

www.amstat.org/meetings/qdet2

INSTRUCTIONS

1. Print or type all information and retain a copy for your records.
2. Use a separate form for each registrant.
3. Mail form with payment to QDET2 Registration, 732 N. Washington Street, Alexandria, VA 22314. Fax form (credit card payment only) to (703) 684-2037.
4. Registration form must be received by August 15, 2016, to be processed at the reduced rate.

Purchase orders will not be accepted. No exceptions. ASA Federal ID #53-0204661

Forms received without payment will not be processed

ATTENDEE INFORMATION

Name_____ASA ID # (if known) _____

Preferred Name for Badge (if other than first name) _____

Organization_____

Address _____

_____

City _____ State/Province _____ ZIP/Postal Code_____

Country (non-U.S.) _____ Phone _____Email _____

Short Courses

Wednesday, November 9

$150 each by August 15 ($125 for students);
$175 each after August 15 ($125 for students)

9:00 a.m.–12:30 p.m.

❑ **SC1:** An Introduction to Question Design and Evaluation 101, Jack Fowler (Center for Survey Research, University of Massachusetts, Boston, USA) BEGINNER/INTERMEDIATE

❑ **SC2:** Current Developments in Cognitive Interviewing of Survey Questions, Gordon Willis (National Institutes of Health, USA) BEGINNER/INTERMEDIATE

❑ **SC3:** Smart Phones, Smart Questionnaires? The Challenges of Delivering Surveys via Mobile Device, Michael Link (AbtSRBI) INTERMEDIATE/ADVANCED

2:00 p.m.–5:30 p.m.

❑ **SC4:** Writing and Pretesting Cross-Cultural Questionnaires, Ana Villar (City University London, UK) BEGINNER/INTERMEDIATE

❑ **SC5:** Quantitative Methods for Testing Questions, Daniel Oberski (Tilburg University, The Netherlands) INTERMEDIATE/ADVANCED

❑ **SC6:** Usability Testing for Survey Research: How-To and Best Practices, Emily Geisen (RTI International); Jen Romano-Bergstrom (Facebook) BEGINNER/INTERMEDIATE

TOTAL SHORT COURSE CHARGES: $_____

MEAL FUNCTIONS

Lunch is included with your registration Thursday through Saturday.

Please select one of the following menu options: ❑ Regular ❑ Vegetarian/Vegan ❑ Kosher

❑ **Breakfast Roundtable Discussions, Sunday, November 13, 9:00-10:30 a.m.** ($20) $_____

REGISTRATION FEES (required)

	By August 15	After August 15	
ASA Member	$585	$685	$_____
Nonmember*	$675	$775	$_____
Student	$190	$190	$_____

* Includes free optional first-year ASA membership; not available to renewing or recently lapsed members.

❑ Yes, please include my new membership.

SHORT COURSE FEES: $_____
MEAL FUNCTION FEE: $_____
TOTAL FEES: $_____

PAYMENT

❑ Check/money order payable to the American Statistical Association (in U.S. dollars on U.S. bank)

Credit Card ❑ American Express ❑ Discover ❑ MasterCard ❑ VISA

Card Number _____

Expiration Date_____ Security Code _____

Name of Cardholder_____

Authorizing Signature _____

IN CASE OF EMERGENCY

List the name and phone number of the person we should contact (remains confidential).

Name_____Telephone Number _____

❑ Please update my ASA customer contact information with this contact information.

❑ Please exclude my name from the conference attendee roster that will appear on the conference website.

This meeting is ADA accessible.

❑ Please check here if you need special services due to a disability or have food allergies/restrictions and attach a statement regarding your needs.

CANCELLATION POLICY

All cancellations must be submitted in writing. Email: *meetings@amstat.org*; Fax: (703) 684-2037; Mail: QDET2 Registration, 732 North Washington St., Alexandria, VA 22314. For cancellations received prior to October 25, 2016, the conference fee will be refunded less a 20% cancellation fee per item cancelled. For cancellations received after October 25, 2016, no refunds will be issued.

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JSM 2017
Invited Session Proposals Sought

Regina Liu, JSM 2017 Program Chair

Regina Liu

The 2017 Joint Statistical Meetings (JSM) will take place in Baltimore, Maryland, from July 29 to August 3, 2017. The theme for 2017 is "Statistics: It's Essential," as announced by 2017 ASA President Barry Nussbaum. This theme emphasizes the opportunity presented by the JSM program to highlight and promote the importance and achievement of our discipline and to illustrate how fundamental statistics is to all aspects of scientific endeavors, societal advancements, and even the seemingly mundane daily life.

The program committee is soliciting proposals for invited sessions to showcase some of the most innovative, impactful, and cutting-edge work in our profession. Invited sessions include invited papers, panels, and posters. Invited paper sessions consist of 2–6 speakers and discussants reporting new discoverers or advances in a common topic; invited panels include 3–6 panelists providing commentary, discussion, and engaging debate on a particular topic of contemporary interest; and invited posters consist of up to 20 electronic posters presented during the Opening Mixer.

The ideal session involves fresh, important work that many JSM attendees will find interesting. Many of the most stimulating sessions present diverse viewpoints and strategies on a common topic or problem, with speakers coming from different institutions or practices.

An invited session proposal should include a session title, general description of the session, list of participants, and tentative presentation titles (can be modified later). The invited session submission period is July 14 to September 6. When planning an invited session, please note that JSM has strict guidelines for participation. Make sure none of the potential speakers is committed to multiple invited proposals.

The session proposals must be submitted via the JSM online system, indicating type of session and proposed sponsor. Starting from JSM 2017, the invited session proposal form allows each proposal to select up to three sponsors in ranked order. This is to ensure a worthy proposal is considered by other sponsors if it is not selected by its designated primary sponsor. Before submitting your proposal, you are encouraged to contact members of the program committee representing your chosen sponsors to see if they are willing to sponsor your proposal. If you are a member of an ASA section or another sponsoring society, going through the corresponding representative is often a good way to proceed. They may accept the session outright for one of their allocated spots, or they may enter it into a general competition in which selection is decided by a consensus vote of the entire program committee. In either case, only sessions submitted via the online system will be considered. Decisions about the invited program will be made by the end of September. It is helpful to contact program committee members well ahead of the September deadline.

If you have ideas for invited papers or panels, but are unsure which sponsor to choose, you may contact me at *rliu@stat.rutgers.edu*. I am happy to help steer your proposal to appropriate program committee members for consideration.

I would also appreciate receiving good suggestions for topics or speakers for introductory overview lectures (IOLs), which are high-quality introductions to timely and important statistical topics of interest to broad JSM attendees. Note that IOL speakers can also present an invited or contributed paper, panel, or poster.

On behalf of all program committee members, I thank you in advance for your participation and efforts in making JSM 2017 a great success. I look forward to seeing you around the beautiful Baltimore Inner Harbor ■

20th Biopharmaceutical Workshop to Focus on Making Better Decisions

Freda Cooner and Ed Luo, Workshop Co-Chairs

This year marks the 20th anniversary of the ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop, formerly known as the ASA Biopharmaceutical Section FDA/Industry Statistics Workshop. The workshop, sponsored by the ASA Biopharmaceutical Section in cooperation with the FDA Statistical Association (FDASA), has grown steadily in popularity, attracting more than 800 participants in recent years.

