January 2015 • Issue #451

AMSTATNEWS

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AMSTATNEWS

JANUARY 2015 • ISSUE #451

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American Statistical Association

Promoting the Practice and Profession of Statistics®

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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How to Work with Data Scientists

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*.

Machtmes

Contributing Editor

Ryan J. Machtmes, GStat, is an independent research consultant and mathematical statistician, member of the ASA Committee on Statistics and Disability, and accredited graduate statistician of the American Statistical Association. He is a longtime member of the American Statistical Association and the Phi Kappa Phi honor society.

SOCIAL CHATTER
What followers are saying online

What people are tweeting:

Carl Zimmer • @carlzimmer • Nov. 25
@edyng209 I think a call to a statistician for comment is in order whenever reporting a psychology story.

Ed Yong • @edyong209 • Nov. 25
@carlzimmer I agree! But Andrew Gelman is going to get really bored at some point ;)

Jason H. Moore • @moorejh • Nov. 24
RT @CompSciFact: "if you don't make mistakes, you're not working hard enough on problems. And that is a big mistake." — Frank Wilczek

Rhonda Drake • @rkdrake • Nov. 4
LinkedIn: Most Misunderstood Jobs – Business Insider *read.bi/1vEVWC* #datascientist and #actuary among those. @amstatnews @pddrake

Rasmus Bååth • @rabaath • Nov. 22
My "Brief Review of All Comic Books Teaching Statistics" made it all the way to CHANCE magazine :) *chance.amstat.org*

Beth Newman • @akathenerdygirl • Nov. 22
Chandra Erdman talks about how she uses her #stats degree @thisisstats @uscensusbureau *http://bit.ly/1wAYPaj* #WomenInSTEM #STEM

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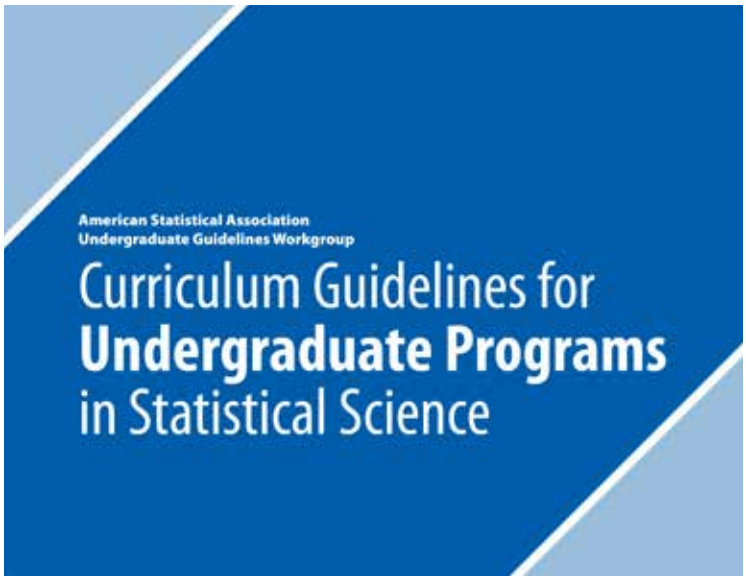

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Greetings and New Initiatives

A Happy New Year to all and a special thanks to the hundreds of members who contribute their time supporting our chapters, sections, committees, meetings, and other ASA activities. Point of fact, since ASA must report annually to the IRS regarding our 501(c)(3) status, we estimate that almost 1,800 members provide considerable volunteer time that benefits the association. I'd like to speak specifically about five such volunteers for a moment.

As 2014 came to a close, the ASA Board gave a round of applause to these outgoing board members who served the association with their energy and creativity: Marie Davidian, past president; Martha Gardner, vice president; David Banks, publications representative; Nick Horton, Council of Chapters representative; and Janet Buckingham, Council of Sections representative. You've been wonderful colleagues to learn from, work with, and laugh with while on the board! I suspect we'll all continue to hear about future efforts you undertake on behalf of the membership and the profession.

Overview of Initiatives

I'd like to use this month's column to give you an overview of four new initiatives for 2015: expanding and recognizing mentoring, providing docents at JSM to offer guidance for first-time attendees, establishing a Stat 101 toolkit for instructors in non-stat programs, and providing a blog on all things statistical. The first two are inward looking, aimed at providing value directly to members. The second two will improve our professional visibility.

These four ideas were developed with valuable input from ASA Board members and former ASA presidents, for which I'm appreciative. As with previous years' initiatives, they align with the ASA's strategic plan, as I'll describe below.

Mentoring (which supports Membership Growth under the theme "The ASA as 'The Big Tent for Statistics' "). Many of us were fortunate to have at least one person who affected our career or professional development. This happens organically in many ways. Some of us had professors who took a special interest in us and continued to do so after we graduated. For some, a more experienced colleague at work has shown an interest and provided important guidance at critical points in our growth. Beyond these, however, I believe the ASA can increase opportunities to find a mentor, as well as to be one, serving many of our members in the process!

We are fortunate to have the creativity and energy of Eric Vance, assistant research professor and director of LISA (Virginia Tech's Laboratory for Interdisciplinary Statistical Analysis), to help expand mentoring within our association. Serving on both the Conference on Statistical Practice (CSP) steering committee and the Committee for Applied Statisticians (CAS), he has helped form mentoring pairs in the ASA via the CAS Clearinghouse, as well as at the 2014 CSP and JSM. He's already hard at work planning similar activities for the 2015 CSP and JSM! Eric and I will talk more about mentoring, both creating mentoring pairs and honoring notable mentors, in a future President's Corner.

David Morganstein

JSM Docents (which supports Meetings under the "Big Tent" theme). Fortunately, JSM continues to grow! More members are attending, with a record 6,800+ in attendance during JSM 2014 in Boston. If you're a regular attendee, you may feel comfortable coming to such a large event with so many activities and simultaneous sessions and networking with familiar faces. However, can you remember what it was like the first time you attended? Did it seem a bit formidable?

Mary Kwasny, associate professor in preventive medicine-biostatistics at Northwestern University Feinberg School of Medicine, remembers. She agreed to create a docent program that identified dozens of volunteer members who had only been to a few JSMs. She located colleagues who were very much in touch with feeling overwhelmed and who wanted to help make JSM more inviting for some of the more than 1,000 first-time attendees! Her team of volunteer guides was identifiable by a new purple badge and introduced at the first-timers' mixer on Sunday afternoon. In an upcoming column, we'll talk with Mary about how the pilot worked in 2014 and her plans for the docent program in Seattle.

Four new initiatives for 2015: expanding mentoring, providing docents at JSM ..., establishing a Stat 101 toolkit for instructors in non-stat programs, and providing a blog on all things statistical.

Stat 101 Toolkit (Education under the theme "Increasing the Visibility of the Profession"). How many people have you met who, upon learning what you do, replied with something like, "Oh, yes, I took a stat class once and it was terrible, very boring, all formulas!"

Dick De Veaux, C. Carlisle and Margaret Tippit Professor of Statistics at Williams College, has spent much of his career trying to understand how statistical concepts are best communicated. Along the way, he's developed exciting and innovative ways of teaching statistics. Now, at my request, he's taken up the challenge of building a toolkit for instructors of Stat 101 in nonstatistics departments such as psychology, engineering, and economics. In these areas, it's often the least senior, most recent hire who is given this task. These individuals may be faculty who are not well equipped for the assignment and who would appreciate stimulating and current teaching tools.

Dick De Veaux

While teaching a recent workshop for high-school AP Statistics teachers, Dick realized most had never actually done a statistical analysis. They had simply learned statistics from a textbook. So, Dick pulled together a few like-minded instructors (including Nick Horton, Deb Nolan, Julie Legler, and Dave Bock) to identify a variety of data sets, create notes with stimulating ways of presenting statistical concepts, and possibly generate a few videos that can be woven into a course. With these building blocks, the hope is that any instructor will be able to teach a more interesting and current introduction to our field. We'll hear from Dick and his team in a future article.

Blog on All Things Statistical (Public Awareness under the theme "Increasing the Visibility of the Profession"). There is much that occurs in the world that has statistical content, events of great effect that would be more clearly understood by the public if viewed through a statistical perspective. Our profession might be served if we can quickly connect with journalists on important matters of the day. We should endeavor to provide a statistical, data-driven perspective and work with them so their reporting reflects the science we have to offer. Think of a blog on all things statistical not just for statisticians, but for the widest possible readership.

The ASA is in the process of implementing an agreement with Sense About Science USA and STATS.org that we hope will improve our opportunities to meet this need. Our statisticians would provide the background and statistical science, and their writers would provide connections to journalists, as many journalists subscribe to their websites (*http://stats.org* and *www.senseaboutscience.org*). We believe they present quantitative concepts in a readable, easily understandable form. By working together, our profession can be visible to the public quickly, especially when contributing information about important topics of the day.

Let me end with a reminder about the fourth annual Conference on Statistical Practice, to be held in New Orleans, Louisiana, February 19–21. The conference will provide opportunities for you to learn new statistical methodologies and best practices in statistical analysis, design, consulting, and statistical programming through courses and sessions with papers, panels, and posters. The conference provides opportunities for attendees to further their career development through courses and sessions on effective communication, management, and leadership skills in addition to career placement activities. If you are starting in your career, you'll have the chance to find a mentor. If you would like to connect with someone early in his or her career and share your experience, you can serve as a mentor. I hope to see you there!

David Morganstein

Highlights of the November 2014 ASA Board of Directors Meeting

ASA President Nat Schenker led the Board through its final meeting of the 175th anniversary year November 14–15, 2014, at the ASA offices in Alexandria, Virginia.

Here are the highlights of the meeting. The board:

- Opened its Saturday session with a moment of silence for Bob Newcomb. A memorial service for Bob was being held later that day in southern California, where Bob served the ASA and area chapters for many decades. Incoming President-elect Jessica Utts and Nat Schenker shared remembrances of Bob.
- Endorsed revised guidelines for the undergraduate curriculum in statistical science, the result of 18 months of effort by a working group chaired by board member Nick Horton. Please see Page 29 for details.
- Received the report of ASA treasurer Mingxiu Hu on the status of ASA investments, including observations about investment policy. (The ASA's investments are managed by a professional in accordance with board-approved policy.) The board also heard the third quarter financial report from Steve Porzio, who noted that the ASA's 2014 net income will be positive.
- Received a wrap-up report on the 175th Anniversary Celebration from steering committee chair Christy Chuang-Stein. She said the committee worked toward the goal of making the celebration something everyone could enjoy, whether or not they attended JSM, and included elements that helped ensure the ongoing success of the ASA. Schenker thanked Christy and the committee for their work, saying the anniversary celebration was an enormous success.
- Began a discussion titled "Recruiting and Retaining the Next 1,000 Members: How to Build a Sustainable Membership Base of at Least 20,000 Members." Membership retention and recruitment will be a focus of the board during 2015.
- Approved the Hong Kong Statistical Society and Italian Statistical Society as accreditation partners of the ASA. Individuals accredited by such partner societies can receive a fast-track accreditation by the ASA.
- Heard updates by ASA Science Policy Director Steve Pierson on the wide range of advocacy efforts by the ASA, including a discussion of ASA efforts in support of science funding, forensic science, and privacy and confidentiality matters in statistics.
- Heard updates by ASA Director of Education Rebecca Nichols on the ASA's education efforts, including DataFest, the Statistical Education of Teachers report (due in the spring), the Census at School Program, and the Educational Ambassador Program.

2014 ASA Board of Directors

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David Morganstein, President-Elect

Marie Davidian, Past President

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Jim Rosenberger, 2nd-Year Vice President

Jeri Mulrow, 1st-Year Vice President

David Banks, Publications Representative

Ming-Yen Cheng, International Representative

Nick Horton, 3rd-Year Council of Chapters Representative

Mary Kwasny, 2nd-Year Council of Chapters Representative

Dan Jeske, 1st-Year Council of Chapters Representative

Janet Buckingham, 3rd-Year Council of Sections Representative

Dick De Veaux, 2nd-Year Council of Sections Representative

Cyndy Long, 1st-Year Council of Sections Representative

Mingxiu Hu, Treasurer

Ron Wasserstein, Executive Director

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Wendy Lou, 1st-Year Council of Chapters Representative

Dick De Veaux, 3rd-Year Council of Sections Representative

Cyndy Long, 2nd-Year Council of Sections Representative

Anna Nevius, 1st-Year Council of Sections Representative

Mingxiu Hu, Treasurer

Ron Wasserstein, Executive Director

- Welcomed Susan Cantrell, senior vice president and managing director of DIA Americas, who provided an overview of the DIA and opened a discussion about possible collaboration with the ASA.
- Heard an update on the status of the *This* Is Statistics campaign by Jeff Myers, the ASA's public relations coordinator, along with Lori Russo and Sarah Litton of Stanton Communications. This national campaign, launched as a major initiative of the 175th anniversary, is off to a great start. The goal is to heighten awareness among high-school and undergraduate students and those who influence them of the great opportunities afforded by careers in statistics. See *ThisIsStatistics.org*. The board also discussed ideas for further advancing this effort during 2015.
- Welcomed Amanda Malloy, the ASA's new director of development, who gave an overview of the plans for the ASA's development program. She said the goal is to create a long-term, sustainable development program based on existing and prospective constituencies, with three areas of focus: a membership giving program, major gifts and planned giving, and corporate giving.
- Discussed the status and activities of the committees in the Education Council. These discussions help keep the board and ASA committees operating in sync.
- Heard important reports of the ASA's sections and chapters from representatives of their respective councils. These entities represent major points of contact for members with their society and provide rich networking and professional development opportunities. The board, at the request of the Council of Sections, had vigorous discussion of the exciting opportunities and challenges associated with the substantial growth in the number of ASA sections.
- Received and accepted the report of the Strategic Plan Review Committee, chaired by Past President Marie Davidian. The annual review of the strategic plan allows the board to evaluate progress in strategic planning and helps ensure the plan stays fresh, dynamic, and relevant.
- Discussed the final report from the Presidential Initiative Workgroup on Developing Training in Statistical Leadership. Janet Buckingham, chair of the workgroup, described the highly successful leadership course offered at JSM and discussed the future of the course, which includes plans to offer it at JSM 2015 and the Conference on Statistical Practice in 2016.
- Decided to discontinue the ASA-SIAM Book Series. The board expressed its gratitude to the people who have worked hard on the series throughout the years.
- Heard news of substantial progress already being made on the various strategic initiatives for 2015. See the President's Corner in this issue for details.
- Approved policies and procedures for the management of the Center for Statistical Education board-designated fund.

The board's first meeting of 2015 is March 27–28 at the ASA office in Alexandria, Virginia. ■

ASA LEADERS REMINISCE

Meet ASA Past President Marie Davidian

James Cochran

As reported in the October 2014 issue of *Amstat News*, the ASA's quarto-septcentennial celebration featured the roundtable breakfast "Past Presidents and Executive Directors Reminisce" that provided past and current presidents/presidents-elect and executive directors an opportunity reflect on their terms in office. Because ASA members have shown a great deal of interest in this event and in these reflections, *Amstat News* established a monthly column that will feature extended interviews of ASA past presidents and executive directors. In this initial column, we feature an interview with 2013 ASA President Marie Davidian.

Q: Marie, thank you for your willingness to be interviewed for the initial installment of this *Amstat News* column. The intent of this interview is to learn about your background and your experiences as ASA president. Let's start by talking about your interest in statistics. When and why did you first realize you wanted to be a statistician? Did you start college studying to be a statistician, or did you come to statistics from another discipline?

A: As an undergraduate mechanical engineering major at the University of Virginia (UVA), I was bored, questioning if this field was for me, and looking for an interesting course to take. By luck, I took a statistics course taught by Dave Harrington, who was in his first position in the applied mathematics department in the engineering school. The course followed the book *Statistics for Experimenters* by Box, Hunter, and Hunter. Immediately, I was hooked. Talking with Dave about the relevance of statistics in the health sciences and the realization that, in this field, I could use my quantitative skills to make a difference iced it for me. I changed my major to applied mathematics—there was no statistics department at UVA back then—so I could focus on statistics.

Marie Davidian

Marie Davidian is William Neal Reynolds Professor of Statistics at North Carolina State University (NCSU) and adjunct professor of biostatistics and bioinformatics at Duke University. She earned her PhD in statistics in 1987 from The University of North Carolina at Chapel Hill (UNC-CH). She is an elected member of the International Statistical Institute and has been named a Fellow of the American Statistical Association, Institute of Mathematical Statistics, and American Association for the Advancement of Science. Marie has served as chair of grant review panels for the National Institutes of Health (NIH), coordinating and executive editor of *Biometrics*, a member of U.S. Food and Drug Administration advisory committees, 2004 president of the Eastern North American Region of the International Biometric Society, and 2013 president of the ASA.

Marie's interests include analysis of longitudinal data, methods for design and analysis clinical trials and observational studies, methods for making statistical inference in the presence of missing or mismeasured data, and causal inference and dynamic treatment regimes. She is co-author of the 1995 book *Nonlinear Models for Repeated Measurement Data* and is co-editor of the 2009 book *Longitudinal Data Analysis*. She received the 2007 Janet L. Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences; the 2009 George W. Snedecor and 2011 F. N. David awards presented by the Committee of Presidents of Statistical Societies; and the 2010 NCSU Alexander Quarles Holladay Medal for Excellence, the highest honor the university bestows upon a faculty member. She also has delivered several distinguished lectures, including a 2010 IMS Medallion Lecture.

Since 2004, Marie has served as director of the annual joint NCSU-Duke Clinical Research Institute Summer Institute for Training in Biostatistics, a six-week program to inspire U.S. undergraduates to pursue graduate training in biostatistics, funded by the National Heart, Lung, and Blood Institute. She is a principal investigator for several research grants from the National Cancer Institute, including a multi-institutional (with Duke and UNC-CH) P01 Program Project devoted to statistical methodology for cancer clinical trials.

ASA leaders gather during the ASA's 175 Anniversary Roundtable at JSM 2014 in Boston, Massachusetts. First row, from left: W. Michael O'Fallon (President, 2000), Fritz J. Scheuren (President, 2005), Jessica M. Utts (President, 2016), Lynne Billard (President, 1996), Nancy Geller (President, 2011), Sastry G. Pantula (President, 2010), Marie Davidian (President, 2013), Ray A. Waller (Executive Director, 1995–2001). Back row, from left: Jonas H. Ellenberg (President, 1999), David R. Morganstein (President, 2015), Sally C. Morton (President, 2009), William B. Smith (Executive Director, 2001–2007), Robert N. Rodriguez (President, 2012), Nathaniel Schenker (President, 2014), Robert L. Mason (President, 2003), Jon R. Kettenring (President, 1997) and J. Stuart Hunter (President, 1993).

