

October 2017 • Issue #484

AMSTATNEWS

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and So Was Your Participation at JSM 2017

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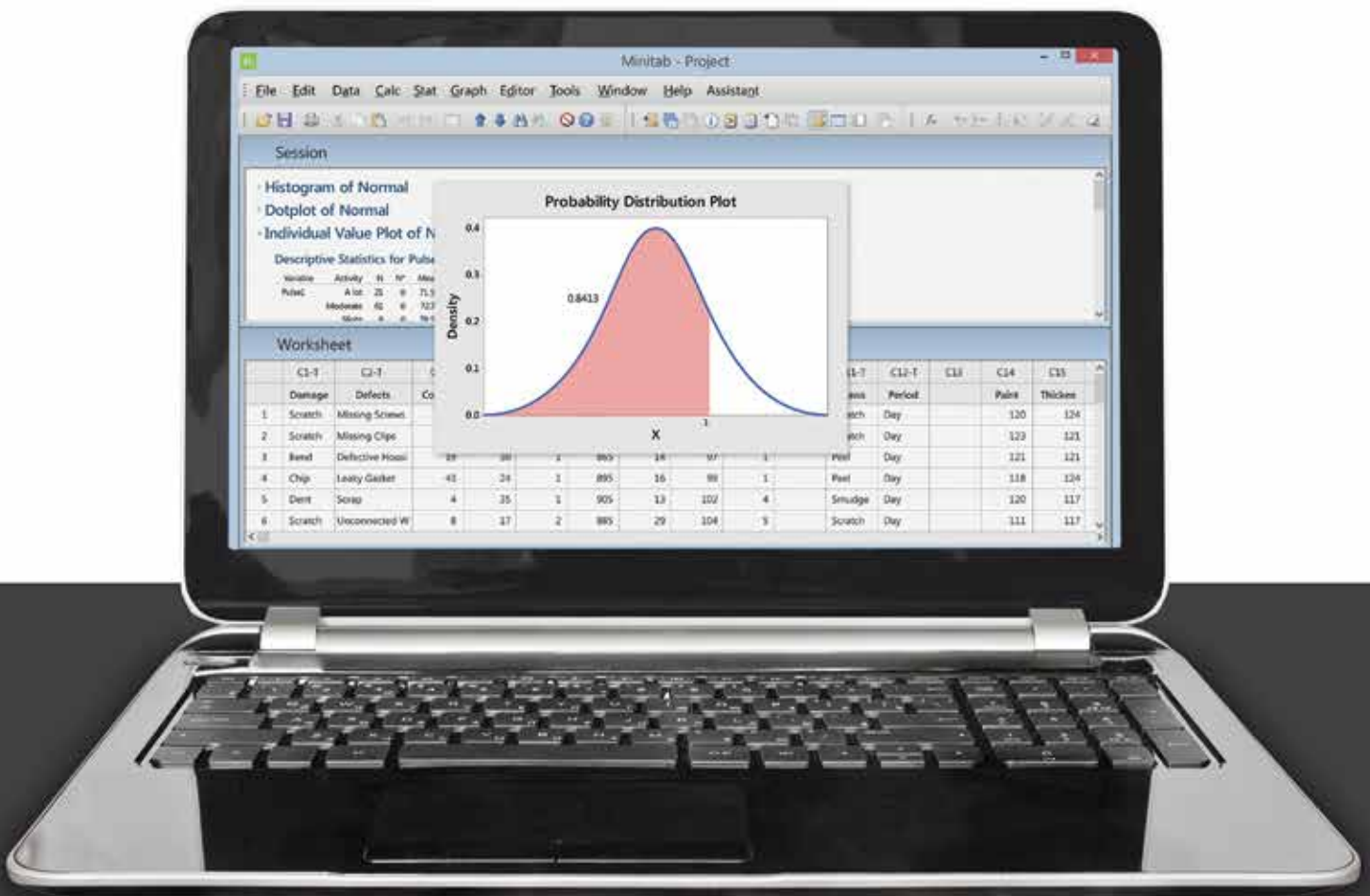
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AMSTATNEWS

OCTOBER 2017 • ISSUE #484

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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.

features

- 3 President's Corner
- 5 Highlights of the July Board of Directors Meeting
- 7 Ask an Expert Anything: A Unique Benefit of Student Membership
- 7 *Significance* Features Interview with Andreas Georgiou
- 8 Art-Science Partnerships Help Students Gain Deeper Understanding of Research
- 9 New Project Aims to Make Stats Research Accessible to Undergrads
- 10 Reflections on Diversity Mentoring Program, Contagious Excellence
- 11 *Technometrics* Calls for Editor Applications, Nominations
- 11 Practical Data Science for Stats: A PeerJ Collection
- 12 GiveASA NEWS: Stats from the Road
- 12 Electronic Undergraduate Statistics Research Conference
- 13 Kelly H. Zou on Real-World Evidence
- 14 Bachelor's, Master's Statistics and Biostatistics Degree Growth Strong Through 2016
- 17 ASA/CRC Press Launch Second Book in Series: *Visualizing Baseball* by Jim Albert

columns

- 18 **STATtr@k**
The Struggles and Wonders of a First-Generation STEM Student

STATtr@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.

- 20 **MASTER'S NOTEBOOK**
Effective Collaboration Between Statisticians and Principal Investigators

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

- 21 **PASTIMES OF STATISTICIANS**
What Does Terry Katz Like to Do When He Is Not Being a Statistician?

This column focuses on what statisticians do when they are not being statisticians. If you would like to share your pastime with readers, please email Megan Murphy, *Amstat News* managing editor, at megan@amstat.org.



More Amstat News Online

We talked to **Dianne Cook**, editor of the *Journal of Computational and Graphical Statistics*, about her upbringing and why she became editor for *JCGS*. Learn why she was featured in her town's newspaper and also about her exciting plans for upcoming issues of *JCGS* by visiting *Amstat News* online or our Publications webpage at <https://goo.gl/bdnDU3>.

Nicholas Fisher and **Norbert Vogel** wrote a touching tribute to their colleague **Myron Tribus**, who passed away in August of last year. In this memorium, readers will learn how Tribus reformed Australian management practices, hosted a television series on CBS, and worked as assistant secretary of commerce for the Nixon administration. Read about Tribus's life at <http://magazine.amstat.org>.

In the May 2017 issue of *STATtrak*, **Rochelle E. Tractenberg** wrote about the ASA's Ethical Guidelines and noted the guidelines for economists are not up to date. ASA Fellow **Robert Parker** asked her to update her facts, and she responded. Read Parker and Tractenberg's responses at <http://magazine.amstat.org>.

JSM Baltimore



Visit the JSM2017 website at ww2.amstat.org/meetings/jsm/2017 and watch a slideshow of this year's activities.

departments

22 meetings

Statistics: It's Essential ... and So Was Your Participation at JSM 2017

Many Honored at Presidential Address and Awards Ceremony

JSM in Photos

Student Chapter Officers Gather for First Time at JSM 2017

Data Challenge 2017 Winners

Statisticians Honored by COPSS

2017 Educational Ambassador Hails from Namibia

Tenth Statistics Workshops for Math and Science Teachers Held in Baltimore

Beyond AP Statistics Workshop Held in Conjunction with JSM

What Is ICHPS?



JSM in Photos
Jonathan Gessendorfer plays Jenga during the JSM Opening Mixer—see more photos on Page 26

member news

34 People News

38 Section • Chapter • Committee News

40 Professional Opportunities



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Statistics and the Human Element

For years, I have given seminars on statistical communications. Readers of this column will realize I use my mantra, “It’s not what we said, it’s not what they heard, it’s what they say they heard,” over and over again. All this is aimed at how we present results and conclusions *after* some statistical analysis. This month, I reflect a bit on the human element that goes into analytical work *before* the first equation is even applied.

The Unconscious Bayesian

I am well aware of the “law of the unconscious statistician,” which concerns itself with taking the mean of a function of a random variable. I don’t really consider myself a Bayesian (not a frequentist, either), yet I wonder how much we are unconsciously Bayesian in nature just by evaluating the situation based on our prior knowledge of life events.

This came to my attention many years ago, when our family was returning from Miami to Washington. Based on ticket prices, the thrifty one of us (who eventually became ASA president) purchased return tickets for December 31, instead of January 1. This upset my late wife who realized we would miss seeing the Orange Bowl parade in person. There had been awful weather in Washington and many cancelled flights on prior days, so my family found ourselves in five seats widely scattered on a packed aircraft. The attendant made some announcement about needing five volunteers to step off. Before

she finished the announcement, I heard a familiar voice from two rows behind me say, “Hey, dad, mom just gave away our seats.” Sure enough, there was Debbie waving in the front of the plane for us to all get off.

I tried to calculate in my head the probability of getting five seats on another flight. This subjective probability decreased substantially as a man said to me what a dumb move this was since his family had waited through three days of canceled flights just to get on this one. I guess this was Bayesian in nature. What I missed was Debbie charming the gate agent—in Spanish no less—into giving us five first-class seats on a flight the next day. Hmm, the human element at work. Off to the parade we went, and the kids still made it back to school.

Too Many Variables

Discomfort Index: When I was a boy, a typical summer weather report included the “discomfort” index. Oh, we knew the temperature and humidity joined together to make it miserable, but now we had a quantitative measure. Eventually, political correctness set in and it became either the temperature-humidity index or the heat index.

Jo Craven McGinty of *The Wall Street Journal*, who was my invited speaker at the recent JSM, wrote a wonderful column describing how this is calculated (July 7, 2017). There is a nine-term regression equation used to calculate the heat index. My favorite term

involves the independent variable $T^*T^*RH^*RH$, which is the square of the product of temperature and relative humidity.

Did anybody wonder what the units of this term must be? Perhaps degrees squared percentage squared? What does that mean? The coefficient of this term in the heat index equation is a mind numbing 0.00000199. (I can still envision Mrs. Chenofsky’s middle-school lecture about significant digits.) Are they really serious about the term 0.00000199 $T^*T^*RH^*RH$? If that isn’t bad enough, this only pertains to a 5-foot-7-inch person weighing 147 pounds and a few other restrictions. Great. Now I am too short and too heavy to be uncomfortable. That hardly makes me comfortable. Did some human really do this? Must have been a government committee.

Too Few Variables

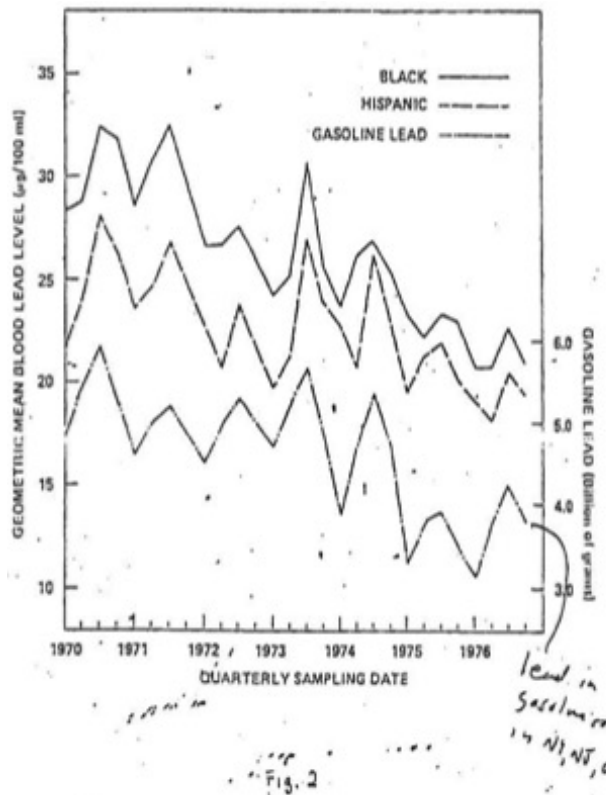
A Royal Pain: During JSM, the Kansas City Royals were playing the Baltimore Orioles in Camden Yards, just steps from the convention center. What makes the Royals different from other major league teams? Apparently, PERCOTA, the fancy computer model for predicting major league baseball success is quite accurate. *The Wall Street Journal’s* Jared Diamond (August 16, 2017) reported PERCOTA correctly predicted total games won within 3.25 games for two-thirds of the teams from 2013 on.

But, it is always wrong for the Kansas City Royals. From 2013 to 2016, they were winning an



Barry D. Nussbaum

Lead in Blood vs. Lead in Gasoline



average of 12.5 games more than PERCOTA predicted. (By the way, PERCOTA was originally developed by Nate Silver and stands for “player empirical comparison and optimization test algorithm.” Yeah, just what you thought it stood for!)

Now it seems to me PERCOTA works pretty well. The fact that the Royals do better than anticipated makes the game fun and probably represents what we statisticians know about random chance. But the humans who run PERCOTA seem destined to fine tune it. They just can’t allow the Royals to be more efficient at winning games than they predicted. If they ever get PERCOTA perfected, we can stop attending the games. That doesn’t sound like much fun.

Who Picked Those Lines?

In my seminars about statistical communications, I always include a fairly simple graph depicting the correlation between

the amount of elemental lead in gasoline (when gasoline still contained tetraethyl lead) with the blood lead levels of both black children and Hispanic children.

The back story here is that the country was trying to avoid long gas lines as had occurred during the Arab oil embargo of 1973. While correlation certainly does not imply causation, all the other usual suspects—such as children eating paint chips—could not explain the pronounced seasonal correlation shown in the graph.

The graph landed on the desk of President Jimmy Carter, and he used it in his decision to permit the US Environmental Protection Agency to proceed with its program to phase lead out of gasoline. He stated he did not want any policy that might have a particularly deleterious effect on these two groups.

Frequently, I am asked why there is no line showing the blood lead levels of white children. The easy answer is that the

white line would have the same seasonal and decreasing trends as the other two groups, but at a lower absolute level. But, the primitive plotting equipment we had at the time made it difficult to add another line. However, I have always thought the more interesting question is what if there were only one line showing blood lead levels as a whole, without showing separate lines by race. There would be the same trend and seasonality, but would the president’s decision have been the same?

With the benefit of hindsight, Carter was concerned about the harmful effects on minority populations. Would he have even have known this if the graph just had one composite line for blood lead?

So here again, the human element may well have set the course of a presidential decision. And, for me, this is particularly intriguing since the human involved was *me*. Did I unwittingly or unknowingly really affect a major policy direction by simply selecting certain variables to put on the graph?

While I think the decision was the right one from a national policy point of view (of course, this is hardly an unbiased view after a 40-year career with EPA), it is a haunting feeling that the fairly novice analyst I was back in those day could have really had such a hand in a presidential directive.

With apologies to Pogo, we have met the human and he is me.

Significantly forward,

Barry D. Silver

Highlights of the July Board of Directors Meeting

The ASA Board met in Baltimore immediately prior to JSM 2017. ASA President Barry Nussbaum convened the two-day meeting. The highlights of the meeting follow.

Discussion items:

- The board had a preliminary discussion about a proposal to start a data science certification program. The board expressed strong interest in further consideration of such a program and will seek additional input in the upcoming months.
- The board also considered a request for the ASA to submit an amicus brief on *Gill v. Whitford*, a case on gerrymandering in Wisconsin to be heard by the Supreme Court this fall. The ASA will consider joining with other groups who might be preparing such a brief. The ASA focus would be on the value of statistical methods to address questions related to gerrymandering, but would not recommend one specific method over others.

Action items:

- The board endorsed the 6th edition of *Principles and Practices for a Federal Statistical Agency*. Produced by the Committee on National Statistics (CNSTAT), the book sets forth four principles and 13 practices for a federal statistical agency. The ASA Board previously endorsed the fourth and fifth editions. The board thanked former CNSTAT director Connie Citro for decades of outstanding public service and expressed its gratitude to current director Brian Harris-Kojetin. Citro and Harris-Kojetin noted the sixth edition is dedicated to former ASA President Miron Straf.
- The board approved in principle a campaign to increase public awareness of the importance, reliability, and trustworthiness of government statistics. Details are being worked out by the executive director and will be reviewed by the Executive Committee of the Board.
- The ASA Board approved a budget of \$10.9 million for 2018.

Reported items:

- Science Policy Director Steve Pierson provided preliminary results for the survey of 2016 bachelor's degree recipients in statistics. He presented high-level results and outlined next steps. Pierson also presented National Center for Education Statistics data on degrees and American Mathematical

Society data on unemployment rates for mathematicians and statisticians. Further analysis will take place, and results will be released soon.

- Associate Executive Director and Director of Operations Steve Porzio updated the board on ASA midyear finances for 2017. The financial picture is as expected and budgeted for thus far in 2017.
- ASA Treasurer Amarjot Kaur reported on the ASA's investments and reviewed the oversight activities of the Finance Committee thus far. She noted the market value of the ASA portfolio increased about \$1.4 million in the first half of this year.
- The board received progress reports on the three strategic initiatives launched by Nussbaum. All are well underway. In addition, ASA President-elect Lisa LaVange provided details for two new initiatives for 2018 based on the ASA's Strategic Plan and the efforts of her predecessors. Details about all these initiatives will appear in later issues of *Amstat News*.
- The Council of Chapters Governing Board (COCGB) and Council of Sections Governing Board (COSGB) reported on their recent activities. The COCGB highlighted its JSM programs and briefly updated the board on its "chapter stimulus program." The COSGB has focused on promoting section health and growing section membership.
- Michelle Schwalbe—director of the Board of Mathematical Sciences and Analytics (BMSA) of the National Academies of Sciences, Engineering, and Medicine—updated the board on BMSA activities, particularly the work of the Committee on Applied and Theoretical Statistics (CATS). She was joined by Ben Wender, director of CATS. They spoke about the history and role of CATS and walked through the many projects CATS is simultaneously managing. Schwalbe said CATS helps organizations without statisticians understand the importance of statistics and how statistics applies to their work.
- Executive Director Ron Wasserstein reported on the comments he received from his blog and a message to members through ASA Connect asking for feedback on the conclusions reached by the board during its discussion of ASA statements. The board expressed gratitude for the comments received. At present, the board is making no changes to its processes for determining when the ASA should issue a statement on a matter.

2017 Board of Directors

Barry Nussbaum, President	Julia Sharp, 1st-Year Council of Chapters Rep
Lisa LaVange, President-elect	Anna Nevius, 3rd-Year Council of Sections Rep
Jessica Utts, Past President	Eileen King, 2nd-Year Council of Sections Rep
Rob Santos, 3rd-Year Vice President	Jim Lepkowski, 1st-Year Council of Sections Rep
Kathy Ensor, 2nd-Year Vice President	Cynthia Bocci, International Rep
David Williamson, 1st-Year Vice President	David van Dyk, Publications Rep
Wendy Lou, 3rd-Year Council of Chapters Rep	Amarjot Kaur, Treasurer
Paula Roberson, 2nd-Year Council of Chapters Rep	Ron Wasserstein, Executive Director and Board Secretary

- Amanda Malloy, director of development, presented a report on the development program, which has just completed its third year. She reviewed our development strategy and messaging, as well as reminding the board of the new methods developed for communicating with members. Malloy also reviewed giving data with the board and mentioned we are benchmarking our program with that of other societies. She said the most common question associated with development is, “Why does the ASA need money?” She said this question opens the door to discussing our programs.
- ASA Director of Education Rebecca Nichols reported on three aspects of our education work. She said the American Mathematical Association of Two Year Colleges endorsed the *Guidelines for Assessment and Instruction in Statistics Education (GAISE) College Report*. She noted the educational ambassador program continues to go well and that there will be funding for two ambassadors next year. Nichols also highlighted the well-attended teacher workshops at JSM, the Meeting Within a Meeting workshops and the Beyond AP Statistics workshop.
- Pierson reported on the ASA’s advocacy efforts, including efforts to work with the new administration, supporting science and statistical agency budgets, providing support for Greek statistician Andreas Georgiou, and attempts to strengthen forensic science.

Nussbaum thanked the ASA staff for its work, noting especially efforts for the current JSM. He also expressed appreciation for the board’s commitment to the ASA and its active participation at this meeting.

The board meets again November 17–18 at ASA headquarters in Alexandria, Virginia. ■



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Ask an Expert Anything: A Unique Benefit of Student Membership

Lara Harmon, Marketing and Online Community Coordinator

Every month, ASA student and early-career members have the chance to ask an established statistics professional anything (well, within reason). Started in September 2016 with the ASA's first science policy fellow—Amy Nussbaum—as the guest of honor, the monthly Ask Me Anything (or AMA) has grown into an established benefit of ASA student and early-career membership.

How does the monthly AMA work? The guest of honor provides an introduction in Young Professionals, an ASA Community discussion group just for student and early-career ASA members. Then, for the next hour, members of Young Professionals can ask the guest of honor anything they would like and the guest draws on their experience to answer. Though questions range far and wide, they often focus on career preparation and ways to get more involved in the ASA.