The workshop will take place September 28–30 at the Marriott Wardman Park Hotel in Washington, DC. The theme is "Statistical Innovation: Better Decisions Through Better Methods." Besides the 42 parallel invited sessions, this year's program includes eight half-day short courses, two plenary sessions, 48 roundtable discussions, and 21 posters. Also, there will be a mixer on September 29. Housing and registration are open at *www.amstat.org/meetings/biopharmworkshop/2016.*

The following short courses will be offered on September 28:

Introduction to Clinical Trial Optimization to Enable Better Decision Making
Instructor(s): Alex Dmitrienko, Quintiles

Bayesian Biopharmaceutical Applications Using SAS
Instructor(s): Fang Chen, SAS Institute; Guanghan Liu, Merck

An Overview of Methods to Assess Data Integrity in Clinical Trials
Instructor(s): Richard Zink, SAS Institute; Marc Buyse, IDDI; Paul Schuette, FDA

Statistical Methods and Software for Multivariate Meta-Analysis
Instructor(s): Haitao Chu, University of Minnesota; Yong Chen, University of Pennsylvania

Writing Clinical Trial Simulators
Instructor(s): Scott Berry and Anna McGlothin, Berry Consultants

Use of Biomarkers for Surrogacy and Personalized Treatment Selection
Instructor(s): Tianxi Cai, Harvard School of Public Health; Layla Parast, RAND Corporation

Structured Benefit-Risk Evaluation and Emergent Issues
Instructor(s): Weili He, Merck; Qi Jiang, Amgen; John Scott, FDA/CBER

Design and Statistical Analysis of Biosimilars
Instructor(s): Shein-Chung Chow, Duke University ■

	Thurgood Marshall North	
Welcome (8:15 a.m. to 8:30 a.m.)		
Thursday, Sept. 29: Plenary Session 1 (8:30 a.m. to 9:45 a.m.)	Plenary 1	
Thursday, Sept. 29: Plenary Session 2 (10:00 a.m. to 11:30 a.m.)	Plenary 2	
Roundtable Lunches (11:45 a.m. to 1:00 p.m.)	Madison A & B; Wilson A, B, & C; Tyler; Taylor; Truman; Taft; McKinley; and Marriott Balcony B	
Thursday, Sept. 29: Parallel Session 1 (1:15 p.m. to 2:30 p.m.)	Bayesian Design: Using Historical Information in Clinical Trials: How Much Can We Gain?	
Thursday, Sept. 29: Parallel Session 2 (2:45 p.m. to 4:00 p.m.)	Bayesian Design: Bayesian Approaches in Quantitative-Based Decision Making for Drug and Devices Development	
Thursday, Sept. 29: Parallel Session 3 (4:15 p.m. to 5:30 p.m.)	Subgroup Analysis: Personalized Medicine: How Bayesian Subgroup Analysis Plays Its Role	
5:30 p.m. to 6:30 p.m.	Mixer to Immediately Follow	
Friday, Sept. 30: Parallel Session 4 (8:30 a.m. to 9:45 a.m.)	Study Design and Analysis: Protocol Deviation and Prescreening Bias Handling in the Clinical Trial of Personalized Medicine	
Friday, Sept. 30: (9:45 a.m. to 10:30 a.m.)	Poster Session - Atrium	
Friday, Sept. 30: Parallel Session 5 (10:45 a.m. to 12:00 p.m.)	Subgroup Analysis: New Perspectives and Approaches in Precision Medicine	
Friday, Sept. 30: Parallel Session 6 (1:15 p.m. to 2:30 p.m.)	Study Design and Analysis: Moving Beyond the Hazard Ratio Paradigm in the Design and Analysis of Clinical Trials with Time-to-Event Endpoints	
Friday, Sept. 30: Parallel Session 7 (2:45 p.m. to 4:00 p.m.)	CMC 1 Method Validation on the Revised ICH Guidance	

	Thurgood Marshall South	Thurgood Marshall East	Thurgood Marshall West	Lincoln 5	Lincoln 6
	Adaptive Design: An Adaptive Design Case Study—Detailed Review and Discussion	Other: Standards for Evidence of Effectiveness: Evaluating Compelling Single-Trial Evidence Versus Benefits of Replication	Bioequivalence, Generics, and Biosimilars: Statistical Issues in Clinical Endpoint Studies of Bioequivalence	Benefit-Risk: Emerging Topics in Benefit-Risk Assessment	Safety: Statistics Methodology for Safety Monitoring and Confirmatory Safety in Clinical Development
	Adaptive Design: Futility Assessments in Late-Phase Drug Development: Statistical, Operational, and Regulatory Perspectives	Modeling and Simulation: Best Practice in Modeling and Simulation: What Should It Be and How Will It Change What We Do?	Bioequivalence, Generics, and Biosimilars: Statistical Issues in Establishing Therapeutic Clinical Bioequivalence	Medical Devices: Current Practice and Challenges in Utilizing Existing Data in Pre-Market Evaluation of Medical Devices	Early Phase/Pre-Clinical Trials: Robust Decision Making in Early-Stage Clinical Development
	Multiple Tests: Multiple Endpoint Evaluation for Medical Devices: Analyses, Labeling, and Claims	Modeling and Simulation: Moving Pharmacometrics and Statistics Beyond a Marriage of Convenience: Improving Discipline Synergy and Drug Development Decision Making	CMC 2 FDA Guidance on Statistical Approaches for Evaluation of Analytical Similarity	Veterinary: Statistical Issues and Challenges in Regulatory Animal Drug Studies	Early Phase/Pre-Clinical Trials: ICH E14 and Concentration-Response Modeling
	Dose Selection: MCP-Mod: Recent Advances in Methodology and Application	Study Endpoints/Patient-Reported Outcomes: Advance the Use of Patient-Reported Outcome Measures (PROMs) in Regulatory Decision Making	Oncology: Immune-Related Clinical Endpoints for Cancer Immunotherapy: Are They Ready for Prime Time?	Diagnostics: Agreement and Precision Studies	CMC 3 Setting Acceptance Criteria for Assay Transfer
	Therapeutic Area-Specific Topic: Considerations in Pediatric Trial Designs and Analysis	Study Endpoints/Patient-Reported Outcomes: Developing PRO Instruments in Clinical Trials: Issues, Considerations, and Solutions	Oncology: Design and Analysis of Cancer Immunotherapy Trials	Diagnostics: Statistical Considerations in Evaluating Diagnostic Devices Needed for Precision Medicine	Computation and Data Standards: Statistical Software and Computation for Regulatory Applications
	Therapeutic Area-Specific Topic: Regulatory Pathways and Case Studies in Orphan Drug Development	Missing Data: Sensitivity Analyses Under the Spirit of the ICH E9 Addendum	Oncology: Challenges and Opportunities for Acceleration in Oncology Drug Development: Patient Enrichment, Dose-Finding, Combination Therapy, and Regulatory Acceleration	Diagnostics: Advances in Risks Prediction and Prognostic Biomarker with Time-to-Event Data: Power Calculation, Meta-Analysis, and Recurrent Time-to-Event Models	Big Data: Sharing Patient-Level Clinical Trial Data in the Era of Big Data: Current State and Future Possibilities
	Therapeutic Area-Specific Topic: Development in Evaluating Cardiovascular Risk: Pre- and Post-Marketing	Missing Data: Clinical Trials with Missing Data, Estimands Selection, and Analysis Methods	Biomarkers: Statistical Considerations for Evidentiary Standards in Biomarker Qualification	Diagnostics: NGS Era: Genomic Diagnostics in Precision Medicine	Meta-Analysis: Data Integration in Pharmaceutical Research: Methods and Applications

John Abowd Honored with 2016 Julius Shiskin Award

Robert P. Parker, Julius Shiskin Award Selection Committee Chair

Abowd

John M. Abowd, Edmund Ezra Day Professor at Cornell University and associate director for research and methodology and chief scientist at the U.S. Census Bureau, has been selected to receive the 2016 Julius Shiskin Memorial Award for Economic Statistics. The award recognizes original and unusually important contributions in the development of economic statistics or in the use of statistics in interpreting the economy.

Abowd is recognized for designing and implementing disclosure avoidance techniques that enable federal statistical agencies to greatly expand the availability of their data while preserving respondents' confidentiality and for his leadership at Cornell in providing access to these data over the internet. He is also recognized for developing econometric and statistical techniques to conduct labor market analysis.