Q: I have known you for many years, and I can say without question that you have always impressed me as someone who truly appreciates being a statistician. What aspect of being a statistician gives you the greatest satisfaction or joy?

A: I am fortunate to have had worked as a methodologist and a collaborator, and, in both realms, the most gratifying thing is to be able to solve problems to advance science. I spent the first six years of my career engaged in extensive statistical collaborations with scientists in a range of subject matter areas all over our campus, and nothing gave me more satisfaction than working with them to design experiments and analyze the results. Even if things didn't turn out as my collaborators hoped, I was gratified knowing their use of sound and appropriate design and analysis methods meant the results were credible and they could move forward to learn from them with confidence. Likewise, developing a new method to address a data-analytic challenge and seeing it used in practice to gain new insights has been the most satisfying part of my statistical research career.

Q: What led you to your involvement as a volunteer with the ASA? In what volunteer roles had you served the ASA prior to being elected president?

A: I joined the North Carolina Chapter of the ASA as a graduate student at The University of North Carolina at Chapel Hill in 1982 and I recall attending chapter meetings with fellow students in Research Triangle Park. When I took a position at North Carolina State University in 1987, I found that several of my new colleagues were active in the chapter. I continued to attend meetings regularly and became acquainted with members of the local statistical community whom I would not have met otherwise. This led to my first ASA volunteer roles as at-large representative, treasurer, and president of the chapter during 1989–1991.

My chapter involvement inspired me to participate in the ASA more generally. My first role was as program chair for the ASA General Methodology Section for the 1994 JSM. I remember receiving a huge stack of contributed paper abstracts (in the mail, on paper …) and sitting on the floor of my office sorting them into stacks, hoping to create contributed paper sessions. The following year, I was appointed as an associate editor for *JASA* Applications and Case Studies.

I was ... president during the International Year of Statistics, which led to many invitations to speak about the past, present, and future of our discipline.

Having gravitated toward biostatistics in the early 1990s, I also began to get involved in ENAR, and I was appointed to my second stint on the JSM Program Committee in 1998 as ENAR program chair. That same year, I was elected to the ENAR Regional Committee, through which I became acquainted with many colleagues who, because of their interests, were also active in the ASA Biometrics Section, of which I was a member. This led to my first major ASA elected position as Biometrics Section chair in 2005.

A few years earlier, I had the opportunity to broaden my ASA participation through my appointment in 2003 to the Wilks Medal Committee, for which I served as chair in 2007. I was appointed as chair of the ASA Committee on Nominations in 2006 and had the delight of inviting two wonderful members of our profession to run for president; little did I know that just a few years later I would be invited to do the same.

Q: What was the high point of your time as president of the ASA?

A: This is almost an impossible question to answer! There were so many once-in-a-lifetime experiences that it is hard to identify the high point. I was uniquely fortunate to be president during the International Year of Statistics, which led to many invitations to speak about the past, present, and future of our discipline. Researching the past and contemplating the future in preparation, and considering issues I had not previously given serious thought, led me to a whole new level of appreciation for our field. Having ASA

Former ASA President Marie Davidian said one of her favorite events was having Nate Silver of FiveThirtyEight.com (left) as the President's Invited Address speaker at JSM 2013.

members thank me for enlightening or inspiring them was one of the most rewarding aspects.

If I had to point to one specific event, it was being able to get someone of Nate Silver's stature as the president's invited speaker at the 2013 JSM. When I walked into the ballroom of the Palais des congrès in Montréal with Nate and saw the vast sea of 4,000 statisticians filing in and the throngs of mostly young people at the front waiting to take his picture and have him autograph their copies of his book, I was awestruck. I had hoped that having Nate as the speaker would be a highlight for JSM attendees, but the enthusiasm of the audience and the attention this event brought to our meeting in our profession and in the media were beyond anything I could have imagined. And I'd like to reiterate, Nate did *not* charge a speaker fee.

The success the ASA has had in engaging with the American Association for the Advancement of Science (AAAS) and seeing more and more ASA members joining AAAS were also major highlights for me. One of my presidential initiatives was to raise the visibility of statistics within the AAAS, the world's largest general scientific society and publisher of the journal *Science*. Through the tireless efforts of Steve Pierson, Jeff Myers, and Ron Wasserstein, we established what I hope is an enduring connection between the ASA and the leadership of AAAS, the editorial staff of *Science*, and especially *Science* Editor-in-Chief Marcia McNutt. The most satisfying outcome has been the *Science* reproducibility initiative announced by McNutt in January 2014, a major part of which is the creation of the *Science* Statistics Board of Reviewing Editors in July 2014, which is responsible for evaluating the statistical integrity of promising *Science* submissions.

Q: David Morganstein has just entered his term as the 2015 ASA president. As a past ASA president, what advice would you offer him so he can make the most of his term?

A: The most important advice I can give to David is to focus on a few key things he wants to accomplish and devote his energy to them, because this year will go by very quickly. In January, it seems like you will have endless time to see your initiatives come to fruition, and then all of a sudden you are writing your last *Amstat News* column! And be prepared for surprises—you never know what events or opportunities will arise suddenly, for example, the chance to do a media interview or for the ASA to get involved in a new arena. Being ASA president is a tremendous amount of work, but is an unparalleled opportunity that very few of us are fortunate enough to have to learn so much about our discipline and to have an impact on its future. So most of all, have fun! ■

Please return to this column next month, when we will feature an interview with 2008 ASA President Peter Lachenbruch.

Benefits of the New All-Member Forum

Alison Smith, ASA Marketing Coordinator

The ASA Community recently introduced a new feature called ASA Connect, where members can interact with each other in a central forum. ASA Connect facilitates open dialogue, encouraging members to begin a new discussion or post questions, comments, and advice. The new all-member forum includes the following benefits:

- Collaboration with other ASA members
- Exchange of resources and best practices
- Discussion of critical industry issues
- Input from members outside of your current communities
- Networking with other industry experts

More online
Visit the ASA Community at *community.amstat.org/home* and check out the forum today.

Using ASA Connect is simple when keeping the following in mind:

- All posts will go to the entire membership
- Messages cannot be commercial by nature
- Clear, informative subjects are more likely to elicit responses from experienced users
- As much information as possible should be provided when asking questions

The ASA hopes to promote communication between members through this new forum. In the coming weeks, discussion participants will be able to earn badges for their profiles, including the following:

- ASA Board Member
- ASA President
- Chapter Officer
- PStat®
- GStat
- New Member
- Longtime Member
- Volunteer ■

ASA, STATS.org Partner to Help Raise Media Statistical Literacy

Jeffrey A. Myers, ASA Public Relations Coordinator

The ASA has embarked on an initiative to help journalists and their editors become more statistically savvy.

The association has partnered with the newly established Sense About Science USA to launch a new STATS.org website aimed at improving media coverage of statistical matters. SASUSA is a branch of Sense About Science, a United Kingdom–based organization devoted to equipping the public to make sense of evidence in science.

This new project ties into the ASA's ongoing media outreach and public relations initiatives, such as the "*This* Is Statistics" public awareness campaign (*http://thisisstatistics.org*), to maximize its exposure to external audiences and establish the association as the recognized authority on all topics related to statistical science.

"Data have permeated our global society to the point that journalists of all types are producing hundreds of data-related stories every day. This new dynamic means the ASA needs a better way to connect with journalists who want to learn about statistical science," said ASA President David Morganstein, who spearheaded the formation of the joint project as a presidential initiative for his term. "This ASA-STATS.org partnership will work in tandem with our other external communications initiatives to enhance the ASA's visibility among journalists and the people who read their stories."

More online
Visit the ASA-STATS.org partnership site at *www.stats.org.*

STATS.org was launched in 1993, became affiliated with George Mason University in 2004, and recently became part of SASUSA's portfolio. In collaboration with the ASA, it will create a statistics informational and resource hub for journalists—and anyone else interested in how numbers shape science and society.

"Innumeracy has long been identified in research literature and by journalism educators as a significant problem in the news media," said SASUSA Director Trevor Butterworth, who will serve as the project's editor-in-chief. "For example, it baffles me how you could write an alarming news story about a potent risk and then fail to explain its potency. If I am going to tell people that they are at risk from something, surely I should—as a matter of ethics—tell them what their risk is?"

An approach to tackling this will be to connect journalists with statisticians who are experts on specific topics in addition to providing them general statistical advice and explanation. "The future of journalism is one of collaboration between those who understand numbers and those who can translate them into prose," said Rebecca Goldin, who is professor of mathematical sciences at George Mason University and the director of STATS.org. "While not every journalist can be Nate Silver, every journalist can benefit from having access to *a* Nate Silver."

Goldin has spent the past decade helping journalists from leading news organizations—ABC News, *The Economist, The New York Times,* and *Wired*—think through the numbers on a wide range of scientific issues ranging from whether you should buy insurance for your new tech product through the fraught intricacies of cancer epidemiology and jury voting bias.

Through this partnership, ASA member volunteers will contribute their statistical expertise to create, as Butterworth describes it, "a new kind of media venture that rises to the challenges of our information age."

The relationship with STATS.org is an investment on the part of the ASA to improve public outreach and increase the visibility of statistical science in media circles, said ASA Executive Director Ronald L. Wasserstein. He encouraged association members to support this new initiative by volunteering their time and expertise when asked to help with a STATS project.

An ASA member who provides a statistical review will be offering expertise as an individual and can decide whether his or her name is used or they are quoted in the STATS story.

"This new ASA initiative will be instrumental to raising media and public awareness and appreciation for statistical science," Wasserstein explained. "We're grateful for the contributions our members will be making to this effort."

Some member-provided reviews will require a quick turnaround because of the need to respond to a media story while the topic is fresh in the mind of reporters and a focus of public discourse. Topics deemed less time-sensitive would have a longer turnaround time, noted Wasserstein. ■

White House Issues Policy Directive Bolstering Federal Statistical Agencies

Steve Pierson, ASA Director of Science Policy

The White House Office of Management and Budget (OMB) finalized in late November a new federal statistical policy directive, Fundamental Responsibilities of Federal Statistical Agencies and Recognized Statistical Units. As OMB Chief Statistician Katherine Wallman explained in the email announcing the action, "This directive affirms the fundamental responsibilities of federal statistical agencies and recognized statistical units in the design, collection, processing, editing, compilation, analysis, release, and dissemination of statistical information. … [T]he proposed directive is intended to provide a unified, concise framework for governance of official statistics."

The new directive was praised by leaders in the federal statistical community, especially by the smaller federal statistical agencies and units. Recent National Center for Education Statistics Commissioner Jack Buckley commented, "Today, more than ever, the country is awash with data. But not all data are created equal. Those collected by a small set of key agencies are essential to an accurate understanding of virtually every important aspect of our government and economy and those agencies must never lose the trust of all Americans—regardless of party or position. This new statistical policy directive is an important step in securing the independence of our federal statistical system and safeguarding that trust."

Katherine Smith, former director of the Economic Research Service and current executive director of the Council of Professional Associations on Federal Statistics, stated, "Even though U.S. statistical agencies have long followed the principles and practices it outlines, the directive adds a sometimes needed extra layer of protection for statistical agencies and units against administrative procedures (like hierarchical clearance processes, IT network administration, or hiring practices) that would interfere with the timely provision of accurate and objective federal statistics. This directive exposition of the autonomy that is necessary for a statistical agency to be trusted is clearer and has more expansive coverage than that outlined in previous directives. If I were running an unrecognized statistical unit of the federal government, I would find this a *very* good time to apply to OMB for recognition."

As implied in Wallman's statement above, the new directive combines content of previous OMB directives with additional guidance in a single, more comprehensive document. The directive lists the following four responsibilities for federal statistical agencies:

- Produce and disseminate relevant and timely information
- Conduct credible and accurate statistical activities
- Conduct objective statistical activities
- Protect the trust of information providers by ensuring the confidentiality of their responses

While there are more than 100 federal statistical units, the new directive applies specifically to the 13 primary statistical agencies, the Federal Reserve Board's Microeconomic Surveys Unit, the Substance Abuse and Mental Health Services Administration's Center for Behavioral Health Statistics and Quality (Department of Health and Human Services), and the Animal and Plant Health Inspection Service's National Animal Health Monitoring System (Department of Agriculture) (in addition to "federal statistical agencies and statistical units newly recognized after the issuance of this directive.")

The May 21 *Federal Register* notice calling for comments on the then-proposed directive (*http://1.usa.gov/1GdQmxU*) provides an overview of the importance of the federal statistical system and protecting public trust in it, as well as the numerous legislative actions and executive orders currently in place to maintain this public confidence. The notice also summarizes the key points of three documents from which the OMB drew guidance for the directive: the National Academy of Sciences' *Principles and Practices for a Federal Statistical Agency* (the fourth and fifth editions of which the ASA Board endorsed), the European Statistics Code of Practice, and the United Nations Fundamental Principles of Official Statistics.

In the ASA's comments, Executive Director Ron Wasserstein strongly supported the proposed directive. To see Wasserstein's letter and more information about the May 21 call for comments, see the ASA blog entry at *http://bit.ly/1z7tJI6.*

Federal departments and agencies hosting a federal statistical agency or unit are required to provide a report to OMB for implementation of this directive by March 25. ■

AN UPDATE
to the American Community Survey Program

James Treat, American Community Survey Office Division Chief

James Treat is the division chief of the American Community Survey Office at the U.S. Census Bureau, where he is responsible for the overall program management of the American Community Survey (ACS).

It has been a decade since the U.S. Census Bureau launched the American Community Survey (ACS). What is the status of the program in 2015, and what are the significant developments, challenges, and achievements that have marked the ACS in the last decade?

Benchmarks in ACS Development, 2005–2014

Sample Design

Each year, from 2005 until 2010, we selected approximately 2.9 million housing unit (HU) addresses in the United States and 36,000 HU addresses in Puerto Rico. Beginning in 2011, we implemented the following four key changes:

1. We increased the sample selected to 3.54 million addresses
2. We added several new HU sampling rates that better control the allocation of the sample and improve estimate reliability for small areas
3. We increased the follow-up sample to 100% in select geographic areas
4. Starting in 2013, we restricted the assignment of the group quarters sample for college dorms to non-summer months (January–April and September–December)

The increase in the follow-up sample was made to increase the reliability of the ACS estimates for certain well-defined geographic areas: Hawaiian Homelands, Remote Alaska (all or parts of 14 Alaskan boroughs where access is difficult to the communities and fishing villages), Alaska Native Village Statistical Areas, and all American-Indian areas with at least 10% of the population responding to the 2010 Decennial Census as American Indian or Alaska Native.

Data Collection

From 2005 through 2012, the Census Bureau data collection for HUs consisted of three modes—mail, telephone, and personal visit—spread over a three-month period. Based on the findings of two experiments conducted in 2011, the Census Bureau changed the self-response option for the 2013 ACS by adding an Internet response option and new mailing strategy. Research conducted on the 2013 self-response check-in rates (the proportion of all cases that returned a questionnaire—via mail or Internet—of all cases mailed) showed that such rates were significantly higher than rates in 2012, when an Internet option was not available to respondents (see "The Effects of Adding an Internet Response Option to the American Community Survey," *http://1.usa.gov/1wgICbp*.

Data Products and Data User Education

The ACS data release schedule for the 2013 ACS estimates is typical of ACS release schedules in previous years. The ACS one-year estimates were released first, in September 2014, followed by the three-year, then the five-year estimates. The ACS Public Use

Microdata and the release of estimates for the Puerto Rico Community Survey always follow the release of five-year estimates (the ACS data release schedule is accessible at *http://1.usa.gov/1urwPTa*). Three non-overlapping three-year estimates were available in October 2014 (2005–2007, 2008–2010, and 2011–2013). In 2015, two non-overlapping five-year estimates will become available (2005–2009 and 2010–2014). These products will enable data users to compare ACS estimates across times in ways not previously possible to better explore trends for characteristics of population and housing.

In 2012, with the support of advisory groups and professional organizations, the Census Bureau embraced the need for an online data user community to support the needs of ACS stakeholders by launching the ACS Data Users Group (ACS DUG) with the assistance of Sabre Systems, Inc. and the Population Reference Bureau (PRB). Detailed information can be found at *www.acsdatausers.org*.

New interactive tools developed to access ACS and other Census Bureau data sets are available at *www.census.gov/data/data-tools.html*). An application programming interface (API) also is available at *www.census.gov/data/developers/about.html* to let developers create custom apps based on ACS statistics that help business and local governments foster local economic development, promote job creation, or plan for disaster recovery.

ACS Program Review

In 2011, following the release of the first ACS five-year estimates, the director of the Census Bureau commissioned a team to plan and implement a comprehensive assessment of the ACS program to ensure it was meeting the needs of data users as effectively as possible. The scope of the review included a comprehensive examination of the ACS program to (1) ensure its products were meeting stakeholder needs, (2) ensure the survey methodology and program management were technically sound and efficient, (3) examine and address concerns raised by survey respondents about their participation in the survey, and (4) identify and reduce program risks. A key challenge facing the ACS program was that the program infrastructure had not kept pace with the growth in size and stature of the survey within the federal statistical system. Accomplishments of the program review include overhauling the governance structure of the ACS program to make it more efficient and strengthening the research and evaluation program. The final report for the review is available at *http://1.usa.gov/1qAs4uf*.

ACS Content Review

The ACS was launched as the replacement for the long form survey. As was the case for that survey, the value of each question on the ACS has been confirmed each year with the federal agencies that sponsor each question. Inventories of federal uses of ACS data have yielded hundreds of legal, required, and programmatic uses of data. With the assessment opportunity afforded by the ACS Program Review, the Census Bureau—working with the Office of Management and Budget (OMB)—decided to launch an examination and confirmation of the value of each question as part of the most comprehensive effort ever undertaken to review content on the ACS. The purpose of the 2014 Content Review, which is under way, is to identify questions for possible removal or modification, while continuing to provide information to meet the nation's needs.

In 2012, the OMB and Census Bureau chartered the Interagency Council of Statistical Policy (ICSP) Subcommittee for the ACS to provide advice about how the ACS can provide the most useful information with the least amount of burden. The charter also directed the subcommittee to conduct regular periodic reviews of ACS content with the goal of assuring a clear and specific authority and justification for each question on the ACS, the appropriateness of the ACS as the vehicle for collecting the information, minimization of respondent burden, and appropriateness of the quality of data for its intended use.

The subcommittee established two analysis factors—benefit as defined by the level of usefulness and cost as defined by the level of respondent burden

or difficulty in obtaining the data. Federal agencies were asked to document the justification for question use; the mandatory, regulatory, and programmatic uses; lowest level of geography required; frequency of use; funds distributed based on the questions; and characteristics of the population. They also were asked to identify alternative data sources for the ACS and whether any ACS questions are used in creating another survey's sampling frame. Census Bureau subject matter experts examined the coefficient of variation associated with an estimate for each question at the county level, providing insight into the equality of the measure by geography. They also computed interquartile ranges associated with an estimate for each question at the county level.