Sometimes AMAs can lead to more outreach and collaboration opportunities, too. Following his turn as AMA guest, ASA President Barry Nussbaum reached out to several Vanderbilt students who asked questions, and then he visited the school to give a presentation to their statistics program. “I’m the president of the American Statistical Association and wasn’t even aware of Vanderbilt’s fine biostatistics program. So even the answer man learns from AMA,” said Nussbaum.

AMA guests have included the following:

- **Kim Love**, statistical consultant and Statistical Consulting Section past program chair
- **Richard Zink**, Biopharmaceutical Section publications officer and chair-elect
- **Jessica Utts**, 2016 ASA president
- **Cyndy Long**, ASA Council of Sections representative to the board of directors
- **Barry Nussbaum**, 2017 ASA president
- **Kimberly Sellers**, Committee on Women in Statistics chair
- **Chris Franklin**, ASA K–12 Statistical Ambassador
- **Montse Fuentes**, ASA Fellow and editor of *JASA*'s Applications and Case Studies section

AMAs are set to continue at full speed as the 2017–2018 academic year begins. We already have two guests scheduled!

For more information about the Young Professionals discussion group and AMAs, contact Lara Harmon, ASA marketing and online community coordinator, at lara@amstat.org. ■

Significance Features Interview with Andreas Georgiou

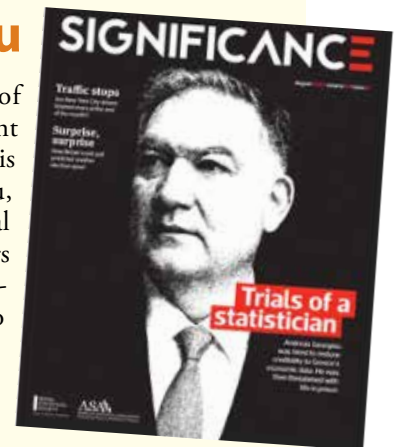
The August 2017 issue of *Significance* is available in print and digital formats. Included is an interview with Andreas Georgiou, the former head of the Greek National Statistics Institute who has faced years of criminal investigations and prosecutions because of revisions he made to the country's debt and deficit numbers.

Also, Jonathan Auerbach, a past winner of our writing competition for young statisticians, investigates whether New York City drivers are more likely to be ticketed at the end of the month.

And the team that predicted yet another British election upset explains how they did it.

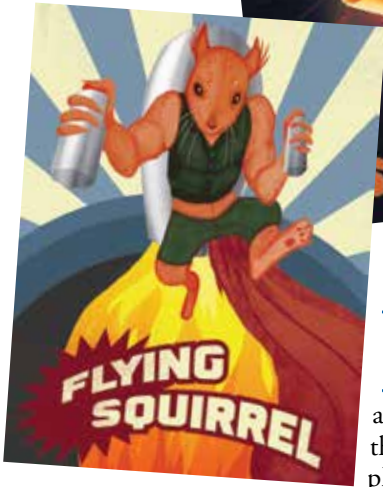
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Art-Science Partnerships Help Students Gain Deeper Understanding of Research

Eric Laber, North Carolina State University



Posters illustrating the video games created by Laberlabs. Laserfoxes was illustrated by Danny Schmidt. Flying Squirrel was illustrated by Tea Blumer.

Laber Labs was created to foster collaboration between artists and statisticians in the pursuit of cross-disciplinary research and novel approaches to outreach and scientific translation.

The lab currently has 30 members, including 20 statistics PhD students; five undergraduate students in fields such as computer science, graphic design, industrial design, and film; two high-school interns; and three staff members with expertise in graphic design, animation, web programming, music, and sound engineering.

The diverse expertise in the group allows us take on a wide range of problems. Currently, the lab is focused on four major research thrusts:

- (T1) Precision medicine
- (T2) Human-computer interactions and artificial intelligence

- (T3) Data-driven monitoring and disruption of sex trafficking
- (T4) Real-time decision support for infectious diseases

In addition, we have an outreach program designed for middle- and high-school students. In this program, students learn about statistics, machine learning, and data-driven decision-making by creating autonomous artificial intelligence agents that play video games. To date, we have developed the following five video games, each designed to illustrate key concepts in data-driven decision-making.

Zombies vs. Treadmills: A simple turn-based game in which players must orient a grid of treadmills to redirect a hoard of zombies away from humans and into active volcanos. This game is a (hopefully) more engaging variant of grid-world—a canonical, sequential decision-problem from computer science. Through gameplay, students learn basic definitions and concepts in data-driven decision-making and gain the skills needed for more advanced (and exciting) games.

Flying Squirrels: A side-scrolling game in which the player dictates the diving and soaring actions of a flying squirrel to gain speed and avoid enemies. Using the game as a simulation environment, students learn to use classification to teach a computer to mimic a human player and thereby enable the computer to play autonomously.

Space Mice: A fly-and-shoot game in which the player must maneuver a flying cat to shoot invading mice from outer

space. Students learn by teaching the computer to play using a Bayesian variant of approximate dynamic programming—a technique so successful that the computer ultimately plays orders of magnitude better than the best human player.

Laser Foxes: A two-player fighting game in which a human player battles an adaptive computer agent that learns from gameplay experience. In this game, students learn about adversarial decision-making and replicate the behavior of the computer agent.

Snack Attack: A live-action food battle game in which players build armies and decide how, where, and when to deploy troops to destroy the opposing army. Students handcraft artificial intelligence algorithms for a computer player and pit their computer creations against each other.

We build the games, artificial intelligence, and other educational materials in-house, so our outreach involves graphic designers, sound engineers, and statisticians. Lab members have also collaborated on series of short videos, called 2MinStats, which aim to teach core statistical concepts without math. These games and videos can be found at Laber-Labs.com.

Outreach is an obvious avenue for collaboration between designers and statisticians; however, our nonstatistician lab members are also involved in each research thrust. For example:

In (T1), we built interactive visualizations to help communicate risk and trade-offs across competing treatment options.

In (T2), we created 3D models of physical environments to train a robotic arm to move pieces on a game board.

In (T3), we used image data generated by projections of 3D human models to train computer vision to identify physical attributes such as hip-to-waist ratio.

In (T4), we build interactive decision support systems that allow decision-makers to manipulate estimated optimal treatment allocation rules.

Adding designers to the lab changed the way we conducted and communicated science and expanded the scope of research translation and dissemination.

Such lab environments provide statistics PhD students with a substantially different educational and training experience than a traditional departmental environment. Students work in teams on projects and attend regular project-specific group meetings in which members generate, critique, and refine ideas. There are weekly lab meetings at which a student presents their research and lab members brainstorm about alternative solutions, potential weaknesses with the proposed approach, and connections to other problems. These brainstorming sessions give the presenting student experience defending their research and the rest of the lab experience quickly generating potential solutions to a complex statistical problem. In some instances, these brainstorming sessions have changed the course of a student's dissertation research or spawned new research projects.

Students are encouraged to generate their own research directions and pursue projects outside of their thesis work. Because their graduation is not contingent on the success of these projects, students tend to be more ambitious and creative

with them. Recent student-driven research projects include building a real-time cat-tracker and using natural language processing to create a digital clone of the 1980s painter Bob Ross.

As a faculty member, running an interdisciplinary lab made up of artists and scientists has been rewarding through both better student development and research output. A commonly voiced concern is that having statistics PhD students engaged in outreach projects or art-science partnerships will detract from the quality, rigor, or depth of their thesis work. Our experience has been that these activities lead to deeper investment

in research projects, stronger engagement with the scientific community, and greater imagination in problem solving.

The lab's scientific mission is to close the research-practice gap in data-driven decision-making through methods development, education and outreach, and research translation. Students who buy into this mission and invest in the lab tend to do better science.

If you are interested in learning more about Laber Labs or getting started on your own lab, contact Eric Laber at laber@stat.ncsu.edu or, for more information, visit Laber-Labs.com. You can also follow @LaberLabs on Twitter. ■

MORE ONLINE

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New Project Aims to Make Stats Research Accessible to Undergrads

ASA graduate students and postgraduates hope to make cutting-edge statistics articles easier for undergraduates to read and understand with their new project, Statbites. Inspired by *Astrobites* (astrobites.org), an online "reader's digest" for research in astrophysics, a group of ASA young professionals has come together to set up their own digest for statistics research.

Daniel Ahmed Alhassan, Joyce Cahoon, Michael John Grayling, Rashi Jain, Sarah Robinson, Sara Stoudt, Nick Thieme, Dana Udwin, Jasmine Williams, and former ASA Science Policy Fellow Amy Nussbaum are among the young professionals working to develop a venue for undergraduates to find summaries of new statistics research written at a level that stretches their understanding, but doesn't overreach it. Meanwhile, graduate students and postgraduates will gain experience serving on an editorial board and writing to specific standards in roles as Statbites editors and authors.

"[I hope Statbites] will serve as a platform to communicate [the] proper use of statistical methods and models, and by so doing provide more insight to the user and help increase their confidence in the use of the methods," said Alhassan, of the Missouri University of Science and Technology.

Cahoon, of North Carolina State University, sees Statbites' potential to "increase diversity and inclusion in stats, give under-represented students early exposure to statistics, provide others a foundation where they, too, can be liberated and can create meaning from data ... and learn from data in an evidence-based manner."

"My hope for Statbites is that it can become a publication that bridges the academic gap between undergraduate students and graduate students, as well as the ideological gap between practicing statisticians and lay people," said Nick Thieme, American Association for the Advancement of Science Mass Media Fellow. "Statistics is subtle, and subtlety—especially in the public's treatment of data modeling—can be hard to come by. ... Statbites could contribute to that understanding," he continued.

Look for more news about Statbites in future issues of *Amstat News*. The Statbites team, working with ASA staff, hope to launch Statbites in early 2018.

Reflections on Diversity Mentoring Program, Contagious Excellence

Adrian Coles, Jesse Chittams, and Dionne Swift



Nagambal Shah, René Moore, Portia Parker, and Michael Sampson

Why is mentorship so important? As a tool, it greatly assists junior individuals in making quality decisions that will lend themselves to future success. But that is a limited perspective. Effective mentorship is also a conduit through which excellence is conveyed, and that benefits not only the mentee, but also the system in which that individual operates.

The ASA's Diversity Mentoring Program (DMP) advances our profession!

Four Generations of Mentoring

In the midst of the excitement from connections being made, enlightening panel discussions, and networking by program participants at this year's DMP, which took place at JSM 2017 in Baltimore, one moment stood out.

Nagambal Shah, professor emerita at Spelman College, is the founder of the annual ASA StatFest and has been one of the consistent leaders of the DMP since its inception in 2009. In 2010, she was elected an ASA Fellow in honor of her outstanding career as an educator and service to our profession.

Shah mentored René Moore, director of biostatistics collaboration core at Emory University and current chair of the ASA's Committee on Minorities in Statistics. This year, Moore was elected an ASA Fellow in honor of her career as a collaborative researcher and educator and service to our profession.

Both these leaders have enjoyed great careers from a personal perspective, but more than that, they have tirelessly served to advance our profession, which benefits each of us. They are an example of contagious excellence. They embody the key strengths of the DMP: community, collaboration, and commitment.

And it appears they are passing those down to future generations.

Moore mentors Portia Parker, a graduate of North Carolina State University, who is starting a career at SAS Institute, Inc. Like her mentor, she is active in professional service. This year, Parker began a mentoring relationship with Michael Sampson, who is a first-year graduate student at NYU.

No other moment better demonstrates the value of effective mentoring and fostering greater participation in our profession by members of diverse groups. Given the harmony of sexes, racial groups, and age groups in this photo (and heights), it's fair to suggest we truly are better together. This is community. This is legacy.

Program Summary

This year's Diversity Mentoring Program partnered 18 students and early-career professionals with leaders and professionals from government, industry, consulting, and academia in 1-to-1 mentoring relationships.

In addition, participants benefited from panel discussions that addressed topics such as effective mentoring, career paths, and emotional intelligence. Participants also took advantage of the intimate networking environment that included talent acquisition specialists from sponsoring organizations.

The chair of this year's DMP committee was Dionne Swift, vice chair of the ASA's Committee on Minorities in Statistics.

If you are interested in participating in the next Diversity Mentoring Program or the ASA's Committee on Minorities in Statistics' other key initiative, StatFest, please check the Committee on Minorities in Statistics webpage at <http://community.amstat.org/cmis/home>. ■

Technometrics Calls for Editor Applications, Nominations

The American Statistical Association and American Society for Quality invite nominations and applications for the position of editor of *Technometrics*.

Technometrics contributes to the development and use of statistical methods in physical, chemical, and engineering sciences, as well as information sciences and technology. These include developments on the interface of statistics and computer science such as data mining, machine learning, and large databases. The journal places a premium on clear communication among statisticians and practitioners of these sciences and an emphasis on the application of statistical concepts and methods to problems that occur in these fields.

The *Technometrics* editor reviews new submissions and makes final decisions about which papers to accept for publication. The editor appoints the editorial board and works with them to handle the journal's peer-review process. Papers submitted to *Technometrics* are refereed using a rigorous double-blind review system.

The editor prepares short articles about each issue's highlights, which are published in *Amstat News* (in print or online), and writes an annual editor's report, which is published in the journal.

The *Technometrics* editor is provided with an online manuscript submission and tracking system and given training in the use of the system. The system allows the editor to review papers and assign reviewers easily, as well as to generate reports. Editors also receive funds for office supplies used in the course of the editorship.

The editor receives significant assistance from the editorial coordinator, an independent contractor engaged by the ASA. The editor also works with the production editor to create each issue and ensure timely production and publication.

The editor works with the *Technometrics* Management Committee, which oversees and guides the operation of the journal. The committee chair represents the journal on the ASA's Committee on Publications.

The new editor will serve from 2020 through 2022, with the transition beginning in 2019. During that year, the incoming editor will handle all new submissions to the journal.

Technometrics editors should be active members of the ASA and ASQ during their terms.

Nominations

If you know someone who would be a good candidate for the editorship of *Technometrics*, please nominate that person by sending his or her name, email address, and a brief description of his or her qualifications to journals@amstat.org.

The deadline for nominations is **November 10**.

Applications

Applications for the editorship should be sent electronically to journals@amstat.org and include a CV; the names of three references; and a letter of interest in the position that includes a brief statement of the candidate's vision for the publication, directions the candidate would pursue, and contributions she or he would make if selected as editor.

The deadline for applications is **December 10**. ■

Practical Data Science for Stats: A PeerJ Collection

Nick Horton, Amherst College

Jenny Bryan of the University of British Columbia and RStudio and Hadley Wickham of RStudio co-edited the recently published collection of papers, *Practical Data Science for Stats*, which are available from PeerJ at <https://peerj.com/collections/50-practicaldatascistats>. These preprints focus on the practical side of data science workflows and statistical analysis, particularly the many aspects of day-to-day analytical work that are almost absent from the conventional statistics literature and curriculum. And yet these activities account for a considerable share of the time and effort of data analysts and applied statisticians.

The goal of the collection is to increase the visibility and adoption of modern data analytical workflows and facilitate the transfer of tools and frameworks between industry and academia, between software engineering and statistics/computer science, and across different domains. While these preprints have not been reviewed by PeerJ, they have been reviewed for content by the editors listed above and peers. Versions of these articles are also under review for a special issue of *The American Statistician*.

A sampling of the papers in the collection include the following:

Data Organization in Spreadsheets by Karl W. Broman and Kara H. Woo

Forecasting at Scale by Sean J. Taylor and Benjamin Letham

The Democratization of Data Science Education by Sean Kross, Roger D. Peng, Brian S. Caffo, Ira Gooding, and Jeffrey T. Leek

Stats from the Road

Amanda Malloy, ASA Director of Development



Malloy

As my neighbor Willie Nelson said, “**Can’t wait to get on the road again.**” I’m looking forward to visiting with you to explore the question, “**What does the future hold for the statistics profession?**”

This was a theme at JSM this year. In fact, ASA President Barry Nussbaum talked about it during his address. In a world where the terms “**big data,**” “**data analytics,**” and “**data scientist**” are ubiquitous, it is important to consider how statisticians are included.

The good news, as Barry said in his talk, is “**This is the best of times for statisticians.**” There are more opportunities than ever, and it’s up to us to firmly establish the importance of statistics for society and support students at all levels so the demand for statisticians is met.

The House of Statistics is an initiative Barry championed to both highlight the contributions of statisticians to society and support statistics education. House of Statistics will be a virtual home for videos, career explorations, games, and competitions that challenge and involve students at all levels, showing that statistics is cool. It will be a great resource for both formal and informal learning, and you’ll hear much more about it in the coming months, so stay tuned.

As a member of the ASA, you are an ambassador for the profession. The ASA is here to support

you and others like you. We need your help, though, to make sure statistics stays at the forefront of the data movement.

Here are some things you can do to help:

Get Involved

- With your local chapter
- With sections
- With interest groups
- With your local schools

Stay Informed

- Subscribe to the ASA Science Policy blog (<http://community.amstat.org/blogs/steve-pierson>) to keep up to date on the current issues facing our country and profession
- Stay connected to peers and weigh in on topics in the ASA Community (<http://community.amstat.org/home>)

Donate

- Help us do more!
- Your contributions help improve statistics education for K–12 students, expose students to statistics and get them excited about statistics as a career, ensure statisticians are included in policy decisions and proper analysis is done on critical studies, and help the public understand and ask the right questions about information being given to them on a daily basis
- Visit www.amstat.org/giving to find out more

Barry’s take-home message was to be active, collaborate, get to the table early, and learn new skills. Working together, we will ensure it is “the best of times.” ■

Electronic Undergraduate Statistics Research Conference

Registration for the Electronic Undergraduate Statistics Research Conference is open.

This free conference will take place November 3 from 12:00 p.m. – 5:00 p.m. ET and is open to all undergraduate students and faculty. This is an opportunity for students at all stages of their undergraduate career to learn more about undergraduate statistics research.

The program includes a keynote address by a data scientist at Stack Overflow, a career panel that includes the head of data science at Lyft, and other panels on graduate school and diversity in statistics and data science. And we hope students will share their statistics research by creating video presentations for the virtual presentation session.

Further information, including the registration link, can be found at www.causeweb.org/eurs.

Kelly H. Zou on Real-World Evidence

Richard Zink, JMP Life Sciences

In the Biopharmaceutical Section's podcasts, key opinion leaders from the pharmaceutical industry and regulatory agencies talk about current issues and upcoming statistical conferences. In the most recent podcast, Richard Zink spoke with Kelly Zou about real-world data.

How did you become interested in statistics?

I grew up in Asia in my hometown of Shanghai, China, where students tend to receive a solid quantitative education during their teenage years. I majored in mathematics and minored in physics during my undergraduate school years, followed by a combined master's and PhD degree in statistics.

I stumbled onto statistics as a discipline by "chance," although perhaps not as a completely random event. I took a course in probability as a math major and was very much intrigued by the concept of "uncertainty." Navigating in the face of uncertainty toward decisiveness is the recurring theme when dealing with real-world data (RWD).

I recall that laboratory reports in my physics classes often contained linear and nonlinear regression analyses. This training to seek signals and patterns out of a set of data points was quite beneficial for becoming a statistical lead (as my last job function) and later an analytic science lead (as my current job function).

I had several jobs in two sectors from academia to industry. My research topics and applications range from receiver operating characteristic analysis, validation of predictive modeling, Bayesian hierarchical methods, image analysis, time series, pragmatic trials, and observational studies, just to name a few.

Can you give us a bit more detail about your current responsibilities at Pfizer?

Currently, I am senior director and analytic science lead in a center of excellence, named Real-World Data and Analytics, in the Patient and Health Impact organization within Pfizer Inc.

My usual days are filled with being part of various cross-functional teams and interacting with talented subject-matter experts, data scientists, statisticians, and programmers. I work closely with multiple stakeholders to leverage RWD by collaborating with health economics outcomes researchers, market access colleagues, medical and clinical colleagues, epidemiologists, and collaborative liaisons to other organizations.



Besides multiple therapeutic and product areas, I interact with colleagues in the Asia-Pacific region and in China as a large country. Understanding various policies on privacy protection, data access, storage, linkage, and regulatory landscapes is of great importance.

Collaborating and presenting on RWD-based topics at national and international conferences would take place from time to time.

You're also very active with the ASA. Can you describe the various activities in which you're involved?