Abowd is the 44th recipient of the award and will be honored at events hosted by the three award sponsors: the Washington Statistical Society, the National Association for Business Economics, and the ASA Business and Economics Statistics Section.

Abowd's most important contribution to economic statistics was his pioneering efforts to design and implement statistical disclosure avoidance techniques that have enabled statistical agencies to produce and release detailed tabulations and microdata that both preserve the statistical properties of the original data and their confidentiality. After earning a PhD in economics from The University of Chicago, Abowd worked on measurement issues in labor economics and estimating gross labor force flows. A 1989 *Econometrica* article (with David Card) focused on identifying statistical models for dynamic wage processes and investigated the covariance structure of changes in earnings and hours.

Subsequently, Abowd used linked data on employers and employees in several European countries to research the joint role of workers and firms in determining labor market outcomes. In conjunction with various collaborators, he developed innovative new econometric methods to analyze these linked employer-employee data. His most notable contribution in this area was the model developed in a 1999 *Econometrica* article (with Francis Kramarz and David Margolis) that used a matched sample of French employees and employers to decompose compensation into components related to employee characteristics, firm heterogeneity, and residual variation. Its econometric approach laid the groundwork for a large body of subsequent research using employee-employer linked data to understand topics such as the role of human capital in wage determination, measurement and interpretation of wage differentials, and dynamics of employment and wages.

In 1998, following his work with French linked data, Abowd joined the team of senior research fellows at the Census Bureau that developed the Longitudinal Employer-Household Dynamics (LEHD) program, which provides public-use data by integrating demographic and economic surveys and administrative data. During the course of developing the LEHD with Julia Lane and John Haltiwanger, it became clear that to make the detailed data from this program available to the public, it would be necessary to develop new methods of statistical disclosure avoidance, because the existing methods were not adequate.

Abowd led the development of these new methods, the first of which was dynamic noise-infusion. This method introduced noise at the microdata level and used the noise-infused microdata to create aggregate statistics that did not distort critical properties of the underlying data, like trends, while still protecting confidentiality. The second method was the application of synthetic data techniques. Although this was not a new concept, Abowd was one of the first to put the idea into practice as described in a 2001 paper (with Simon Woodcock). He further stimulated research in this area as a founding editor of the online *Journal of Privacy and Confidentiality* and as a major contributor to the literature on privacy and confidentiality.

Abowd's methods have been adopted by many Census Bureau programs—initially the Quarterly Workforce Indicators and OnTheMap, and more recently Job-to-Job Flows, County Business Patterns, the Survey of Business Owners, Statistics on Businesses, Non-Employer Statistics, the Survey of Income and Program Participation, and the Economic Census of Outlying Areas. As a result, the

amount of detailed industry and geographic detail accessible to researchers and policy analysts has substantially increased—by almost double in the case of Non-Employer Statistics.

Abowd began teaching and conducting research at Cornell in 1987 and is now the Edmund Ezra Day Professor of Economics, professor of information science, and professor of statistics at Cornell University. Other contributions came primarily through the establishment and leadership of several institutions at Cornell. He and his colleague, Lars Vilhuber, created and led the Cornell Virtual Research Data Center, which provides access to synthetic data over the internet. Additionally, he is the director of the Cornell Labor Dynamics Institute, which creates and provides access to data on the dynamics of labor markets, meeting the needs of users while maintaining confidentiality. He also served as the director of the Cornell Institute for Social and Economic Research (CISER) from 1999 to 2007. CISER provides Cornell social scientists with computing systems and software support, data access, and related consulting services and includes the Cornell Federal Statistical Research Data Center, which provides researchers access to confidential microdata files from the Census Bureau, National Center for Health Statistics, and Agency for Healthcare Research and Quality.

While at Cornell, Abowd also worked at the National Bureau of Economic Research and several research organizations in France and Germany, as well as with the French national statistical office.

He made other important contributions through the National Research Council. He served as a member of the Committee on National Statistics Panel on Measuring Business Formation, Dynamics, and Performance and Panel on Access to Research Data. He also served as a member and chair of the technical advisory board for the National Longitudinal Surveys of the Bureau of Labor Statistics.

Abowd is a fellow of the Society of Labor Economists, ASA, and Econometric Society, as well as an elected member of the International Statistical Institute. He currently serves on the American Economic Association's Committee on Economic Statistics and the executive committee of the Conference on Research in Income and Wealth. In addition, he has served as chair of the ASA's Business and Economic Statistics Section. ■

Hare

The Quality and Productivity (Q&P) Section is pleased to announce **Lynne B. Hare** as the 2016 recipient of the Gerald J. Hahn Q&P Achievement Award. The award will be presented at the 2016 Fall Technical Conference in Minneapolis, Minnesota, taking place October 6 and 7. As winner of the award, Hare will deliver the Q&P-sponsored plenary address.

This award recognizes an individual who has demonstrated outstanding and sustained achievement and leadership in developing, promoting, and successfully improving the quality and productivity of products and organizational performance using statistical concepts and methods over a period of 20 or more years.

Hare is a consulting statistician emphasizing business process improvement in R&D, manufacturing, and other strategic functions. His former positions include having served as the director of applied statistics at Kraft Foods, chief of statistical engineering at the National Institute of Standards and Technology, director of technical services and manager of statistical applications at T.J. Lipton (a Unilever company), statistics group leader at Hunt-Wesson Foods, and visiting professor at Rutgers University.

Hare holds MS and PhD degrees from Rutgers University and an AB in mathematics from The Colorado College. He is a fellow of ASA and former chair of Q&P. He is also a fellow of the American Society for Quality (ASQ) and a former chair of the ASQ Statistics Division. The ASQ has awarded him the William G. Hunter and Ellis R. Ott awards for excellence in quality management. Kraft Foods presented him with the Technology Leadership Award for career accomplishments. He writes a column for *Quality Progress* Magazine and has numerous publications in technical journals.

The seven-person award committee, chaired by J.D. Williams, is accepting nominations for its 2017 award. More information and a link to nomination instructions can be found at *http://bit.ly/24QS8zt*.

The deadline for submitting nominations is February 28, 2017. ■

In Memory of Connie M. Borror

Christine Anderson-Cook, Los Alamos National Laboratory; Roger Berger, Arizona State University; Sarah Burke, Arizona State University; and Douglas Montgomery, Arizona State University

Borror

The American Statistical Association community, along with her many colleagues and friends, mourn the loss of Connie M. Borror. Connie lost her brave battle with cancer before reaching her 50th birthday. She was elected a fellow of the American Statistical Association in 2011. Connie was as an associate editor of the *Journal of the American Statistical Association* from 2008 to 2011. She served as chair of the Section on Quality and Productivity (Q&P) in 2008, and was instrumental in initiating the Q&P webinar series. She was a member of the Toxicology Subcommittee for the Chemistry/Instrumental Analysis Scientific Area Committee at the National Institute of Standards and Technology from 2014 to 2016. In 2016, she was the first female recipient of the American Society for Quality (ASQ) Shewhart Medal "who demonstrated outstanding technical leadership in the field of modern quality control, especially through the development to its theory, principles, and techniques." She was also elected a fellow of ASQ in 2009 and was a fellow and chartered statistician for the Royal Statistical Society. Connie was a professor in the school of mathematical and natural sciences at the west campus of Arizona State University (ASU). She was named an ASU Foundation Professor in June 2015. She earned her PhD in industrial engineering from ASU in 1998.

Connie authored more than 80 peer-reviewed papers in statistical, engineering, and other quality journals; was the author of two books; and edited a substantial revision of *The Certified Quality Engineering Handbook*, 3rd edition. She made numerous contributions to design of experiments, quality control, response surface methodology, robust parameter design, measurement systems, and reliability.