Four data sets reflecting measures of cost or burden were collected. ACS interviewers were surveyed to identify which questions respondents find cognitively burdensome or sensitive and which questions are the most difficult for respondents. Second, response times to questionnaires via automated modes were measured to determine how long it took respondents to answer each question. Third, allocation rates by question were computed to determine which questions were left blank such that imputation was required due to more missing information. Finally, complaints about the ACS received by email, letter, or telephone were examined to obtain a count of ACS questions, so a count by individual question could be obtained.

More online
For more information about the ACS, visit *http://1.usa.gov/1zU6r8j*.

Based on the analysis of information relating to a question's benefits and costs, each question received a total number of points between 0 and 100 based on its benefits and between 0 and 100 points based on its cost. The points were used to create four categories: (1) high benefit, low cost; (2) high benefit, high cost; (3) low benefit, low cost; and (4) low benefit, high cost. Twenty-one questions that fell into either of the low benefit categories were then reviewed further. This review involved identifying questions designated by the Department of Commerce Office of General Counsel as falling into two categories—(1)NOT Mandatory and (2) NOT Required (i.e., regulatory) with a sub-state use—and excluding those questions from further consideration for removal from the ACS.

Of the 21 questions that fell into the two Low Benefit categories and for which further analysis took place, seven questions remained. These questions, which follow (the text in italics reflects the 2014 questionnaire wording), are slated for removal from the ACS, subject to the results of the *Federal Register* notice and further review by the OMB.

- Housing Question No. 6 – Business/ Medical Office on Property
  Is there a business (such as a store or barber shop) or a medical office on this property?
- Person Question No. 12 – Undergraduate Field of Degree
  This question focuses on this person's Bachelor's Degree. Please print below the specific major(s) of any Bachelor's Degrees this person has received.
- Person Question No. 21a – Get Married
  In the past 12 months did this person get – Married?
- Person Question No. 21b – Get Widowed
  In the past 12 months did this person get – Widowed?
- Person Question 21c – Get Divorced
  In the past 12 months did this person get – Divorced?
- Person Question No. 22 – Times Married
  How many times has this person been married?
- Person Question No. 23 – Year Last Married
  In what year did this person last get married?

An ACS *Federal Register* notice of October 31, 2014, invited comments by December 30, 2014, about the analysis described above and is accessible at *http://1.usa.gov/1BAEKFs*.

The Census Bureau will assess all comments received in making a final recommendation to OMB by early spring 2015 on whether to modify the content of the ACS. The OMB will make the final determination on the Census Bureau's recommendation and provide approval by early summer 2015.

Conclusion

Other developments will shape the ACS program's future as the Census Bureau prepares for the next decennial census and the ACS is leveraged to the extent possible to aid that preparation (e.g., ACS estimates were used to develop a 2020 Census planning database released in 2014). The Census Bureau will submit to Congress the topics for the ACS and 2020 Census in 2017 and the final questions for both in 2018. As leveraging the strengths of programs across the Census Bureau is a two-way process, the ACS program will benefit from many of the preparations for the 2020 Census, including improvements to the Census Bureau's Master Address File.

The ACS has come a long way since it was implemented in 2005. Count on further initiatives to make the program as efficient, cost effective, and innovative as possible. In the mean time, enjoy the bounty of data the ACS provides and join the Census Bureau and its stakeholders to help ensure communities across our nation have the information they need. ■

CHANCE HIGHLIGHTS

Special Issue Devoted to Women in Statistics

Scott Evans, *CHANCE* Executive Editor

Years ago, women were discouraged from engaging in the mathematical sciences. Women also faced prevalent issues of salary discrimination and a lack of maternity leave alternatives in the workplace. Fortunately, times are changing. There is a refreshing evolution of attitudes about women in science, one that welcomes young women into promising fields and recognizes their contributions. In 2014, Maryam Mirzakhani became the first woman to be awarded the Fields Medal, often termed the "Nobel Prize of Mathematics"!

Statistics, in particular, has become a promising field for women. In the October 2013 issue of *Amstat News*, ASA Director of Science Policy **Steve Pierson** summarized data from a report issued by the National Center for Education Statistics (NCES) regarding degrees in statistics granted in 2012. More than 40% of statistics degrees go to women, a much larger percentage relative to other science fields. Nearly 50% of master's degrees go to women. For 2011 and 2012 combined, 57% of master's degrees in biostatistics went to women (740 total biostatistics degrees over the two years) and 55% of PhDs went to women (298 total degrees).

This special issue of *CHANCE* is devoted to recognizing and celebrating women in statistics and their contributions to statistical science. Many of the articles were born from the Women in Statistics Conference, held May 15–17, 2014, in North Carolina. Organizers included the ASA Committee on Women in Statistics and the Caucus for Women in Statistics. The Conference highlighted the achievements and career interests of women in statistics. Special sessions focused on career development, the work of leading researchers, and opportunities and perspectives on the role of women in today's statistical fields. **Dalene Stangl** not only helped organize the conference, but also organized the plan for this special issue. Other contributers include **Stephanie Hicks, Kimberly Sellers, K. Nicole Meyer, Maria Terres, Samantha Tyner, Kaitlin Woo, Stacy Lindborg, Arati Mejdal, Joanne Wendelberger, Alyson Wilson, Sandra Stinnett, Brenda Gaydos, Jane Harvill, Kristen Tecson, Karen Kafadar, Snehalata Huzurbazar, Jessi Cisewski, Bailey Fosdick,** and **Xia Wang**.

Also featured in this issue is an interview with **Janet Wittes**, founder and president of Statistics Collaborative, Inc. Janet is a past president of the Society for Clinical Trials and Eastern North American Region of the International Biometric Society. In 2006, she received the Janet L. Norwood Award for outstanding achievement by a woman in the statistical sciences. In this interview, Janet talks about the challenges of being a woman pursuing an education and developing a career in statistics in the 1960s. She also discusses clinical trials, the Women's Health Initiative, and the future of women in statistics.

Elsewhere in this issue, **Di Cook** shows us how the gender gap in math is not universal in Visiphilia; **Shannon McClintock Pileggi**, **Mine Cetinkaya-Rundel**, and **Dalene Stangl** discuss a classroom project for generation Z in Taking a Chance in the Classroom; **Rasmus Bååth** and **Christian Robert** review all the cartoon books about statistics; and **Howard Wainer** discusses the causes and consequences to happiness in Visual Revelations. ■

JQAS HIGHLIGHTS

Football, Golf, Soccer, Fly-Fishing Featured in December Issue

Mark E. Glickman, *JQAS* Editor-in-Chief, and James Albert, *JQAS* Past Editor-in-Chief

The December 2014 issue (volume 10, issue 4) of the *Journal of Quantitative Analysis in Sports* (*JQAS*) features four articles covering topics in American football, soccer, golf, and fly-fishing. The issue contains a diverse set of topics and highlights the breadth of issues that are salient for the application of statistical development to sports problems.

"Predicting the Draft and Career Success of Tight Ends in the National Football League," by **Jason Mulholland** and **Shane Jensen**, is the Editor's Choice article and available for free download for the next 12 months. The article focuses on predicting position in the NFL draft and NFL career performance among tight ends using pre-draft information. The authors apply both recursive partitioning and linear regression to assess the impact of various factors in predicting tight end success.

The article "Stochastic Model of the 2012 PGA Tour Season," by **Erik L. Heiny** and **Robert Lowell Heiny**, develops a discrete-state Markov chain model in which the states are based on the distance from the hole. The authors fit their model using results from the 2012 PGA Tour golf season and demonstrate the use of their model to assess skill rankings for players based on under- and over-performance relative to the expected number of strokes based on the fitted Markov model.

"Scoring Rules, and the Role of Chance: Analysis of the 2008 World Fly Fishing Championships," by **Thomas W. Yee**, investigates the current rules for competitive fly-fishing and proposes a fairer scoring method that does not disadvantage competitors who spend more time catching fewer, but larger, fish. The author also examines the extent to which luck plays a role based on the fit of Poisson mixed models.

Finally, "Gasping for Air: Soccer Players' Passing Behavior at High-Altitude," by **Jorge Tovar**, examines the impact of playing soccer at high elevations on passing behavior. The author fits a linear regression to estimate the effect of high altitude and concludes that players tend to pass conservatively, which results in a greater proportion of successful passes at high elevations.

These articles are available on a subscription basis from *http://bit.ly/1uspBhP*. Prospective authors also can find the journal's aims and scope, as well as manuscript submission instructions, there. ■

NISS Meeting Addresses Transition

The National Institute of Statistical Sciences (NISS) held its annual board of trustees meeting November 7–8, 2014, at its headquarters in Research Triangle Park, North Carolina. NISS is a nonprofit organization whose mission is to identify, catalyze, and foster high-impact, cross-disciplinary, and cross-sector research involving the statistical sciences. About 25 members of the board of trustees and members of the corporation attended the meeting.

Acting Director Nell Sedransk gave historical perspective on how the organization was formed and grew to what it is today and talked about ways the organization is reorganizing to prepare for a new director's arrival: Infrastructure such as the email system, servers, and security system is being updated; every board member is serving on at least one committee (see *www.niss.org/about/board-trustees-committees* for a list of committees and the members of each); and a new intranet was developed to allow more communication to flow among committee members.

The Statistical and Applied Mathematical Sciences Institute's (SAMSI) director, Richard Smith, also talked about the similarities and differences between the two organizations. One consensus was that SAMSI is a grant, not a 501(c)(3) like NISS, and that SAMSI's goal is to stimulate research, while NISS's goal is to conduct statistical research. Also, SAMSI's focus includes applied mathematics and statistical sciences, while NISS' focus is much more on the statistical sciences.

The search committee reported that the search for a new director is moving along well. They expect to name a new director this spring, and that person will most likely start in the summer.

The communications director, Jamie Nunnelly, talked about increased efforts to raise brand awareness of NISS and to communicate with the statistics community more often. The organization expects to have more outreach to its former postdoctoral fellows, of which there are about 70 who have worked at NISS over the past 24 years. A new website is going to be developed to meet the institute's current needs better.

NISS held a special reception honoring former director, Alan Karr. In addition to the board and corporation members, some of Karr's friends attended.

The board will hold a meeting March 6–7 to discuss the mission and vision of NISS and the changes taking place. ■

ASA, in cooperation with the Bureau of Labor Statistics (BLS) and the Bureau of Economic Analysis (BEA) under a grant from the National Science Foundation (NSF) is pleased to announce a Senior Research Fellow Program for 2015.

The Fellowship Program at BLS allows research fellows to come to the BLS and use BLS data and facilities, and interact with BLS staff. More information is available on the BLS website at ***www.bls.gov/osmr/asa_nsf_bls_fellowship_info.htm*** or in our brochure at ***www.amstat.org/careers/pdfs/ASANSFBLSFellowshipProgram.pdf***.

The Fellowship Program at BEA offers a unique opportunity to perform research at the Bureau of Economic Analysis. BEA produces key economic statistics that influence government policy, forecasting and business investment. Fellows will have access to BEA data and the expertise of BEA staff. More information is available at: ***www.bea.gov/research/fellowship_program.htm*** or in our brochure at ***www.amstat.org/careers/pdfs/BEA.pdf***

Eligibility
An academically recognized research record and considerable expertise in the area of proposed research required.
U.S. government employees are not eligible to apply. Applicants must be employed by a U.S. institution.

Condition of Appointment/Benefits
Research will be conducted at the government agency. The stipend received is commensurate with qualifications and experience.
Term of appointment is flexible. Fringe benefits and travel allowances are negotiable.

Application Deadline: February 16, 2015

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IHIS Data Available Online

Julia A. Rivera Drew, University of Minnesota, and Jane F. Gentleman, NCHS (retired)

The Integrated Health Interview Series (IHIS) recently made the 2013 integrated and harmonized data based on 2013 National Health Interview Survey (NHIS) public use data available for free.

The NHIS is one of the longest-running federal surveys and the principal source of information about the health of the U.S. civilian noninstitutionalized population. IHIS offers a harmonized set of data and documentation drawn from public use NHIS microdata files from 1963 to the present. It also simplifies analysis of trends and change over time using NHIS data by allowing users to download a single file containing multiple samples and variables that are comparable over time. These data are available at no cost from *www.ihis.us/ihis*.

This latest release of 2013 IHIS data includes more than 1,500 variables derived from the 2013 NHIS public use files (available at *www.cdc.gov/nchs/nhis.htm*). Core NHIS variables are included, as well as variables based on questions from the following 2013 NHIS supplements:

- Health Care Access and Utilization: additional variables that can be used to monitor the affect of the Affordable Care Act
- Family and Adult Functioning and Disability Test Questions
- Family Food Security
- Heart Disease and Stroke Prevention: questions included as part of the U.S. Department of Health and Human Service's Million Hearts initiative
- Adult Hepatitis Screening
- Adult and Child Immunizations
- Adult Internet Access and Email Utilization
- Child Mental Health Brief SDQ and Adult Mental Health
- Child Mental Health Services
- Non-Cigarette Tobacco Use

Additional 2013 data on imputed income, adult immunosupression, and child and adult asthma was released at the end of 2014. In addition to more variables from the 2013 NHIS data, IHIS will release integrated injury-level variables from 1997–2013 NHIS data.

The IHIS program is part of the Minnesota Population Center, an interdisciplinary cooperative for demographic research at the University of Minnesota. The NHIS is conducted by the National Center for Health Statistics, which is part of the Centers for Disease Control and Prevention. ■

Obesity Research Short Course Planned

David Allison and Kevin Fontaine will lead a five-day short course, titled "Strengthening Causal Inference in Behavioral Obesity Research," at the University of Alabama at Birmingham, July 20–24.

Identifying causal relations among variables is fundamental to science. Obesity is a major problem for which much progress in understanding, treatment, and prevention remains to be made. Understanding which social and behavioral factors cause variations in adiposity and which other factors cause variations is vital to producing, evaluating, and selecting intervention and prevention strategies. In addition, developing a greater understanding of obesity's causes requires input from diverse disciplines, including statistics, economics, psychology, epidemiology, mathematics, philosophy, and, in some cases, behavioral or statistical genetics. However, applying techniques from these disciplines does not involve routine and well-known 'cookbook' approaches, but requires an understanding of the underlying principles so the investigator can tailor approaches to specific and varying situations.

The nine modules in this course are designed to provide rigorous exposure to the key fundamental principles underlying a broad array of techniques. In addition, through guided discussion using real examples in obesity research, participants will gain experience in applying the principles and techniques.

Limited travel scholarships are available to young investigators who apply by February 27. Accepted applicants will be notified no later than March 6.

For details, visit *http://bit.ly/1yEDtHa*.

Meet Brian Moyer, Director of the Bureau of Economic Analysis

Brian C. Moyer became the director of the Bureau of Economic Analysis in September 2014. He earned bachelor's and master's degrees in economics from the University of Maryland and a PhD in economics from American University.

Amstat News invited the director of the Bureau of Economic Analysis, Brian C. Moyer, to respond to the following questions so readers could learn more about him and the agency he leads. Look for other statistical agency head interviews in past and forthcoming issues.

What about this position appealed to you?

I'm thrilled to serve as the head of a federal agency whose work is an important factor in the decision making of millions of Americans, business people, researchers, and policymakers both in the United States and abroad. One of the most exciting and appealing aspects of this job is the opportunity to interact with BEA's customers, to hear firsthand how our data impact people's lives and to learn how we can refine and expand the data we provide to make it even more relevant and useful.

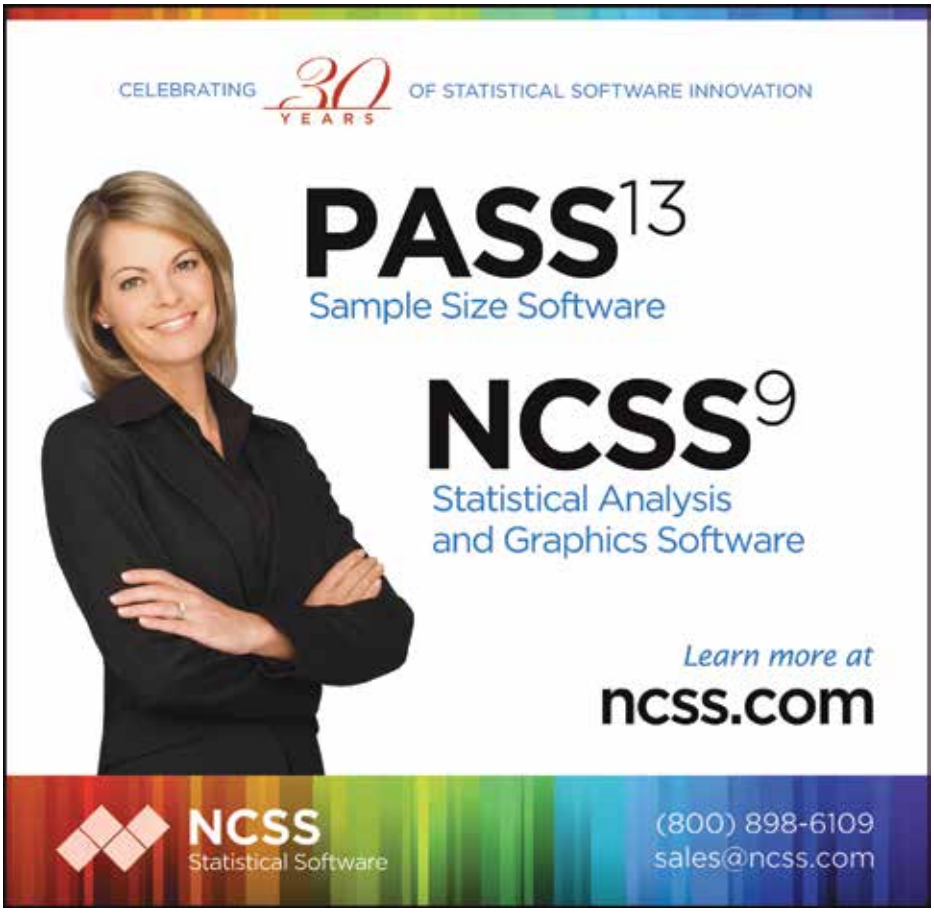
I actually joined BEA in 1993 and served as deputy director before I was named director in September 2014. So I come to my current post with a deep appreciation for BEA's mission and its innovative spirit. We not only measure the $17 trillion U.S. economy via our signature Gross Domestic Product statistics, but we also produce statistics on how consumers and industries are faring, how regional economies are performing, and how the United States is doing in the global economy.