- I became an elected Fellow of the American Statistical Association in 2012. Currently, I chair the ASA Statistical Partnerships among Academe, Industry, and Government (SPAIG) Committee. It has a three-year term. The SPAIG committee aims to identify, lead, and promote initiatives that foster statistical partnerships or collaborations between two or more entities across academic, industry, and/or government sectors.
- I also serve as the chair-elect and incoming chair of the ASA Health Care Policy Statistics Section (HPSS). The HPSS section focuses on strategies for improving the quality and reducing the cost of health care in the United States and abroad through the systematic use of quantitative statistical methods.
- Since the ASA is an organizational affiliate of AcademyHealth, my current three-year role as a member of its Methods Council may bring extra interactions and knowledge in RWD and other related areas. ■



Kelly H. Zou is senior director and analytic science lead at Pfizer Inc. She is a Fellow of the American Statistical Association and an Accredited Professional Statistician. She has published extensively on clinical and methodological topics.

Editor's Note: Kelly H. Zou is an employee of Pfizer Inc. Views and opinions expressed in this interview are Zou's own and do not necessarily reflect those of Pfizer Inc.

MORE ONLINE
There is so much more. Listen to this interview and others by visiting <http://community.amstat.org/biop/podcast>.

Bachelor's, Master's Statistics and Biostatistics Degree Growth Strong Through 2016

Steve Pierson, ASA Director of Science Policy

Bachelor's and master's degrees earned in statistics and biostatistics continue their strong growth while doctoral degrees are up only a couple percent from 2015 to 2016. According to the latest preliminary data release from the National Center for Education Statistics, bachelor's degrees

grew 19% to 2,790 (32 of which are for biostatistics) and master's degrees increased 14% to 3,906 (657 for biostatistics), as seen in Figure 1. Doctoral degrees increased by 12 to 592 (190 for biostatistics). Figure 2 shows the comparable data for only biostatistics degrees.

Accompanying this growth is an increase in the number of universities granting bachelor's degrees in statistics (from 114 to 126) and master's degrees in biostatistics (55 to 60), with smaller or no increases for other degrees, as seen in Figures 3 and 4. After all-time highs in 2014 for the number of universities granting doctoral degrees in statistics (67), the 2016 number is 63.

There are many universities granting statistics and biostatistics degrees for the first time (at least since 2003) in 2016:

- Bachelor's degrees in biostatistics: Brigham Young University-Idaho
- Bachelor's degrees in statistics: Bryant University, Carroll University, Eastern Washington University, New Jersey Institute of Technology, Roosevelt University, University of Nebraska at Kearney, University of Nevada-Las Vegas, and West Virginia University
- Master's degrees in statistics: Boston University and Eastern Kentucky University
- Master's degrees in biostatistics: George Mason University, Icahn School of Medicine at Mount Sinai, University of Georgia, University of North Texas Health Science Center, and University of Toledo
- PhD in biostatistics: Louisiana State University Health Sciences Center and University of Arizona

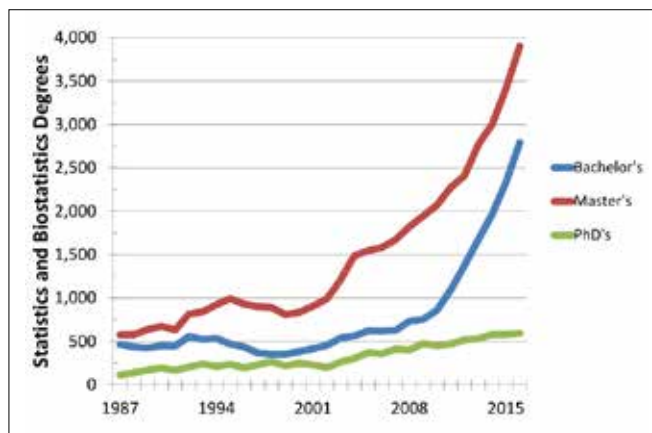


Figure 1: Statistics and biostatistics degrees at the bachelor's, master's, and doctoral levels in the United States
Data source: NCES IPEDS.

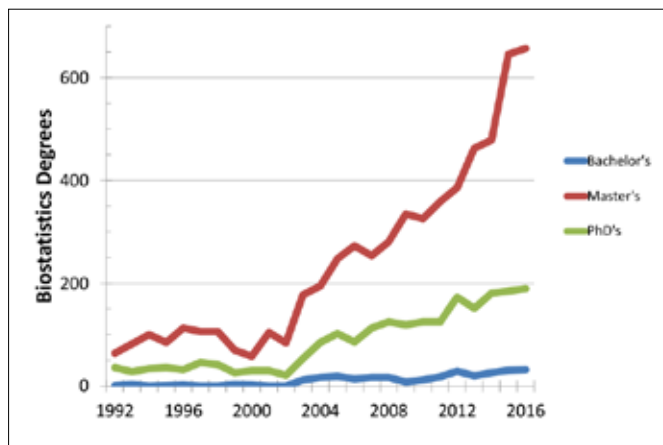


Figure 2: Biostatistics degrees by degree level awarded in the United States

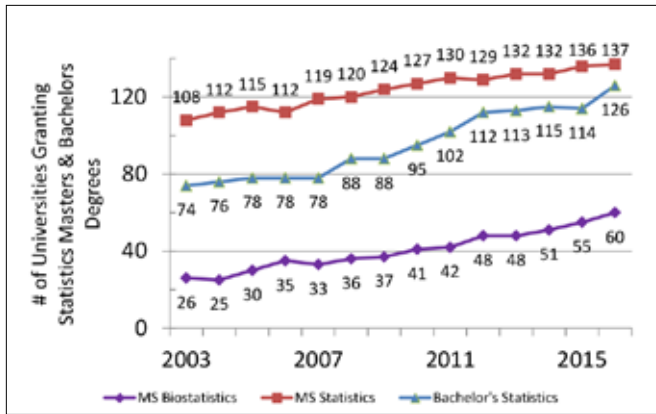


Figure 3: The number of universities granting statistics and biostatistics master's and bachelor's degrees
Compiled from NCES IPEDS data.

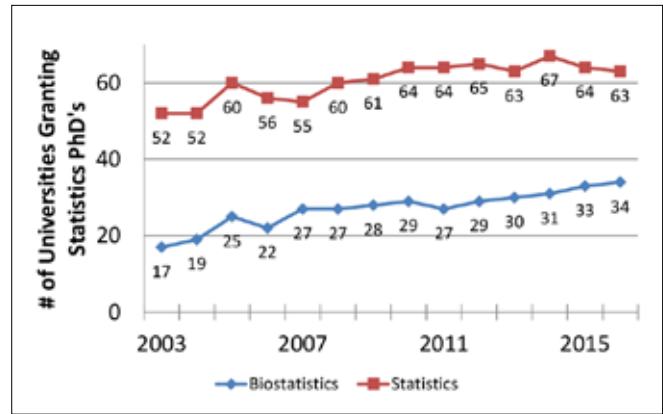


Figure 4: The number of universities granting statistics and biostatistics PhD's
Compiled from NCES IPEDS data.

The top degree-granting institutions over the last five years are in the following tables for all categories except biostatistics bachelor's degrees.

Statistics PhDs	2012	2013	2014	2015	2016	2012-2016	2003-2016
North Carolina State University	14	20	12	17	19	82	239
Iowa State University	14	9	15	28	14	80	164
University of Wisconsin	16	18	10	7	15	66	176
Pennsylvania State University	14	9	12	9	17	61	136
The Ohio State University	13	9	13	10	13	58	128
Subtotal	71	65	62	71	78	347	843
Total	345	379	397	396	402	1,919	4,484

Biostatistics PhDs	2012	2013	2014	2015	2016	2012-2016	2003-2016
The University of North Carolina	16	9	22	24	16	87	174
University of Michigan	15	15	12	11	11	64	140
U. of Texas Health Science Center	9	13	7	19	15	63	101
Harvard University	17	10	13	12	9	61	151
University of Pittsburgh	9	12	14	18	5	58	130
Subtotal	66	59	68	84	56	333	696
Total	173	151	181	185	190	880	1,811

Statistics Master's Degrees	2012	2013	2014	2015	2016	2012-2016	2003-2016
Columbia University	288	294	287	396	435	1700	3061
The George Washington University	29	67	155	118	132	501	580
Rutgers University	62	79	94	96	106	437	872
University of Illinois at Urbana	36	61	67	41	75	280	556
University of Michigan	47	55	46	57	74	279	584
Subtotal	462	556	649	708	822	3,197	5,653
Total	2,003	2,269	2,489	2,769	3,249	12,779	25,861

Tables 1–5: Top five universities granting statistics and biostatistics degrees for 2011–2015

Tables 1–5: Top five universities granting statistics and biostatistics degrees for 2011–2015

Biostatistics Master's Degrees	2012	2013	2014	2015	2016	2012-2016	2003-2016
Columbia University	31	37	34	50	68	220	390
Boston University	19	21	45	52	49	186	347
University of Michigan	25	38	24	41	32	160	381
Harvard University	11	24	16	32	36	119	202
U. of Texas Health Science Center	15	28	21	20	15	99	155
UNC Chapel Hill	21	15	18	21	24	99	237
Subtotal	122	163	158	216	224	883	1,644
Total	380	461	479	646	657	2,623	5,097

Statistics Bachelor's Degrees	2012	2013	2014	2015	2016	2012-2016	2003-2016
Purdue University	100	135	197	183	211	826	992
UC Berkeley	99	143	160	215	174	791	1,238
U. of Illinois UC	52	67	91	111	143	464	606
UCLA	30	50	66	71	127	344	413
UC Davis	55	53	54	60	110	332	502
Subtotal	336	448	568	640	765	2,757	3,751
Total	1,390	1,714	2,019	2,367	2,851	10,341	16,739

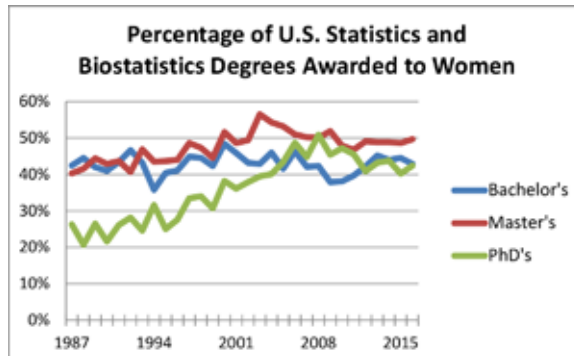


Figure 5: Percentage of statistics and biostatistics degrees awarded to women by degree level for 1987–2016
Data Source: NCES IPED

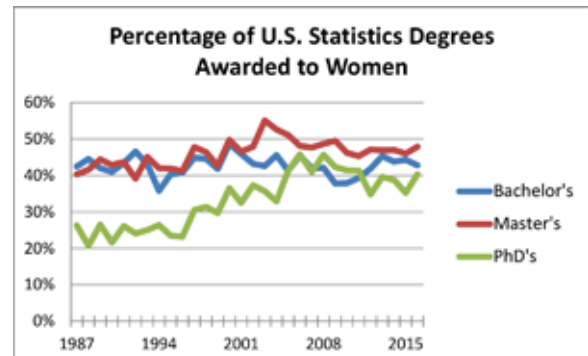


Figure 6: Percentage of statistics degrees awarded to women by degree level for 1987–2016
Data Source: NCES IPED

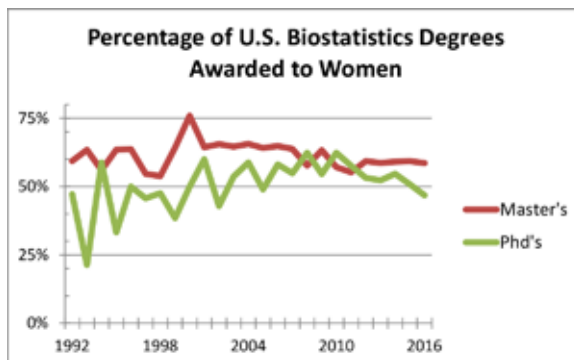


Figure 7: Percentage of master's and PhD biostatistics degrees awarded to women for 1987–2016
Data Source: NCES IPED

Demographics

It has been the practice in these articles to alternate demographics updates. Last year's update, which was based on 2015 degree data, had figures for the percentage of statistics and biostatistics degrees earned by non-resident aliens and race and ethnicity data for degrees granted to US citizens or residents.

Figures 5–7 show the percentage of degrees earned by women over time by degree level for combined statistics and biostatistics, statistics only, and biostatistics only. It appears the percentage of PhDs earned by women has declined modestly in recent years, while the same percentage for bachelor's degrees has rebounded to prior levels. ■

ASA/CRC Press Launch Second Book in Series: *Visualizing Baseball* by Jim Albert

Last year, the ASA and CRC Press combined forces to produce the Statistical Reasoning in Science and Society series. The idea was to produce short and inexpensive books about a range of topics aimed at professionals across many fields, the general public, and high-school and college students. The second book in the series is *Visualizing Baseball* by Jim Albert, author or editor of 10 books, including *Analyzing Baseball Data with R*, *Curve Ball*, and the *Handbook of Statistical Methods and Analyses in Sports*. Here, Albert answers a few questions about his new book and what inspired him to write it.

What do you want your audience to take away from the book?

There is an inherent randomness in baseball, both in the game results and the performances of its players. But there are clear patterns in performance, both from a historical and a player perspective, and statistical graphs are a great way to display these patterns. I would like the reader to understand new things about baseball and appreciate the power of graphical displays to communicate these truths.

What inspired you to write this book?

I am a great baseball fan and, as a statistician, I have been interested in the use of statistical thinking to better understand the game. I am particularly fascinated with the usefulness of graphs to communicate patterns in data, and I believe graphs are underutilized in sabermetrics (the scientific study of baseball). I thought a book focused on the application of graphical displays in baseball could appeal to a wide audience.

What audience did you have in mind while writing your book?

I was writing this book for the baseball fan who wishes to learn more about the statistical side of baseball without getting deep into the formulas or models used. Graphs, instead of formula or tables, are used to communicate. I was also writing this book for the person who wishes to learn more about statistical graphics. The interested reader can replicate many of the graphs in the book using the data and ggplot2 R code available on the book website.

Visualizing Baseball provides a visual exploration of the game of baseball. Graphical displays are used to see how measures of performance, at the team and individual levels, have changed over the history of baseball.

Special graphs are used to describe pitch data from the PitchFX system and batted ball data from the Statcast system. One can explore patterns of streaky performance and clutch play by the use of graphs, and special plots are used to predict final season batting averages based on data from the middle of the season.

Baseball fans should be interested in the topics of the chapters, especially those who are interested in learning more about the quantitative side of baseball. Many statistical ideas are illustrated, helping to promote statistical literacy at many levels. From a practitioner's perspective, the chapters offer many illustrations of the use of a modern graphics system, and R scripts are available on an accompanying website to reproduce and potentially improve the graphs in the book.

Jim Albert is professor of statistics at Bowling Green State University. He is the author or editor of 10 books, including *Analyzing Baseball Data with R*, *Curve Ball*, and the *Handbook of Statistical Methods and Analyses in Sports*.



What makes your book stand out from its competitors?

Although books are available that describe sabermetrics study, my book is unique in its focus on statistical graphs to communicate statistical thinking in baseball. I purposely limited the use of equations or formulas so the book potentially could appeal to a broad audience.

What did you enjoy about writing the book?

This book combined two of my passions: the game of baseball and the use of graphs to display statistical patterns in data. It can often take many iterations to produce a reasonable graph, but a good graph display has the potential to communicate interesting patterns in sports to many people. ■



Jim Albert



STATtr@k

The Struggles and Wonders of a First-Generation STEM Student

Angel D'az



Angel D'az is an undergraduate senior at Boise State University studying business and economic analytics. He is a first-generation immigrant who was a year away from graduating with a music degree before having a self-realization and turning toward a career in data analysis.

I am the first in my family to go to college, study STEM, or work in a white-collar office. I am entering my 15th and final semester of undergraduate study, so I am familiar with the sleepless nights that go with choosing the “right” career path. I want to share my experiences entering STEM and, perhaps most importantly, staying in it. I hope through my experiences, I can help other students who were also born between two worlds.

No incoming college freshman is a clean slate who is willing and able to stick through a STEM degree. Although I am technically a first-generation immigrant, I have lived a life in between a first- and second-generation immigrant. I was born in El Salvador and came to America as a baby. However, my parents over-sheltered me because they were children during a brutal civil war and I was an almost fatally sick infant and kidnapped on our journey to America. For the first 15 years of my life,

most of what I knew was the Salvadoran culture of my parents. I was 12 years old when I first noticed someone spread peanut butter with a butter knife. I thought knives were only for cutting. This type of blameless ignorance has led to struggles and wonder during my budding STEM career.

My parents and I first lived in a studio apartment with five other people. My mother slept on a mattress fished out of a dumpster while pregnant with my brother, and my father slept on the floor. My parents were “low-skill” immigrants, but extremely “high-grit.” One of my earliest memories is trying to stomp on aluminum cans so my parents could bring in a bit more income from recycling them. My mother stayed at home until she could work during school hours, and my father was a manual laborer—one of the ones who stood outside home improvement stores—in the beginning. He soon became a roofer and, after saving a little

capital, started a towing company with my mother. Throughout this, they both went to English night school on and off.

Occasionally, my father came home from work and said, “*Miren vichos* (“Look boys”). Put your hands next to mine.” He placed his calloused, scarred, and greasy hands on the dining room table. My brother and I placed our small, smooth, brown hands next to his, and he stated, “You will do better than me.”

My guidance was strong on the big picture, but lacking in all the little steps. I did well in elementary school with my mother’s encouragement, but collapsed under the weight of middle and high school. My parents were woefully unequipped to teach algebra or provide white-collar career guidance or tutors. They despaired at my endless stream of Cs and Ds in high school. There was no knowledge of SATs, ACTs, college admission processes, etc. I was given two pieces of advice: “You can do whatever you set your mind to” and “Do what you love.”

When given options, my mind froze and I could not make a choice. “Do what you love” was also ineffective, because I did not have enough life experience to know what I would love for a career. Both pieces of advice were well intentioned, but because they were general, they did not address my needs as an individual.

In college, my wandering took different forms. I spent three years as an obsessed musician, practicing my trombone out of a fear of failure. The dam that held me back from choosing a more lucrative, or STEM, career burst when I realized I had a set of values I was putting aside to pursue a career in music. I found it hard to trust my own instincts after this moment of self-awareness and spent two years jumping between engineering, marketing, and finance. Without knowing anything about the data and statistics fields, I knew I wanted quantitative, computer, and people skills. I valued autonomy and believed these three skills would provide me the most of it.

A few years ago, the college of business and economics at Boise State revealed my current degree: a BS in business and economic analytics with a minor in computer science. It was also just one class short of a minor in applied mathematics. It had everything I dreamed of but never took the steps to pursue, so I switched majors for the final time within a few days.

The gift of high-grit from my parents has been a curse and a blessing. It caused me to stick through seven years of undergraduate school, avoid much debt through pizza delivery, overload myself (consistently and unfortunately), and push through class failures and drops. I maintained a decent, but not great, 3.27 GPA and will graduate in December with 227 attempted credits.

My hardest times in STEM have been when I feel I do not belong. I once had to make a request of a coworker at an internship, so I asked my supervisor how I should word it. I was told to write in “plain English.” While growing up, the only adults outside of school I communicated with were construction workers, electricians, mechanics, etc. My supervisor was unaware of how scared I was about miscommunicating in an environment that was foreign to me.

Another example is reading ahead in class. I would read a textbook, but even after taking it slow and breaking it down, I would still not understand. Professors who have sent me back to the book, instead of training me to understand the texts, have been discouraging. I have collapsed many times under this emotional pressure, unable to figure out what I do not know. When I see classmates succeed while I fail, despite my efforts, I conclude I do not belong where they do.

In contrast, the times in which I am encouraged to continue in STEM are the times in which professionals treat me as an individual. Professors who see beyond the “uniform” of a student and ask about and listen to my individual pleas, are the ones who have encouraged me the most. I believe the best way to combat under-represented STEM student drop-out rates is to both explicitly and implicitly let the students know they belong.

Explicit communication is easy. It is enough to say, “You belong in this classroom and in your career.” Implicit communication through creating inclusive environments is more difficult, however. It requires compassion to see a butter knife, like I did at 12 years old, and not assume everyone knows it can be used for spreading. Professionals with compassion have helped me see the wonders in STEM, or more specifically, statistics. The people who have dreamed alongside with me have made, and always will make, the most positive impact on my life. ■

MASTER'S NOTEBOOK

Effective Collaboration Between Statisticians and Principal Investigators



Rachel S. Rogers is a biostatistician at Westat, where she consults on behalf of The Biostatistics and Data Management Core for The Children's Hospital of Philadelphia. She holds a master's degree in mathematics from Drexel University and a master's in biostatistics from the University of Pennsylvania.