In addition to her research contributions, she was exceedingly generous with service to the profession. She served as co-adviser to nine PhD students and mentored numerous undergraduate and graduate students at ASU. Connie's enthusiasm, energy, and passion for teaching and learning were undeniable. She never thought about herself first; the progress and growth of her students was always her top priority. Her students have all gone on to promising careers in academia and industry.

Connie also held leadership roles within ASQ, the ASQ Chemical and Process Industries Division, the Institute of Industrial Engineers, and the ASQ and ASA Fall Technical Conference. She served as editor of *Quality Engineering* from 2011 to 2013 and sat on its editorial board from 1999 to 2011. She also served on the editorial boards of the *Journal of Quality Technology, Quality and Reliability Engineering International, Quality Technology and Quantitative Management, International Journal of Statistics and Management Systems* and *Journal of Probability and Statistical Science.*

Those of us who knew Connie know that her impact is so much more than her list of technical contributions and recognitions. She was generous with her time and served as a role model for statisticians, engineers, and women. She frequently encouraged those she advised to continue their education. She was an exceptional teacher with a talent for communicating difficult concepts to people with different backgrounds, and her humility made her approachable. She had a unique way of making learning about statistics and quality fun, and she taught extensively at ASU and in numerous short courses to industry and government. Her loss leaves a hole in the many lives of those she interacted with, as she was fun-loving and inspiring and an extraordinary mentor, a generous collaborator, an expert in many areas, a fan of film noir, and an animal lover extraordinaire.

Detroit, Ann Arbor Chapters Give Special Awards at Science Fair

Karry Roberts, Detroit Chapter

Photo by Huiyong (Thomas) Zheng, Ann Arbor Chapter
From Left: Xianggui (Harvey) Qu, Lance Heilbrun, Bern DeBacker, Nathan Soderborg, Alfred Hero, Ruth Cassidy, Julie Keros, Barry DeCicco, Karry Roberts, Frank Murdock, and Huiyong (Thomas) Zheng

Members of the Detroit and Ann Arbor chapters met as a special awards judging team at the Southeast Michigan Science Fair on March 11 to seek out excellent applications of statistics.

The team included 11 members from academic, medical, and industrial fields. They reviewed all the posters and gave special awards certificates to encourage the use of statistics in both the middle- and high-school categories.

Many students had creative ideas for their science projects, and the team found great graphs and analyses interpreting their data and explanations of the sources of variation in their experiments.

At increasing levels of statistical application, the judging team gave 48 certificates of recognition, 12 certificates of merit, and six awards of excellence. The posters honored with the award of excellence are the following:

The Role of Basil in Protecting Human Cells from Harmful Bacteria
Pioneer High School, Ann Arbor

The Effects of Catalyst Amount, Catalyst Concentration, and Temperature in the Briggs-Rauscher Oscillating Reaction
Huron High School, Ann Arbor

Effect of Topical Fluoride Application on Enamel Decay
Skyline High School, Ann Arbor

Zap Zone Laser Tag: Fair Fun?
Ann Arbor Open School, Ann Arbor

Soapy Water, Coke, or Sriracha: Which One Cleans Pennies the Best?
Forsythe Middle School, Ann Arbor

Testing Sugar in Soft Drinks
Clague Middle School, Ann Arbor

Award of excellence winners received a statistical book signed by all 11 judges; award of excellence and merit winners received a copy of *Significance* magazine; and all award winners received a certificate.

The Southeast Michigan Science Fair region includes schools from Livingston, Washtenaw, Monroe, Hillsdale, and Lenawee counties and is affiliated with the Intel International Science and Engineering Fair. Entries included 259 posters. ■

sectionnews

Biometrics

Edited by Sheng Luo, Biometrics Section Publications Officer

It's time to start thinking about invited sessions for next year's Joint Statistical Meetings, which will be held July 29 to August 3 in Baltimore, Maryland. Anyone who is interested in organizing an invited session or who has ideas for one should contact the section's 2017 program chair, Barbara Englehardt, at *bee@princeton.edu*.

A typical invited session consists of three 30-minute talks followed by a 10-minute invited discussion and 10 minutes of floor discussion. However, other formats are possible. The 2016 program is a good source for examples.

The most mature ideas will have an advantage in competing for the limited number of slots, so it's best to have your ideas in final form by the middle of June. The Biometrics Section will have at least four invited sessions, but we will be able to compete for additional slots if we generate enough good ideas.

It's also time to submit ideas for short courses to our 2016–2017 continuing education chair, Rosemarie Mick, at *rmick@upenn.edu*.

For more information about the section's role in JSM 2016, visit *http://magazine.amstat.org/blog/category/membernews/amstatsections/biometrics.* ■

Government Statistics

The JSM Program Committee has been working hard for the past year, putting together an outstanding set of sessions. Be sure to mark your calendars and plan to attend the GSS General Membership Business Meeting that will take place August 2 from 5:30 p.m. to 7:00 p.m. We will be meeting at the Hilton in the Astoria room. Please join us! Session highlights we want to point out include the following:

Sunday, July 31
2:00 p.m. – 3:50 p.m.
Invited Session on Survey Costs and Survey Designs: Trade-Offs and Advances

Monday, August 1
7:00 a.m. – 8:15 a.m.
Roundtable on Developments in the Analysis of Cognitive Interview Data with Gordon Willis from the National Cancer Institute
8:30 a.m. – 2:00 p.m.
Speed Session with Five GSS Data Challenge Candidates
12:30 p.m. – 1:50 p.m.
Roundtable on Writing for Scientific Publication with Ingegerd Jansson from Statistics Sweden
2:00 p.m. – 3:50 p.m.
Invited Session on Advances in Statistical Methods for Dissemination and Analysis of Official Statistics

Tuesday, August 2
8:30 a.m. – 2:00 p.m.
Topic-Contributed Session with Nine GSS Data Challenge Candidates
10:30 a.m. – 12:20 p.m.
Invited Session on Quality of Alternative Sources for Social, Economic, and Health Data

Wednesday, August 3
8:30 a.m. – 10:20 a.m.
GSS/SSS/SRMS Student Paper Award Presentations (5 winners)
12:30 p.m. – 1:50 p.m.
Roundtable on Prospects for Using Commercial Data for Federal Statistics with Zachary Seeskin from NORC at the University of Chicago
2:00 p.m. – 3:50 p.m.
Invited Session on Computing for Nonlinear Methods with Large Data Sets

Volunteers Offer Career Advice to AP Statistics Students

For the seventh consecutive year, the San Francisco Bay Area Chapter was invited by AP Statistics teacher Ron Weiss to send volunteer statisticians to give a 50-minute lecture on careers in statistics to AP Statistics students at Menlo Atherton High School this year.

The chapter sent four volunteers, more than any previous year. The volunteers—Debbie McCullough of Genomic Health; Ayona Chaterjee of California State University, East Bay; Norman Matloff of the University of California, Davis; and Chris Barker, a consultant—gave lectures to one or two separate AP Statistics classes.

Also new this year, a chapter volunteer was invited to hear AP student's presentations of statistics projects at Castilleja, a private school for girls in Palo Alto; Barker attended. ■

Physical and Engineering Sciences

Contributed by James Wendelberger, Los Alamos National Laboratory and SPES Chair-Elect; Ananda Sen, University of Michigan and SPES JSM Chair; and Matthew Pratola, The Ohio State University and SPES Education Chair

Making plans to attend JSM in Chicago? Don't miss the SPES/Q&P mixer Tuesday at the Hilton in Williford A at 5:30 p.m. Also, consider donating door prizes for the SPES JSM mixer. You can register your donation at *www.surveymonkey.com/r/XVCSY23*.