Describe the top 2–3 priorities you have for BEA.

My top priority is making sure that BEA remains innovative so we can continue to deliver economic statistics that accurately measure an ever-changing economy in a cost-effective manner. Another priority is to create new measures that are relevant to businesses, policymakers, and the public. We also must continue to improve on disseminating our data and making sure it is accessible to sophisticated and casual data hounds alike.

What do you see as your biggest challenge(s) for the BEA?

Ensuring our economic measures keep pace with the effect of globalization, as well as an ever-changing U.S. economy, are certainly challenges. Figuring out ways to continue to leverage Big Data and to forge more integration across U.S. statistical agencies also are challenges. In addition, it's



critical that we recruit and retain talented people. BEA's successful track record of producing timely, accurate, and relevant economic statistics in an objective and cost-effective manner hinges on the innovative work of its employees.

What kind of support from the statistical community do you look for?

Getting feedback from outside experts like economists, statisticians, and accountants, as well as from business people and the public, about our work and our ideas is important to us. We have a BEA advisory committee that meets twice a year, and we conduct conferences with data users to get their thoughts and share with them things we are doing or exploring. Collaborating with other statistical agencies on projects is not only an efficient use of resources, but it also offers a wonderful way to cross-pollinate talent and ideas. Over the year, BEA has built even stronger collaborative relationships with the U.S. Census Bureau, Bureau of Labor Statistics, Treasury Department, and Federal Reserve, among others.

Prior to your tenure, what do you see as the biggest recent accomplishment of the agency?

BEA has been able to produce new, relevant economic products despite a resource-constrained environment. We created a way to adjust people's incomes across states and metro areas so they can be compared across regions and through time. We created the first set of statistics measuring how much consumers spend in each state. We produced statistics that, for the first time, tell us the economic effect of industries each quarter and the economic performance of states each quarter. We are working on a more accurate measure of health care spending on a disease-by-disease basis. We also are working on income measures that will give us more insights into how different households are faring. ■

One of the most exciting aspects of this job is the opportunity to interact with BEA's customers.

Center for Statistics and Machine Learning Established at Princeton

Princeton University recently established the Center for Statistics and Machine Learning. John Storey, a professor of molecular biology at the Lewis-Sigler Institute for Integrative Genomics, has been named the center's director.

The center will anchor the teaching of and research in statistics and machine learning on campus, Storey said, offering an undergraduate certificate and graduate training in the field.

"Given the growing importance and prominence of machine learning and statistics in both industry and academia, it is crucial for Princeton undergraduates to have access to a first-rate education in these areas," Storey said. "The interest from students here has gone up tremendously. They're living in this data-rich world."

The idea to establish a center at Princeton emerged from a campus gathering in 2011 when faculty and others met to discuss their common interest in statistics and machine learning.

"It's kind of a beautiful thing how organically it happened," Storey said. The faculty and other researchers realized how much work they were doing, how much they had in common, and the increasing prominence of the field.

Storey said data-driven scientific discovery is a significant component in a wide area of study—from politics and economics to neuroscience and his own field of genomics, where "we're sequencing everything we can get our hands on, generating massive amounts of data."

The university began offering undergraduates a certificate in statistics and machine learning during the 2013–14 academic year, a program that Kosuke Imai, a politics professor, directs.

Like many cross-disciplinary programs at Princeton, the Center for Statistics and Machine Learning will involve faculty from various departments: Storey, Imai, and others, including Jianqing Fan, the Frederick L. Moore, Class of 1918, Professor in Finance and chair of the Department of Operations Research and Financial Engineering.

For more information about the program, visit the Princeton University website at *http://orfe.princeton.edu.*

Ingram Olkin: Mentor to Many

Amy Munice, ALM Communications

Crotona Park in the East Bronx of New York City was known as the home of the Detroit Tigers baseball icon Hank Greenberg. To Ingram Olkin, however, who moved near Crotona Park when he was 10 years old, the improbable but true fact is this area was the incubator of statisticians, and that he can name a dozen prominent statisticians who grew up within a mile or so of the park is what makes it of interest. Indeed!

What's not so improbable is that Ingram Olkin came to know these Bronx boys—and they all were boys then—because he became their friend, colleague, or collaborator over his 65-years-and-counting career.

Whether these other Crotona Park sons wrote in their high-school yearbook that they wanted to be a statistician is unknown, but Ingram did. Ingram notes this with a tinge of marvel today as he marks his 90th year. Barely a week has gone by since 1947 when he has not been engaged in statistical work of one kind or another.

Ingram's accomplishments are legion in the world of statistics—from being instrumental in launching prominent statistical journals (*Journal of Educational Statistics, Statistical Science*, etc.) to oft-cited work in multivariate analysis, inequalities, reliability, and meta-analysis. In some capacity, Ingram has mentored many of today's statisticians—possibly more than many other statisticians.

It could be that Ingram finds it especially amusing that he wrote of his statistical career aspirations in high school because he knows it was in no way a foregone conclusion that his life would work out as it has. He doesn't hail from an academic family. Quite the contrary, he was the only son of Lithuanian and Polish immigrants and the first in his line to go to college.

World War II created the only other career temptation Ingram has experienced, but it also gave him a leg up on completing his undergraduate mathematical studies and moving on to graduate work in statistics. Ingram explains:

> I was born in 1924 and, when I was 18, it was World War II. I had started City College of New York in 1941 as a math major, which generally meant you were deferred from the draft. But then the Army said they needed people in radar and meteorology, asking us to enlist to get into one of these programs. A sophomore, I was inducted in 1943 to study meteorology and became a forecaster in the Army's Air Force until 1946, when I was discharged.
>
> The Army had sent me to MIT, which had many programs to train soldiers in specialties. I took a lot of math courses there and was able to get notes from my instructors that I had passed those courses so that, when I got back to City College, I received many credits and was able to graduate in one year, then going to Columbia for graduate school.
>
> As a meteorologist, I was an officer at different airports. One station was in Stout Field, Indiana; another was LaGuardia, New York, and later I was in California. The key task for a meteorologist was to draw a weather map for a pilot who wanted to go from point A to point B. I did think about continuing in meteorology, but, by then, I was already immersed in statistics.

Ingram quips, "There still is an affinity for meteorology here—my wife (Anita) likes to watch The Weather Channel morning, noon, and night."

Mentoring

A mentor to many, there were mentors in Ingram's life who no doubt would have been disappointed if he had decided on a different life course. Selby Robinson, a math professor, was an early influence. Jules Joskow at the City College of New York also spent a lot of time with Ingram, spotting him as a student with deeper interest than others. It was at his urging that Ingram went to graduate school at Columbia.

When pressed, Ingram will tell you his ultimate mentor was Harold Hotelling, a name well known in all statistical and economics circles and also to automobile drivers in Chapel Hill, North Carolina, where a street is named for him. Ingram followed Hotelling from Columbia to The University of North Carolina at Chapel Hill and was one of the beneficiaries of Hotelling's firm belief in paving the way for others. Ingram reflects, "When you grow up, a lot of what you learn is by osmosis. You see

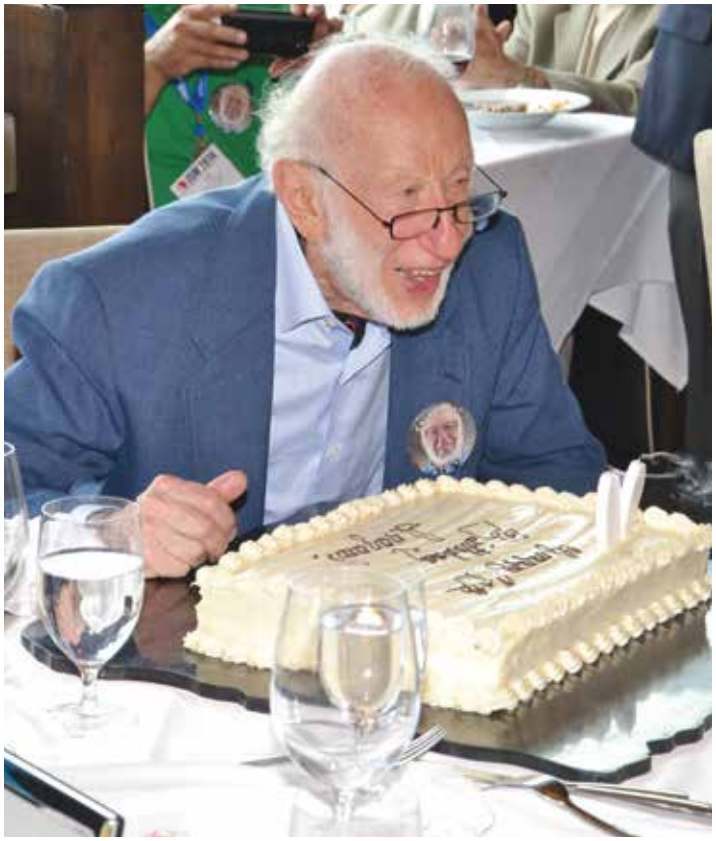
what others do and you grow up with it, many times adopting similar positions. But when you ask me who the real mentor was for me, I think, 'It was Hotelling.' I always think of him that way."

Osmosis of Hotelling's ways then might help explain how Ingram came to be a mentor to so many during a career that included stints at Michigan State University and the University of Minnesota, followed by his years at Stanford dating back to 1961 and continuing to this day. He supervised 35 PhD students and served on many dozens of other doctoral thesis committees. Ingram is especially proud to report that many of his mentees later became chairs of other departments of statistics in the country.

Many may know that Ingram has played a particularly strong role in mentoring female statisticians, but few know to credit the CIA for feeding his drive to make this happen. No, not the Central Intelligence Agency, but rather the Culinary Institute of America, which his eldest daughter left Stanford to attend in hopes of becoming a master chef. She later found herself unemployable in the high-end culinary field. That the culinary world is rife with sexism and ubiquitous sexual harassment in the kitchens was something the Olkin family had to grapple with firsthand. Ingram has not one, but three, daughters—Vivian (now 64), Rhoda (a polio survivor and expert in psychology and disability, now aged 61), and Julia (now 55 and the only one of his daughters to become a mathematician).

Ingram explains:

> All of my daughters faced little obstacles here and there because they were female. It was clear that there was discrimination against women in small ways or bigger ways.
>
> Years later—at The University of North Carolina, Stanford, and Columbia—it became apparent there were no women on the faculty, even though a lot of the students were female. At one point, it occurred to me that women were often alone—the only woman—in math and statistics departments in both small and big schools and they were having difficulty getting tenure.
>
> At that time, I was working closely with the National Science Foundation (NSF) and was able to get them to sponsor bringing three to five women to Stanford during the summer for one to three years. We encouraged these women to interact with Stanford faculty. When they later came up for tenure in their institutions, they could often get letters of recommendation from the Stanford faculty with whom they had worked. These weren't necessarily women from the biggest name schools, but rather from places like Kansas, Texas, or Delaware. It was a very successful program, and the NSF created programs to entice women into the mathematical sciences. The NSF itself was changing, with many female program directors within their own organization.
>
> In fact, I was just asked to write a letter of recommendation by one of the women I had invited to Stanford 35 years ago who is now being considered for a distinguished professorship. Overall, this was one of the most successful initiatives in my career and I consider it a major personal achievement.



Ingram Olkin blows out the candles at his 90th birthday celebration at JSM 2014 in Boston, Massachusetts.

How Times Have Changed

Ingram reflects upon this and other ways in which the profession has changed a great deal. He says, "In 1948, when I started my graduate studies, I was able to go to the math library and read every math or statistics journal. Today, that's an impossibility, and this is really a problem to some degree. For example, in 1940, there were approximately 2,500 biomedical journals and today there are about 80,000. There's been a 15–20-fold increase in almost every field of applied or theoretical statistics. Keeping up is now a problem. It's difficult to browse. Now there are search mechanisms to help you find something, but that isn't the same as browsing where you would serendipitously find materials that are of interest.

> When I was in graduate school, one of the faculty leaders—Gertrude Cox—had a vision of forming an Institute of Statistics, which would include theoretical and applied statistics as well as psychometrics and biostatistics. Her advice, which I didn't follow but now see as being a very good idea, was for statisticians to find an application or field to concentrate on. This makes sense because every field has unique statistical problems. In psychometrics, for example, the problems are related to tests and measurement. In forestry, they have to estimate the amount of timber, which presents a different problem to solve than assessing if a drug works. Each field has its unique aspects.
>
> If I were to give advice to students working towards their PhDs, I would urge them to be closer to the faculty and find out the interests of each faculty member before they decide what to work on. The interaction between students and faculty is a very important part of the learning process.

Yet Ingram's career path was anything but one of specialization. He recounts:

> I would get into new areas every 10 or 15 years … and, during my career, I was always passionate about the area I was working on at the time. Today, my focus is on meta-analyses, which is a particularly hot topic in medicine.
>
> … Generally, I'm a theoretician, so I don't get involved in specific medical applications, but rather with how to analyze that kind of data. My papers are theoretical papers that came out of actual applications. Like other theoreticians who work on methodology, I hope that the methods will be used by others for their own data.
>
> … One of the plusses of being in statistics is that it applies to all kinds of fields and it tends to make you more of a generalist in your thinking. You get an interest in medicine, sociology, psychology, and so on. Personally, this has meant that I know people from many fields, as does my family. Perhaps being a generalist in this way has helped make me more open to the paths each of my daughters has chosen for her career.
>
> The students of today are different, and the faculty of today are different. Today, there are many more two-career families, and that wasn't the case 40 years ago. Then, the university was more central to the lives of faculty than it is now. Today, many commute to the university they teach in and have far more interests outside the university.
>
> The biggest change impacting students is technology. Statistics is now coupled to computing and students tend to go into both fields jointly now. Years ago, computer science abilities didn't figure large in a statistical life.

No Regrets

Looking back, Ingram expresses no regrets. He says, "I was blessed in my career. I had good mentors and colleagues and super students. It's not clear to me what I could have done differently to improve on any of those because it is your teachers, colleagues, and students—your friends—who become important in your life. I've been fortunate to have a super group in each of those categories.

"When I first started at Stanford, we all lived on the Stanford campus and all our neighbors were faculty and staff or somehow university connected. It was very good—great in fact. The bad part is that I have now survived many of them. We now have new friends of our vintage that come from other walks of life. In my department, however, the next-oldest faculty member is 75. That's a big gap in age. This is just one of the problems of aging."

Then again, not many—any?—90-year-olds are invited to their students' weddings or asked for letters of recommendation. Ingram doesn't quite know which relationships he has had with students that would qualify as mentor-mentee. Does the fact that his work continues to be widely cited count? Is it only PhD students, or undergraduates as well? What about younger colleagues with whom he has collaborated and then written letters of recommendation for? However you define it, Ingram Olkin has mentored many. ■

STATTR@K

How to Work with Data Scientists

Ryan J. Machtmes, GStat

The emergence of data science as a significant field of interest in business heralds a challenge to the practice of statistics. How we, as a profession, respond to this challenge will determine our individual and collective futures. Do we evolve with modernity, or relegate ourselves to a subset of potential outcomes and directions?

Data science poses an important shift to the province of traditionally trained statisticians, particularly in business, as data scientists seem best equipped with the technical skills necessary to harness the power of Big Data (as currently defined). With the novelty of data science comes the proclivity for computer science, business, and statistical science to claim it, while forcing some statisticians to adopt data science as their profession to remain competitive in the job market. Responding to this emergent issue is incumbent upon the members of the statistics profession.

As has been advocated by statistics leaders, including ASA presidents, practicing statisticians are data science. What could be more central to our role as data stewards than to advocate for appropriate use of these data streams? The advent of new and complex problems of statistical inference is not cause to relegate such problems to the exclusive province of information technologists, but to both lead the charge for appropriate use of these technologies and support those statisticians being mandated to assume the roles of business intelligence and data science. We need to determine how best to respond to and work within this new paradigm.

The unique contributions mathematical statisticians are prepared to make to Big Data projects cannot be understated. As indicated in the recently released ASA whitepaper, "Discovery with Data: Leveraging Statistics with Computer Science to Transform Science and Society":

> Statistical thinking not only helps make scientific discoveries, but it quantifies the reliability, reproducibility, and general uncertainty associated with these discoveries. Because one can easily be fooled by complicated biases and patterns arising by chance, and because statistics has matured around making discoveries from data, statistical thinking will be integral to Big Data challenges.

This does not mean statisticians, data scientists, and information technologists should not work together to solve important Big Data challenges, but rather that statisticians must have equal presence on interdisciplinary teams asked to respond to such issues. The mandate is clear: Statisticians, data scientists, and information technologists need to work together to resolve

The mandate is clear: Statisticians, data scientists, and information technologists need to work together to resolve Big Data challenges.

Big Data challenges. I've worked with data scientists and information technologists. The working relationships I shared with these professionals succeeded because of the interdisciplinary nature of the teams. They worked because we complemented one another's strengths, respected each other's contributions to the effort, and provided assistance when needed. We formed cohesive teams, and all members were able to share their respective knowledge and experience.

With these examples in mind, I consider the following elements of my interaction tangible best practices other statisticians may apply when working with data scientists:

1. Respect one another professionally. Without mutual respect, there can be no lasting team structure to help balance the workloads.

2. Don't assume you know everything, or that anyone does. Every member of the team contributes something.

3. Develop one another's skills and knowledge areas. If there is a data-related concept a statistician doesn't know, or a statistical concept a data scientist doesn't know, there is opportunity for professional growth.

4. Trust each other sufficiently to admit when the other knows something you don't and use it as a learning experience. It is humbling and exposes vulnerabilities, however fleeting, to admit gaps in one's knowledge. But, by admitting one's knowledge gaps in confidence, we can not only learn and eliminate those knowledge gaps, but also help accomplish the mission.

5. Compromise, without compromising your professional practice as a statistician. It is important that we share knowledge between professionals and learn new skills, but it is also important that we understand when not to compromise sound application of statistical methodology (to say nothing of ethical guidelines, which should never be compromised).