I have spent the past 20 years functioning in different situations where “results” were measured by the actions of several individuals interacting toward a common goal. As captain of my rugby team, I constantly worked with my coach, my co-captain, the team’s executive board, and my teammates to guide us toward winning games and championships. As a middle-school math teacher—on top of researching and creating dynamic lesson plans—it was collaborating with my learning team of fellow teachers that truly set our students up for success. And finally, as a biostatistician, I work with principal investigators (PIs) every day to help them find solutions to their clinical research questions. In each of these scenarios, the “results” are different, but the core of how to get the best outcome always depends on effective teamwork and collaboration.

Collaboration is defined as “the action of working with someone to produce or create something.” Further, effective collaboration is one of the main influences that adds to the success of any business. A website I recently stumbled upon includes an article called “Six Fundamentals of Effective Collaboration” (<https://goo.gl/DJg7yQ>). I would like to elaborate on each by means of my experience as a master’s-level biostatistician.

Engagement. They say that listening is one of the most important rudiments of communication. This is also the essential piece of engagement. When speaking with a PI for the first time, I know they have spent hours, days, months, thinking about this topic. Most of

the time, I have no idea what their research is about. But when we talk, I am genuinely interested and I actively listen to everything they would like to tell me about their work. My first step is to listen, to participate, because active listening and engagement is necessary to establish rapport and trust.

Keeping It Real (Being Authentic). It may seem natural to expect authenticity across collaborative efforts. But, we can sometimes get caught up in trying too hard to find something “significant,” and in doing that, we can lose legitimacy. I used to think it was tough to tell a PI there were no statistically significant findings with their data. But as time went on, I realized it was my job on the collaborative team to keep it real with those around me.

A Bias for Learning and Discovery. I think my background in teaching gives me a strong need to learn and discover. When meeting with PIs, I ask a ton of questions until I am clear about how I can help. Like the author who introduced these six fundamentals, I ask “why” pretty often, and I seek to resolve ambiguity. There really are no stupid questions when collaborating, and in the end, the outcome is much clearer.

Respect for Community Members. I am grateful to be working with a team of biostatisticians of every academic level. To me, not only is effective collaboration with PIs super imperative, but positive and constant interaction with my fellow biostatisticians is equally necessary. Being a master’s-

level biostatistician, I like to speak through settings and analyses with colleagues who are like me to compare how we would approach situations. I also like to seek out those with greater knowledge than my own, because this is how I learn and grow.

Driving a Positive Vibe. I am naturally a positive person, always thinking on the bright side. You don’t have to be like me, but let’s face it, we all want an upbeat work dynamic. Smiling is contagious and goes a long way when working with others toward a common goal. I have worked on several projects in which friendships and incentive for future collaborations were the only positive outcomes.

Focus on Results. Because this is the point, right? Data have been collected for months—or even years—forms have been cleaned, variables have been created and re-created, and now it’s time to see the results of all this hard work. In the collaborative process, I try to make sure my piece of the puzzle is on track. Data have the power to lead us in many directions, but my job is to see that the statistical directions are focused and unblemished.

Overall, effective collaboration takes a lot of effort, where our thoughts are not only on answering the important questions, but also how well we are doing when it comes to engagement, keeping it real, learning, community, positivity, and focus. Over time, these things tend to become natural, and in the end, the journey to discover the final outcome can be more rewarding. ■

PASTIMES OF STATISTICIANS

What Does Terry Katz Like to Do When He Is Not Being a Statistician?

Who are you, and what is your statistics position?

I am Terry Katz, and my current role is director, head of global data management and statistics at Merck Animal Health, supporting worldwide veterinary clinical trials for pharmaceuticals and vaccines. My previous biometrics leadership roles were at ImClone Systems, PRA International, and Schering-Plough. I am the current chair of DIA's Good Clinical Practice–Quality Assurance Community, an ASQ-Certified Quality Engineer and Six Sigma Green Belt, and an ASA PStat.

Tell us about what you like to do for fun when you are not being a statistician.

My activities outside of work are varied, including serving as a Boy Scouts leader, high-school band volunteer, and, formerly, soccer coach. But an unusual hobby I share with my family is visiting presidential homes. My count is 31 homes from 22 presidents. These include the homes of the five presidents who were founding fathers and all eight homes in Virginia. Presidential homes visited in 2016 include Andrew Johnson's (Tennessee), Harry Truman's (Missouri), Theodore Roosevelt's (New York), and (outside only) Barack Obama's (Illinois).

What drew you to this hobby, and what keeps you interested?

My family likes to visit national parks, and many of the presidential homes are part of the parks system. When my oldest child was six months old, I carried him

in a backpack around Mount Vernon, home of President Washington. We added president's homes as a stop during driving vacations and crayoned in a presidential homes coloring book. My son took an interest in presidential trivia, and we purchased presidential informational place mats. Most recently, we acquired a presidential home coffee table book.

It is amazing to contrast the lifestyle of rich presidents with multiple large homes (e.g., Thomas Jefferson with Monticello and Poplar Forest) with those who started in a modest home (e.g., Grover Cleveland and Andrew Johnson). Many of the large properties were given grand names such as Berkeley Planation (William Harrison) and Sherwood Forest (John Tyler, which is still occupied by his descendants). Most of these homes are open for visitation, and modern technology has added 24/7 virtual tours via the internet. Some houses are still private, including those occupied by living former presidents (e.g., George H.W. Bush). New homes are added (e.g., Obama's new home in Washington, DC), and new elections also add to the queue (e.g., Donald Trump). The homes are sometimes connected to a nearby presidential library (e.g., Harry Truman and Franklin D. Roosevelt), where the history of the president's life and accomplishments can be explored.

While no statistician has been elected president, some who used mathematics are well known (e.g., Washington as a surveyor and Jefferson as an architect).



Terry Katz (wearing hat) stands next to Clifton Truman Daniel, the oldest grandson of President Harry Truman, in front of the Truman home in Independence, Missouri.

President James Garfield, whose Ohio home and log cabin birthplace are on my list to visit, is the only president with an original mathematical proof—on the Pythagorean theory—published in *The New England Journal of Education*, Vol. 3, No. 14. ■



Statistics: It's Essential ...

and So Was Your Participation at JSM 2017

Attendees present their electronic poster presentations August 2, 2017, at the Joint Statistical Meetings in Baltimore, Maryland.

JSM by the Numbers

6,579 Attendees	3,226 ASA Members
823 Professional Development Registrants	671 Sessions
324 Exhibitors	633 Individual Posters
	315 Speed Presentations

Kathleen Wert, ASA Director of Meetings

A program packed with intriguing talks and fun social events in a convention center set up for networking ... how could JSM 2017 be anything less than exceptional?

Held at the Baltimore Convention Center and the Hilton Baltimore, JSM brought more than 6,500 people to the city. Many sessions focused on the JSM 2017 theme, "Statistics: It's Essential," on which ASA President Barry Nussbaum also presented his address.

This year's program included 671 sessions, including the President's Invited speaker, Jo Craven McGinty of *The Wall Street Journal*; Deming Lecturer, Fritz Scheuren of NORC-University of Chicago; and Fisher Lecturer, Robert E. Kass of Carnegie Mellon University. In addition, the Late-Breaking sessions—"National Governments, Coerced Narratives, Creative Language, and Alternative Facts" and "Hindsight Is 20/20 and for 2020: Lessons from 2016 Elections"—highlighted current issues in our profession.

For those interested in sessions with a broad scope, the introductory overview lectures did not

disappoint. Sessions about computer-age statistical inference, data science, network data, and quantile regression proved an excellent place for JSM newcomers to begin.

There were a number of named lectures and memorial sessions, including the following:

- IMS Medallion Lecture I - Edoardo M. Airoldi, Harvard University
- IMS Blackwell Lecture - Martin J. Wainwright, University of California, Berkeley
- IMS Medallion Lecture II - Emery N. Brown, Massachusetts Institute of Technology
- IMS Medallion Lecture III - Subhashis Ghoshal, North Carolina State University
- IMS Medallion Lecture IV - Mark Girolami, Imperial College London
- Wald Lecture - Emmanuel J. Candès, Stanford University
- IMS Medallion Lecture V - Judith N. Rousseau, Université Paris Dauphine
- Memorial Session for Ted Anderson
- Memorial Session for Norman E. Breslow
- Memorial Session for Emanuel Parzen
- Memorial Session for John A. Cornell

Members of the program committee worked hard to develop these special sessions, along with preparing a diverse program with topics of interest for everyone. They continued the expansion of the speed sessions with a record of 315 speed presentations in 18 sessions. This new format continues to be popular with speakers and attendees, and we look forward to its continued growth. ■

MORE ONLINE
Didn't make it to Baltimore? See pictures at ww2.amstat.org/meetings/jsm/2017.

Many Honored at Presidential Address and Awards Ceremony

A special feature of the Joint Statistical Meetings is the ASA President's Address and Founders & Fellows Recognition, during which the Founders Award winners are announced and new ASA Fellows are inducted.

ASA President Barry Nussbaum presented the Founders Award to Wendy Martinez, Jane Pendergast, Nick Horton, and John Eltinge. "They have dedicated their careers to the field of statistics and demonstrated impressively high standards that have helped strengthen the experiences of colleagues throughout the association's membership and beyond," said Nussbaum. "From teaching future generations of critical thinkers the theories and applications that can lead to new scientific discoveries, to calculating and analyzing government data in robust, meaningful, and accurate ways, to advancing research that will lead to more effective health care, they each have left a tremendous footprint in the scientific discipline that is statistics."

The Founders Award is bestowed upon ASA members with long-standing and distinguished service to the association and its membership. To be eligible for the award, candidates must have served the organization and its membership over an extended period and in a variety of volunteer leadership roles,

including involvement with chapters, sections, and committees; officer positions; and editorial activities.

Wendy Martinez

For outstanding leadership and support of statistical and multidisciplinary research that achieved technological development in the areas of defense and national security; for a sustained commitment to the ASA and the profession through service in multiple sections, local chapters, and committees, especially in the areas of computational statistics, government statistics, social statistics, and defense and national security; for editorial work, including as a coordinating editor of *Statistics Surveys*; and for support of statistical education opportunities for minorities and women.

Jane Pendergast

For service to the ASA over nearly three decades; for skilled and thoughtful leadership of the ASA during two terms on the board of directors, representing in turns the Council of Chapters and the Council of Sections; for service as chair of the Statistical Consulting Section and as the first chair of the Karl Peace Award Committee; and for supporting the ASA and other societies as chair of the Committee of Presidents of Statistical Societies and as secretary/treasurer of Section U of the American Association for the Advancement of Science.

Nick Horton

For long-term active involvement in ASA chapters, sections, and committees; for serving on a wide variety of committees, including the 2015 JSM Program Committee, the Education Council, the Waller Education Award Committee, and the Traveling Course Committee; for serving as chair of the Statistics Education Section, chair of the Education Workgroup on Undergraduate Curriculum Guidelines, and chair of the ASA/NCTM Joint Committee; for effective leadership on the Council of Chapters Governing Board and ASA Board of Directors; and for exceptional service and leadership in a wide variety of other professional activities.

John Eltinge

For extensive support of and involvement in the continual improvement of federal statistical programs, as evidenced by leadership at the Bureau of Labor Statistics and active participation on the Federal Committee on Statistical Methodology and an abundance of interagency committees; for exemplary contributions as associate editor for multiple journals and to program committees for numerous statistical conferences, including service as program chair of the Joint Statistical Meetings; for commitment to enhancing the relevance of the ASA to the federal statistical agencies; and for insightful mentoring at the local and national levels.



Martinez



Pendergast



Horton



Eltinge



2017 ASA Fellows during the Joint Statistical Meetings in Baltimore, Maryland. Photo taken by Eric Sampson, ASA Journals Manager

Each year, ASA Fellows are nominated by the membership and selected by the ASA Committee on Fellows. The following 62 ASA Fellows were inducted this year:

Victor Perez Abreu	William B. Fairley	Li Hsu	Wenbin Lu	Anindya Roy
Mariza de Andrade	Rongwei Fu	Xuelin Huang	Ping Ma	Paola Sebastiani
Saonli Basu	Cathy Ann Furlong	Xiaoming Huo	Yanyuan Ma	Rajeshwari Sridhara
Sam Behseta	Byron Jon Gajewski	Snehalata V. Huzurbazar	Olga V. Marchenko	Anuj Srivastava
Kiros Berhane	E. Olusegun George	Ron S. Jarmin	Michael P. McDermott	Arnold J. Stromberg
James A. Bolognese	Tilman Gneiting	Jong-Hyeon Jeong	Sandeep Menon	Wei Fred Sun
Howard D. Bondell	Joe Fred Gonzalez	Eileen C. King	Jason H. Moore	Katherine J. Thompson
Trent D. Buskirk	Sat N. Gupta	Thomas R. Krenzke	Renee H. Moore	Daniell S. Toth
Brenda J. Crowe	Charles B. Hall	Shonda R. Kuiper	Jennifer D. Parker	George C. Tseng
Rebecca R. DerSimonian	Toshimitsu Hamasaki	Christian Léger	Roger D. Peng	Fugee Tsung
Michelle C. Dunn	Kenneth R. Hess	Lexin Li	Michael A. Posner	Jun Yan
Debbie J. Dupuis	Tim Hesterberg	Guanghan Frank Liu	Cavan Reilly	Ying Yuan
	Mevin B. Hooten		Steven E. Rigdon	

Many more people were honored for their contributions to various causes that advance the field of statistics. Following are some of the awards and recipients:

Editor Appreciation Award

The following individuals were recognized for their work in publishing educational and insightful journals from 2015–2017:

Nicholas P. Jewell, University of California, Berkeley, was co-editor of the *Journal of the American Statistical Association (JASA) Theory and Methods*

David Ruppert, Cornell University, served as co-editor of *JASA Theory and Methods*

Nicole Lazar, University of Georgia, served as editor of *The American Statistician*

Mark Glickman, Harvard University, was editor of the *Journal of Quantitative Analysis in Sports*

Gertrude Cox Scholarship in Statistics

Jointly sponsored by the ASA Committee on Women in Statistics and the Caucus for Women in Statistics, the Cox scholarship has been presented annually since 1989 to encourage women to enter statistically oriented professions. This year's Gertrude Cox Scholarship went to **Julia Wrobel** and **Michelle Pistner**. Read more about the Cox awardees at www.amstat.org/ASA/Your-Career/Awards/Gertrude-M-Cox-Scholarship.aspx.

Edward C. Bryant Scholarship

Established by Westat, this scholarship is awarded to outstanding graduate students in survey statistics. The 2017 Edward C. Bryant Scholarship recipient is **Hejian Sang** of Iowa State University

Mentoring Award

The ASA Mentoring Award is given each year to a member who has demonstrated extraordinary commitment to providing significant early-career support to statistics students, statisticians or statistical researchers.

The 2017 ASA Mentoring Award honoree is **J. Stuart Hunter** of Princeton University, who is being recognized for his exceptional combination of personal and professional skills that have had an empowering impact on countless statisticians.

Award of Outstanding Statistical Application

This award celebrates the author(s) of a paper that is an outstanding application of statistics in the physical, biological, or medical sciences. The 2017 Outstanding Statistical

Application Award honorees are **Abhirup Datta** of The Johns Hopkins University, **Sudipto Banerjee** of the University of California, Los Angeles, **Andrew Finley** of Michigan State University, **Nicholas A. S. Hamm** of the University of Twente, and **Martin Schaap** of TNO, Netherlands Organization for Applied Scientific Research.

Their paper, titled “Non-Separable Dynamic Nearest-Neighbor Gaussian Process Models for Spatio-Temporal Data with an Application to Particulate Matter Analysis,” was published in the *Annals of Applied Statistics* in 2016.

Causality in Statistics Education Award

Established by Judea Pearl, professor of computer science and statistics at UCLA, this award recognizes the work of an individual or team that enhances the teaching and learning of causal inference in introductory statistics coursework. Funded by Microsoft Research and Google in the amount of \$5,000, the 2017 Causality in Statistics Education Award was bestowed upon **Ilya Shpitser** of The Johns Hopkins University.

Jackie Dietz Best Paper Award (*Journal of Statistics Education*)

This award is given to the best paper in the *Journal of Statistics Education* from the previous year. The 2017 Jackie Dietz Best *Journal of Statistics Education* Paper Award honorees are **Jane Watson** of the University of Tasmania and **Lyn English** of the Queensland University of Technology for their paper, “Repeated Random Sampling in Year 5.”

Waller Awards

These honors—the Waller Distinguished Teaching Career and Waller Education awards—were established with a contribution from retired ASA Executive Director Ray Waller and his wife, Carolyn. The former recognizes

an individual for sustained excellence in teaching and statistics education, and the latter honors an individual for innovation in the instruction of elementary statistics.

The 2017 Waller Distinguished Teaching Career Award honoree is **James Cochran** of the University of Alabama.

The 2017 Waller Education Award honoree is **Anna Bargagliotti** of Loyola Marymount University.

W.J. Dixon Award for Excellence in Statistical Consulting

Established through a gift from the family of Wilfrid J. Dixon, this award recognizes outstanding contributions to the practice of statistical consulting. The 2017 W.J. Dixon Award for Excellence in Statistical Consulting recipient is **Janice Derr**, formerly of the US Food and Drug Administration.

Karl E. Peace Award

This year, the Karl E. Peace Award was bestowed upon two distinguished individuals who have made substantial contributions to the statistical profession that have led to direct ways of improving the human condition. The 2017 Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society honorees are **Mary Gray** of American University for the innovative use of statistics for fighting discrimination through the promotion of equality and human rights and **Mitchell Gail** of the National Cancer Institute (NCI) for seminal statistical research in population health that has benefited society through its application to risk prediction.

Harry V. Roberts Statistical Advocate Award

The Harry V. Roberts Statistical Advocate of the Year Award in honor of Harry V. Roberts, an exemplar of statistical advocacy recognizes the accomplishments and contributions of those who have successfully advocated



Former ASA President J. Stuart Hunter accepts his mentoring award during the 2017 Joint Statistical Meetings.

appropriate and effective uses of statistics and data-analytic approaches in business and the public sector. The 2017 Harry V. Roberts Statistical Advocate of the Year Award honoree is **Rayid Ghani** of The University of Chicago and founder and director of Data Science for Social Good.

Samuel S. Wilks Memorial Award

The Wilks award honors the distinguished career of Samuel S. Wilks and is bestowed upon an individual who has made statistical contributions to the advancement of scientific or technical knowledge. The 2017 Samuel S. Wilks Memorial Award honoree is **Wayne Fuller** of Iowa State University.

Statistics in Physical Engineering Sciences Award

The 2017 Statistics in Physical Engineering Sciences Award honorees are **Caleb King** of Sandia National Laboratories, **Yili Hong** of Virginia Tech, **Stephanie DeHart** of Eastman Chemical Company, **Patrick DeFeo** of DuPont Company, and **Rong Pan** of Arizona State University. Their joint paper, “Planning Fatigue Tests for Polymer Composites,” was published in the *Journal of Quality Technology*.

MORE ONLINE
Plenary session webcasts are available at www2.amstat.org/meetings/jsm/2017/webcasts/index.cfm.

JSM in PHOTOS

Statistical Partnerships Among Academe, Industry, and Government (SPAIG) Award

The ASA—through the Statistics Partnerships Among Academe, Industry, and Government Committee—established the SPAIG Award in 2002 to recognize outstanding partnerships and promote new ones in these sectors. The SPAIG award celebrates the work of organizations, not individuals. The 2017 SPAIG Award honorees are:

Laboratory for Analytic Sciences and North Carolina State University

National Science Foundation and US Census Bureau

Student Mixer: Jackie Angela Mauro, Melanie Panosian, Josh Banks, Ziduo Zheng, and Brendan McVeigh



At this 2017 meeting, a group of attendees played in a pick-up basketball game. From left: Sahand Negahban, Ryan Tibshirani, Dave Zhao, Lee Richardson, Joey Antonelli, Ryan Sun, and Rob Tibshirani.

Reception honoring past ASA leaders: ASA presidents—former, current, and elect—(from left): Sastry Pantula, Marie Davidian, Nat Schenker, Lisa LaVange (elect), Sally Morton, Barry Nussbaum (current), Stuart Hunter (front), David Morganstein, Jessica Utts (past), Bob Rodriguez, Nancy Geller

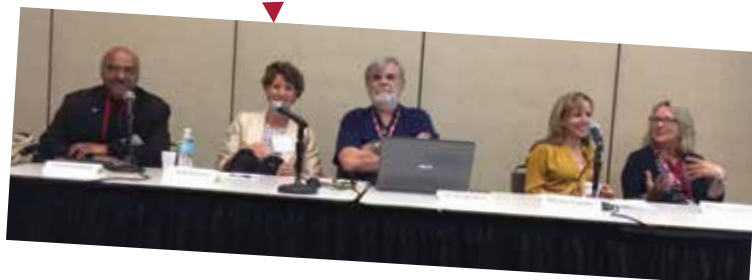


ASA President Barry Nussbaum with his invited speaker, Jo Craven McGinty of *The Wall Street Journal*



Maxine Bost-Brown, who presented her first poster at JSM, poses with her family. From left: Turquoise Waters (mother), Blue Waters (son), Jackson Waters (son), Rain E. Waters (daughter), Maxine (presenter), and Dawn Brown (aunt).