The SPES program for JSM 2016 will feature five invited sessions, two topic-contributed sessions, four contributed sessions, and one contributed poster session. There are also a number of sessions that are jointly sponsored with the Quality and Productivity Section. Following are our invited and topic-contributed sessions:

Invited Sessions

Statistical Aspects of Computer Experiments, *organized by Qiong Zhang of Virginia Commonwealth University*

Optimal Experimental Design for Physical Models, *organized by Antony Overstall of the University of Glasgow*

Online Experimentation: What Is It, Why Use It, and How to Do It Well?, *organized by Xinwei Ding of Virginia Tech*

Synthesis of Information from Longitudinal Trajectories and Failure Data for Reliability Prediction, *organized by Sanjib Basu of Northern Illinois University*

Pragmatic Computer Model Calibration in the Modern Big-Simulation/Big Data World, *organized by Robert B. Gramacy of The University of Chicago*

Topic-Contributed Sessions

Statistical Methods for Remote Sensing, *organized by Amy Braverman of Jet Propulsion Laboratory*

Estimating the Properties of Physical Time Series by Leveraging the Power of Spectral Analysis, *organized by Aaron Springford of Queen's University at Kingston*

SPES to Sponsor FTC 2016 Short Course

SPES will sponsor a short course at the Fall Technical Conference in Minneapolis, Minnesota, in October. The course is titled "Methods for Designing and Analyzing Mixture Experiments" and will be presented by Greg Piepel of the Pacific Northwest National Laboratory.

Course Abstract

Mixture experiments involve changing the proportions of the components of a mixture that make up a product and then observing the resulting changes in the product's characteristics. The proportions of the components in the mix cannot be varied independently (as in factorial experiments) because they must sum to 1.0 for each run in the experiment. Mixture experiments are useful in many product development areas, including foods and drinks, plastics, alloys, ceramics and glass, gasoline blending, fertilizers, textile fibers, concrete, and drugs.

This short course will provide an overview of various approaches and methods used in designing mixture experiments and analyzing the resulting data. Designs for simplex-shaped and irregular-shaped

regions (the latter resulting from placing additional constraints on the component proportions), various types of mixture models that can be fitted to mixture data, graphical techniques for interpreting component effects, and graphical and analytic methods for developing mixtures with optimum properties will be covered. Including process variables and/or a total amount variable in mixture experiments will be discussed. Numerous examples will be used to illustrate these topics.

The course is designed for anyone (statistician or nonstatistician) wanting to know about statistical methods for designing mixture experiments and analyzing the resulting data. Prerequisites are an understanding of elementary statistics concepts and previous exposure to experimental design and least squares regression.

Presenter Biography

Greg Piepel is a laboratory fellow in the Applied Statistics and Computational Analysis group at Pacific Northwest National Laboratory. He works as an applied statistician on multidisciplinary research projects in the physical and engineering sciences and has applied mixture experiment techniques to a wide variety of problems (e.g., glass, ceramics, cement, stainless steel, aluminum production, drugs) over the past 37 years. He has also been an active researcher in the mixture experiment field, with more than 150 publications and technical reports in the areas of mixture experiments, experimental design, and others. He is the developer since 1989 of MIXSOFT, a software toolkit for the design and analysis of mixture experiments. Finally, Piepel is a fellow of the ASA and American Society for Quality (ASQ) and has held several positions with the Physical and Engineering Sciences Section and ASQ. ■

The following events are the latest additions to the ASA's online calendar of events. Announcements are accepted from education and not-for-profit organizations only. To view the complete list of statistics meetings and workshops, visit *www.amstat.org/dateline.*

* Indicates events sponsored by the ASA or one of its sections, chapters, or committees

›› Indicates events posted since the previous issue

July

25–29—3rd Summer Institute in Statistics for Clinical Research, Seattle, Washington
For details, visit *www.biostat.washington.edu/suminst/siscr/* register or contact Andrea Hitlin, 4333 Brooklyn Ave. N.E., Seattle, WA 98105; *siscr@uw.edu*.

»25–29—Second International Conference on Survey Methods in Multinational, Multiregional, and Multicultural Contexts, Chicago, Illinois
For more information, visit *www.csdiworkshop.org* or contact Beth-Ellen Pennell, Insitute for Social Research, 426 Thompson, Ann Arbor, MI 48106; *bpennell@umich.edu.*

»*30—ASA Traveling Course: "R Programming: From the Classroom to the Real World" by Jay Emerson, Milwaukee, Wisconsin
For details, visit *community.amstat.org/wisconsinchapter/events/events* or contact Elizabeth Smith, 8701 Watertown Plank Rd., Milwaukee, WI 53226; (414) 955-4139; *elsmith@mcw.edu.*

***30–8/4—2016 Joint Statistical Meetings, Chicago, Illinois**
For details, contact ASA Meetings, 732 North Washington St., Alexandria, VA 22314; (703) 684-1221; *meetings@amstat.org.*

August

5–8—SIAM Conference on Uncertainty Quantification (UQ16), Lausanne, Switzerland
For more information, visit *http://bit.ly/1lJnNnu* or contact Frank Kunkle, 3600 Market St., 6th Floor, Philadelphia, PA 19104; (267) 350-6388; *kunkle@siam.org.*

7–10—Ordered Data and their Applications in Reliability and Survival Analysis: An International Conference in Honour of N. Balakrishnan for His 60th Birthday (ODRS 2016), Hamilton, Ontario, Canada
For details, visit *odrs.math.mcmaster.ca* or contact William Volterman, 215 Carnegie Hall, Syracuse University, Syracuse, NY 13244; (315) 443-1460; *odrs@math.mcmaster.ca.*

»11–12—Symposium on Statistical and Computational Methods for Pharmacogenetic Epidemiology of Cancer, New York, New York
For details, visit *odin.mdacc.tmc.edu/~ryu/2016StatSymp* or contact Jaya Satagopan, 485 Lexington Ave., New York, NY 10017; (646) 888-8234; *satagopj@mskcc.org.*

11–13—International Conference on Anatomy and Physiology, Birmingham, United Kingdom
For information, visit *anatomy-physiology.conferenceseries.com* or contact Eva Simons, 2360 Corporate Circle, Suite 400, Henderson NV 89074-7722; (888) 843-8169; *anatomy-physiology@conferenceseries.com.*

13–20—Assimilating Long-Term Data into Ecosystem Models, Land O'Lakes, Wisconsin
For more information, visit *www.paleonproject.org* or contact Jody Peters, 294 Galvin, Notre Dame, IN 46556; (574) 631-2175; *peters.63@nd.edu.*

17–19—Small Area Estimation Conference 2016, Maastricht, The Netherlands
For details, visit *www.sae2016.nl* or contact Bart Buelens, CBS-weg 11, Heerlen, International 6401 CZ, Netherlands; +31455706000; *sae2016@cbs.nl.*

18–21—The 2016 International Indian Statistical Association Conference: Statistical and Data Sciences - A Key to Healthy People, Planet, and Prosperity, Corvallis, Oregon
For information, visit *iisaconference.org* or contact Subrata Kundu, 801 22nd St. NW, Washington, DC 20052; *kundu@intindstat.org.*

22–23—5th International Conference on Computational Systems Biology, Philadelphia, Pennsylvania
For more information, visit *www.systemsbiology.conferenceseries.com* or contact Mark Twain, 2360 Corporate Circle, Suite 400, Henderson NV 89074-7722; (888) 843-8169, *systemsbiology@omicsgroup.com*.

September

5–8—RSS 2016 International Conference, Manchester, United Kingdom
For details, visit *www.rss.org.uk/conference2016* or contact Tessa Pearson, 12 Errol St., London, International EC1Y 8LX, United Kingdom, 02076143947; *conference@rss.org.uk*.

14–16—6th International Conference and Exhibition on Nutrition, San Antonio, Texas
For more information, visit *www.nutritionalconference.com* or contact Angelina Grace, 611 NW Loop 410, San Antonio, TX 78216; (650) 268-9744; *nutrition@insightconferences.com*.

