AMSTATNEWS

Celebrating WOMEN *in*

STATISTICS ⚢ DATA SCIENCE

WOMEN'S HISTORY MONTH

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Directors Candidates

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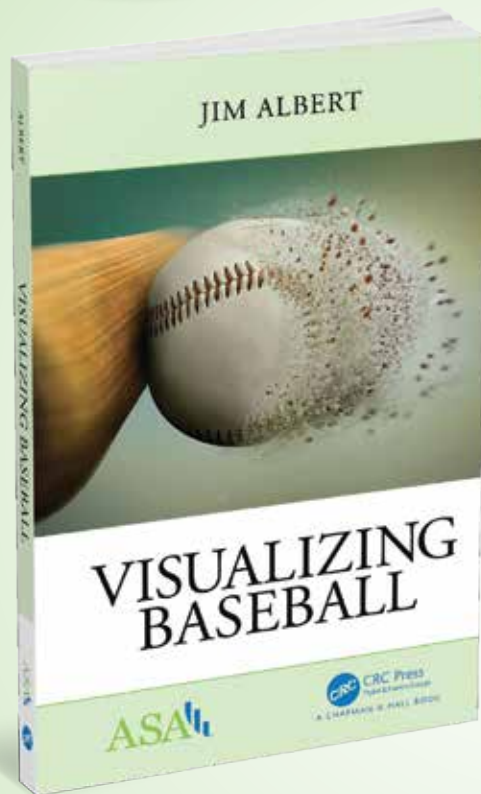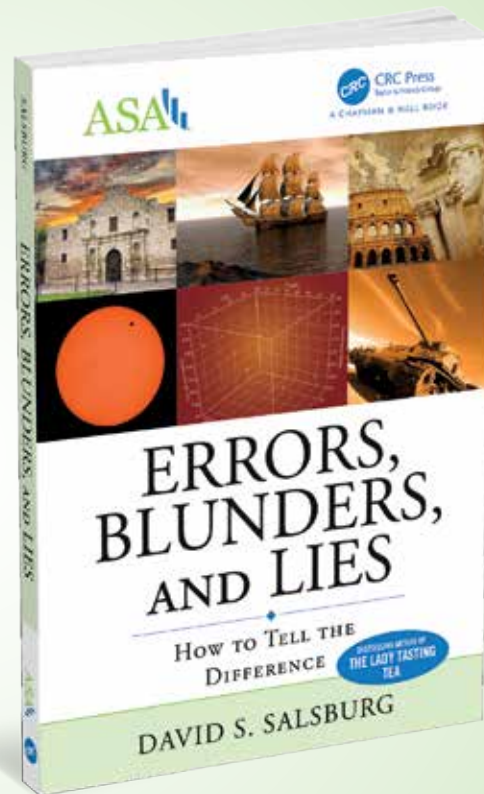# AMSTATNEWS

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

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American Statistical Association

ASA

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

columns

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*.

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*.

This column is written for those interested in learning about the world of Data for Good, where statistical analysis is dedicated to good causes that benefit our lives, our communities, and our world. If you would like to know more or have ideas for articles, contact David Corliss at *davidjcorliss@peace-work.org*.

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

This year marks the 110th anniversary of the famous *Biometrika* paper, "The Probable Error of a Mean," by William Gosset (*www.york.ac.uk/depts/maths/histstat/student.pdf*) and the Tin Pan Alley classic by Jack Norworth and Albert Von Tilzer, "Take Me Out to the Ball Game," whose chorus became the unofficial anthem of North American baseball.

The University of Texas at El Paso professor Lawrence Lesser honors both in his latest song, which can be heard at *www.causeweb.org/cause/resources/fun/songs/take-me-out-brewry*.

Take Me Out to the Brew'ry

Lyrics © 2017 Lawrence M. Lesser
May sing to the tune of "Take Me Out to the Ball Game" (Norworth and Von Tilzer)

Take me out to the brew'ry,
biggest one in the world:
Guinness used data to lead the pack—
boost the taste and keep costs on track!
But with few, few samples for testing,
mean's error was so unexplained:
then came William Gosset's result
under Student's name!

....

April Is Mathematics and Statistics Awareness Month

Organize and host activities in April for Mathematics and Statistics Awareness Month!

Past activities have included workshops, competitions, festivals, lectures, symposia, department open houses, math art exhibits, and math poetry readings. Please share your activities on social media—use #mathstatmonth and tag @AmstatNews.

The goal is to increase public understanding of and appreciation for statistics and mathematics.