Advancing Statistics in Universities: Deans' Viewpoints—Invited Panel. From left: Sastry Pantula, Sally Morton, H. Joseph Newton, Montserrat Fuentes, and Rebecca Doerge.



MORE ONLINE
Visit the ASA's list of awards and scholarships at www.amstat.org/ASA/Your-Career/Awards-and-Scholarships.aspx to nominate a member you would like to see honored for their work at next year's JSM in Vancouver, British Columbia, Canada.

Gottfried E. Noether Awards

The Noether awards were established to recognize distinguished researchers and teachers and to support the field of nonparametric statistics. The 2017 Noether Senior Scholar Award honoree is **Hans-Georg Mueller** of the University of California, Davis. The 2017 Noether Junior Scholar Award honoree is **Eric Laber** of North Carolina State University.

The Sirken Award in Interdisciplinary Survey Methods Research

Monroe G. Sirken created an endowment to recognize a distinguished researcher for contributions to interdisciplinary survey research that improve the theory and methods of collecting, verifying, processing, presenting, or analyzing survey data. The 2017 Sirken Award in Interdisciplinary Survey Methods Research honoree is **J. Michael Brick** of Westat.

Be sure to check the section and chapter announcements for additional award honorees. Also, visit the ASA's list of awards and scholarships at www.amstat.org/ASA/Your-Career/Awards-and-Scholarships.aspx to nominate a member you would like to see honored for their work at next year's JSM in Vancouver, British Columbia, Canada. ■

Student Chapter Officers Gather for First Time at JSM 2017

Lara Harmon, ASA Community Coordinator

ASA student chapters marked a milestone this year at JSM. For the first time, student chapter officers and faculty advisers came together to share their experiences and plan for the future.

At only three years old, the ASA student chapter program has already grown from a handful of pilot chapters to more than 50 student chapters at colleges and universities across the US. From competing in DataFests (www.amstat.org/education/datafest) to hosting career days in partnership with local ASA chapters to supporting STEM programs in local schools, ASA student chapters bring statistics students closer to their communities and the ASA as a whole.

The student event kicked off with a panel of student chapter officers and faculty advisers (and one officer emeritus), including the following:

Xiaoyu Cai (officer, *The George Washington University*)

Thomas Fisher (faculty adviser, *Miami University-Ohio*)

Lucy D'Agostino McGowan (officer, *Vanderbilt University*)

Leanna Moron (NORC; past officer, *George Mason University*)

Tapan Nayak (faculty adviser, *The George Washington University*)

Fan Wang (officer, *The George Washington University*)

Panel members shared their experiences in establishing student chapters and building momentum once student chapters were established. Their top tip? As soon as you know you want to start an ASA student chapter, start the process to become an official student organization of your university, too. The steps to become an official university student organization can take up to a year, but the effort pays off. Universities may offer official student organizations additional funding, grant them exhibit space at student organization fairs, and include them in online directories.

After the panel, panelists and attendees broke up into small groups for discussion. A number of distinguished guests—including ASA Executive Director Ron Wasserstein, ASA President Barry Nussbaum, Board of Directors Vice President G. David Williamson, Membership Council and Washington Statistical Society member Mark Otto, SPAIG Chair Kelly Zou, and Council of Chapters Chair-elect Alexandra Hanlon—also joined the



Student Chapter Panel

conversation. Together, students and guests had the chance to learn more about how ASA student chapters might benefit from the resources of other branches of the ASA.

Everyone came away from the event inspired and ready to start the 2017–2018 academic year off with fresh energy and new ideas. Keep an eye on *Amstat News* and *STATtr@k* (stattrak.amstat.org) for updates on student chapter activity.

To learn more about the ASA student chapter program and how to start one at your institution, visit www.amstat.org/ASA/Membership/Student-Chapters.aspx. ■

Data Challenge 2017 Winners

Three ASA sections (Computing, Government, and Graphics) sponsored Data Challenge 2017. The contest was open to anyone, including college students and professionals from the private or public sector. The data set for the challenge was the Consumer Expenditure Survey from the Bureau of Labor Statistics. There were two award categories: Professional (one level) and Student (three levels). The winners are the following:

Student-Level Award

1st winner: **Nathan James**, “Interactive Visualization of Consumer Expenditure Public-Use Microdata”

2nd winner: **Joyance Meechai**, “Energy Expenditure Patterns in the United States”

3rd winner (tied): **Mingzhao Hu**, “Income and Expenditure in US Households: A Multivariate Analysis of Consumer Expenditure Data”

3rd winner (tied): **Robert Garrett**, “An Analysis of Consumer Budgeting and the Great Recession”

Professional-Level Award

Gaurav Sharma, “Consumer Spending and Federal Reserve” ■

COMMITTEE OF PRESIDENTS OF STATISTICAL SOCIETIES

Statisticians Honored by COPSS

Wendy Lou, COPSS Secretary/Treasurer

The Committee of Presidents of Statistical Societies (COPSS) presents awards annually to honor statisticians who have made outstanding contributions to the profession. For 2017, four awards were presented on August 2 during the Joint Statistical Meetings in Baltimore.



VanderWeele

Tyler J. VanderWeele of the Harvard T.H. Chan School of Public Health is the recipient of the 2017 Presidents' Award. This award is presented annually to a young member of one of the COPSS participating societies in recognition of outstanding contributions to the profession. The award citation recognized VanderWeele "for fundamental contributions to causal inference and the understanding of causal mechanisms; for profound advancement of epidemiologic theory and methods and the application of statistics throughout medical and social sciences; and for excellent service to the profession, including exceptional contributions to teaching, mentoring, and bridging many academic disciplines with statistics."

In his acceptance speech, VanderWeele remarked, "It is from the foundation provided by statistics that so many other disciplines are able to proceed."



Lin

Xihong Lin of the Harvard T.H. Chan School of Public Health is the recipient of the 2017 Florence Nightingale David Award. This award, sponsored jointly by COPSS and the Caucus for Women in Statistics, is granted biennially to a female statistician who serves as a role model to other women by her contributions to the profession through excellence in research, leadership of multidisciplinary collaborative groups, statistics education, or service to the professional societies. The award citation recognized Lin "for leadership and collaborative research in statistical genetics and bioinformatics and for passion and dedication in mentoring students and young statisticians."

In receiving her award, Lin encouraged junior statisticians, especially young women students, to pursue [their] passions and dreams.



Delaigle

Aurore Delaigle of the University of Melbourne is the recipient of the 2017 George W. Snedecor Award. Biennially, the award honors an individual

who was instrumental in the development of statistical theory in biometry with a noteworthy publication in biometry within three years of the award date. The award citation recognized Delaigle "for fundamental and ground-breaking contributions to the statistical theory of group testing of pooled laboratory samples and for contributions to measurement error methods and density estimation." The award recognized the publication, jointly written with Peter Hall, titled, "Nonparametric Methods for Group Testing Data, Taking Dilution into Account," which appeared in *Biometrika*.

Delaigle dedicated the award to her collaborator, mentor, and friend Peter Hall, who passed away last January. She stated, "Working with him ... will forever be one of the most amazing experiences in my life."

Robert E. Kass of Carnegie Mellon University is the recipient of the 2017 R.A. Fisher Award and Lectureship, which honors both the contributions of Sir Ronald Aylmer Fisher and the work of a present-day statistician for advancement of statistical theory and applications. This annual award recognizes outstanding scholarship in statistical sciences that has had a highly significant impact of statistical methods on scientific investigations. The award citation recognized Kass "for ground-breaking contributions to several areas of statistics, including use of differential geometry in statistical theory as well as theory and methodology of Bayesian inference; for strong commitment to the application of principled statistical thinking and modeling to problems in computational neuroscience; and for his strong dedication to training of students and users of statistics."

During his lecture, Kass shared lessons he learned from collaborations about the role of statistics in science and emphasized that statistical thinking, the internalizing of the statistical paradigm, contributed not only to science but to citizenship.

The webcast of his lecture, "The Importance of Statistics: Lessons from the Brain Sciences," is available at ww2.amstat.org/meetings/jsm/2017/webcasts/index.cfm.

Nominations are sought for the 2018 awards, and information about award criteria and nomination procedures is available at <http://copss.org>. ■



Kass

2017 Educational Ambassador Hails from Namibia



Mitonga Kabwebwe



Geert Molenberghs, committee chair, Abel Tilahun Eshete, and Honoré Mitonga Kabwebwe, the ASA's educational ambassador for 2017

The 2017 ASA educational ambassador, Honoré Mitonga Kabwebwe of the University of Namibia, attended the Joint Statistical Meetings in Baltimore, Maryland, to participate in continuing education courses.

The Educational Ambassador Program is an ASA outreach effort launched by the late Martha Aliaga and the Committee on International Relations in Statistics to foster international collaboration and enhance statistics education worldwide. The program subsidizes an ambassador from a developing country to attend JSM and take CE courses. It also provides a one-year ASA membership.

Candidates are required to have a PhD in statistics and an interest in teaching, as well as be open to study in new areas of research. After attending CE courses in emerging areas of research, the educational ambassador returns to his or her country and teaches the subject matter covered in the CE course(s) within the next year to at least 10 students.

“The world is developing so rapidly with complexity in phenomena. Hence the development of statistical and quantitative methods and

techniques is crucial,” commented Mitonga Kabwebwe. “The ASA Educational Ambassador Program provides the opportunity to spread these statistical methods and techniques to remote areas throughout the world and allow colleagues out there to adapt to the latest development in statistical and quantitative methods and techniques.”

While at JSM, Mitonga Kabwebwe participated in several continuing education courses, including the following:

- An Introduction to the Joint Modeling of Longitudinal and Survival Data, with Applications in R
- Preparing Statistician/Statistics Graduates to Be Data Scientists
- Bayesian Modeling and Inference for High-Dimensional Spatial-Temporal Data
- Analysis of Clinical Trials: Theory and Applications

Geert Molenberghs, chair of the Committee on International Relations in Statistics, exclaimed, “Like the RSS, the ASA is a truly international national society,

showing brilliantly through its successful Educational Ambassador Program!”

Since the program launched in 2005, the Committee on International Relations in Statistics has chosen educational ambassadors from Argentina, Ethiopia, Vietnam, Morocco, Armenia, Costa Rica, Botswana, Colombia, Bangladesh, Nigeria, and Namibia.

These educational ambassadors have taught the material learned in JSM short courses in numerous academic courses and workshops carried out in their home countries. Juan Carlos Salazar Uribe, 2014 educational ambassador from Colombia, said, “The challenges and possibilities of being an educational ambassador are endless, so I focus my attention on promoting novel methodologies on applied longitudinal data among young researchers and promoting statistical thinking and good statistical practices among high-school teachers from different educational institutes here in my city. I think I have completed successfully these two tasks. It has been an honor to serve as the 2014–2015 ASA educational ambassador; I could not be more proud.” ■

Tenth Statistics Workshops for Math and Science Teachers Held in Baltimore

Katherine Halvorsen, MWM Program Chair, and Rebecca Nichols, ASA Director of Education



MWM attendees participate in an activity led by presenters Kaycie Maddox and Chris Franklin.

Curriculum Framework (www.amstat.org/asa/education/Guidelines-for-Assessment-and-Instruction-in-Statistics-Education-Reports.aspx)

- Introduce middle- and high-school math and science teachers to the statistical content of the Common Core Mathematics Standards (adopted by most states, including Maryland)
- Provide an opportunity for teachers to discuss and apply these data analysis and statistical concepts

A secondary goal was to encourage cooperation between mathematics and science teachers in the teaching of statistics.

The MWM program is designed to enhance educators' understanding of statistics and provide them with hands-on activities they can use in their own classrooms to strengthen the teaching of statistics in their schools.

"One of the primary missions of the American Statistical Association is to work for the improvement of statistical education at all levels," said Ron Wasserstein, the ASA's executive director. "We are pleased to reach out to the K–12 mathematics and science community through the MWM workshop and follow-up activities," he added. "MWM will not only enhance understanding and teaching of statistics concepts in the classroom, but also provide participants with a network of statisticians and educators to assist in developing the quantitative literacy of their students."

Each workshop day consisted of three sessions and a closing period used to reflect on the day's work and allow teachers to comment about the program to the organizers. The workshop sessions were preceded by an overview of the GAISE report and Common Core standards relevant to the audience.

Middle-school teachers attended the workshop sessions on both Tuesday and Wednesday and participated in discussions about formulating statistical questions and collecting data, measures of center and variability, investigating sampling variability, comparative inferences about two populations, investigating patterns of association in bivariate quantitative data, and free K–12 statistics education resources—including the ASA poster competition.

The sessions in the high-school program on Tuesday included discussions about statistical questions and study design; recognizing data

The American Statistical Association sponsored a two-day Meeting Within a Meeting (MWM) statistics workshop for middle- and high-school mathematics and science teachers August 1–2 at the annual 2017 Joint Statistical Meetings (JSM) in Baltimore, Maryland.

This year, 27 attended the high-school workshop sessions and 14 attended the middle-school workshop sessions. Included were teachers, administrators, district and state specialists, mathematics and science teacher educators, and statisticians interested in professional development and teaching statistics at the middle- and high-school levels.

The MWM workshops emphasize the growth of statistical literacy and thinking as teachers explore problems that require them to formulate questions; collect, organize, analyze, and draw conclusions from data; and apply basic concepts of probability. A follow-up program incorporating webinars and email is planned to help keep the teachers who attended MWM and the ASA in contact.

The primary goals of MWM 2017 program (www.amstat.org/education/mwm) were threefold:

- Introduce middle- and high-school math and science teachers to the *Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report: A Pre-K–12*

MORE ONLINE
Information about K–12 statistics education programs and resources can be found at www.amstat.org/education. Guidance on and resources for doing outreach to local schools can be found at www.amstat.org/ASA/Education/K-12-Student-Outreach.aspx.



ASA Board Member Kathy Ensor addresses the Meeting Within a Meeting attendees.

types and the appropriate methods for displaying, summarizing, and comparing them; using the normal distribution as a measure of extremeness; and using randomization tests to make inferences and justify conclusions.

High-school teachers were given the option to attend the second day of the middle-school workshop on Wednesday (to see what should be taught before students reach high school) or attend statistics education sessions at the Joint Statistical Meetings. Some also attended the Beyond AP Statistics (BAPS) Workshop (www.amstat.org/education/baps), which was held in conjunction with JSM on August 3.

All teachers who attended were given a certificate of participation by the ASA. Also, teachers who register may receive 1 semester graduate credit hour through Adams State University. The ASA will provide follow-up activities throughout the 2017–2018 school year, including webinars, which be archived at www.amstat.org/asa/education/K-12-Statistics-Education-Webinars.aspx.

Katherine Halvorsen of Smith College planned the MWM program, while ASA Director of Education Rebecca Nichols managed the website, registration and evaluation procedures, and logistics of setting up and advertising the conference. Presenters included ASA K–12 Statistical Ambassador Chris Franklin, ASA/NCTM Committee Chair Kaycie Maddox (Northeast Georgia RESA), Anna Martin (University of Auckland, New Zealand), and Halvorsen. Additionally, Wasserstein and ASA Vice President Kathy Ensor welcomed the attendees. Washington Statistical Society President Linda Young and other chapter members also welcomed the teachers and joined in the breakfast or lunch to network with them.

Planning has begun for MWM 2018, which will be held in conjunction with JSM in Vancouver, British Columbia, Canada. Program committee members are encouraging chapters to consider sponsoring one or more teachers from their area to attend the workshops. Registration will begin in March 2018, with further information becoming available at www.amstat.org/education/mwm. Questions should be directed to Nichols at rebecca@amstat.org or (703) 684-1221, Ext. 1877. ■

Through the Years

MWM 2007, Salt Lake City, Utah

First MWM, focused on middle-school math and science teachers

MWM 2008, Denver, Colorado

Expanded to a two-day format that included separate strands for K–4, 5–8, and 9–12 teachers

MWM 2009, Washington, DC

Included parallel strands for K–4, 5–8, and 9–12 teachers on the first day with a field trip to the US Census Bureau on the second day

MWM 2010, Vancouver, British Columbia, Canada

First international MWM workshop jointly sponsored by the ASA and Statistical Society of Canada

MWM 2011, Miami Beach, Florida

Included separate workshops for middle- and high-school teachers focused on the statistics content in the Common Core State Standards

MWM 2012, in San Diego, California

Included separate workshops for middle- and high-school teachers focused on the statistics content in the Common Core State Standards; provided teachers the opportunity to attend the International Census at School workshop for two additional days after MWM

MWM 2013, Alexandria, Virginia

Held at the ASA office after JSM as a combined workshop for middle- and high-school teachers

MWM 2014, Boston, Massachusetts

Offered separate workshops for middle- and high-school teachers

MWM 2015, Seattle, Washington

Offered separate workshops for middle- and high-school teachers

MWM 2016, Chicago, Illinois

Offered separate workshops for middle- and high-school teachers

MORE ONLINE

Do you know K–12 mathematics or science teachers interested in enhancing their teaching of statistics? If so, encourage them to register for the 2018 workshops.

Beyond AP Statistics Workshop Held in Conjunction with JSM

Rebecca Nichols, ASA Director of Education, and Roxy Peck, BAPS Program Chair

The American Statistical Association/National Council of Teachers of Mathematics Joint Committee on Curriculum in Statistics and Probability sponsored a Beyond AP Statistics (BAPS) workshop at the annual Joint Statistical Meetings in Baltimore August 3. The BAPS workshop (www.amstat.org/education/baps) is offered for experienced AP Statistics teachers and consists of enrichment material just beyond the basic AP curriculum.

This year, 29 teachers came to Baltimore for a full-day workshop designed to strengthen and expand teachers' statistics backgrounds. The brainchild of former ASA/NCTM Joint Committee Chair Jim Matis, BAPS has been offered at JSM for nearly two decades.

This year's BAPS workshop, organized by Roxy Peck of Cal Poly, was divided into four sessions led by the following statisticians:

Tom Short of West Chester University
Analysis of Variance (ANOVA)

Allan Rossman and **Beth Chance** of Cal Poly,
San Luis Obispo
Probability Models

Jessica Utts of the University of California, Irvine
Multiple Regression

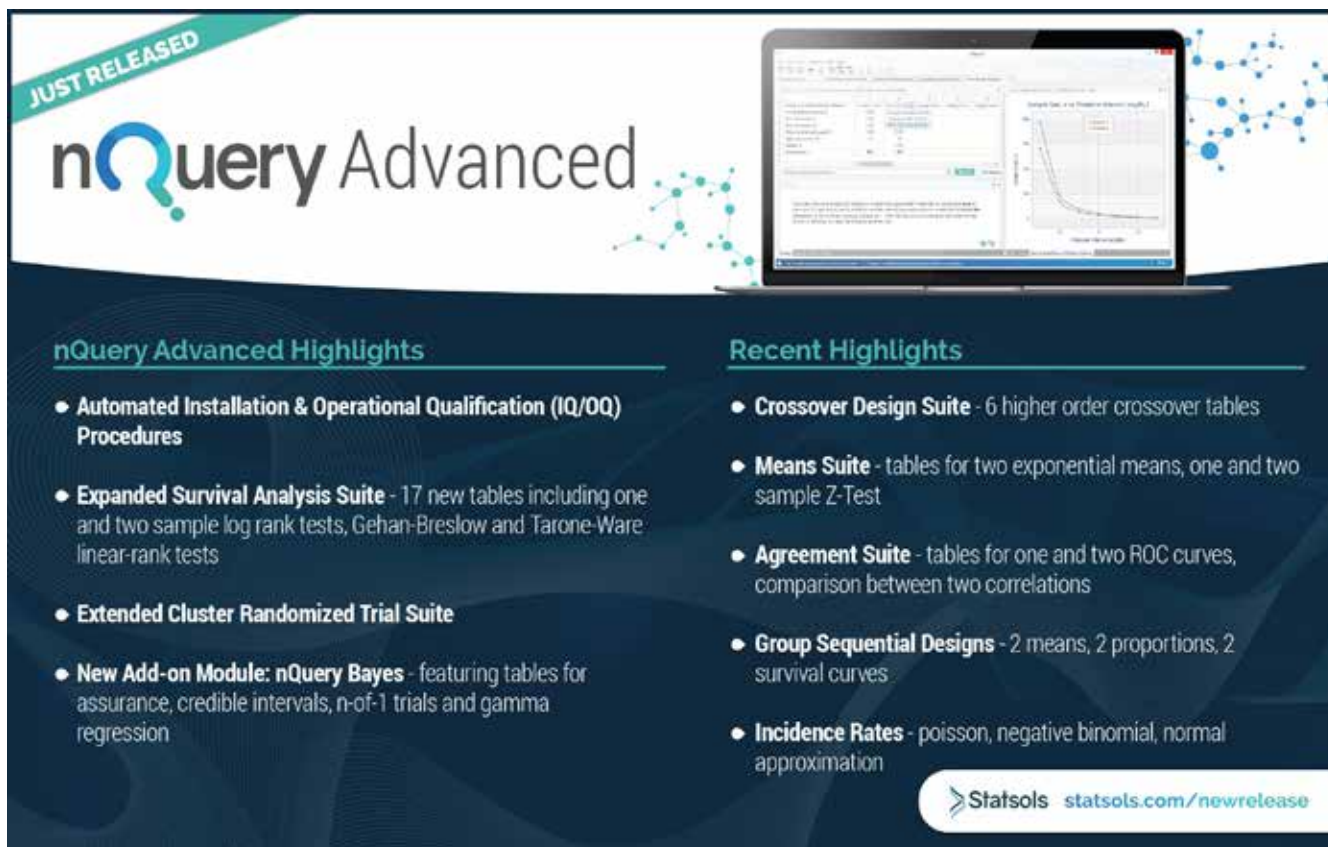
James Cochran of the University of Alabama
Teaching with Cases

ASA Executive Director Ron Wasserstein and ASA Vice President Kathy Ensor welcomed the workshop participants. Washington Statistical Society president Linda Young and other chapter members also welcomed the BAPS attendees and spent time networking with them during breakfast and lunch.