14–15—International Conference on Histochemistry and Cytochemistry, Phoenix, Arizona
For more information, visit *http://histochemistry.conferenceseries.com* or contact Anna Gloria, Phoenix Airport Marriott, 1101 N. 44th St., Phoenix, AZ 85008; (650) 268-9744; *histochemistry@insightconferences.com*.

Biopharmaceutical Conference Planned for October

The Biopharmaceutical Applied Statistics Symposium (BASS XXIII) will be held October 24–28 at the Radisson Hotel in Rockville, Maryland.

This conference will feature at least 16 one-hour tutorials on diverse topics pertinent to the research, clinical development, and regulation of pharmaceuticals by speakers from academia, the pharmaceutical industry, and the U.S. Food and Drug Administration (FDA).

Also, three parallel, two-day short courses will be presented in addition to the keynote address, a reception dinner, and the FDA/industry/academia session.

BASS is a nonprofit entity established to raise funding to support graduate studies in biostatistics.

For more information, visit *www.bassconference.org* or contact the BASS registrar, Andreas Sashegyi, at *Rewhitworth@gmail.com*.

***28–30—2016 ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop, Washington, DC**
For more information, visit *www.amstat.org/meetings/biopharm-workshop/2016* or contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; *meetings@amstat.org*.

***30–10/2—AISC 2016 - International Conference on Advances in Interdisciplinary Statistics and Combinatorics, Greensboro, North Carolina**
For more information, visit *www.uncg.edu/mat/aisc/2016/index.html* or contact Sat Gupta, Department of Math/Stats, 317 College Ave., Petty Building, Greensboro, NC 27412; (336) 554-4608; *sngupta@uncg.edu*.

»30–10/2—Workshop on Higher-Order Asymptotics and Post-Selection Inference, St. Louis, Missouri
For more information, visit *www.math.wustl.edu/~kuffner/WHOA-PSI.html* or contact Todd Kuffner, 1 Brookings Dr., Campus Box 1146, St. Louis, MO 63131; *kuffner@wustl.edu*.

October

***6–7—Fall Technical Conference, Minneapolis, Minnesota**
For details, visit *asq.org/conferences/fall-technical* or contact Shari Kraber, 2021 E. Hennepin Ave., #480, Minneapolis, MN 55413; (612) 746-2035, *shari@statease.com*.

»6–7—Workshop on New Developments in Econometrics and Time Series, Madrid, Spain
For more information, visit *uc3m.es/ifibid/workshop* or contact Natalia Gutierrez-Colomer, Ronda de Toledo 1, Madrid, International 28005, Spain; +34 916248514; *nagutier@pa.uc3m.es*.

»12–14—Latent Variables 2016 Conference, Columbia, South Carolina
For more information, visit *www.stat.sc.edu/latent-variables-2016* or contact John Grego, 1523 Greene St., Room 216A, Columbia, SC 29208; (803) 777-5070; *grego@stat.sc.edu*.

14–16—International Conference on Statistical Distributions and Applications (ICOSDA 2016), Niagara Falls, Canada
For details, visit *people.cst.cmich.edu/lee1c/icosda2016* or contact Felix Famoye, Department of Mathematics, Mt. Pleasant, MI 48859; (989) 774-5497; *felix.famoye@cmich.edu*.

»*17–19—3rd IEEE International Conference on Data Science and Advanced Analytics (DSAA'2016), Montréal, Québec, Canada
For details, visit *www.ualberta.ca/~dsaa16* or contact DSAA 2016, 1050 de la Gauchetiere West, Montréal, International H3B 4C9, Canada; *dsaa2016@dsaa.co*.

»19–21—International Conference on Computational Biology 2016 (ICCB'16), San Francisco, California
For more information, visit *www.iaeng.org/WCECS2016/ICCB2016.html* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, China; (852) 3169-3427; *wcecs@iaeng.org*.

19–21—International Conference on Machine Learning and Data Analysis 2016, San Francisco, California
For more information, visit *www.iaeng.org/WCECS2016/ICMLDA2016.html* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, China; (852) 3169-3427; *wcecs@iaeng.org*.

20–22—Women in Statistics and Data Science Conference, Charlotte, North Carolina
For more information, visit *www.amstat.org/meetings/wsds/2016* or contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; *meetings@amstat.org*.

»24–28—Conference on Applied Statistics in Defense, Washington, DC
For details, visit *www.casd2016.org* or contact Alyson Wilson, 2311 Stinson Dr., Campus Box 8203, Washington, DC 27695; *agwilso2@ncsu.edu*.

November

»4—Seasonal Adjustment Practitioners Workshop, Washington, DC
For more information, visit *http://bit.ly/1U7WD5V* or contact Wendy Martinez, 2 Massachusetts Ave., NE, Washington, DC 20212; (202) 691-7400; *martinez.wendy@bls.gov*.

9–13—International Conference on Questionnaire Design, Development, Evaluation, and Testing (QDET2), Miami, Florida
For more information, visit *www.amstat.org/meetings/qdet2* or contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; *meetings@amstat.org*.

14–16—6th International Conference and Exhibition on Metabolomics, Orlando, Florida
For more information, visit *www.metabolomicsconference.com/america* or contact Isaac Samuel, Double Tree by Hilton Hotel Orlando Airport, 5555 Hazeltine National Drive, Orlando, FL 32812; (702) 508-5200; *metabolomics@conferenceseries.net*.

»25–26—International Conference on Analysis of Repeated Measures Data, Dhaka, Bangladesh
For details, visit *astheqepewu.edu.bd/conference_info.php* or contact Ataharul Islam, Department of Applied Statistics, HEQEP, CP-3293, Dhaka, International 1219, Bangladesh, 8801732973022; *confast.ewu@gmail.com*.

December

***4–9—72nd Annual Deming Conference on Applied Statistics, Atlantic City, New Jersey**
For more information, visit *www.demingconference.com* or contact Walter Young, 16 Harrow Circle, Wayne, NJ 19087-3852; (415) 819-8884; *demingchair@gmail.com*.

6–8—The 15th Conference of International Association for Official Statistics (IAOS), Abu Dhabi, United Arab Emirates
For details, visit *www.iaos2016.ae* or contact Kris Olarte, 9F Dubai World Trade Centre Building, Sheikh Zayed Road, Dubai, International 124752, United Arab Emirates; +971 4 311 6359; *kris.olarte@mci-group.com*.

15–17—Conference on Experimental Designs and Analysis (CEDA) 2016, Taipei, Taiwan
For details, visit *www3.stat.sinica.edu.tw/ceda2016* or contact Frederick Kin Hing Phoa, 128 Academia Road Section 2, Nangang District, Taipei, International 115; (886) 2-6614-5645; *fredphoa@stat.sinica.edu.tw*.

»21–23—Platinum Jubilee International Conference on Applications of Statistics (PJICAS), Kolkata, India
For more information, visit *stat.caluniv.in/platinum* or contact Asis Chattopadhyay, 35 Ballygunge Circular Road, Kolkata, International 700019, INDIA; +91-9831985850; *custat75@gmail.com*.

2017

January

24–26—International Conference on Computational Mathematics & Statistics (ICCMS-2017), Banasthali, Rajasthan, India
For information, visit *www.iccms2017bu.in* or contact Shalini Chandra, Department of Mathematics and Statistics, Tonk, Bansathali, International 304022, India; *chandrshalini@gmail.com*.

February

»22–24—The World Symposium on Civil Engineering 2017 (WSCE'17), Hong Kong, China
For information, visit *www.iaeng.org/WSCE/WSCE2017* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, China; *wcecs@iaeng.org*.

***23–25—2017 American Statistical Association Conference on Statistical Practice, Jacksonville, Florida**
For more information, contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; *meetings@amstat.org*.