Visit *www.mathstatmonth.org/mathstatmonth/msamhome* for details.

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Correction

In the January issue, the summary of *CHANCE's* special issue on climate change should have stated 800 million people is 11% of the world's population, not 1%. View the corrected piece online at *http://magazine.amstat.org/blog/2018/01/01/chance-climate-change.*

departments

See INSIDE for a Women in Statistics and Data Science Poster

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Building a Leadership Institute (from the Ground Up)

Steering committee members of the ASA Leadership Institute hold their first in-person meeting at NCSU's Institute for Advanced Analytics. From left: Gary Sullivan, Bob Rodriguez, Donna LaLonde, Lisa LaVange, Erica Groshen, Michael Rappa, Debbie Hughes, Ron Wasserstein, (not pictured: Aarti Shah)

Having made the case in last month's *Amstat News* for an ASA Leadership Institute and introducing you to the distinguished members of the steering committee, I thought I would spend more time with two of those members in this month's column. But first, a little about our face-to-face meeting.

The steering committee met on January 23 to brainstorm what the institute might undertake in this first year and how its programs could be built to last. We were hosted by the Institute for Advanced Analytics of North Carolina State University (NCSU) and had a productive meeting.

Gary Sullivan, current chair of the Ad Hoc Committee on Leadership, led with a summary of the professional development activities offered through the ASA based on a survey of 15 committees, sections, and chapters. More than 75 references to workshops, webinars/webcasts, courses, articles, and other documents were collected. The Committee on Career Development, Committee on Applied Statistics, and Conference on Statistical Practice Steering Committee are the most active in terms of event offerings related to leadership and professional development. Common topics include collaboration, communication, mentoring, managing conflict, and influence.

The JSM leadership professional development short course has been offered since 2014 and has evolved into a course on leadership awareness, featuring career stories from several prominent statistical leaders at each offering. The JSM course is going on the road this year—the travel version will be offered to the North Carolina Chapter on March 16.

Recognizing that leadership learning is a life-long enterprise, the goal of the JSM workshop is to let attendees know what they need to learn to be strong leaders, recognizing we cannot teach it all in a one- or two-day event.

Steering committee members were pleasantly surprised to learn just how interested our members are in leadership and what a broad range of webinars and other activities were already taking place.

As an immediate initiative, we developed a catalog for easy access to training opportunities (*http://bit.ly/ASALeadsWithStatistics*).

Following Gary's report, we discussed ideas for providing opportunities at three times in a statistician's career: pre-career, early career, and senior career. The two steering committee members reporting on ideas for the pre-career stage are experts in higher education leadership training. Debbie Hughes is vice president for higher education and workforce development at the Business and Higher Education Forum, and Michael Rappa is Goodnight director and distinguished university professor at NCSU's Institute for Advanced Analytics. Both are involved in determining training needs for a fast-moving marketplace in data science and analytics. They bring unique perspectives to the leadership institute in terms of how best to reach statisticians during their college and graduate education to prepare them for leadership careers, should they choose that path at some point.

Lisa LaVange

Debbie and Michael shared their vision for an ASA Future Leaders Program that would promote and facilitate development of leadership skills in the pre-career stage of statistical education. Such a program would require identifying opportunities for engaging with higher educational institutions to share best practices and curriculum road maps.

Statisticians working in academia know how difficult it is to add courses to established degree programs, so innovative thinking will be needed to launch such a program, but the pay-off could be substantial. As Michael points out, "The ASA Leadership Institute should map out the leadership journey—what goes on at the later stage of a career should relate to the early stage."

Expanding on the Big Tent vision for the ASA that was a past presidential initiative and key component of the ASA's strategic plan (*www.amstat.org/asa/files/pdfs/ABT-StrategicPlan.pdf*), the committee noted the future leaders program could be open to anyone working with data, not just statistics majors.

Michael described his experience building the Institute for Advanced Analytics (IAA) at NCSU over the past 10 years. With roughly 650 graduates now employed in an array of companies ranging from the financial industry to health care, NFL teams, and art institutes, the IAA is considered successful by almost any measure.

Students earn a Master of Science (MS) degree following successful completion of a 10-month program. Course modules cover mathematical, computational, statistical, and business topics, and the students' day resembles a 9-to-5 job more than your typical graduate school experience. Students form teams to work on a practicum that lasts the entire program and ensures a real-life work experience as part of their graduate school training.