Participants were given a pass to attend the exhibit hall at the Joint Statistical Meetings and a certificate of participation from the American Statistical Association certifying professional development hours. Optional 0.5 graduate credit hours was also available through Adams State University. Some BAPS participants opted to also attend the high-school sessions of the Meeting Within a Meeting Statistics Workshop for Math and Science Teachers on August 2.

Chapters and members are encouraged to connect with local AP Statistics teachers and middle- and high-school mathematics and science teachers. Questions should be directed to Rebecca Nichols, ASA director of education, at rebecca@amstat.org. ■

MORE ONLINE
Information about K-12 statistics education programs and resources can be found at www.amstat.org/education. Guidance on and resources for doing outreach to local schools can be found at www.amstat.org/ASA/Education/K-12-Student-Outreach.aspx.



JUST RELEASED

nQuery Advanced

nQuery Advanced Highlights

- **Automated Installation & Operational Qualification (IQ/OQ) Procedures**
- **Expanded Survival Analysis Suite** - 17 new tables including one and two sample log rank tests, Gehan-Breslow and Tarone-Ware linear-rank tests
- **Extended Cluster Randomized Trial Suite**
- **New Add-on Module: nQuery Bayes** - featuring tables for assurance, credible intervals, n-of-1 trials and gamma regression

Recent Highlights

- **Crossover Design Suite** - 6 higher order crossover tables
- **Means Suite** - tables for two exponential means, one and two sample Z-Test
- **Agreement Suite** - tables for one and two ROC curves, comparison between two correlations
- **Group Sequential Designs** - 2 means, 2 proportions, 2 survival curves
- **Incidence Rates** - poisson, negative binomial, normal approximation

Statsols statsols.com/newrelease

What Is ICHPS?

A signature activity of the ASA Health Policy Statistics Section (HPSS) is the biennial International Conference on Health Policy Statistics (ICHPS). The 12th ICHPS will be held January 10–12, 2018, in Charleston, South Carolina.

The theme of ICHPS 2018 is “**Health <-> Statistical Science <-> Care, Policy, Outcomes.**” The conference will focus on the interactive relationship between health services research and innovative statistical methodology.

ICHPS is a smaller, more focused meeting relative to JSM that provides an opportunity to get to know a community of health policy and health services researchers. ICHPS can help link methodologists with policymakers and other stakeholders in the health policy arena to add focus and perspective to the development of new methodological tools.

Students, recent graduates, and international colleagues are all encouraged to attend the line-up of workshops and sessions described at www2.amstat.org/meetings/ichps/2018. Contributed abstracts will be posted in September. Confirmed keynote and plenary speakers include the following:

Robert Califf, professor of cardiology at Duke University School of Medicine and former commissioner of the US Food and Drug Administration

Suchi Sarita, assistant professor in computer science, biostatistics, and health policy and management at The Johns Hopkins University.

Additionally, outstanding junior and senior researchers will be recognized with mid-career and long-term excellence awards sponsored by HPSS.

Who Should and How to Participate?

The program is diverse and includes researchers from around the US and overseas. While the abstract submission window has closed, there are still ways to participate.

Do you have a ‘hot topic’ you want to discuss with others? Roundtables and town hall discussions are being planned for Thursday afternoon. Email the program committee at ichps2018@gmail.com with your topic of interest or the name of a person you want to chat with for career advice so they can better arrange tables and space.

Also contact the program committee to volunteer your time to chair a session or support students, new graduates, or others attending ICHPS.

Finally, the ICHPS local committee is organizing a selection of independent networking activities such

as group dinners at local restaurants that conference attendees can lead and sign up to attend. These are designed to help foster communication and enhance discussions and community building outside the typical conference setting. There also will be historical walking tours, fun ghost tours, and suggested evening and weekend events for informal meet-ups. Most of these activities will have additional costs, but program committee members are trying to arrange a group discount where feasible. As details become available, they will be posted on the ICHPS website and through the ICHPS Facebook event.

Why Charleston?

On the scientific side, South Carolina has historical relevance for ICHPS. South Carolina was one of the first states in the US to create a statewide health collaborative. Rural health clinics, community health centers, primary care practices owned by hospitals, large health care systems, and the state’s three research-intensive universities came together under Health Sciences South Carolina to put into place electronic health record systems and other steps to transform the state’s public health by enabling statewide evidence-based research to inform policy.

For fun and relaxation, Charleston has been part of US history since before the Revolutionary War and is on many travel and food destination lists.

Details

ICHPS will be held at the Charleston Marriott. Rooms in the conference hotel are being offered to ICHPS participants at \$139 plus tax each night, which is below the federal government rate. Charleston has a variety of hotel and travel options within a few miles of the meeting venue. In addition to what you may find on your own, the program committee will have a list of local activities for each evening and the Saturday following the conference to facilitate attendees taking in the many sights of Charleston.

Do not forget to register for the conference at the ICHPS website (www2.amstat.org/meetings/ichps/2018/index.cfm) and check out the Facebook event page for more discussion of Charleston-related activities. Early registration opens **September 15, 2017**. For students and recent graduates, **registration is only \$25, and workshops are free!**

Finally, **September 29** (11:59 p.m. ET) is the deadline for current students and recent graduates who already submitted abstracts to also submit travel award requests. ■

MORE ONLINE
Register for ICHPS
at [www2.amstat.org/
meetings/ichps/2018/
index.cfm](http://www2.amstat.org/meetings/ichps/2018/index.cfm).

NISS Welcomes James Rosenberger as New NISS Director



Photo Credit: Greg Dohler

James Rosenberger speaks to attendees after being named the new NISS director during the NISS JSM reception July 31.

National Institute of Statistical Sciences (NISS) chair, Mary Batcher, announced James Rosenberger as the new NISS director, which became effective August 1, during the NISS JSM reception July 31. Rosenberger succeeds Nell Sedransk.

Speaking about Rosenberger at the NISS reception, Batcher said, “Rosenberger is highly regarded and well liked in the statistical community. He has held several leadership roles in the American Statistical Association and is well qualified to lead NISS through a period of expansion. His continuing association with Penn State is also valuable.”

Rosenberger is the former head of the department of statistics at The Pennsylvania State University. Under his leadership, the department recruited top-notch faculty who excelled during their time at the university. The department grew in terms of publications, citations, and federal grant support. “Overall, the national prestige of the department increased,” said Andrew Stephenson, Penn State associate dean for research and innovation.

Stephenson continued, “Statistics maintained its reputation around campus for outstanding pedagogy, and statistics gained the reputation [of] being a well-run and highly functional department. Most attribute these successes to Jim’s attitude. He saw the role of being a department head as a ‘service role.’ Jim’s a rock-solid guy who always had the best interests of the department in mind.”

Rosenberger’s research interests include linear models, design and analysis of experiments, and bio-informatics and genomics. He is a Fellow of the ASA and American Association for the Advancement of Science and a member of the Biometrics Society and Institute of Mathematical Statistics.

At JSM 2016 in Chicago, Rosenberger was honored with the ASA’s Founders Award, recognizing his career-long support of and involvement in the ASA. Speaking about Rosenberger’s commitment of 45 years to the ASA, Ronald Wasserstein, executive director, said, “I love working with Jim. He is a thoughtful leader who is committed to the success of ASA and NISS. Because he knows both organizations well, he is uniquely positioned to further strengthen the partnership between these two organizations.”

“I am very pleased to join NISS and look forward to working with our affiliates to build stronger connections between industry, government, and academia about data science and statistics,” said Rosenberger.

NISS is at a critical juncture, having separated this year from SAMSI—the NSF-funded Statistical and Applied Mathematical Sciences Institute. For the past decade, SAMSI was housed in the NISS building in Research Triangle Park, North Carolina, and worked cooperatively on workshops and programs. “This synergistic relationship with shared space and postdocs working together was beneficial, but also caused some confusion in the community about distinguishing their separate missions. Therefore, creating a separate and distinct mission for NISS is a short-term challenge that we will focus on immediately by hosting events in various locations and building a national network,” said Rosenberger.

Rosenberger succeeds Sedransk, who served as the director of NISS since 2015. Speaking about

Sedransk's contribution to NISS at the NISS reception, Batcher said, "During her tenure, Nell led NISS to a solid financial footing, increased the engagement of the Board of Trustees, and provided outstanding leadership to the organization."

Nell will continue as director of the Washington, DC, office, where she will focus on her projects and working with the postdocs."

"Data science challenges the field of statistics to provide new routes to answers in a big data world. For NISS, the response is the expansion of the leadership team, diversification of the senior expertise, and widening the sphere of applications and impact, said Sedransk. "Rosenberger is well suited to leading this vision as NISS director from his association with NISS for over a decade, taking on various roles with the board of trustees and several NISS Committees, as well as from his leadership roles in the statistics department at The Pennsylvania State University and from the professional statistics community nationally and internationally," continued Sedransk.

NISS was founded in North Carolina more than 25 years ago with support from the state and three universities in the Research Triangle. The organization's vision was national and, in recent years, it has expanded primarily in the Washington, DC, area, with research- and policy-related activities with government agencies. "My current goal is to expand the outreach of NISS to additional agencies in DC and also broaden the base to additional industry affiliates to provide linkages with the academic community through our affiliates," said Rosenberger.

Penn State has extensive linkages to the industry through its alumni and existing programs, so Rosenberger has proposed creating an additional hub at Penn State while maintaining the hubs in North Carolina and DC. Thus, part of the expansion plan is to have a NISS hub at The Pennsylvania State University. "We are excited that Pennsylvania State and statistics is playing a larger role in NISS," said Stephenson.

Rosenberger is the public face of NISS when establishing new relationships and continuing existing relationships with academic institutions, industry, and government agencies. Batcher said, "We look forward to working with Rosenberger as the NISS director and, together, aim to expand NISS geographically and strengthen the affiliate program. Rosenberger brings the leadership ability, knowledge, and a network of statistical colleagues to meet these opportunities." ■



Nonclinical Biostatistics Conference: An Overview

Steven Novick and John Kolassa, Conference Co-Chairs

One hundred fifty attendees converged on the Rutgers University campus in Piscataway, New Jersey, to participate in the 2017 Nonclinical Biostatistics Conference June 12–14. Held for the fifth time, the biennial conference provided a venue for the presentation and discussion of scientific and statistical issues relevant to nonclinical biostatistics.

Jointly organized by the Biopharmaceutical Section and Rutgers University Department of Statistics, the program featured 21 invited and contributed talks, 30 poster presentations, special sessions for graduate students, and a keynote address delivered by ASA President-elect **Lisa LaVange**.

To kick off the conference, the following two short courses were offered:

Practical Bayesian Calculations in Proc MCMC
Instructor: Fang Chen, SAS Institute

Topics of Advanced Experimental Design
Instructor: Steve Buyske, Rutgers University
Department of Statistics

The Best Nonclinical Biostatistics Paper Award was presented to **Jianchun Zhang, Wenjia Li, Lorin K. Roskos, and Harry Yang** for their 2017 *Journal of Immunological Methods* paper, "Immunogenicity Assay Cut Point Determination Using Nonparametric Tolerance Limit."

Additionally, two graduate students—**Yalin Zhu** of the New Jersey Institute of Technology and **Han Ding Xie** of Rutgers—walked away with best poster award prizes of \$250.

All 2017 NCB conference oral presentations and posters are available at <http://community.amstat.org/biopl/events/ncb/index>.

Questions, and comments may be directed to NovickS@medimmune.com.

LinkedIn with NCB at www.linkedin.com/groups/8547808.



Gilmore

J. Michael Gilmore, former director of operational test and evaluation for the Department of Defense (DoD), was honored at the Joint Statistical Meetings in Baltimore with the Defense and National Security Distinguished Achievement Award.

Given by the ASA's Section on Defense and National Security, the award recognizes outstanding accomplishment or sustained contribution at the intersection of the statistical profession and national defense. The awards committee recognized Gilmore for the fundamental changes he made as director of operational test and evaluation (DOT&E) in how the DoD designs and analyzes data from operational tests, including his strong advocacy of statistically rigorous test methods to both improve the information gained from testing and provide clear justification for the required resources.

Ron Fricker, chair of the awards committee and head of the Virginia Tech Department of Statistics said of Gilmore, "I cannot think of anyone more deserving of the award. I had the privilege of serving on a number of National Academies panels sponsored by DOT&E that were focused on improving how DoD does test and evaluation, including how it employs statistical methods to rigorously design and

analyze the tests. In so doing, I was able to personally observe Dr. Gilmore's strong and unwavering commitment to do the right thing, both in terms of testing and in support of our men and women in uniform."

The Office of the Director of Operational Test and Evaluation was created in 1983 by Congress. The director does not make acquisition decisions, but informs those who do about system performance under realistic operating conditions. A presidential appointee who is confirmed by the Senate, the director monitors all operational testing in the DoD and—by law—reports independently to Congress. In 2016, DOT&E monitored more than 300 DoD acquisition programs. The DoD's total planned investment in the largest 79 of these programs is \$1.44 trillion. The cost and complexity associated with these programs makes rigorous testing a critical part of the acquisition system.

The chair of the ASA's Section on Statistics in Defense and National Security, Laura Freeman, said, "As the director of operational test and evaluation, Dr. Gilmore was an extraordinary advocate for using statistical methods in the testing of defense systems." She went on to say, "He single-handedly changed the fundamental methodologies used across all of the services and components. It is worth noting that, in 1998, the National Research Council recommended using many of these methods to improve operational testing, but it took Dr. Gilmore's leadership and vision to make it a reality."

Gilmore was sworn in as the sixth director of operational test and evaluation in September 2009. He then served in that role under four secretaries of defense through both terms of the Obama

administration. He is a former deputy director of general purpose programs within the Office of the Secretary of Defense and, prior to becoming the director of operational test and evaluation, he served as the assistant director for national security at the Congressional Budget Office. Gilmore holds a bachelor's degree in physics from MIT and master's and doctoral degrees in nuclear engineering from the University of Wisconsin, Madison. ■

Michael P. Cohen, a principal statistician at the American Institutes for Research was recently elected representative-at-large for business, industry, and government to the Mathematical Association of America Congress, with a three-year term beginning February 1, 2018.

Cohen is a member of Survey and Data Sciences. He has more than 35 years' experience in complex survey design and estimation, including sample design, imputation, variances, sample size and power determination, and weighting. This experience includes seven years at the Bureau of Labor Statistics, working on sampling and estimation for the US Consumer Price Index and US Consumer Expenditure Survey. He spent 13 years at the National Center for Education Statistics, where he consulted on all their major surveys. He then worked for the US Bureau of Transportation Statistics for seven years, the last four as assistant director for survey programs.

Cohen has served as president of the Washington Academy of Sciences and Washington Statistical Society. He was the treasurer of the Survey Research Methods Section for 2015–2016. He is an associate editor of the *Journal of Official Statistics* and a contributing editor

for the *Journal of Experimental Education*. He has also been an associate editor for the *Journal of the American Statistical Association, Applications and Case Studies*. ■



Bordley

Robert F. Bordley was named professor of practice (or clinical professor) at the University of Michigan, Ann Arbor, where he is director of their master's degree in systems engineering.

As a Fellow of the American Statistical Association and proud charter member of its Risk Analysis Section, Bordley has been integrating decision analysis, Bayesian statistics, risk analysis, and statistics in marketing into the systems engineering curriculum. As an Accredited Professional Statistician, analytics professional, expert systems engineering professional, and project management professional, he is also integrating certification training into the curriculum.

Formerly, Bordley was a program director at the National Science Foundation and technical fellow at General Motors. He worked in research, portfolio management, strategic planning, marketing, and quality engineering.

Bordley will also continue to support Booz-Allen Hamilton, where he has worked for seven years, as an adviser. ■

Entire Garrett Family Attends JSM 2017 in Baltimore



The Garrett Family (from left): Taylor, Chris, Robert, and Pamela

Taylor Garrett, Chris Garrett, Robert Garrett, and Pamela Garrett participated in the recent 2017 Joint Statistical Meetings in Baltimore, Maryland.

Chris Garrett is an Advanced Placement (AP) Statistics teacher at Hudson High School in Hudson, Ohio. His wife, Pamela Garrett, is an AP Statistics teacher at Kenston High School in Chagrin Falls, Ohio. Their daughter, Taylor Garrett, is a recent graduate preparing to also teach mathematics and statistics in high school. Their son, Robert Garrett, is a junior at Miami University in Oxford, Ohio, majoring in mathematics and statistics.

Chris, Pamela, and Taylor attended the Meeting Within a Meeting Statistics Workshop (www.amstat.org/education/mwm) and Beyond AP Statistics Workshop (www.amstat.org/education/baps), which are held in conjunction with JSM. They also attended JSM sessions, including Robert's.

Robert presented a poster in a speed session, titled "An Analysis of Consumer Budgeting and the Great Recession," which earned a tie for third place in the student award category of the 2017 Data Challenge (<https://goo.gl/PnnC8L>).

Robert's influential professors are Thomas Fisher and John Baylor at Miami University.

sectionnews

Government Statistics

Wendy L. Martinez, GSS Committee to Nominate Fellows

In 2016, the Government Statistics Section (GSS) established the Committee to Nominate Fellows, whose purpose is to identify members of GSS who are suitable nominees for the honor of ASA Fellow and to coordinate the preparation and submission of the nomination packets.

Individuals are nominated for Fellow by their ASA member peers and must be a person who has made exceptional contributions to our profession. Nominees are evaluated based on several criteria outlined on the ASA website (see <https://goo.gl/2CHmtL>). A nominee must be a current member of the ASA who has held continuous membership from March 1, 2015, to February 28, 2018.

The GSS Committee to Nominate Fellows is accepting nominations for ASA Fellow. Please submit the name of the nominee and a brief paragraph describing why the nominee deserves the award. These are due to Wendy Martinez (martinez.wendy@bls.gov) by November 30, 2017. ■

Medical Devices and Diagnostics

The Medical Devices and Diagnostics (MDD) section of the ASA is sponsoring a student paper competition to offset travel costs to JSM 2018. A manuscript suitable for journal submission is required to enter. The first-place winner will receive \$500, and the second-place winner will receive \$300.

To be eligible for this award, applicants must be full- or part-time students (undergraduate, master's, or PhD) on or after September 1, 2017, or within two years of graduation if the submitted work was initiated while the applicant was a student. The applicant must be first author on the paper, and the adviser (or coauthor) must write a letter stating that the applicant had primary responsibility for the research and write-up. The applicant also must be a member of MDD (<http://community.amstat.org/mdl/home>).

The deadline for application is December 15. To formally submit an application, send an email to MDDpaperJSM2016@gmail.com with the following attachments (in PDF format):

- The curriculum vitae of the applicant
- A letter from the adviser (or coauthor) verifying the student status of the applicant and briefly describing the applicant's role in the research and writing of the paper

- A cover letter describing the contributions of the paper to MDD
- The paper—including all tables, figures, and appendices—as a single PDF file

Papers will be reviewed by an MDD committee. Criteria for selection will include, but is not limited to, novelty in theory/methods/applications, significance and potential impact of the research, and clarity of writing and presentation. Decisions of the committee are final.