March

»15–17—International MultiConference of Engineers and Computer Scientists, Hong Kong, China
For more information, visit *www.iaeng.org/IMECS2017/index.html* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, China; (852) 3169-3427; *imecs@iaeng.org*. ■

Women in Statistics and Data Science | conference

October 20-22, 2016

Charlotte, North Carolina

Key Dates

Early Registration Deadline | **September 6**

Hotel Reservation Deadline | **September 20**

Regular Registration Deadline | **October 4**

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Listings are shown alphabetically by state, followed by international listings. Vacancy listings may include the institutional name and address or be identified by number, as desired.

Professional Opportunities vacancies also will be published on the ASA's website (*www.amstat.org*). Vacancy listings will appear on the website for the entire calendar month. Ads may not be placed for publication in the magazine only; all ads will be published both electronically and in print.

Rates: $320 for nonprofit organizations (with proof of nonprofit status), $475 for all others. Member discounts are not given. For display and online advertising rates, go to *www.amstat.org/ads*.

Listings will be invoiced following publication. All payments should be made to the American Statistical Association. All material should be sent to *Amstat News*, 732 North Washington Street, Alexandria, VA 22314-1943; fax (703) 684-2036; email *advertise@amstat.org*.

Employers are expected to acknowledge all responses resulting from publication of their ads. Personnel advertising is accepted with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual orientation.

Also, look for job ads on the ASA website at *www.amstat.org/jobweb*.

Alabama

■ The Department of Biostatistics, School of Public Health at the University of Alabama at Birmingham (UAB) invites applications for a tenure track/tenured faculty member at the assistant/associate/professor rank (rank and tenure status commensurate with qualifications). This is a 12-month, full-time position. Faculty will be expected and given the opportunity to develop their own independent line of research. Email: *BSTChair@uab.edu* or call 205.934.4905 for more information. EOE.

District of Columbia

■ Assistant/associate research professor. Basic Duties: Co-investigator on existing multi-center study providing direction in design, conduct, analysis, and publication of results; grant administration; advising students and teaching. Basic Qualifications: Applicants must have doctorate in statistics/biostatistics, or epidemiology with strong credentials in statistical methodology. Review of applications begins on November 5, 2016 and is ongoing until the position is filled. For application instructions go to: *www.bsc.gwu.edu*. George Washington University is an EOE/AA.

Florida

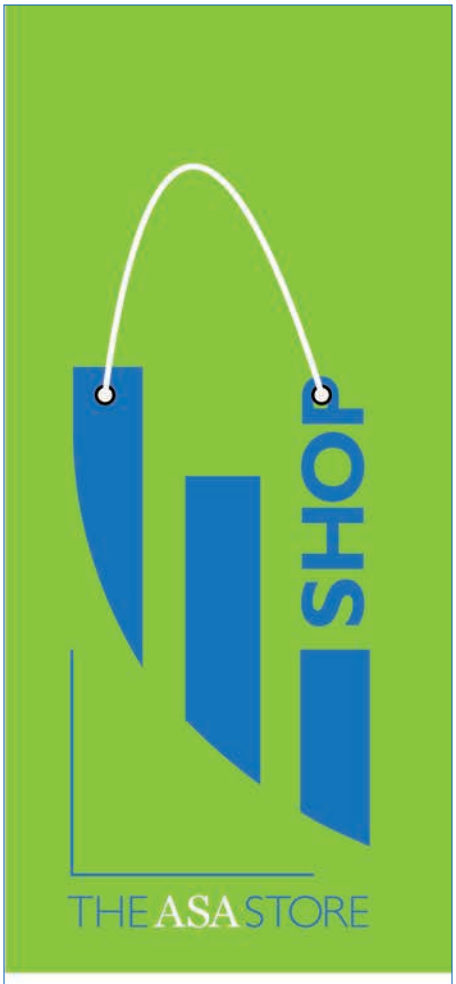
■ Clinical assistant, associate or full professor. UF is recruiting a non-tenure-track clinical assistant, associate or full professor level within the department of biostatistics, administered by college of medicine and college of public health and health professions. Qualifications include PhD in biostatistics or related quantitative discipline, expertise in managing online graduate programs, and demonstrated excellence in teaching and mentoring. Application review ongoing, apply at *http://explore.jobs.ufl.edu/cw/en-us/job/497173*. The University of Florida is an Equal Employment Opportunity Institution. If an accommodation due to a disability is needed to apply for this position please call (352) 392-2477 or The Florida Relay System at (800) 955-8771 (TDD). Hiring is contingent upon eligibility to work in the U.S. Searches are conducted in accordance with Florida's Sunshine Law.

Massachusetts

■ Associate director of biostatistics position. The biostatistics center at the Mass General Hospital seeks to fill a position (at associate professor) with leadership responsibilities, including potentially that of director. Applicants should have a doctoral degree in a statistical science, and should demonstrate the potential for the leadership of coordinating centers and an independent research program. Send CV and statement of career interests to *chintlian@mgh.harvard.edu*. EOE.

Washington

■ Two-year post-doctoral position in biostatistics available at the University of Washington in Seattle, WA. Expected to work at the National Alzheimer's Coordinating Center (NACC). PhD in statistics, biostatistics. Strong theoretical, computational, communication skills, and interest in dementia research are highly desired. To apply, submit CV, copies of transcripts, published papers (maximum of three), and three letters of reference to: Maggie Dean, NACC Research Administrator, *connorm@uw.edu*. University of Washington is an EOE. ■



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We are currently recruiting for the following positions:

Senior Survey Sampling Statistician—International Surveys Westat is seeking a senior survey sampling statistician for work on international surveys in developing nations. This position requires a master's degree in statistics or survey research coupled with seven (7) or more years in sample survey design, or a PhD in statistics or survey research and five (5) or more years in sample survey design. Candidates would benefit from knowing SAS, R, and other statistical software packages although candidates are not required to do programming.

Senior Manager, Statistical Computing Unit This position requires candidates to have a strong statistical or other quantitative background and at minimum a master's degree in computer science, statistics, math, physics, or a related data science coupled with at least ten (10) years of experience in statistical or other data-intensive computing. Five (5) years of supervisory experience is also required.

Senior Survey Sampling Statistician This position requires a master's degree in survey sampling, statistics, survey research, or a related field with twelve (12) or more years in sample survey work or a PhD in survey sampling, statistics, survey research, or a related field and ten (10) or more years in sample survey work. Candidates would benefit from knowing SAS, R and other statistical software packages although candidates are not required to do programming.

Biostatistician Westat is seeking a biostatistician or statistician with experience analyzing health data. A master's degree in biostatistics or statistics and five (5) years of experience or a PhD in biostatistics or statistics is required.

Senior Biostatistician This position requires a master's degree in biostatistics or statistics and ten (10) years of experience, or a PhD in biostatistics or statistics and five (5) years of experience. Experience leading research teams, and knowledge of SAS or R is also required.