Reflecting on what an ASA Leadership Institute might mean for undergraduate and graduate students, Michael had the following to say:

> In all my experience placing hundreds of MS in analytics graduates in the profession, one fact hits home again and again: The shortage of technical talent is actually a shortage of technical talent with leadership potential. It's the added leadership qualities that are highly prized and hardest to find. Employers want most to recruit and retain data-savvy individuals, who are fluent in data science and capable of engaging in their business and providing the leadership needed to move it forward.
>
> That's why the new leadership institute initiative is both timely and important. As the effective utilization of data becomes the driving force behind the business models of so many organizations, the ASA can play a major role in cultivating leadership potential in its members. Beginning with the growing number of students now positioning themselves to become data scientists, to early career professionals stepping into their first opportunities to lead, to those who are rapidly rising through the ranks of their organization, the ASA has an opportunity—some might say a responsibility—to actively prepare its members for leadership. By drawing on the talent and resources of the ASA community, it can help shape a future where leaders in every corner of society have the requisite knowledge and skill to make data-driven decisions."

Debbie has this to say about her position at BHEF and her vision for the leadership institute:

> As vice president of higher education and workforce, I have a strategic visioning role focused on prioritizing the organization's resources; an implementation role focused on overseeing the execution of our programmatic strategy; and a research and thought leadership role focused on capturing and disseminating learning and broader impacts among employers, talent, and higher education. In sum, I play the role of strategist, translator, convener, researcher, and disseminator.
>
> I authored a publication with PwC, *Investing in America's Data Science and Analytics Talent* (*www.pwc.com/us/en/library/data-science-and-analytics-skills.html*), that clearly showed a gap between employers and higher education institutions, with 69% of employers preferring candidates with data science and analytics skills and only 23% of higher education institutions producing graduates with those skills. As the PwC report concludes, industry is not looking for data scientists, but rather 'data-driven decision-makers.' The ASA and the leadership institute could have a tremendous role in shaping students to become those thought leaders.

We are thrilled to have two leaders with such insight into the current educational and work environments as members of our steering committee.

Statisticians are not supposed to be superstitious, but there are times when a sign seems to speak directly to me, and one of those moments occurred during a recent UNC basketball game. Those of you who know me know I am a big sports fan, and Carolina basketball is right up there at the top. During a time-out, I glanced at the jumbotron to see images of three of our star basketball players who were leading the game in points scored, assists, and rebounds. And written across the top of the screen was the title: Statistical Leaders.

From the Big Tent to basketball, the need for strong leadership is everywhere—Lead On!

Lisa LaVange

ASA Launches Campaign to Rebuild Public Trust in Federal Statistics

The ASA, in partnership with organizations in the statistical community, launched Count on Stats—a campaign to advance the federal statistical system and awareness of its significant work. Count on Stats is a public outreach initiative that will enhance understanding of and appreciation for the importance, reliability, and trustworthiness of government statistics.

"I am pleased to partner with the ASA in increasing the awareness of and support for high-quality federal statistics," said Count on Stats partner John Thompson. Thompson, executive director of the Council of Professional Associations on Federal Statistics (COPAFS) and former head of the US Census Bureau, continued, "The federal statistical agencies face a number of challenges, and our support is critical to their success."

This campaign is designed to educate and inform the public about the critically important nature of federal data, but also to counter attacks against the system. Count on Stats will consistently reaffirm the value of the work undertaken by US federal statistical agencies.

"Federal data are used to inform decision-makers from Wall Street to Main Street to the halls of Congress and beyond," said Ron Wasserstein, executive director of the ASA. "The agencies comprising the United States federal statistical system conduct essential work that is critically important to the functions of our economy, society, and democracy."

Partners of the initiative include the American Association

for Public Opinion Research, American Educational Research Association, Association of Public Data Users, American Sociological Association, Bipartisan Policy Center, COPAFS, and National Association for Business Economics.

Stay up to date on the campaign by searching @CountOnStats on Twitter. ∎

COUNT ON STATS

STATSKETBALL
Student Challenge Is Back

The ASA's education initiative, *This*IsStatistics, has launched its Statsketball Tournament for 2018, a contest that encourages high-school and undergraduate students to use statistics to predict results for the NCAA Basketball Tournament.

Statsketball consists of two contests. The first is the "Pick 'Em": Upset Challenge, where students submit a list of 32 winners for the first-round games. The second contest is the "Build Your Own Bracket": Draft Challenge, where teams have 224 draft points to assemble a cohort of teams from the seeded participants. Entries for both contests are due by March 14 at 12:00 p.m. ET.

Watch for details at *www. thisisstatistics.org*.