Applicants will be notified of the committee decision by January 30, 2018. The winners (including those receiving honorable mention) must submit abstracts and register for JSM by February 2018 through the official JSM abstract submission system. To receive the award, winners must register for the conference and present a talk under the auspices of the MDD on the topic of the winning paper. Those who are not selected as winners are encouraged to submit a contributed abstract to JSM 2018.

Students may submit papers to no more than two sections and may accept only one section's award. Students must inform both sections applied to when he or she wins and accepts an award, thereby removing him or her from the award competition for the second section. ■

Physical and Engineering Sciences

Byran Smucker, SPES JSM Program Chair; Jennifer Van Mullekom, SPES Past Chair; and James Wendelberger, SPES Chair

SPES had a great year of representation at JSM 2017, sponsoring three invited sessions, three topic-contributed sessions, three contributed sessions, one contributed poster session, and two roundtable discussions. SPES also co-sponsored six additional sessions, along with two speed sessions and a continuing education course.

New ASA Fellow

The honor of Fellow of the American Statistical Association was conferred upon SPES member Fugee Tsung for his contributions to the field in several areas, including the following:

- Exemplary leadership and innovations in the field of quality engineering and quality management
- Outstanding teaching and mentoring
- Service to the profession

Tsung—department head and professor in industrial engineering and logistics management at The Hong Kong University of Science and Technology—is also a fellow of the Institute of Industrial Engineers (IIE), fellow of the American Society for Quality,

and academican of the International Academy for Quality, among other honors. He is editor-in-chief of the *Journal of Quality Technology* and has received multiple publication awards from IIE.

Newly Elected Officers

Byran Smucker will serve as the next chair-elect; Brad Evans will serve as the next JSM program chair-elect; and Jennifer Kensler will serve as the next secretary/treasurer of the section. ■

Survey Research Methods

Survey Research Methods Section (SRMS) members gathered during JSM 2017 in Baltimore at the section's business meeting and mixer to celebrate the following award winners:

Wayne Fuller—2017 Samuel S. Wilks Award for Outstanding Contributions to Statistics (ASA)

Wendy Martinez, Nick Horton, and John Eltinge—2017 Founders Award (ASA)

Michael Brick—2017 Monroe G. Sirken Award in Interdisciplinary Survey Methods Research (ASA)

Jon Rao—2017 Award for Outstanding Contribution to Small Area Estimation (ISI Satellite Meeting on Small Area Estimation)

Donald Rubin—2017 Waksberg Award for Statistical Contributions to Survey Methodology (Survey Methodology)

Roderick Little and Donald Rubin—2017 Karl Pearson Prize for their book, *Statistical Analysis with Missing Data* (ISI)

Peter Miller—2017 AAPOR Award for Exceptionally Distinguished Achievement (AAPOR)

Don Dillman, Jolene Smyth, and colleagues—2017 Warren J. Mitofsky Innovators Award (AAPOR)

Donald Rubin—2017 C. R. and Bhargavi Rao Prize for Outstanding Research in Statistics (Penn State)

Hejian Sang—2017 Edward C. Bryant Scholarship Award

This year's JSM poster award recipients are the following:

“Challenges in Linking Demographic Data at Different Geographic Levels” — Edward Mulrow, Rebecca Curtis, Ned English, Yongheng Lin, and Ilana Ventura, NORC at the University of Chicago

“Sample Design and Weighting for Estimating a Dose-Response Curve” — Sharon Lohr, Pamela Broene, and Eric Jodts, Westat

And the JSM 2017 speed session award recipients are the following:

“The Heckman Selection Model with Complex

Survey Data” — Michael Machiorlatti, Sixia Chen, and Sara Vesely, University of Oklahoma Health Sciences Center

“Imputation as Unifying Framework for Inferences from Nonrandom Samples” — Vladislav Beresovsky, National Center for Health Statistics

“Comparing Alternative Methods for the Random Selection of a Respondent Within a Household for Online Surveys” — Geneviève Vézina and Pierre Caron, Statistics Canada

“Highly Robust Multiple Imputation Models Using BART” — Michael R. Elliott, Vincent Tan, and Carol Flannagan, University of Michigan ■

chapternews

Statistics award judges distributed more than 100 statistics books to students who demonstrated good use of statistics in their science projects at the 2017 Intel International Science and Engineering Fair (ISEF) in May. More than 40 professional statisticians, from many industries and academic departments in southern California, judged in excess of 1,400 science projects for their use of statistics (<https://goo.gl/qhKpJf>).

The books—donated by Wiley & Sons and CRC Press/Taylor & Francis Group/Chapman & Hall—had self-adhesive labels on the inside noting the donating publisher and that the local ASA chapters were presenting the books to the students for their good use of statistics.

The students were both surprised and delighted by the books and commented that they could use them in future research, either in high school or college. Many described how the books could help them learn new skills and techniques in the area of statistics that would further their scientific research efforts.

The statistics judges who presented the books to the students had short conversations about the science projects and the students' use of statistics in their projects. Some students even asked the judges about their role as statisticians within their organizations and how they came to be involved in statistics.

Awarding the books helped enhance the visibility of the ASA and statistics as a profession. During previous science fairs, statistics judges reviewed 1,200 to 1,400 projects and had face-to-face contact with the 10 or so students selected for interviews—less than 1% of all students at ISEF. At the 2017 ISEF, however, the statistics judges had face-to-face contact with more than 7% (100/1,400). That's beyond a 10% increase in the number of students who had face-to-face contact with a professional statistician—perhaps for their first time ever. ■

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.

Indiana

■ Two clinical assistant professor positions, Department of Biostatistics/Indiana University Schools of Medicine and Fairbanks School of Public Health/Indianapolis. One as Director of Health Data Science BS program. Duties: teaching, course development, collaborative research. PhD in biostatistics, statistics or related field, excellent computational and communication skills required; practical and teaching experience preferred. Competitive salary/excellent benefits. Submit CV, teaching statement, 3 references: to <http://indiana.peopleadmin.com/postings/4323> Indiana University is an EEO/AA employer, M/F/D/V.

Iowa

■ The Department of Mathematics at Iowa State University invites applications for the position of Lecturer beginning January 2, 2018. The successful candidate will develop and teach "Life Contingencies I and II" for undergraduate students studying actuarial science. To apply: www.iastatejobs.com/postings.



HARVARD UNIVERSITY – DEPARTMENT OF STATISTICS TENURE-TRACK PROFESSOR OF STATISTICS

The Department of Statistics invites applications for a tenure-track professor for the 2018-19 academic year. We seek exceptionally strong candidates in any field of statistics and probability as well as in any interdisciplinary areas where innovative and principled use of statistics and/or probability is of vital importance. Candidates should have strong doctoral records and exceptional teaching and research experience or the promise of achieving such distinction.

The appointment is expected to begin on July 1, 2018. Doctorate or terminal degree in Statistics or a related discipline will be required by the start date. The tenure-track professor will be responsible for teaching at the undergraduate and graduate levels.

Please submit the following materials through the ARIeS portal (<http://academicpositions.harvard.edu/postings/7763>). Applications should include a cover letter, curriculum vitae, teaching statement (describing teaching approach and philosophy), research statement, and representative publications, if applicable. Applicants should also submit names of and contact information for 3-5 references. Three letters of recommendation are required, and the application is considered complete only when at least three letters have been received.

Application submission by December 31, 2017 will ensure consideration.

Harvard is an equal opportunity employer, and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.



The Statistical and Applied Mathematical Sciences Institute (SAMSII) is soliciting applications from statistical and mathematical scientists for **up to 6 postdoctoral positions** for the SAMSII Research Programs for 2018-2019:

Program on Statistical, Mathematical, and Computational Methods for Precision Medicine (PMED) and Program on Model Uncertainty:

Mathematical and Statistical (MUMS). Appointments will begin in **August 2018** and will typically be for two years, although they can also be arranged for one year. Appointments are made jointly between SAMSII and one of its partner universities, where teaching opportunities may be available. The positions offer extremely competitive salaries, travel stipend, and health insurance benefits.

Criteria for selection of SAMSII Postdoctoral Fellows include demonstrated research ability in statistical and/or applied mathematical sciences, excellent computational skills and the ability to communicate both verbally and in written form. Finally, the preferred applicant will have a strong interest in the SAMSII program areas offered. The deadline for full consideration is **December 1, 2017**, although later applications will be considered as resources permit.

Please specify which of the two SAMSII research programs you are applying for in your cover letter and why you believe you would be a good fit for SAMSII and the program you choose.

To apply, go to mathjobs.org: **SAMSII PD2018 Job #10496**

To see these programs visit:

www.samsii.info/pmed or www.samsii.info/mums

**** SAMSII is an Affirmative Action/Equal Opportunity employer ****

To guarantee consideration, the application must be completed by November 1, 2017 although we will continue to accept applications until the position is filled. Iowa State University is an affirmative action/equal opportunity employer and strongly encourages women and members of underrepresented groups to apply.

■ The University of Iowa is seeking an Assistant Professor of Computational Statistics to begin August 15, 2018. Applicants must have PhD in statistics or related area by start date. See the complete position description and application information at <http://jobs.uiowa.edu/faculty/view/71519> and apply by November 15. EOE/AA.

Massachusetts

■ Applications are invited for a tenure-track position in statistics at Amherst College to begin July 2018: see the full ad and requirements at MathJobs.org. We seek faculty with broad intellectual interests, a strong commitment to research, and a passion about teaching statistics and data science to undergraduates. Applications received by October 8, 2017 will be guaranteed consideration.



Associate or Full Professor Position: Division of Biostatistics, Department of Population Health, NYU School of Medicine

NYU Langone Health is one of the nation's premier academic medical centers. Our trifold mission to serve, teach, and discover is achieved daily through an integrated academic culture devoted to excellence in patient care, education, and research. The Department of Population Health (<http://pophealth.med.nyu.edu/>), founded in 2012, is a leader in the discovery and translation of new knowledge into policy and practice. Through its research, education and service, the Department seeks to advance population health and health equity. Core areas of Department strength include healthful behavior change, early childhood health and development, comparative effectiveness and decision science, behavioral economics and health policy, community health improvement, healthcare delivery science, epidemiology, biostatistics and medical ethics. The Division of Biostatistics advances scientific knowledge to benefit individual and population health by creating, disseminating, and implementing rigorous, innovative statistical methodologies across the entire spectrum of biomedical research. We seek candidates for one or more senior faculty positions, with interest in various areas of biostatistics, including but not limited to innovative clinical trial design, causal inference, statistical genomics/proteomics, and methods for big data.

Position qualifications: Candidates must possess an earned doctorate in biostatistics, statistics, or a related quantitative field. They should be established scholars with outstanding scholarship and a strong commitment to teaching. Successful candidates will engage in both methodological and collaborative research with existing faculty at NYU School of Medicine and other Schools and Centers within NYU, have a commitment to team science, and possess effective oral and written communication skills. Candidates are also expected to have a track record of externally funded, independent research.

To apply: Please submit the following (addressed to Dr. Andrea Troxel, Director of Biostatistics) to Farrah.Duplessis@nyumc.org.

- Cover letter
- Curriculum vitae
- Statement of current and future research agenda
- Three recent published articles
- Contact information for three referees

Application deadline: Review of applications will continue until the position is filled.

NYU Langone Health is an equal employment/affirmative action employer and does not discriminate on the basis of race, color, religion, gender, gender identity or expression, sexual orientation, marital/or parental status, age, national origin, citizenship, disability, veteran status, or any other classification protected by applicable Federal, State, or Municipal Law. Women, racial and ethnic minorities, persons of minority sexual orientation or gender identity, individuals with disabilities, and veterans are encouraged to apply.

Questions can be addressed to mathstats@amherst.edu. Amherst College is an equal opportunity employer and encourages women, persons of color, and persons with disabilities to apply. The college is committed to enriching its educational experience and its culture through the diversity of its faculty, administration, and staff.

Michigan

■ The Department of Statistics at the University of Michigan, Ann Arbor, invites applications for two tenure-track assistant professor positions to begin September 1, 2018. Applicants are expected to have demonstrated outstanding research potential and excellence in teaching. Candidates in all areas of statistics and data science will be considered. Women and minorities are encouraged to apply. Apply at MathJobs.org. For more information, visit www.lsa.umich.edu/stats. The University of Michigan is supportive of the needs of dual career couples and is an equal opportunity/affirmative action employer.

Williams

The Williams College Department of Mathematics and Statistics invites applications for a tenure-track position in Statistics, beginning fall 2018, at the rank of assistant professor (a more senior appointment is possible under special circumstances). The candidate should have a Ph.D. in Statistics or a closely related field by the time of appointment. We are seeking candidates who show evidence and/or promise of excellence in teaching students from diverse backgrounds and a strong research program that can engage undergraduate students. The candidate will become the sixth tenure-track statistician in the department, joining a vibrant and innovative group of statisticians with an established statistics major. For more information on the Department of Mathematics and Statistics, visit <http://math.williams.edu/>.

At Williams, we are committed to building a diverse and inclusive community where members from all backgrounds can live, learn, and thrive. In your application materials, we ask you to address how your teaching, scholarship, mentorship and/or community service might support our commitment to diversity and inclusion. Candidates may apply via <http://apply.interfolio.com/43065> by uploading a cover letter addressed to Professor Klingenberg, a curriculum vitae, a teaching statement, a description of your research plans, and three letters of recommendation on teaching and research.

Expectations: The teaching load is two courses per 12-week semester and a winter term course every other January. The candidate will be expected to teach introductory statistics, core courses for the statistics major, and electives in their area of expertise. The successful candidate will establish an independent research program that results in scholarly publications. Williams College provides broad support for start-up funds, funding for student research assistants, faculty professional development funds, and a shared computer cluster for parallel computation.

Review of applications will begin on or after November 1st and will continue until the position is filled. All offers of employment are contingent upon completion of a background check. Further information is available at <https://faculty.williams.edu/prospective-faculty/background-check-policy/>.

Williams College is a coeducational liberal arts institution located in the Berkshire Hills of western Massachusetts with easy access to the culturally rich cities of Albany, Boston, and New York City. The College is committed to building and supporting a diverse population of approximately 2,000 students, and to fostering an inclusive faculty, staff and curriculum. Williams has built its reputation on outstanding teaching and scholarship and on the academic excellence of its students. Please visit the Williams College website, <http://www.williams.edu/>.



DEPARTMENT OF STATISTICS 2 Open-Rank Tenure-Track Positions

The Virginia Tech Department of Statistics (www.stat.vt.edu) has two tenure/tenure-track openings. We seek individuals with established track records in statistics, well-funded, internationally distinguished research programs, and who excel in teaching. Applicants must have an earned Doctorate in statistics or closely related field at the time of appointment.

- **STATISTICIAN:** The successful applicant will have a strong background in computationally intensive statistical methods and high performance computing with a research focus in data analytics, machine learning, data mining, stochastic modeling/inference, interactive data visualization, or a similar area. This position is part of a major emphasis on statistics, including data science and analytics at Virginia Tech (<http://provost.vt.edu/destination-areas/da-data.html>). This position will support of the Computational Modeling and Data Analytics (CMDA) program (<http://www.ais.science.vt.edu/programs/cmda.html>), a multi-department effort including the Departments of Statistics, Mathematics, and Computer Science. Questions regarding this position can be directed to Dr. Robert Gramacy, Statistician Search Committee Chair, rbg@vt.edu.
- **BIostatistician:** The successful applicant will have a specialization in some area of health-related statistics, such as biostatistics, bioinformatics, or genomics, and will be a leader in developing and expanding our health sciences research program. This position is part of a major emphasis on biostatistics and health analytics within the Data Analytics and Decision Sciences destination area at Virginia Tech (<http://provost.vt.edu/destination-areas/da-data.html>). Located in the Health Sciences and Technology Innovation District in Roanoke, (<http://vtnews.vt.edu/articles/2016/03/bov-hstdistrict.html>), the successful applicant will play a significant role in the development and leadership of a biostatistics/health analytics group that will collaborate with scientists across the university, including the Virginia Tech Carilion Research Institute, the Virginia Tech School of Medicine, and the Biocomplexity Institute of Virginia Tech. Questions regarding this position can be directed to Dr. Ron Fricker, Biostatistician Search Committee Chair, rf@vt.edu.

Applications are due by November 1, 2017 and must be submitted online at listings.jobs.vt.edu
(Statistician posting #TR0170087; Biostatistician posting #TR0160168).
Interviews may start as early as December 1, 2017.

Virginia Tech is an EO/AA university, and offers a wide range of networking and development opportunities to women and minorities in science and engineering, and additionally provides a competitive dual hiring program for couples.

Virginia Tech is an Equal Opportunity/Affirmative Action Institution.

UC Irvine

Data Science Faculty Position -- Department of Statistics

The Department of Statistics (www.stat.uci.edu) at the University of California, Irvine (UCI), invites applications for a tenure-track assistant or tenured associate/full professor position beginning July 1, 2018. This position is part of a collaborative hiring effort across the Departments of Statistics and Computer Science at the Donald Bren School of Information and Computer Sciences at UCI. The Department of Statistics has an interdisciplinary focus, with an emphasis on developing methods to solve applied problems and advancing the statistical theory that underlies those methods. We are searching for faculty with strong research potential, a commitment to excellence in teaching, and enthusiasm for helping our department continue to grow. Applicants must hold a Ph.D. degree (or expected by Fall 2018) in statistics, biostatistics or a related field. Candidates with research interests in all areas of statistics will be considered; the department has particular interest in individuals with research areas relevant to temporal and/or spatial data.

The University of California, Irvine is part of the premier public university system in the world. UCI is a member of the Association of American Universities (AAU), is ranked as a top ten public university by U.S. News and World Report, and was identified by the New York Times as No. 1 among U.S. universities that do the most for low-income students. UCI is located in Orange County, 4 miles from the Pacific Ocean and 45 miles south of Los Angeles. Irvine is one of the safest communities in the U.S. and offers a very pleasant year-round climate, numerous recreational and cultural opportunities, and one of the highest-ranked public school systems in the nation.

Completed applications require a cover letter, curriculum vita, graduate transcripts (for assistant professor candidates), sample research publications, three letters of recommendation, statements on teaching and research, and a statement on previous and/or potential contributions to diversity, equity and inclusion, uploaded electronically. Please refer to the following web site for instructions <https://recruit.ap.uci.edu/JPF04235>. The review of applications will begin December 15, 2017.

The University of California, Irvine is an Equal Opportunity/Affirmative Action Employer advancing inclusive excellence. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, protected veteran status, or other protected categories covered by the UC nondiscrimination policy.

Nebraska

■ The University of Nebraska Medical Center (UNMC) College of Public Health is seeking outstanding candidates for the next Chair of the Department of Biostatistics. The chair is responsible for leading the department including developing new programs, strengthening existing programs, expanding the statistical methodology profile of the department, and growing collaborative relationships. View description, including qualifications and how to apply at <http://unmc.peopleadmin.com/postings/34633>. EOE.

New Jersey

■ Assistant professor, statistics/mathematics. Full-time, tenure-track starting fall 2018. PhD in statistics, mathematics or related discipline. Successful candidates are expected to develop and maintain an active and highly visible, extramurally funded research with outstanding scholarship, and to demonstrate excellence in teaching and mentoring graduate and undergraduate students. Preference given to applicants who will contribute significantly to the university's existing interdisciplinary research. Details



Assistant Professor Position: Division of Biostatistics, Department of Population Health, NYU School of Medicine

NYU Langone Health is one of the nation's premier academic medical centers. Our trifold mission to serve, teach, and discover is achieved daily through an integrated academic culture devoted to excellence in patient care, education, and research. The Department of Population Health (<http://pophealth.med.nyu.edu/>), founded in 2012, is a leader in the discovery and translation of new knowledge into policy and practice. Through its research, education and service, the Department seeks to advance population health and health equity. Core areas of Department strength include healthful behavior change, early childhood health and development, comparative effectiveness and decision science, behavioral economics and health policy, community health improvement, healthcare delivery science, epidemiology, biostatistics and medical ethics. The Division of Biostatistics advances scientific knowledge to benefit individual and population health by creating, disseminating, and implementing rigorous, innovative statistical methodologies across the entire spectrum of biomedical research. We seek candidates for one or more senior faculty positions, with interest in various areas of biostatistics, including but not limited to innovative clinical trial design, causal inference, statistical genomics/proteomics, and methods for big data.

Position qualifications: Candidates must possess or soon expect an earned doctorate in biostatistics, statistics, or a related quantitative field. They should be emerging scholars with evidence of a growing body of outstanding scholarship and a strong commitment to teaching. Successful candidates will engage in both methodological and collaborative research with existing faculty at NYU School of Medicine and other Schools and Centers within NYU, have a commitment to team science, and possess effective oral and written communication skills. Candidates are also expected to have or develop an externally funded, independent research program.