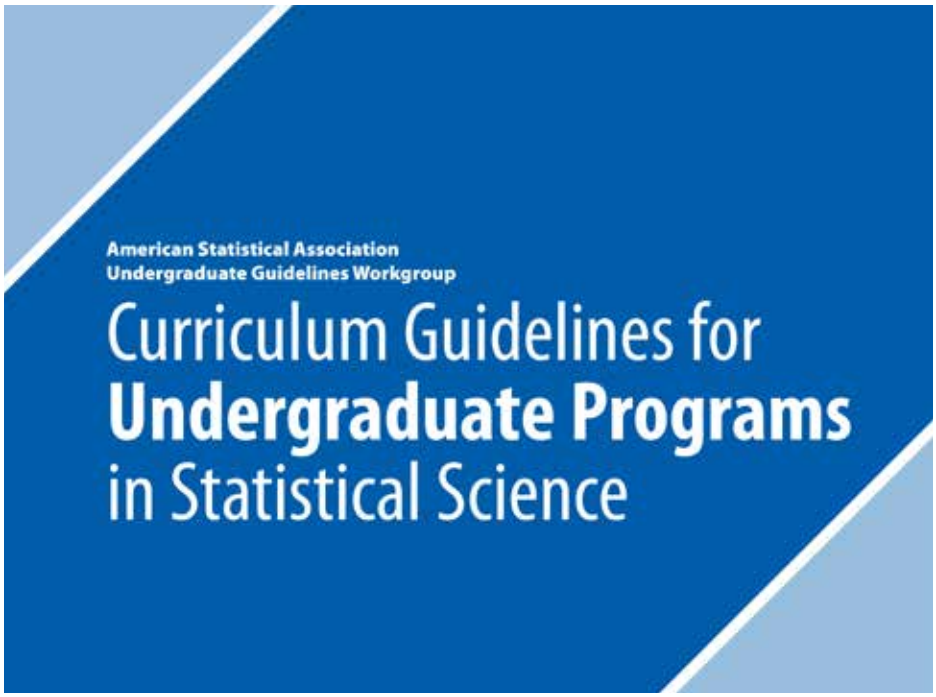
6. Actively share project leadership when possible. Both data scientists and statisticians work from different perspectives and skill sets; as such, each contributes to mission accomplishment.

7. Continue to discuss and debate (constructively), as discussion leads to intellectual growth. Inherently, working relationships between statisticians and data scientists can be tenuous. Statisticians may think data scientists disregard important assumptions for analysis and underlying theory in an effort to generate an optimal solution to a business intelligence problem, while data scientists may think statisticians are intractable and recalcitrant into obtuse theoretical considerations. However, by continuing to debate such issues constructively, we are better able to produce analyses that are both efficient and accurate, and help advance the science.

8. Finally, joke together, as it helps get through the work day.

To be fair, no amount of my belaboring the point will resolve an issue that, much like the dawn of data mining in the 1980s, will take more discussion, debate, and research. While it is important for the debate to continue for long-term benefit of statistical science, I do hope this column provides an example of the way forward for statisticians working with data scientists. Beyond that, it is my hope this column might positively contribute to the larger ongoing discussion by providing an example of ways traditional statisticians might work together in symbiotic relationship with data scientists for mutual benefit, each learning new skills from the other, with an air of mutual professional respect. ■

Guidelines for Undergraduate Programs in Statistical Science Updated



The widely quoted McKinsey & Company report, *Big Data: The Next Frontier for Innovation, Competition, and Productivity*, predicts a shortage of up to 190,000 workers with deep analytical skills and 1.5 million managers and analysts to manage data projects. A number of these workers will be holders of bachelor's degrees in statistics. How can we prepare these graduates to have the appropriate skills to make sense of the information around them?

To help answer that question, 2014 ASA President Nathaniel Schenker appointed a working group to help ensure bachelor's graduates have the necessary capacities to use data to make evidence-based decisions. Out of that working group came the updated ASA *Curriculum Guidelines for Undergraduate Programs in Statistical Science*. These guidelines were adopted in November by the ASA Board of Directors and replace guidelines adopted in 2000. The updated guidelines were developed by a group of ASA members chaired by Nicholas Horton. Other members included Beth Chance, Steve Cohen, Scott Grimshaw, Johanna Hardin, Tim Hesterberg, Roger Hoerl, Chris Malone, Rebecca Nichols, and Deborah Nolan.

The guidelines call for adaptations to the undergraduate curriculum to account for the increased importance of data analysis, teamwork, communications, and other relevant skills and experiences in today's practice of statistics.

"These new guidelines recognize the increasing importance of the practice of statistics to solving the complex problems faced by business, industry, and government entities," said Horton. "These new curriculum guidelines will help ensure graduates have the skill set to tackle the more rigorous data analysis challenges that our society faces. These data-analytics skills are needed by society and employers in our increasingly information-rich world."

The ASA report also notes enrollments in statistics classes have increased dramatically. The Integrated Post-Secondary Education Data System Completions Survey, conducted by the National Center for Education Statistics, shows the number of bachelor's graduates in statistics has increased more than four-fold since ASA guidelines were first issued: from 380 in 2000 to 1,656 in 2013.

The curriculum outlined in the *Curriculum Guidelines for Undergraduate Programs in Statistical Science* stresses the integration of knowledge and skills in the following four key areas:

- **Statistical Methods and Theory:** Statistical theory, exploratory and graphical data analysis methods, design of studies and issues of bias, and statistical modeling
- **Data-Related and Computation:** Use of one or more professional statistical software environments and multiple data tools, data manipulation, programming, and simulation

More online
Visit *http://bit.ly/1rfUFj6* to access the complete undergraduate statistics guidelines and related white papers and webinars.

These guidelines will ensure that undergraduate statistics programs provide their students appropriate training for a career in statistics.

- **Mathematical Foundation:** Calculus, linear algebra, probability, with emphasis on connections between these courses and their application
- **Statistical Practice:** Effective technical writing, visualization, and presentation skills; teamwork and collaboration; and ability to interact with a variety of clients and collaborators

"These guidelines will ensure that undergraduate statistics programs provide their students appropriate training for a career in statistics," said 2015 ASA President David Morganstein. "The ASA leadership and the members of the undergraduate guidelines work group strongly encourage the leaders and faculty of each undergraduate statistics program to read and apply these updated guidelines so their students are fully prepared to thrive in our increasingly data-centric world."

"There is a pressing need to ensure we have quantitative scientists, including statisticians, with the ability to bridge the technology and information transfer gap in order to accelerate our understanding of disease biology, etiology, and prognosis and innovations in disease prevention and treatment," said Xihong Lin, professor of biostatistics at Harvard University's T.H. Chan School of Public Health and member of the Committee on Applied and Theoretical Statistics at the National Research Council. "These guidelines are very timely, insightful, and thoughtful. They can help to prepare this next generation of analysts to effectively translate these data into knowledge and contribute to making new discoveries in health sciences."

The report also includes recommendations for curriculum topics for minors or concentrations in statistics and discussions about the relationships of the undergraduate statistics curriculum with the growing number of high-school and community college courses in statistics and master's programs in statistics.

Horton also noted a variety of white papers are in development that will help steer undergraduate statistics departments through the process of implementing the new curriculum guidelines. Topics broached in these papers include "data science and the undergraduate curriculum," "learning outcomes for undergraduate programs in statistical science" and "roadmap for smaller schools." ■

Christine E. McLaren, professor in the department of epidemiology at the University of California, Irvine, has received a $2.04 million grant from the National Institute of Diabetes and Digestive and Kidney Diseases to study genetic modifiers of iron status in hemochromatosis, a hereditary disease in which affected persons suffer excessive dietary iron absorption.

Some patients accumulate toxic levels of iron causing damage to multiple organs and complications such as liver cirrhosis, hepatocellular carcinoma, heart failure, diabetes, arthritis, and impotence. Others have less severe iron overload and do not experience such disease manifestations.

To understand the reasons for this variability in disease expression better, McLaren and colleagues will examine genetic factors in the susceptibility or resistance to iron overload in patients with hemochromatosis across a wide range of geographic areas.

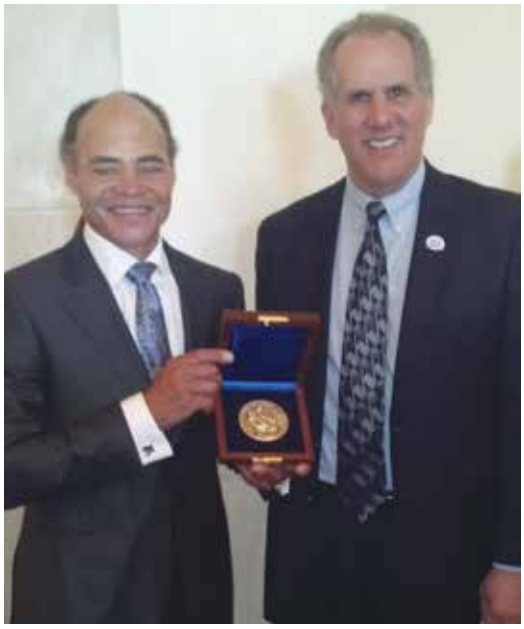
A Fellow of the ASA and member of the ASA Committee on Professional Ethics, McLaren is a program leader and member of the Biostatistics Shared Resource at the Chao Family Comprehensive Cancer Center in Orange, Calif.

This NIH award will establish a U.S. consortium with international partners to collect information from a broad collection of hemochromatosis patients and subjects enrolled in screening studies and clinical practice.

Read more about McLaren at *http://magazine.amstat.org*. ■

National Medal of Science Awarded

David Blackwell was posthumously awarded the National Medal of Science during a ceremony at the White House November 20. His son, Hugo Blackwell, and granddaughter, Kasheen Blackwell, accepted the award.



Hugo Blackwell (David Blackwell's son) displays David Blackwell's National Medal of Science with ASA Past President Nathaniel Schenker.

The **American Association for the Advancement of Science** (AAAS) council has elected 401 members as fellows. These individuals will be recognized in February for their contributions to science and technology at the fellows forum during the AAAS annual meeting in San Jose, California.

The ASA members elected as fellows to the AAAS Section on Statistics are the following:

- Susmita Datta, University of Louisville
- Mark Andrew Espeland, Wake Forest University School of Medicine
- Robert Jackson Hardy, University of Texas School of Public Health
- William Q. Meeker Jr., Iowa State University
- Dudley L. Poston, Texas A&M University
- Paula Karen Roberson, University of Arkansas for Medical Sciences
- John P. Sall, SAS Institute
- James J. Schlesselman, University of Pittsburgh
- Stephanie Shipp, Virginia Tech University
- Clifford Spiegelman, Texas A&M University

For more information, visit *http://bit.ly/1r3Pg4J*. ■

ASA Past President **Nathaniel Schenker** has been named deputy director of the National Center for Health Statistics (NCHS). In announcing the news, Charles Rothwell, NCHS director, said Schenker has been instrumental in developing collaborative statistical relationships within NCHS and with other federal statistical agencies. Schenker currently is the agency's associate director for research and methodology. He joined NCHS after serving in several capacities in the biostatistics departments in UCLA's School of Public Health and School of Medicine. Schenker will assume his new role in February. Visit the NCHS website for details: *http://1.usa.gov/1GuNNpy*. ■

Obituary
Marvin Zelen

Karen Feldscher

Marvin Zelen of the department of biostatistics at the Harvard School of Public Health (HSPH) passed away November 15, 2014, at age 87 after a battle with cancer.

Zelen was Lemuel Shattuck Research Professor of Statistical Science, as well as a member of the faculty of arts and sciences (emeritus) at Harvard University. He served for a decade in the 1980s as chair of the school's department of biostatistics. He was known as a giant in the field of biostatistics, as well as a man of vision, generosity, and warmth. He is credited with transforming HSPH's biostatistics department into a best in the country.

Zelen was known for developing the statistical methods and study designs used in clinical cancer trials, in which experimental drugs are tested for toxicity, effectiveness, and proper dosage. He also introduced measures to ensure data from the trials are as free as possible of errors and biases—measures that are now standard practice. Zelen helped transform clinical trial research into a well-managed and statistically sophisticated branch of medical science. His work in this area has led to significant medical advances, such as improved treatments for several forms of cancer. His research also focused on improved early detection of cancer; on modeling the progression of cancer and its response to treatment; and on using statistical models to help determine optimal screening strategies for various common cancers, especially breast cancer.

Born and raised in New York City, Zelen attended New York's City College, where he became interested in statistics and probability. After college and a master's degree in mathematical statistics from The University of North Carolina at Chapel Hill, he worked for 10 years at the mathematics lab of the National Bureau of Standards in Washington, DC. He was the only one working in the lab without a doctorate—which he remedied by earning one at American University in 1957.

Marvin Zelen

In the early 1960s, Zelen spent two years as a visiting professor at the University of Wisconsin Mathematics Research Center, where he first worked with cancer researchers, helping them address problems with study design. After that, beginning in 1963, he led the National Cancer Institute's applied mathematics and statistics section for four years, where he delved further into cancer and clinical research. He spent a year in London as a Fulbright Scholar, after which he joined the biostatistics department at the State University of New York in Buffalo.

During his decade in Buffalo, Zelen helped the Eastern Cooperative Oncology Group (ECOG)—one of several regional organizations established by the National Cancer Institute (NCI) to test experimental cancer therapies—with their studies. In an American University alumni magazine article in 2008, Zelen said those early studies were "terrible." He said the studies were "poorly thought out; the data was wrong; they had poor quality control, not enough patients—everything you can think of that was antiscientific." He suggested to the physicians in charge of the studies that they basically start again from scratch. The physicians agreed and Zelen, along with his longtime collaborator Paul Carbone, established the standards and practice now used in clinical trials of many diseases. Along the way, Zelen formed the statistical laboratory at the University of Buffalo, which was dedicated to overseeing and improving the statistical aspects of large, complex drug trials. ECOG would go on to become one of the largest programs in the world for testing various cancer treatments.

"Marvin had a lot of guts and a vision for what was important," said Mitchell Gail, senior investigator in the biostatistics branch of NCI's Division of Cancer Epidemiology & Genetics. "He finagled NCI into supporting the use of DEC-10 computers in clinical trials, long before the study-section supported it. He inspired the clinical trials community of statisticians."

Zelen also played a key role in President Nixon's "war on cancer" in the early 1970s, serving as chair of a committee responsible for drafting the new program. His involvement in this endeavor was "tremendous and lasting," according to Lee-Jen Wei, professor of biostatistics at HSPH.

In the mid-1970s, Zelen's pioneering work in Buffalo brought him to the attention of HSPH's then-biostatistics chair, Frederick Mosteller, who was working to strengthen the biostatistics department. Zelen insisted he would only come to Harvard if he could bring with him the team he'd built in Buffalo. In the end, 27 faculty, researchers, and staff moved from Buffalo to Boston in 1977, bringing with them a huge DEC-20 computer and the ECOG trials—150 cancer trials involving several thousand patients. Zelen's lab was established at the Dana-Farber Cancer Institute (DFCI), where, simultaneously with his tenure at HSPH, he built the cancer institute's department of biostatistics and computational biology.

Zelen's colleague, biostatistics professor Nan Laird of HSPH, recalled that "those first few years of integrating

12 new faculty members from Buffalo with half as many from Harvard were part of Marvin's grand plan to make Harvard the number-one biostatistics department in the country—which it is and has been for quite some time. It was an enormously exciting time when we were united in working toward a common goal. Marvin's genius was that he got all of us involved, then stepped back and gave us all the credit."

On a more personal level, Laird said Zelen was "a tremendous force in my personal and professional life. He was always in and out of my office, asking how things were going. Even as he was trying to convince me to do something I absolutely did not want to do, I always felt his intentions for me were the best. Marvin was always honest and unpretentious."

Zelen succeeded Mosteller as biostatistics chair in 1981. He continued working on the ECOG trials, helped lay the groundwork for the department's pre-eminence in AIDS clinical trials, and improved the biostatistics curriculum. As chair, he was the driving force that propelled the department to its position as a leading center for biostatistical research.

Zelen also achieved another level of fame in the early 1980s, when he and his late colleague in the biostatistics department, Stephen Lagakos, launched a study of a possible connection between a cluster of childhood leukemia cases in Woburn and the town's water supply. Known as the Harvard Health Study, the investigation showed, for the first time, a connection between Woburn's contaminated water and a variety of adverse health effects, including leukemia. The matter made headlines, wound up in court, and was chronicled in the book *A Civil Action*, which was later made into a movie. As the book notes, when Zelen announced the study's results in the basement of a Woburn church in February 1984, someone in the audience called out, "Thank God for Marvin Zelen," and the crowd burst into applause.

Another of Zelen's achievements was his establishment, in 1975, of the Frontier Science and Technology Research Foundation, a nonprofit devoted to advancing the use of statistical science and practice and data management techniques in science, health care, and education. Zelen served as president, and his wife, Thelma, was chief administrative officer. Richard Gelber, professor of biostatistics of HSPH and DFCI, said, "This is another excellent example of how Marvin established an environment within which others could flourish. Thelma's contributions to Marvin's success cannot be overlooked. Their partnership is a role model of working together, and she has been a major force in the formation and administrative leadership of Frontier Science as its chief operating officer for almost 40 years."

Last but not least, Zelen has been widely praised for his mentorship and generosity. Gelber said, "During the past 39 years, Marvin taught me much about the importance of collaborative research and how progress is fueled by statistical and clinical scientists working together as partners."

Fellow biostatisticians from around the country—people like Jack Kalbfleisch from the University of Michigan, Ross Prentice from the Fred Hutchinson Cancer Research Center, and Norman Breslow from the University of Washington—have all spoken of Zelen's huge influence. "Marvin was a tremendous force in the profession and a great mentor to so many of his colleagues and students," said Kalbfleisch. Prentice said Zelen "did much to define the biostatistical profession." Breslow said he was "greatly influenced by Marvin and his work." Mitchell Gail of NCI put it this way: "So many people were helped by Marvin, whether they needed assistance with starting a company, with a personal matter, or with ideas and guidance in academic statistics. That is truly a legacy to be proud of."

Current biostatistics chair of HSPH, Victor DeGruttola, said, "Scientists from around the world have benefited from Zelen's innovative ideas and transformative effect on biomedical research, but those of us associated with the Harvard Department of Biostatistics are particularly grateful for Marvin's commitment to educating students and advancing the careers of junior scientists."

Zelen's work has been recognized around the world through awards and other accolades. In 1997, in honor of his 70th birthday, the school established the annual Marvin Zelen Leadership Award in Statistical Science, which has become one of the most prestigious awards in the field and is meant to reflect Zelen's contributions to quantitative science and beyond. In 2009, Zelen was awarded the American Cancer Society's highest honor—a Medal of Honor. He received the Samuel S. Wilks Memorial Award, one of the most prestigious awards from the American Statistical Association, in 2006, and the Fisher Lecturer Award from the Committee of Presidents of Statistical Societies (COPSS) in 2007 in recognition of his outstanding contributions to statistical science. A special issue of the journal *Lifetime Data Analysis* was dedicated to him in 2004. Three symposia have been held around the world in his honor. And he received an honorary doctoral degree from the Universite Victor Segalon in France.

Zelen is survived by his wife, Thelma; two daughters, Deborah and Sandy Zelen; and two grandsons, Matthew and Toby Mues.