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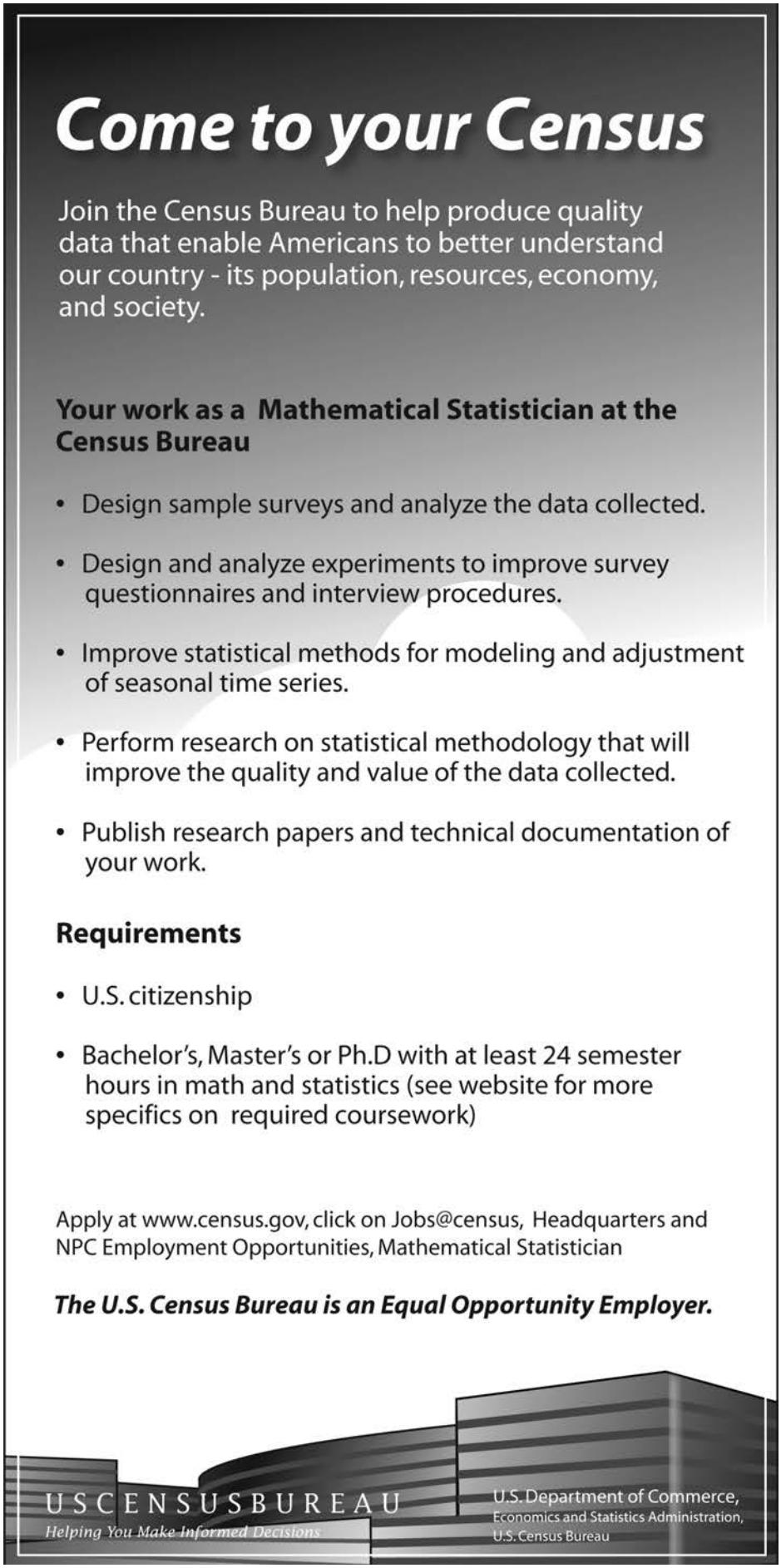

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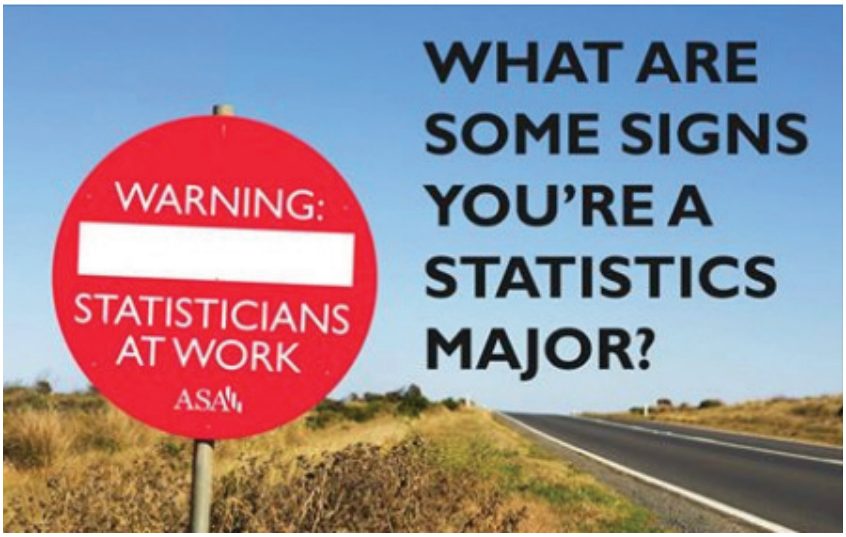

In June, we asked our followers to share with us some signs they know they're a statistics major. Here is what a few of our members shared on the ASA's Facebook page:

TELL US

This month, we are asking our followers to tell us what they would be if they weren't a statistician or data scientist. We hope you'll send us your answers! Be sure to tag @AmstatNews.

Himel Mallick If you are a statistician, you are probably not making a fashion statement while referring to the terms 'modeling' and 'figures.'

James Howard You answer yes or no questions with "Probably" or "Probably not."

Tim Young You know kurtosis is not a medical condition.

Brandon Sherman You almost have an aneurysm every time someone says, "That's ridiculous! How can 2,000 people be representative of anything in a study?!"

Yogesh Parthasarathy When folks use average as a method of denoting and we be like: Screw averages. They don't represent anything.

Ankit Agarwal When someone says that they are 100% sure about something and you are like "Really? It doesn't seem to be certain."

Aniqa Tasnim Hossain You always use words, such as probability, significantly, causation, association, hypothesis, convergence.

Dan Gaichas You watch "Family Feud" because of what the surveys say.

Tim Young You wonder why it's called a "batting average," when it's not an average in any sense of the word.

Izzy Kamrath You think of π (pi) as a mean and not 3.14.

Vishes Goel "Normal" is not so normal, after all.

Statistics

The release of SAS/STAT® 14.1 brings you even more statistical techniques for your data analysis needs.

SAS/STAT 14.1 Highlights

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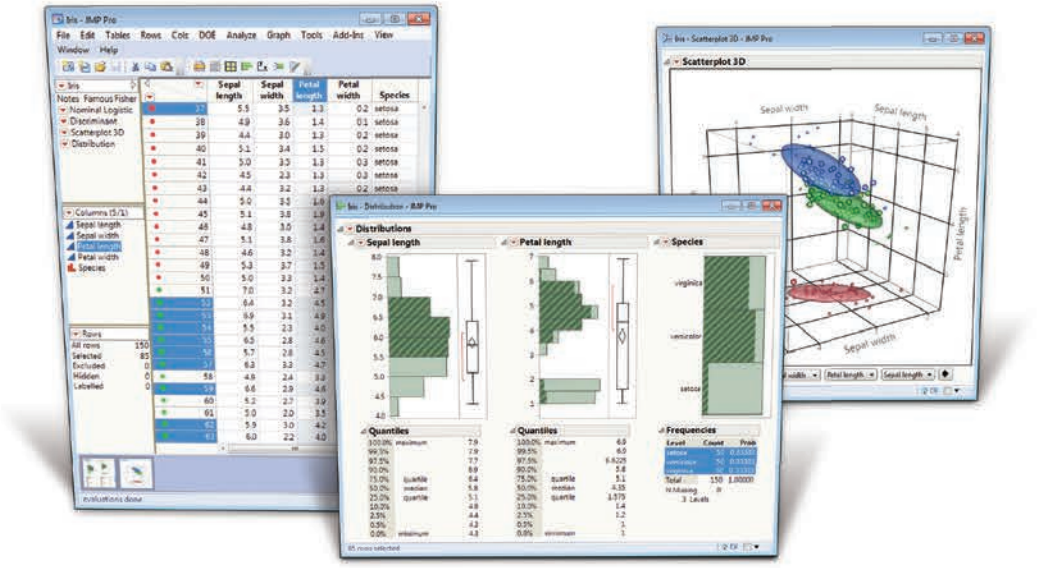

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