To apply: Please submit the following (addressed to Dr. Andrea Troxel, Director of Biostatistics) to Farrah.Duplessis@nyumc.org.

- Cover letter
- Curriculum vitae
- Statement of current and future research agenda
- Three letters of reference

Application deadline: Review of applications will continue until the position is filled.

NYU Langone Health is an equal employment/affirmative action employer and does not discriminate on the basis of race, color, religion, gender, gender identity or expression, sexual orientation, marital/or parental status, age, national origin, citizenship, disability, veteran status, or any other classification protected by applicable Federal, State, or Municipal Law. Women, racial and ethnic minorities, persons of minority sexual orientation or gender identity, individuals with disabilities, and veterans are encouraged to apply.

and application procedure: <https://academics.rowan.edu/csm/departments/math/facultystaff/faculty/whittinghill/dexpage.html>. Rowan University values diversity and is committed to equal opportunity in employment.

New York

■ Syracuse University invites applications for the position of assistant or associate professor of sport management/ analytics with a focus on sports economics and econometrics. (Tenure eligible). Appointment begins in August, 2018. To apply, please post a detailed letter of interest, curriculum vitae, teaching evaluations, a writing sample, and three letters of recommendation online at www.sujobopps.com/#073436. Syracuse University is an Affirmative Action.

■ Biostatistician-NYU Winthrop Hospital is a 591-bed university-affiliated medical center and an American College of Surgeons (ACS) Level 1 Trauma Center in Western Nassau County, NY. Seeking a F/T biostatistician with knowledge of longitudinal data analysis, familiarity with SAS, and strong communication skills. MS/PhD in statistics or biostatistics, 3-5

UC Irvine

Data Science Faculty Positions -- Department of Computer Science

The Department of Computer Science (www.cs.uci.edu) at the University of California, Irvine (UCI), invites applications for two tenure-track assistant or tenured associate/full professor positions beginning July 1, 2018. These positions are part of a collaborative hiring effort across the Departments of Computer Science and Statistics at the Donald Bren School of Information and Computer Sciences at UCI. Applicants must hold a Ph.D. degree (or expected by Fall 2018) in computer science or a related field. Candidates with research interests in all areas of computer science related to data science will be considered; the department has particular interest in individuals with research areas relevant to temporal and/or spatial data. The Department of Computer Science is the largest department in the Donald Bren School of Information and Computer Sciences, with 45 full-time faculty members (including 10 ACM Fellows) and over 300 MS and PhD students. Faculty research is vibrant and broad, spanning algorithms, artificial intelligence, bioinformatics, computer vision, databases, distributed systems, embedded systems, graphics, machine learning, multimedia, networking, operating systems, scientific computing, security, and software.

The University of California, Irvine is part of the premier public university system in the world. UCI is a member of the Association of American Universities (AAU), is ranked as a top ten public university by U.S. News and World Report, and was identified by the New York Times as No. 1 among U.S. universities that do the most for low-income students. UCI is located in Orange County, 4 miles from the Pacific Ocean and 45 miles south of Los Angeles. Irvine is one of the safest communities in the U.S. and offers a very pleasant year-round climate, numerous recreational and cultural opportunities, and one of the highest-ranked public school systems in the nation. Completed applications require a cover letter, curriculum vita, graduate transcripts (for assistant professor candidates), sample research publications, three letters of recommendation, statements on teaching and research, and a statement on previous and/or potential contributions to diversity, equity and inclusion, uploaded electronically. Please refer to the following web site for instructions <https://recruit.ap.uci.edu/JPF04236>. The review of applications will begin December 15, 2017.

The University of California, Irvine is an Equal Opportunity/Affirmative Action Employer advancing inclusive excellence. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, protected veteran status, or other protected categories covered by the UC nondiscrimination policy.



TEACHING FACULTY POSITIONS

Virginia Tech (www.vt.edu) has two faculty openings in the Department of Statistics (www.stat.vt.edu) to start Fall 2018 at our Blacksburg, VA campus. Appointment at the rank of Collegiate Assistant Professor is preferred, but the Associate level will be considered for exceptional candidates. These are full-time, multi-year appointments (three years for Assistant Professor and five years for Associate Professor) with multi-year renewal upon successful review.

We seek candidates who are passionate about teaching statistics to undergraduate and graduate students. Responsibilities include teaching three courses per semester, where successful candidates will:

- Make significant contributions to our instruction in statistics; coordinate introductory and service courses, work closely with our undergraduate students, engage in a variety of significantly growing statistics curricula across the university, and lead efforts in curriculum enhancements and innovative pedagogy;
- Continue to develop professional capabilities and participate in scholarly activities, including travel to and participate in professional conferences and societies; and participate in department, college, and university service and governance, as well as professional service.

These positions are part of a major emphasis on statistics, including computational modeling, data science and analytics, and empirical decision making at Virginia Tech. Successful applicants will have the opportunity to be key players in the creation of the university's "Data Analytics and Decision Sciences" destination area (<http://provost.vt.edu/destination-areas/da-data.html>) and to teach in the Computational Modeling and Data Analytics and program (<http://www.ais.science.vt.edu/programs/cmda.html>) within the College of Science's Academy of Integrated Science as well as the School of Neuroscience (www.neuroscience.vt.edu/index.html).

Applicants must have a Ph.D. in Statistics, Biostatistics, or a related field with a strong statistical emphasis, and have broad intellectual interests in statistics and statistics education along with a strong promise for being a leader in the instructional mission of the department. Desirable characteristics include a record of pedagogical achievement and vision, creativity, and leadership skills relevant to instruction.

Applications must be submitted online at www.jobs.vt.edu (postings #TR0160135 and #TR0170086). The application should include a cover letter, curriculum vitae, and a teaching statement that specifically addresses your teaching experience and passion for communicating statistics and statistical methods. Please include names, addresses, telephone numbers, and e-mail addresses for three or more references in the cover letter. As part of the hiring process, the successful applicant must pass a criminal background check.

Questions regarding the position can be directed to **Dr. Pang Du, Chair, Faculty Search Committee, Hutcheson Hall, 250 Drillfield Dr., Virginia Tech, Blacksburg, VA 24061**, Tel. (540) 231-5198, E-mail: vtstat_search2017@vt.edu. Applications will be accepted until the position is filled, but all applications received by November 1, 2017, will be guaranteed full consideration.

Virginia Tech is an Equal Opportunity/Affirmative Action Institution.

Possibilities and Probabilities

If working in an environment that values individuality and diversity and allows you to innovate, engage in problem solving, and achieve your professional goals appeals to you, then the U.S. Census Bureau is the place for you.

Your Work as a Mathematical Statistician at the Census Bureau

- Design sample surveys and analyze the data collected.
- Design and analyze experiments to improve survey questionnaires and interview procedures.
- Improve statistical methods for modeling and adjustment of seasonal time series.
- Perform research on statistical methodology that will improve the quality and value of the data collected.
- Publish research papers and technical documentation of your work.

Requirements

- U.S. citizenship
- Bachelor's, Master's, or Ph.D with at least 24 semester hours in math and statistics (see Web site for more specifics on required coursework)

Apply at www.census.gov, click on Census Careers, Type of Position, Professional/Scientific/Technical, Math Statistician

The U.S. Census Bureau is an Equal Opportunity Employer.



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Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

years experience in medical research (data analysis, protocol development). Apply at Winthrop.org/careers Job #17-21025. An EOE.

North Carolina

■ The Department of Mathematics and Statistics at Elon University seeks applicants for a tenure-track assistant professor position in Statistics to begin mid-August 2018. Please see the following link for the full job announcement: www.elon.edu/facultyemployment/openings. Elon University is an EOE.

Oklahoma

■ The University of Tulsa's Collins College of Business seeks applicants for a full-time faculty position in business analytics starting August 15, 2018. The successful applicant will teach graduate courses for the Master of Science in Business Analytics and related programs at both the graduate and undergraduate levels. Candidates should possess a PhD in a discipline directly related to data analytics. More information available at <https://utulsa.edu/about/working-at-tul/available-positions/faculty-position-business-analytics>. The University of Tulsa is an Equal Opportunity Employer and is especially interested in candidates who can contribute to the diversity and excellence of the academic community through their research, teaching, and/or service.

Pennsylvania

■ The University of Pittsburgh Department of Statistics is seeking applications for two lecturers beginning September 2018, pending budgetary approval. Positions are outside the tenure stream with the expectation of multiyear contract renewals. Candidates should preferably have a PhD in statistics, biostatistics or related field and a demonstrated talent for teaching undergraduate statistics courses and mentoring students. Position details are available at www.stat.pitt.edu/open-positions-department-statistics. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer and values equality of opportunity, human dignity and diversity. EEO/AA/M/F/Vets/Disabled.

Virginia

■ Biostatistician Open Rank Faculty Search. Tenure track biostatistics faculty position in Virginia Tech Department of

Statistics. PhD in Statistics, Biostatistics or closely related field required. Open rank, though associate or full preferred. Successful applicant will develop and lead biostatistics / health analytics group. Submit application online at <http://listings.jobs.vt.edu> (#TR0160168). Applications review to begin on November 1, 2017 and will continue until position is filled. listings.jobs.vt.edu. Virginia Tech is an EO/AA university.

■ Teaching faculty positions in statistics. Multiple faculty teaching positions in Virginia Tech Department of Statistics to start fall 2018. PhD in statistics, biostatistics or closely related field required. Appointment at rank of collegiate assistant professor preferred, but associate level considered for exceptional candidates. Submit application online: <http://listings.jobs.vt.edu> (#TR0160135 and #TR0170086). Applications review to begin on November 1, 2017, and will continue until position is filled. listings.jobs.vt.edu. Virginia Tech is an EO/AA university.

Washington

■ Kaiser Permanente Washington Health Research Institute is seeking an MS or PhD level biostatistician to apply & support the development of modern statistical methods in an interdisciplinary, academic team environment. Using healthcare system data, the position will involve collaboration in areas such as cancer, pharmacoepidemiology, and behavioral medicine. View the complete description here: www.kpwashingtonresearch.org/about-us/careers/jobs/#Collaborative-Biostat. Submit letter of interest & a résumé (or CV) to shaffer.ax@ghc.org. EOE.

■ Cancer Research And Biostatistics (CRAB) is a non-profit organization whose purpose is to help conquer cancer. Our Statistics department is looking for a dedicated Senior Biostatistician. The successful candidate will collaborate with fellow biostatistics staff and clinical investigators to design efficient clinical trials and determine the optimal methods for analysis of the data. View the duties and qualifications at www.crab.org. Remote work not available. EOE. ■



VCU

Department of Biostatistics Open Rank Position # F53040

The Department of Biostatistics has a 40+ year history in the Virginia Commonwealth University (VCU) School of Medicine, and is committed to excellence in both biostatistical research and graduate education. The department currently has 20 faculty members, 28 full-time students (M.S. and Ph.D.), and 6 professional staff. The department offers both M.S. and Ph.D. degree programs in Biostatistics, including a concentration in Genomic Biostatistics and a M.S. in Clinical Research in Biostatistics. Faculty members in the department maintain an active methodological research portfolio in spatial epidemiology, Bayesian methods, clinical trials, categorical and longitudinal data analysis, survival analysis, computational genomics, etc. In addition, the faculty, staff, and students collaborate actively with clinical investigators on the VCU/Medical College of Virginia Campus (which includes the Schools of Medicine, Dentistry, Pharmacy, Nursing, and Allied Health) in a wide variety of biomedical research projects. Located in Richmond, Virginia, VCU has established relationships with the Virginia Department of Health, as well as other local and regional health departments. In addition to other computational resources at VCU, the department supports its own high-performance computing cluster.

Duties and Responsibilities: Applications are currently being accepted, with flexible start dates, to fill a tenured/tenure eligible faculty position within the department at the level of assistant or associate level. We are seeking applicants with strong training and research in clinical trials, and applications of statistical methods to biomedical sciences. This position is supported (at 50% level) by the VCU Massey Cancer Center (VCU-MCC) – a NCI designated cancer center located on the VCU Medical Center. Primary responsibilities include taking an active role in the design and conduct of Phase I/II clinical trials, develop independent methodological research in related areas of interest, and collaborate extensively with researchers at the VCU-MCC, and the VCU School of Medicine. In addition, the successful applicant will be responsible for teaching and advising graduate students, maintain both collaborative and/or methodological extramural grant support, and provide departmental and university service.

The MCC conducts basic science, translational, clinical and population sciences research on cancer, and includes scientists and physicians from 36 academic departments, 6 schools, and 1 college at VCU. Spanning across multiple cancer types, the key interdisciplinary scientific programs at the MCC include Cancer Cell Signaling, Cancer Molecular Genetics, Cancer Prevention and Control, Developmental Therapeutics, and Radiation Biology and Oncology.

Qualifications: Ph.D. degree in biostatistics, or statistics is required. About 5 years of experience as a Ph.D. biostatistician within a cancer center setting is preferred. Applicants must demonstrate experience working in and fostering a diverse faculty, staff, and student environment, or commitment to do so as a faculty member at VCU. In addition, evidence of both methodological and collaborative peer-reviewed publications in clinical trials or related areas, obtaining extramural research support as a co-investigator, teaching experience preferably at the graduate level, and excellent oral and written communication skills are required.

Instructions: Apply by visiting <https://www.vcujobs.com/postings/65424> or searching for position number F53040 at www.vcujobs.com. Application deadline: November 15, 2017. Attach a cover letter/letter of application, statement of research and teaching philosophy, curriculum vitae, and contact information for 3 professional references.

Virginia Commonwealth University is an urban, research intensive institution with a diverse university community and a commitment to multicultural opportunities. VCU is an equal opportunity/affirmative action employer. Women, minorities and persons with disabilities are encouraged to apply.

Statistical Career Opportunities with Westat

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This position requires a master's degree or Ph.D. in statistics with coursework in survey sampling or a master's or Ph.D. in survey sampling. Candidates with a master's must have at least 8 years of experience in sample survey design, selection, or weighting and a Ph.D. with 6 years' experience. Although not required to do programming, candidates would benefit from knowing SAS and other statistical software packages. Qualified candidates must have excellent written and oral communication skills, strong organizational skills, and the ability to handle multiple tasks simultaneously.

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Open Rank Professor of Teaching in Statistics -- Department of Statistics

The [Department of Statistics](#) at the [University of California, Irvine](#) (UCI) invites applications for a faculty position as Professor of Teaching. With an emphasis on teaching, this position includes an expectation of research and service contributing to instruction and pedagogy. This position parallels the tenure-track faculty series. The search is open-rank implying that we are inviting applicants at the Assistant (potential security of employment; analogous to pre-tenure) or Associate/Full (security of employment; analogous to tenure) ranks. Applicants are expected to hold a Ph.D. degree in Statistics, Biostatistics or a related field and provide evidence of teaching excellence.

The University of California, Irvine is ranked as a top ten public university by U.S. News and World Report. The Department of Statistics has a strong interdisciplinary flavor, focused on developing methods to solve applied problems and advancing the statistical theory that underlies those methods. The Department oversees an undergraduate major in Data Science and a minor in Statistics, as well as MS and PhD degrees in Statistics. Responsibilities of the Professor of Teaching position include teaching within this curriculum, training and oversight of graduate teaching assistants, and/or coordination of the undergraduate curriculum major in Data Science, and minor in Statistics.

Applicants must submit a cover letter, curriculum vita, graduate transcript (for applicants at the assistant rank), statement of teaching philosophy, statement of contributions to diversity, and three letters of recommendation. Please refer to the following web site for instructions: <https://recruit.ap.uci.edu/apply/JPF04221>, listed under the Donald Bren School of Information and Computer Sciences. To ensure your application is given full consideration, files should be completed by **December 15, 2017**. Priority will be given to applications received by the date; however, applications will be accepted until the position is filled.

The University of California, Irvine is an equal opportunity employer committed to excellence through diversity, has a National Science Foundation Advance Gender Equity Program, and is responsive to the needs of dual career couples.

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New York University Langone Health p. 41, 43

SAMSI.....p. 41

US Census Bureaup. 45

University of California, Irvine p. 43, 44, 47

Virginia Commonwealth Universityp. 46

Virginia Tech p. 42, 44

Westat.....p. 47

Williams Collegep. 42

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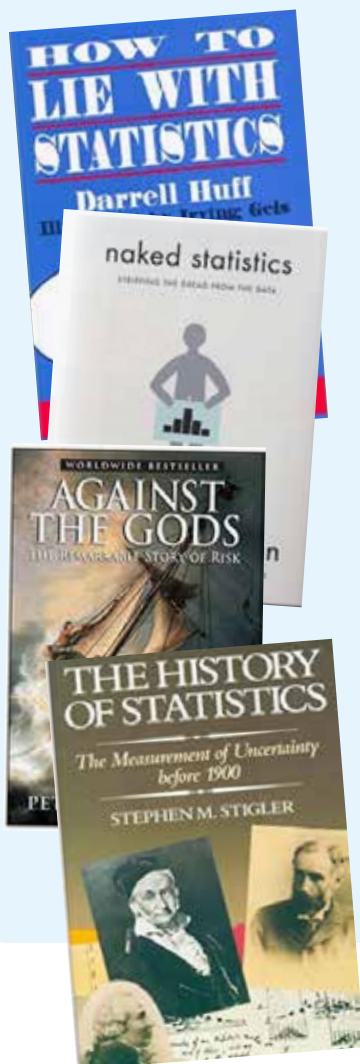
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Next month's question:
TELL US:
What is your favorite statistics word?

We asked our followers: What book about statistics do you recommend for nonstatisticians?



Vahid Tilaki • @VahidTilaki
"How to Lie with Statistics" by Darrell Huff #statsbookclub

Santiago Donado • @donadocode
"How to Lie With Statistics" and "Computer Science Distilled" have been ordered from @amazon. Should get here next week! #statsbookclub

VlakePhoenix • @VlakePhoenix
"Against the Gods" by Peter Bernstein Well #statsbookclub

Jesse Sharp • @SharpStatSci
"The History of Statistics," Stephen Stigler

"Seeing Through Statistics," Jessica Utts (intro text)

Knowledge Alliance • @KnowledgeAll
"Measuring Up" by @DanKoretz

For #JSM2017 tweets, check out <https://storify.com/AmstatNews/jsm2017>.

JSM2017 CHATTER

Sally Morton • @sallycmorton
On my way tomorrow to my 30th JSM - see you there #JSM2017

Raja Doake • @doorisajar
#JSM2017 Sessions down: 1. Topics added to personal research queue: 3.

Alok Pattani • @AlokPattani
... holy crap do I have so much to learn! #JSM2017

Robin Donatello • @norcalbiostat
My residual for # of mixer tweets is negative. I blame great convo and cornhole #JSM2017

Adam T. Austin • @just_add_data
Thanks for an enchanting #JSM2017. I am proud to be part of such an insightful, collaborative, and welcoming profession.

Simina Boca • @siminaboca
Good-bye #JSM2017 I had a great time gaining perspective on new developments, catching up with old friends, and making new ones!

John Muschelli • @StrictlyStat
Baltimore graffiti is getting out of hand #JSM2017





Statistics

The latest release of SAS/STAT® is now available. SAS/STAT 14.2 enriches numerous analyses and adds two more procedures to your portfolio.

SAS/STAT 14.2 Highlights

Propensity score analysis.

Estimation of causal treatment effects.

Time-dependent ROC curves for Cox regression.

Two-stage fully efficient fractional imputation and fractional hot-deck methods for survey data.

Balanced bootstrap and sequential Poisson methods for selecting random samples.

Recent SAS/STAT Highlights

Generalized additive models by penalized likelihood estimation.

LASSO method for selecting generalized linear models.

Classification and regression trees.

Weighted GEE methods.

Proportional hazards regression models for interval-censored data.

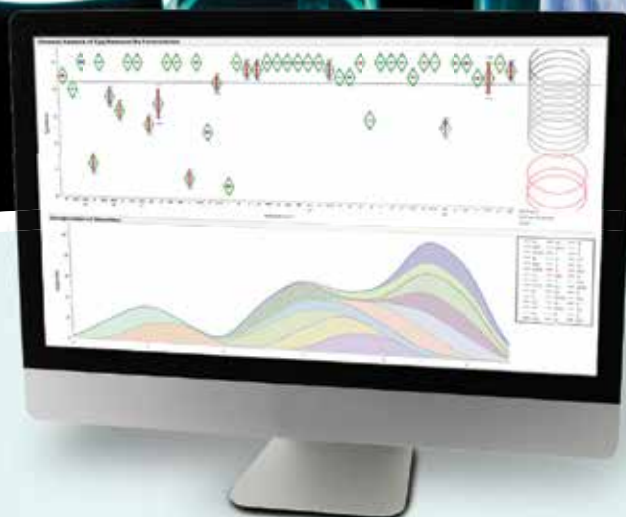
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