Contributions may be made in Zelen's memory to the Marvin Zelen Education and Leadership Fund, Department of Biostatistics, Harvard School of Public Health, c/o HSPH Office of External Relations, 90 Smith St., Boston, MA 02120. They also may be given online at *www.hsph.harvard.edu/give*. Please designate in the comment field that your contribution is for the Marvin Zelen Education and Leadership Fund.

Nominations Sought for 2015 Don Owen Award

The San Antonio Chapter is accepting nominations from ASA chapters in North America for the 2015 Don Owen Award, which is presented to a statistician who embodies the three-fold accomplishments of Donald B. Owen: excellence in research, statistical consultation, and service to the statistical community.

Nominees must be a member of the ASA, but are not required to be a member of the nominating chapter. In addition to a cover letter highlighting the accomplishments of the nominee, the nomination packet must contain the following supporting information:

- Name of the nominee
- Degrees (titles, dates, schools)
- Present position(s), followed by significant former positions (with dates)
- List of major publications having statistical content
- List of activities related to teaching and dissemination of statistical knowledge
- List of consulting activities related to statistical problems or editorial contributions
- List of activities supporting the mission of the ASA and related professional organizations

To nominate someone, send the nomination packet as a PDF via email to David Han at *david.han@utsa.edu* with "Owen Award" in the subject field. Alternatively, six copies of the nomination packet can be mailed to David Han, Department of Management Science & Statistics, University of Texas at San Antonio, One UTSA Circle, San Antonio, TX 78249.

The deadline for nominations is February 6, 2015.

Before his death in 1991, Owen was distinguished professor of statistics at Southern Methodist University in Dallas. He authored seven textbooks, seven monographs, and more than 75 articles in refereed journals; trained 19 doctoral and master's students; served as an applied statistician for 10 years at the Sandia Corporation; and operated a private consulting firm that specialized in quality control. Owen was editor of *Communications in Statistics* for both Series A and B, associate editor of *Technometrics* and *JASA*, and editor of more than 50 textbooks.

If you have questions about the award, call (210) 458-7895.■

Deadlines and Contact Information for ASA National Awards, Special Lectureships, and COPSS Awards

www.amstat.org/awards

February 1, 2015
Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society
Nominations: Pam Craven *pamela@amstat.org*
Questions: G. David Williamson *dxw2@cdc.gov*

February 1, 2015
ASA W. J. Dixon Award for Excellence in Statistical Consulting
Nominations: Pam Craven *pamela@amstat.org*
Questions: Michael H. Kutner *mkutner@emory.edu*

February 15, 2015
Causality in Statistics Education Award
Nominations and Questions: *educinfo@amstat.org*

February 15, 2015
ASA Samuel S. Wilks Memorial Medal
Nominations: Pam Craven *pamela@amstat.org*
Questions: Lynne Billard *lynne@stat.uga.edu*

February 15, 2015
ASA Waller Distinguished Teaching Career Award
Nominations: Pam Craven *pamela@amstat.org*
Questions: Bradley A. Hartlaub *hartlaub@kenyon.edu*

February 15, 2015
ASA Waller Education Award
Nominations: Pam Craven *pamela@amstat.org*
Questions: Bradley A. Hartlaub *hartlaub@kenyon.edu*

February 15, 2015
ASA W. J. Youden Award in Interlaboratory Testing
Nominations: Pam Craven *pamela@amstat.org*
Questions: Blaza Toman *blaza.toman@nist.gov*

February 20, 2015
ASA Statistics in the Physical and Engineering Sciences Award
Nominations and Questions: Philip J. Ramsey *pjrstats@aol.com*

February 23, 2015
ASA Gertrude M. Cox Scholarship
Applications: Pam Craven *pamela@amstat.org*
Questions: Eloise E. Kaizar *ekaizar@stat.osu.edu*

March 1, 2015
ASA Edward C. Bryant Scholarship
Applications: Pam Craven *pamela@amstat.org*
Questions: Tapabrata Maiti *maiti@stt.msu.edu*

March 1, 2015
ASA Excellence in Statistical Reporting Award
Nominations: Pam Craven *pamela@amstat.org*
Questions: Morteza Marzjarani *mortkm2@yahoo.com*

March 1, 2015
ASA Fellows
Questions: Stephanie S. Shipp *steph19@vbi.vt.edu*

March 1, 2015
ASA Outstanding Statistical Application Award
Nominations: Pam Craven *pamela@amstat.org*
Questions: DuBois Bowman *dubois.bowman@columbia.edu*

March 15, 2015
ASA Founders Award
Nominations: Pam Craven *pamela@amstat.org*
Questions: Nathaniel Schenker *natschenker@gmail.com*

sectionnews

Biometrics

Edited by Sheng Luo, Biometrics Section Publications Officer

Abstract submissions for regular contributed and topic-contributed papers will be accepted online until February 2. See *http://bit.ly/1vJyGSI* for more information.

Topic-contributed sessions are a nice alternative to contributed sessions because they are organized around a central topic, the talks are longer (20 minutes, rather than 15), and one can have discussants as well as speakers. Sessions consist of five participants (e.g., four speakers and one discussant or three speakers and two discussants).

Those interested in organizing a topic-contributed session should notify the 2015 JSM Biometrics Section chair, Rebecca Hubbard, at *rhubb@mail.med.upenn.edu.* They also must submit a proposal online by January 15. See *http://bit.ly/1AsnFcA* for instructions on organizing and submitting a topic-contributed session.

Also consider proposing a topic-contributed panel session. Panel sessions have 3–6 panelists, and the session submission format involves one abstract for all speakers. Note that if each speaker wishes to provide an abstract, speak on a specific topic, and submit an individual paper for *JSM Proceedings*, then the session should be a paper session.

Call for Proposals

The Biometrics Section invites applications for funding to support career-development efforts for assistant professors or associate/full professors interested in moving into a new research area.

The section is particularly interested in applications that will result in a benefit to the broader research community. For example, funding could support attendance at a workshop to receive additional training in an applied research area typically underserved by biostatisticians.

Applications will be accepted from individuals interested in receiving additional training or from individuals or groups interested in recruiting biostatisticians for training in a specific, underserved research area.

The section anticipates funding up to two proposals this year, with total funding of up to $3,000-$5,000 per proposal to be spent within the next 1.5 years. Applicants must be an ASA member and Biometrics Section member at time of submission.

A one-page application is due by February 15 in the following format: Summary of Request, Significance and/or Rationale, and Budget.

Expenditures are restricted to domestic travel and the cost of meeting attendance. A funding period with a start date no earlier than March 1 and an end date no later than August 31, 2016, also should be specified.

Applications and questions should be submitted by email to ASA Biometrics Section past chair, Mike Daniels, at *mjdaniels@austin.utexas.edu*. Recipients will be expected to submit a brief report within one month of the conclusion of the project. ■

Defense and National Security

The Section on Defense and National Security cosponsored the Conference on Applied Statistics in Defense (CASD), which took place October 20–24, 2014, at the Bureau of Labor Statistics in Washington, DC.

The CASD continues the traditions of the Design of Experiments Conference (1955–1994) and Army Conference on Applied Statistics (1994–2013). It is a forum for the presentation and discussion of theoretical and applied papers related to the use of probability and statistics in solving problems of interest to the defense community. It provides a unique opportunity for interaction between academia, industry, and government researchers.

The principal theme was reliability, with a secondary focus on text analysis. One of the distinctive characteristics of CASD is an inclusive two-day tutorial, which was on applied reliability and given by William Meeker of Iowa State University. Also, as part of the theme, John Eltinge of the Bureau of Labor Statistics gave a clinical session presentation titled "Prospective Application of System Reliability Concepts and Methods to Analysis of Survey Participation" and Meeker and Shane Reese of Brigham Young University provided discussion.

The keynote, "Shape Metrology," was given by Antonio Possolo of the National Institute of Standards and Technology. Other invited talks focused on model-based clustering of large networks, a time series analysis of Twitter graphs, and applications of the extremogram to spatial processes. Special sessions on network science, heavy-tailed distributions, and network science also were given.

Selected papers will be published in the 2015 *JSM Proceedings*. In the meantime, slides have been posted to the conference website at *www.CASiD.info*. ■

Quality and Productivity

The 2015 Quality and Productivity Research Conference (QPRC), sponsored by JMP and the North Carolina State University Department of Textiles, will be held in Raleigh, North Carolina, June 9–12. Papers for the conference can be submitted to the program chair, Di Michelson, at *di.michelson@sas.com* by March 1.

In conjunction with QPRC, the Mary G. and Joseph Natrella scholarship offers a $3,500 grant and $500 travel stipend to students pursuing full-time graduate work with demonstrated interest in quality and statistics. For more information, visit the scholarship website at *http://community.amstat.org/QP/ScholarshipsAwards/MaryGandJosephNatrellaScholarship*.

The section also will offer up to three $400 travel grants to graduate students who wish to attend the Joint Statistical Meetings in Seattle, Washington, in August. Visit *http://bit.ly/1vZQVZd* for details and to download an application. Applications will be accepted through March 31.

The Fall Technical Conference, chaired this year by Flor Castillo, will be held October 8–9 in Houston, Texas. If you are interested in presenting an applied or expository paper, contact Alix Robertson at *aarober@sandia.gov*. The abstract submission deadline is February 28.

These activities could not be completed without the help of volunteers. If you would like to volunteer, email the 2015 section chair, David Edwards, at *dedwards7@vcu.edu*. ■

Physical and Engineering Sciences

Stephanie P. DeHart, DuPont and SPES Chair

Happy New Year! The New Year is a time of resolution for many people, including me. We all know the routine. We'll promise to start exercising or eating healthier this year. We'll start off strong, but, within a few weeks, we've lost our way to the gym and indulged in all those Super Bowl party snacks. Our New Year's promise to ourselves is long forgotten. Well, this year I encourage you to make a resolution that you can actually keep by vowing to become more involved in SPES. Now this does not mean you have to devote time as an officer (though we are always looking for volunteers). Instead, pick one or two ways you can take advantage of all your SPES membership has to offer.

Conferences

Consider attending one of the annual conferences SPES cosponsors and take advantage of the opportunities to share and learn through technical presentations, roundtables, and short courses. The 22nd ASA/IMS Spring Research Conference (SRC) on Statistics in Industry and Technology will be hosted by Procter and Gamble and held in Cincinnati, Ohio, May 20–22. The theme of this year's SRC is "Bridging Statistics Research and Application to Foster Innovation." Visit the SRC website at *http://bit.ly/1zJhjHU.aspx* for more information about the conference and abstract submissions, which are due April 1.

The 2015 Joint Statistical Meetings (JSM) will be held in Seattle, Washington, August 8–13. The theme this year is "Statistics: Making Better Decisions." SPES will sponsor sessions, roundtables, and short courses. And don't forget about the fun-filled mixer! Visit the JSM website at *www.amstat.org/meetings/jsm/2015* for more information, and contact the SPES program chair, William Li, at *wli@umn.edu* for abstract submissions, which are due February 2.

The 59th ASA/ASQ Fall Technical Conference (FTC) will be held in Houston, Texas, October 8–9. The theme of this year's FTC is "Statistics and Quality: Solving Problems Today and Tomorrow." The conference will include a new SPES-sponsored panel discussion, "Success and the Statistician." The event will begin at 3:30 p.m. on Friday and include refreshments. Visit the FTC website at *http://asq.org/conferences/fall-technical* for more information, and contact the SPES program committee chair, Zhen Wang, at *Zhen.Wang@lubrizol.com* for abstract submissions, which are due February 28.

Marquardt Memorial Industrial Speakers Program

Consider hosting a speaker or presenting as part of the Marquardt Memorial Industrial Speakers Program. Through a donation by Margaret Marquardt in memory of her late husband, Donald W. Marquardt (ASA Fellow and former ASA president), SPES instituted this program in 1998 to foster communication between industrial statisticians and academic statistics programs.

The program's objective is to familiarize students with the role of statisticians in industry, an application area to which students often are not exposed. The program seeks to fill this gap by bringing experienced industrial statisticians to campus to talk directly with students about their work and industrial experiences.

If you would like to have a speaker visit your campus or if you would like to tell the world about life as an industrial statistician, please contact the program's chair, Greg Piepel, at *greg.piepel@pnl.gov.*

Even More Opportunities

If the previous activities sound interesting, but you aren't quite ready to make a promise that statistics will go beyond your office this year, then consider another engagement that allows you to stay at your

desk. Attend a SPES-sponsored webinar, start a discussion with fellow members in our LinkedIn Group (*http://linkd.in/1IKmDPg*), or even send me an email (*stephanie.p.dehart@dupont.com*) with any ideas you may have about how SPES can better serve your needs. I would love to hear from you!

In closing, I encourage all of you to make a resolution you can actually keep: Use your SPES membership and get more involved! I also would like to thank all the SPES officers who have already done this by volunteering. To our 2014 officers—especially our 2014 chair, Liz Schiferl—thank you for a successful year! And to our new 2015 officers, welcome! Your dedication and service makes SPES a valuable organization for our members. I am grateful for the opportunity to serve as chair this year and look forward to working with all of you.

FTC Wrap-Up

Zhen Wang, The Lubrizol Corporation and FTC SPES Representative

The 58th Fall Technical Conference (FTC), cosponsored by the ASA and American Society for Quality (ASQ), was held October 2–3 in Richmond, Virginia. The conference was well attended, with sessions covering a range of topics in statistics and quality. Invited sessions included Application of Statistical Engineering (ASA-Q&P), Statistical Engineering and Big Data (ASQ-STAT), George Box's Contributions to Quality and Statistics and Definitive Screening Designs (ASQ-CPID), and Statistical Tools for Computational Model Data (ASA-SPES).

The W. J. Youden Memorial Address was given by Connie Borror from Arizona State University. Also noteworthy were invited sessions from *Technometrics*, *Quality Engineering*, and the *Journal of Quality Technology*; contributed sessions on design of experiments, quality, and reliability; and a lunchtime presentation by ASA Executive Director Ronald Wasserstein.

On the day preceding the conference, four short courses were offered that spanned design of experiments, text mining, reliability data analysis, and effective presentations for statisticians. Equally as valuable were the many opportunities to interact with colleagues from the statistics and quality areas. The conference provided a setting to network at meals and in the hospitality suite.

SPES is accepting papers for the 2015 Fall Technical Conference, to be held October 8–9 in Houston, Texas. The abstract submission deadline is February 28. Contact Zhen Wang at *zhen.wang@lubrizol.com* for details. ■

NEW

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February

*** ›› 16–20—12th Workshop on Stochastic Models, Statistics, and Their Applications, Wroclaw, Poland**

For more information, visit *www.smsa2015.rwth-aachen.de* or contact Annabel Prause, Wuellnerstrasse 3, Aachen, International 52062, Germany; 0049-241-80-94775; *prause@stochastik.rwth-aachen.de*.

›› 26–27—SAMSI Undergraduate Workshop, Research Triangle Park, North Carolina

For details, visit *http://bit.ly/1uJ6j6T* or contact Jamie Nunnelly, 19 T.W. Alexander Drive, RTP, NC 27709; (919) 685-9350; *admin@samsi.info*.

March

*** ›› 4–6—DAE 2015, Cary, North Carolina**

For more information, visit *www.jmp.com/dae2015* or contact Katie Taylor, 100 SAS Campus Drive, Cary, NC 27511; (919) 531-2144; *katie.taylor@jmp.com*.

›› 10–12—New Techniques and Technologies for Statistics (NTTS) 2015, Brussels, Belgium

For more information, visit *ntts2015.eu* or contact NTTS 2015 Secretariat, European Commission, Luxembourg, International L-2920; +352-4301-1; *ESTAT-NTTS@ec.europa.eu*.

›› 16–18—Discovering Patterns in Human Microbiome Data (HMD), Research Triangle Park, North Carolina

For details, visit *http://bit.ly/1AcTVRm* or contact Jamie Nunnelly, 19 T.W. Alexander Drive, RTP, NC 27709; (919) 685-9319; *nunnelly@niss.org*.

›› 18–20—International MultiConference of Engineers and Computer Scientists 2015, Hong Kong

For details, visit *www.iaeng.org/IMECS2015* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, International HK, Hong Kong; (852) 3169-3427; *imecs@iaeng.org*.

›› 23–25—JMP Discovery Summit Brussels 2015, Brussels, Belgium

For more information, visit *www.jmp.com/discovery-europe* or contact Katie Taylor, 100 SAS Campus Drive, Cary, NC 27513; (919) 531-2144; *katie.taylor@jmp.com*.

›› 27—Philosophy of Information and Information Processing, Oxford, United Kingdom

For more information, visit *http://bit.ly/12UrZXf* or contact Aisha Khan, 4400 Massachusetts Ave., N.W., Kreeger 104, Washington, DC 20016; (202) 885-3758; *info-metrics@american.edu*.

April

*** ›› 9–10—Robust Rank-Based and Nonparametric Methods,**

SPECIAL INTEREST GROUP

Statistics Instructors in **Cyberspace**

Statistics Instructors in Cyberspace is a new ASA special interest group that was established in October of 2014. The purpose of this group is to support statistics educators who teach online courses and/or have an interest in online teaching and online learning. Through participation in this professional community, educators will have opportunities to meet, connect with, and commiserate with other online educators; learn about new methods and tools appropriate for teaching online courses; and work toward an improvement in the quality of online statistics education for students. The group plans to meet regularly at the Joint Statistical Meetings (JSM) and maintain an electronic discussion list.

For details about becoming part of this group, contact Michelle Everson at *everson.50@osu.edu*.

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

Kalamazoo, Michigan
For details, visit *www.stat.wmich.edu/mckean/RBconf* or contact Magdalena Niewiadomska-Bugaj, Department of Statistics, Western Michigan University, Kalamazoo, MI 49008-5152; (616) 387-4542; (616) 387-1421; *m.bugaj@wmich.edu*.

›› 26–28—27th Annual Conference on Applied Statistics in Agriculture, Manhattan, Kansas
For more information, visit *www.dce.k-state.edu/conf/applied-stats* or contact Jo Blackburn, 101 Dickens Hall, Kansas State University, Manhattan, KS 66502; (785) 532-0511; *jablack@ksu.edu*.

›› 30–5/2—2015 SIAM International Conference on Data Mining, Vancouver, British Columbia, Canada
For details, visit *www.siam.org/meetings/sdm15* or contact Nicole Erle, 3600 Market St., 6th Floor, Philadelphia, PA 19104; (215) 382-9800, Ext. 305; *erle@siam.org*.

May

*** ›› 14–17—AAPOR 70th Annual Conference, Boston, Massachusetts**
For details, contact Lisa Kamen, 111 Deer Lake Road, Ste. 100, Deerfield, MA 60015; (847) 205-2651; *lkamen@aapor.org*.

›› 21–22—The 4th International Conference on Quantitative and Qualitative Methodologies in the Economic and Administrative Sciences (ICQQMEAS2015), Athens, Greece
For more information, visit *sites.google.com/site/icqqmeas2015* or contact Christos Frangos, Agiou Spiridonos Street, Egaleo, Athens, International 122 10, Greece; 00306944162376; *cfragos@teiath.gr*.

›› 25–28—The 24th International Workshop on Matrices and Statistics, IWMS-2015, Haikou, Hainan, China
For more information, visit *http://bit.ly/1AcGLDW* or contact Jeffrey Hunter, Auckland University of Technology, Auckland, International 1142, New Zealand; +6421810282; *jeffrey.hunter@aut.ac.nz*.

›› 26–29—UT Summer Statistics Institute, Austin, Texas
For details, visit *stat.utexas.edu/training/ssi* or contact Sasha Schellenberg, 2317 Speedway, Stop D9800, Austin, TX 78712-1823; (512) 232-9217; *sasha.schellenberg@austin.utexas.edu*.

›› 31–6/5—Workshop on Statistical Learning of Biological Systems from Perturbations, Ascona, Switzerland
For details, visit *www.cbg.ethz.ch/news/ascona2015* or contact Niko Beerenwinkel, *niko.beerenwinkel@bsse.ethz.ch*.

June

*** ›› 1–3—Uncertainties in Computational Hemodynamics, Research Triangle Park, North Carolina**
For more information, visit *http://bit.ly/1ITcu2S* or contact Jamie Nunnelly, 19 T.W. Alexander Drive, Research Triangle Park, NC 27709; (919) 685-9300; *nunnelly@niss.org*.

›› 7–13—Methods in Cancer Biostatistics Workshop: Clinical Trial Designs for Targeted Agents, Lake Tahoe, California
For more information, visit *www.AACR.org/Biostat* or contact Virginie Adam, 615 Chestnut St., 17th Floor, Philadelphia, PA 19106; (215) 446-7266 *virginie.adam@aacr.org*.

›› 14–17—International Chinese Statistical Association Year 2015 Applied Statistics Symposium Joint with Graybill Conference, Fort Collins, Colorado
For more information, visit *www.stat.colostate.edu/graybillconference* or contact Naitee Ting, 198 Spicer Hill Road, Ledyard, CT 06339-1534; (203) 798-4999; *naitee.ting@boehringer-ingelheim.com*.

›› 21–24—International Symposium on Forecasting, Riverside, California
For details, visit *http://forecasters.org/isf* or contact Pamela Stroud, 53 Tesla Ave., Medford, MA 02155; (781) 234-4077; *isf@forecasters.org*.

›› 29–7/2—Bayesian Nonparametrics: Synergies Between Statistics, Probability, and Mathematics, Research Triangle Park, North Carolina
For details, visit *http://bit.ly/1yYuYqJ* or contact Jamie Nunnelly, 19 T.W. Alexander Drive, RTP, NC 27709; (919) 685-9300; *nunnelly@niss.org*.

July

*** ›› 1–3—2015 International Conference of Computational Statistics and Data Engineering, London, United Kingdom**
For more information, visit *http://bit.ly/1zW4D0o* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, International HK; (852) 3169-3427; *wce@iaeng.org*.

›› 1–4—5th IMS-China International Conference on Statistics and Probability, Kunming, China
For details, visit *ww.2015imschina.com* or contact Qiwei Yao, London School of Economics, Houghton

To view the entire list of statistics meetings and workshops, visit *www.amstat.org/dateline.*

Street, London, International WC2A 2AE, United Kingdom; 442079556767; *q.yao@lse.ac.uk.*

›› 6–8—International Symposium in Statistics (ISS) 2015 on Advances in Parametric and Semiparametric Analysis of Multivariate, Time Series, Spatial-Temporal, and Familial-Longitudinal Data, St. John's, Newfoundland, Canada
For details, visit *www.iss-2015-st-johns.ca* or contact Brajendra Sutradhar, Mathematics and Statistics, St. John's, Newfoundland A1C5S7, Canada; 1-709-864-8731; *bsutradh@mun.ca.*

›› 6–10—30th International Workshop on Statistical Modelling, Linz, Austria
For more information, visit *ifas.jku.at/iwsm2015* or contact Helga Wagner, Altenbergerstr.69, Linz, International 4040, Austria; 004373224686831; *iwsm2015@jku.at.*

August

*** ›› 6–8—21st ISSAT International Conference on Reliability & Quality in Design, Philadelphia, Pennsylvania**
For details, visit *www.issatconferences.org* or contact Conference Secretary, P.O. Box 1504, Piscataway, NJ 08855; *rqd@issatconferences.org.*

›› 8–13—2015 Joint Statistical Meetings, Seattle, Washington
For more information, visit *http://bit.ly/1peV0l7* or contact ASA Meetings, 732 North Washington St., Alexandria, VA 22314; (703) 684-1221; *meetings@amstat.org.*

September

*** ›› 2–5—9th International Multiple Comparisons Procedures (MCP) Conference, Hyderabad, India**
For more information, visit *www.mcp-conference.org/hp/2015* or contact Ajit Tamhane, Dept. of IEMS, 2145 Sheridan Road, Evanston, IL 60208; (847) 491-3577; *atamhane@northwestern.edu.*

›› 7–10—2015 Annual Conference of the International Association for Mathematical Geosciences, Freiberg, Germany
For details, visit *iamg2015.de* or contact Regina van den Boogaart, Balthasar-Rößler-Str. 58, Freiberg, International 09599, Germany; *iamg2015@iamgmembers.org.*

›› 28–10/2—ECAS Course on Statistical Analysis of Network Data, Herrsching, Germany
For more information, visit *http://bit.ly/12UREzcor* contact Göran Kauermann, Ludwigstrasse 33, Munich, International 80539, Germany; +49 89 2180 2220; *goeran.kauermann@stat.uni-muenchen.de.* ■

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Professional Opportunity listings may not exceed 65 words, plus equal opportunity information. The deadline for their receipt is the 20th of the month two months prior to when the ad is to be published (e.g., May 20 for the July issue). Ads will be published in the next available issue following receipt.

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*.

Arkansas

■ The agricultural statistics laboratory, a unit of the Arkansas Agricultural Experiment Station, has an opening for a non-tenure track assistant professor. A PhD in statistics is required. Duties include statistical and collaborative research, statistical consulting, and professional service. Application procedure at *www.uark.edu/depts/agstat*. For questions regarding the position contact *egbur@uark.edu*. Review of applications will begin January 2 and continue until a suitable candidate is identified. The University of Arkansas division of agriculture is an equal opportunity, affirmative action institution. All applicants are subject to public disclosure under the Arkansas Freedom of Information Act and persons hired must have proof of legal authority to work in the United States. This position is subject to a pre-employment criminal background check.

California

■ Applications are invited for an assistant professor of statistics at the University of California, Riverside. The position targets candidates in one or more areas: bioinformatics, imaging analysis, large scale data analysis, statistical methodology for clinical trials, Bayesian analysis, discrete data analysis, nonparametric or semiparametric statistics, longitudinal data analysis, or survival analysis. A PhD in statistics or biostatistics is required. For detailed information, go to *http://statistics.ucr.edu/employment.html*. The University of California is an equal opportunity/affirmative action/disability/veterans employer. The university has family-friendly policies and is committed to accommodating the needs of dual career couples.

Colorado

■ The Adult and Child Center for Health Outcomes Research and Delivery Science (ACCORDS) at University of Colorado Anschutz Medical Campus is recruiting an assistant research professor for the biostatistics core. ACCORDS is a center for health outcomes research and education. A PhD/DSc/DrPH in biostatistics or related areas of graduate training is required. Previous experience as a statistical collaborator is desirable. Details and application at: *www.jobsatcu.com/postings/91187* EOE.

Florida

■ The department of statistics at UCF expects to hire two nine-month, tenure-track assistant professors of statistics beginning August 8. Preference will be given to those with expertise in data mining and Big Data analytics and a willingness to teach courses in these areas. Apply online at *www.jobswithucf.com/postings/39942*. Review of applications will begin immediately and continue until the positions are filled. UCF is an equal opportunity/affirmative action employer. All qualified applicants are encouraged to apply, including minorities, women, veterans and individuals with disabilities. As a Florida public university, UCF makes all application materials and selection procedures available to the public upon request.

■ The department of statistics and the National Center for Forensic Science at UCF have an opening beginning August 8 for a nine-month, tenure-track assistant professor of statistics. Preference will be given to those with a willingness to teach and conduct research in statistical applications in forensic science. Apply online at *www.jobswithucf.com/postings/39943*. Review of applications will begin immediately and continue until the position is filled. UCF is an equal opportunity/affirmative action employer. All qualified applicants are encouraged to apply, including minorities, women, veterans and individuals with disabilities. As a Florida public university, UCF makes all application materials and selection procedures available to the public upon request.

Massachusetts

■ Statistics faculty position, Massachusetts Institute of Technology (MIT), Cambridge, MA. MIT is launching a cross-Institute center focusing on research and education in statistics and information systems and is seeking

candidates for a faculty position starting in September 2015 or thereafter. To view a complete position listing with application instructions, visit *https://school-of-enginseering-faculty-search.mit.edu*. Responses received by 12/15/14 will be given priority. MIT is an equal opportunity employer.

Michigan

■ The department of computational mathematics, science, and engineering, together with the department of statistics and probability, at Michigan State University invite applications for one tenure-stream open-rank faculty position. Candidates with a background in statistics/biostatistics or related fields, focusing on theoretical and practical aspects of statistical computation, and working with large or complex data sets preferably in genomics/genetics are preferred. For more information, visit *http://stt.msu.edu/Job_Postings.aspx*. Michigan State University is an affirmative action, equal opportunity employer committed to achieving excellence through cultural diversity. The university actively encourages applications and/or nominations of women, persons of color, veterans and persons with disabilities.

■ Two teaching specialists, department of statistics and probability, Michigan State University – see *www.stt.msu.edu/Job_Postings.aspx* for more information and the needed application material. Required PhD in statistics, at least 3 years teaching experience at the university level of service/undergraduate courses in statistics. Submit application material to the site of position #0402 at *https://jobs.msu.edu*. Review will begin 01/15/2015, and continue until positions are filled. Michigan State University is an affirmative action, equal opportunity employer committed to achieving excellence through cultural diversity. The university actively encourages applications and/or nominations of women, persons of color, veterans and persons with disabilities.

■ The department of mathematics and statistics at Oakland University, Rochester, Michigan, invites applications for tenure-track assistant professor position in statistics beginning fall 2015. To apply, go online to *http://jobs.oakland.edu/postings/2896*. A cover letter, a vita and publication list, graduate transcripts (copies acceptable for application), a research statement and a teaching statement

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must be uploaded at this site. Oakland University is an affirmative action/ equal opportunity employer.

■ The University of Michigan Department of Statistics is seeking to fill a lecturer I position. The initial appointment will be for the period of September 1, 2015–April 30, 2016, with the possibility for spring/summer teaching. Candidates should submit a letter of application, current CV, description of qualifications, teaching philosophy, evidence of teaching excellence, and three letters of recommendations. The letter should be sent to *stat-posting@umich.edu*. The University of Michigan is a nondiscriminatory, affirmative action employer. Terms and conditions for this position are subject to the provisions of a collective bargaining agreement between the University of Michigan and the Lecturers' Employee Organization.

Nebraska

■ Tenure-track assistant professor (9-month), department of statistics, University of Nebraska-Lincoln, start August 2015. See *http://employment.unl.edu* (requisition # F_140139) for complete application information. Submit letter of interest, CV, graduate transcript(s), research and teaching statements (each one page), and arrange for three reference letters to be sent to *bpike2@unl.edu*. Application review is 1/15/2015. The University of Nebraska is committed to a pluralistic campus community through affirmative action, equal opportunity, work-life balance, and dual careers.

Nevada

■ The department of mathematical sciences at the University of Nevada, Las Vegas invites applications for the position of chair, beginning July 1. Candidates must possess a PhD in mathematics or statistics from an accredited college or university and an established record of scholarship meriting a tenured appointment at the rank of Professor. For complete position description, visit *http://jobs.unlv.edu* or call (702) 895-2894. EEO/AA Employer.

New Hampshire

■ University of New Hampshire, mathematics education-tenure track. The department of mathematics & statistics invites applications at the assistant professor level in mathematics education.

Assistant Professor/Associate Professor of Biostatistics

The Baylor College of Medicine and Dan L. Duncan Cancer Center (DLDCC) seek highly qualified candidates in Biostatistics to join the Division of Biostatistics, and the Biostatistics and Informatics Shared Resource. Interest in translational research, clinical trials and bioinformatics are especially desirable.

Baylor College of Medicine is one of the world's leading medical institutions, ranking 19th among US medical schools in total NIH funding ($192 million) this past year and also topped the nation's list for funding in the biological sciences. The DLDCC received its NCI Cancer Center designation in 2007 and recently submitted its second competitive renewal. There is $143 million in cancer related research currently being conducted by DLDCC members and more than 3,000 new cancer patients are seen per year by our hospital affiliates.

We are seeking individuals who are interested in full-time tenure and non-tenure track faculty positions. The successful candidates will be employed by the Dan L. Duncan Cancer Center with an academic appointment in the Department of Medicine/Section of Hematology and Oncology.

Applicants with interests and experience in collaborative research, as well as personal research interests in statistical methodology, and bioinformatics are encouraged to apply. Faculty applicants must have a PhD or equivalent degree in biostatistics, statistics, bioinformatics or related field. Excellent communication skills and ability to work as a member of a multidisciplinary team are essential.

Hiring is contingent on eligibility to work in the United States. The Texas Medical Center is the largest medical center in the world, offering tremendous scientific and collaborative opportunities. Houston is one of the most diverse cities in the US and a wonderful community for work, family, and play. ***www.houston.org/living***

Minimum Education: Doctorate in Biostatistics, Statistics, or related field

Please apply to job posting #257952 at ***www.medschooljobs.org*** and please send CV, Professional References, and Personal Statement to:

Susan G. Hilsenbeck, Ph.D.
Director, Biostatistics and Bioinformatics Shared Resource
Dan L. Duncan Cancer Center Division of Biostatistics
Baylor College of Medicine
One Baylor Plaza, MS: BCM600
Houston, TX 77030

Baylor College of Medicine

DAN L. DUNCAN CANCER CENTER

Baylor College of Medicine is an Equal Opportunity/Affirmative Action/Equal Access Employer

The full position announcement and information on the application process, visit our posting at *www.mathjobs.org/jobs/jobs/6554.* UNH is an AA/EEO Employer. UNH is committed to excellence through the diversity of its faculty and staff and encourages women and minorities to apply.

New York

■ NYU Stern School of Business statistics group, tenure track assistant professor appointment in statistics. Candidates should have evidence of boundary-spanning interests across fields that reflect significant interfaces of statistics with areas of relevance in a business school. Expected that candidate will be productive researcher and effective teacher at both undergraduate and graduate levels. See *apply.interfolio.com/25737* for full details, including information on application procedure. New York University is an affirmative action/equal opportunity institution.

■ Assistant professor, mathematics – Dyson College of Arts and Sciences, Pace University. Full time, tenure-track position begins September 2015. PhD in mathematics or statistics, with preferred specialization in any area of statistic/applied mathematics. Email single PDF file: letter of interest; curriculum vita; statement of teaching philosophy; statement of research interests; and arrange to have 3 reference letters including one that addresses teaching to *mathsearchplv@pace.edu*. EOE/AA.

Ohio

■ The department of quantitative health sciences at Cleveland Clinic is searching for a faculty member. Candidates should have considerable experience collaborating on clinical research and a proven record of collaborative publications. A PhD in bioinformatics or a related field is required. Candidates must have at least 2 years of

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McLean Hospital, a major teaching affiliate of Harvard Medical School and a member of the Partners HealthCare System, is seeking an experienced Research Biostatistician for a faculty position at the Instructor or Assistant Professor level.

Biostatistics Faculty Position

McLean's sizeable research program includes a wide variety of clinical and basic research in psychiatry, psychology, and neuroscience, including clinical trials; epidemiologic studies; longitudinal studies; genetics; neuroimaging; animal behavioral and physiological experiments; and molecular neuroscience. The successful candidate will join a psychiatric biostatistics program and will be responsible for developing collaborations with McLean investigators and participating in a statistical consultation service. A doctoral degree in biostatistics or a statistics-related field and 3+ years of experience in collaborative research is required. The candidate must show a record of scholarly contributions in the form of published peer-reviewed articles in methods or in applications. The candidate must have extensive experience analyzing data for multiple studies simultaneously. Finally, the candidate must have excellent verbal and written communication skills in English, interest in working as part of multi-disciplinary teams, and experience collaborating with researchers in applied medical, behavioral, or neuroscience disciplines. Qualified women and minority candidates are encouraged to apply.

Please send, preferably by email, curriculum vitae and statement of research interests to:

Garrett Fitzmaurice, ScD
Chair, Biostatistician Search Committee
McLean Hospital, Mail Stop 307
115 Mill Street
Belmont, MA 02478
Email: gfitzmaurice@mclean.harvard.edu

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Survey Sampling Statistician

EOE

Westat is an employee-owned corporation headquartered in the suburbs of Washington, DC (Rockville, Maryland). We provide statistical consulting and survey research to the agencies of the U.S. Government and to a broad range of business and institutional clients. With a strong technical and managerial staff and a long record of quality research, Westat has become one of the leading survey research and statistical consulting organizations in the United States.

Our company was founded in 1961 by three statisticians. The current staff of more than 2,000 includes over 60 statisticians, as well as research, technical, and administrative staff. In addition, our professional staff is supported by data collection and processing personnel situated locally and in field sites around the country. The work atmosphere is open, progressive, and highly conducive to professional growth.

Our statistical efforts continue to expand in areas such as the environment, energy, health, education, and human resources. Westat statisticians are actively involved in teaching graduate-level courses in statistical methods and survey methodology in collaborative arrangements with area colleges and universities.

We are currently recruiting for the following statistical position:

Survey Sampling Statistician

Responsibilities include: developing sample designs (determining stratification and allocation to strata; determine sample size based on differences and power; determine optimal clustering; and select sample); selecting and/or constructing appropriate sample frame; developing and documenting weighting plan which includes non-response adjustment and bench-marking; developing and conducting imputation for item nonresponse and estimating sampling errors using appropriate software; writing specifications for programmers; and preparing reports on sample design, weighting procedures and other methodological issues. Candidates would benefit from knowing SAS and other statistical software packages; although candidates are not required to do programming. A master's or doctoral degree in statistics is required with 3 or more years of relevant experience. Coursework in sample survey design is highly desirable.

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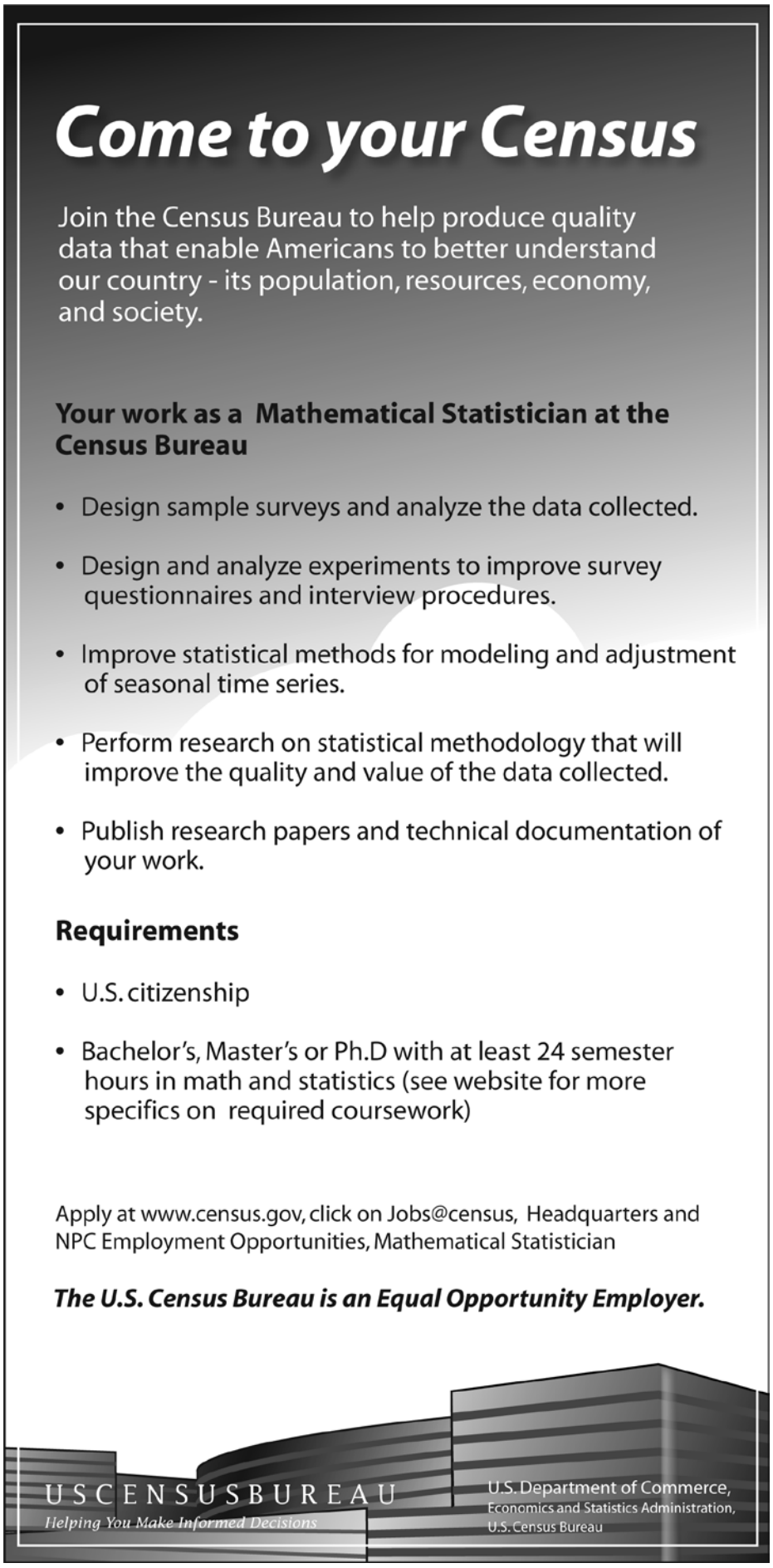

experience beyond the doctoral degree. Details and application instructions are at *www.lerner.ccf.org/qhs/jobs* EOE.

Oklahoma

■ Tenure-track assistant professor position focusing on statistical education beginning August 2015. PhD in statistics, demonstrated excellence in teaching and research potential in the subfield of statistical pedagogy required. Review of applications begins 01/12/2015 and continues until position is filled. Send letter, CV, transcripts, and arrange to have three recommendation letters sent to Chair, Search, and, Hiring Committee, Statistics Dept., Oklahoma State University, Stillwater, OK 74078-1055. Visit *http://statistics.okstate.edu.* OSU is a VEVRAA Federal Contractor and desires priority referrals of protected veterans for its openings.

Pennsylvania

■ The Wharton statistics department, University of Pennsylvania, seeks candidates for a postdoctoral researcher position. The position is for two years beginning in summer 2015, with a possible extension to three years. The primary focus is for a new scholar to develop her/his research program; a light teaching load will also be involved. Please visit our website to apply: *https://statistics.wharton.upenn.edu/recruiting/postdocpositions*. Please direct questions to *stat.postdoc.hiring@wharton.upenn.edu.* The University of Pennsylvania is an EOE. Minorities/women/individuals with disabilities/protected veterans are encouraged to apply.

■ The Wharton statistics department, University of Pennsylvania, seeks applicants for a full-time, tenure-track assistant professor position, appointment beginning July 2015. Candidates should show outstanding capacity and achievement in research, along with excellent teaching skills. Applicants must have a PhD

(expected completion by June 30, 2016 is acceptable) from an accredited institution. Please visit our website to apply: *https://statistics.wharton.upenn.edu/recruiting/facultypositions.* Questions can be sent to *statistics.recruit@wharton.upenn.edu*. The University of Pennsylvania is an EOE. Minorities/women/individuals with disabilities/protected veterans are encouraged to apply.

Texas

■ Texas A&M University Kingsville. assistant/associate professor – statistics. The department of mathematics invites applications for one full-time tenure-track faculty position to start from fall 2015. A PhD in statistics or a closely related field is required from a regionally accredited university or institution. Teaching graduates/undergraduates. Develop viable and externally fundable research program. For additional information and to apply, please visit *https://javjobs.tamuk.edu.* An equal opportunity/ affirmative action/veterans/disability employer.

■ The department of mathematics and statistics invites applications for two tenure-track assistant professor positions in statistics and biostatistics beginning fall 2015. A PhD degree is required. Apply for requisition ID 1818BR at *www.texastech.edu/careers.* Include AMS standard cover sheet and vita. Have three letters of reference sent to Alex Wang, Hiring Committee Chair, Department of Mathematics and Statistics, Texas Tech University, Lubbock, TX 79409-1042, *alex.wang@ttu.edu*. Texas Tech is an AA/EO employer.

■ PhD biostatistician. Assistant or associate professor to work in division of clinical and translational sciences (DCTS), within internal medicine (IM) at The University of Texas Health Science Center at Houston (UTHealth). All areas of statistics are considered. Interested candidates should send copies of their transcripts, CV, and names and contact information for three references to M. H. Rahbar, Director, DCTS, IM, UTHealth, via *Mohammad.H.Rahbar@uth.tmc.edu*. The University of Texas Health Science Center at Houston is an EO/AA employer. M/F/D/V. This is a security sensitive position and thereby subject to Texas Education Code 51.215. A background check will be required for the final candidate.

Tenure Track Position-Mathematics/Statistics

Penn State Altoona invites applications for a tenure-track position in either Statistics or Mathematics to begin in Fall 2015. Candidates must have a Ph.D. in Statistics or Mathematics, a strong interest in teaching undergraduate statistics, and an established research program. Responsibilities for the position include teaching courses in statistics and/or mathematics at both the entry level and advanced undergraduate level, and contributing to our baccalaureate program in Mathematics. Qualified applicants in all areas will be considered.

PENNSTATE Altoona 1855

Applicants should submit a letter of application establishing their qualifications; a current vita; a description of teaching philosophy and evidence of teaching effectiveness; a statement of research interests; transcripts (official transcripts required at the time of an interview); and three letters of reference. Letters of reference should be submitted through http://mathjobs.org/jobs, and all other application materials must be submitted through both http://mathjobs.org/jobs and http://psu.jobs. Review of applications will begin the week of January 1, 2015 and continue until the position is filled.

As a four year degree granting college of The Pennsylvania State University, Penn State Altoona has access to all of the resources of a major research university. Penn State Altoona offers a competitive salary and an attractive benefits package. For additional information about the Department of Mathematics and Statistics at Penn State Altoona, please visit http://www.altoona.psu.edu/math/

More information about Penn State Altoona and its surrounding area may be found at http://www.altoona.psu.edu/

Apply to job 54632 at **http://apptrkr.com/547557**

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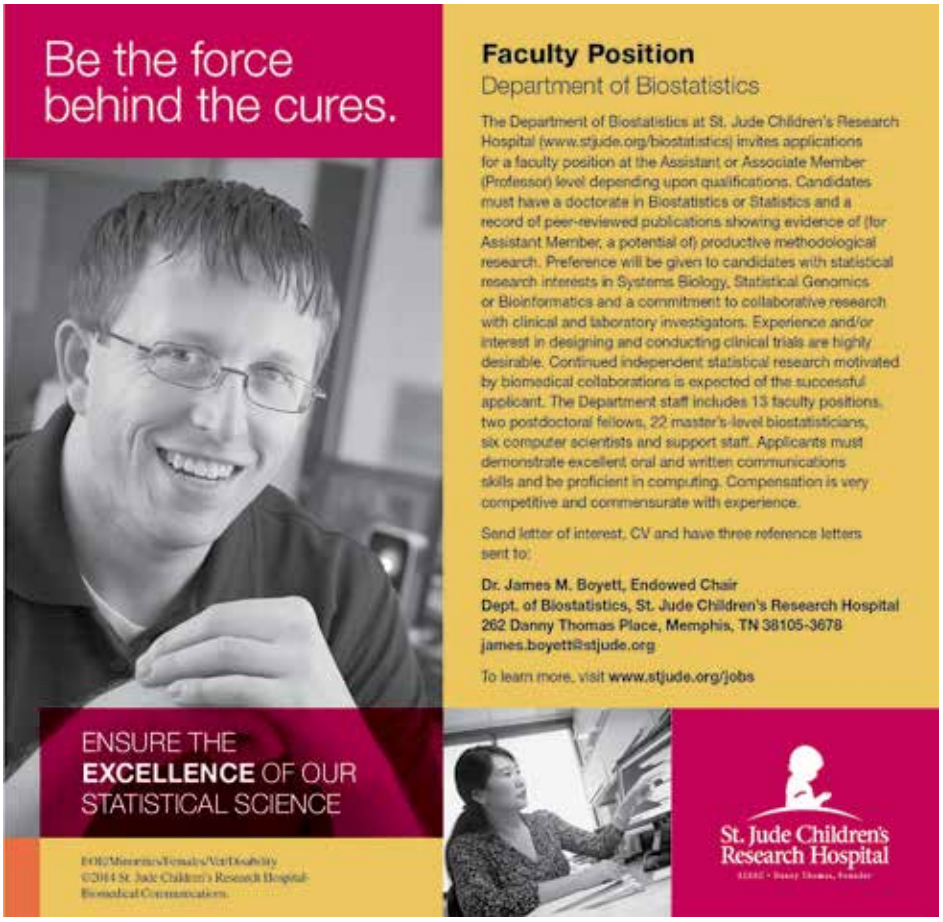
Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to minorities, women, veterans, disabled individuals, and other protected groups.



NC STATE UNIVERSITY

Forensic Statistician - Department of Statistics
Tenure-Track Assistant/Associate Professor

The NC State Chancellor's Faculty Excellence Program and Department of Statistics at NC State University seeks to hire a tenure-track Assistant Professor to begin in August 2015. Exceptional candidates at the associate and full-professor levels will also be considered.

The Chancellor's Faculty Excellence Program is a cluster hire program that marks the first major initiative of the university's strategic plan, "The Pathway to the Future." NC State has hired more than 30 of the expected 40 faculty members across twelve research areas, or "clusters," to promote interdisciplinary scholarship and the development of innovative curricula in emerging areas of strategic strength. Explore the Chancellor's Faculty Excellence Program and the twelve clusters at: http://ncsu.edu/workthatmatters.

We seek individuals who are interested in developing teaching, along with basic and collaborative research programs in statistical theory and methods applicable to forensic science, with emphases in areas related to, and in support of, the university's Forensic Science Institute (FSI). The position is affiliated with the FSI and carries with it the expectation of teaching statistics to students in forensic science programs and participation in activities serving the needs of the forensic science community on campus.

The Department provides a dynamic environment for teaching, research and collaborations across disciplines. Inclusiveness and diversity are academic imperatives and thus are university goals. We are particularly interested in candidates who have experience working with students from diverse backgrounds and a demonstrated commitment to improving access to higher education for students from underrepresented groups. The Department's location in the Research Triangle provides rich opportunities for interactions with industry; other universities, including Duke University and the University of North Carolina at Chapel Hill; and government agencies. Faculty enjoy collaborations with medical researchers at Duke, environmental scientists at the EPA research facility, pharmaceutical researchers at Glaxo-SmithKline, and software developers at SAS Institute, among many others. The Department is also a founding cooperator of the National Institute of Statistical Sciences (NISS) and the NSF-funded Statistical and Applied Mathematical Sciences Institute (SAMSI), both located nearby in Research Triangle Park.

Of particular importance for this position is the opportunity and expectations for interactions with local law enforcement and government agencies (Raleigh/Wake City-County Bureau of Identification, and the North Carolina State Crime Laboratory) through presentations, consulting, training, and collaborations as a representative of the FSI, the Department of Statistics, and NC State.

All applicants must have a Ph.D. in Statistics, Biostatistics or relevant field by the time of employment. Comprehensive review of applications will begin December 1, 2014, and continue until the position is filled. Questions about the position may be directed to Len Stefanski (stefansk@ncsu.edu).

To apply: visit http://jobs.ncsu.edu/postings/42463

NCSU is an equal opportunity and affirmative action employer. In addition, NC State University welcomes all persons without regard to sexual orientation or genetic information. Persons with disabilities requiring accomodations in the application process please call (919) 515-3148.

Nationwide

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International

■ The Chinese University of Hong Kong, Shenzhen is a research-intensive university established through a mainland-Hong Kong collaboration, with campus and infrastructure provided by the Shenzhen government. The school of science and engineering now invites applications for faculty positions in all related fields: statistical and data sciences, computer science and engineering, electronic and electrical engineering. Please go to the website *www.cuhk.edu.cn/Zhiwei/index189.html* (Ref.#1415/053/01) for more details. EOE.

■ Tenure-track assistant professor for business statistics, dept. of ISOM, HKUST. Demonstrated excellence in research and teaching, and a doctoral degree by July 1 are required. Prior business school experience or interests in business related statistical research are especially welcome. Excellent computational skills in handling large and complex data sets is a plus. Submit CV and three references to: *statrecruit@ust.hk jobs.amstat.org/hr/jobdetail.cfm?job_id=6623262*. Hong Kong University of Science and Technology is an equal opportunity employer. ■

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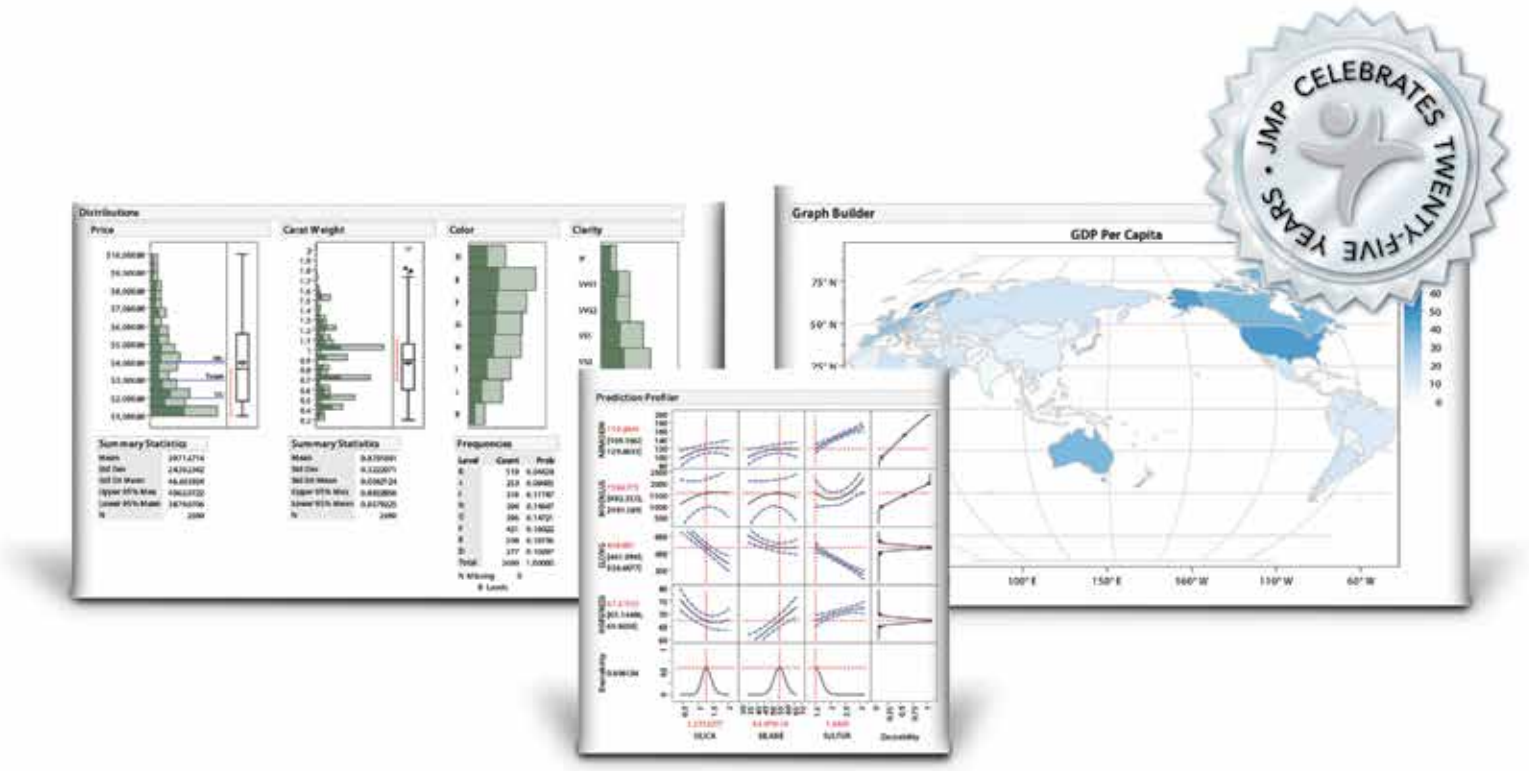

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