2019

ASA BOARD OF DIRECTORS
CANDIDATES

The ASA announces the selection of candidates for the 2018 election. The winning candidates' terms will begin in 2019. Make sure to look for your ballots in your email inbox and vote early. Voting begins at 12:01 ET March 15 and ends at 11:59 p.m. PT on May 1.

RUNNING FOR PRESIDENT-ELECT

Jeri Mulrow
Principal Deputy Director, Bureau of Justice Statistics, Department of Justice

Mulrow

Data are everywhere, and the amount of data continues to grow daily. This presents both opportunities and challenges for us. How do we ensure the appropriate use and understanding of data?

I joined the ASA as a graduate student and am passionate about our profession. It is a fun, challenging, and rewarding profession, and it provides us great opportunities to contribute to a better society and a better world. I am very honored and very excited to be a candidate for president of the ASA at this exciting time.

I am in the federal government, and I see first-hand the need for policies to be based on appropriate statistics using relevant, timely, high-quality data. These policies impact our world, our society, and our daily lives. We must play a role in the discussions about the statistics, the data and evidence, the uses of the data and evidence, and the understanding of the data and evidence used to set policies. These discussions can be with your students, your colleagues, your friends, or your family.

My experiences and observations led me to think about three areas of continuing need, which I would want to focus on as ASA president and [which] fit well within the realm of the ASA and our strategic plan. The first is a need for excellent communication and leadership skills among our members. The second is a need for statistical education to meet the changing data environment and to address complex problems facing society. The third is a need for statistical literacy of all our citizens.

Communication and leadership skills. Leadership goes hand-in-hand with communication. Good leaders are good communicators. It is crucial for us to continue to improve our communication with others outside our profession. We also need the skills to be able to be a leader at all different levels of our organizations. These skills will help us ensure the appropriate uses and understanding of statistics and data by others.

Statistical education. To take full advantage of the opportunities presented by the changing data environment and to address complex problems facing society, we must have a focus on statistical education. Academic institutions of higher education are already responding to these changes for their undergraduate and graduate students by developing new courses and forming collaborations with other departments. For those of us who have already graduated, we also must continue to hone and improve our data science skills.

Statistical literacy. Statistically literate citizens are better able to judge decisions and policies if they have a good understanding of the underlying statistics, data, and evidence used in making those decisions and policies. The statistical community can contribute greatly in this area, leading to informed policies for our world and our society.

Our contributions in many areas have been and continue to be important! I am excited for our profession and about our opportunities. If elected, I will work toward meeting these needs and to hearing more from all of you about what more we can and should be doing. ▪

Wendy Martinez

Director, Mathematical Statistics Research Center, Office of Survey Methods Research, Bureau of Labor Statistics

In preparing my statement, I realized the theme for my candidacy can be expressed as "building bridges to enlarge the ASA big tent for statistics and data science." The ASA has made great strides to increase partnerships with international statistical societies and professional groups like the AAAS. With your support, we can do more to enhance the diversity of the ASA, increase the visibility of statistics, and ensure the future of our profession.

Support for educators: I taught statistics at the undergraduate level, and I understand the need to ensure students entering college are better prepared. It is imperative we continue to promote statistics at K–12 levels. The ASA hired a K–12 statistical ambassador in 2016, and I will work with her to establish an advisory group for K–12 faculty, so teachers can tell us how to help, and we can make it happen.

The ASA has links to resources for K–12, including the Census at School project. Some US agencies (Bureau of Labor Statistics) have websites with materials focused on K–12 education. I will work with the ASA Board to reach out to other agencies and encourage them to provide relevant resources.

Support for students: More students of color, women, LGBT students, etc. are going to college, and many are becoming interested in statistics! As educators and role models, we should be aware that how we teach them and the support we give might need to change, especially for first-generation students who may have fewer resources and support. I will establish a high-visibility initiative to address this issue.

The student experience at JSM builds the future foundation for the ASA. The activities we provide for them shape their impressions and interests in statistics as a profession. I will work with ASA staff and sections to provide more opportunities and better experiences for undergraduate and graduate students at the JSM. I will engage ASA leaders to establish and maintain a student and early-career travel fund. This will provide financial assistance for students to participate in JSM and other ASA activities.

Building confidence in official statistics: The data gathered by all levels of government are a public resource. The year 2020 will be especially important for US official statistics because of the census. Our statistical voice needs to be heard at the table. Building on the campaign ASA has started (Count on Stats), a major focus of my term will be to strengthen this position.

Of particular note, we should expand the application of statistical methods in all areas of defense and national security, including military personnel health, equipment testing, and data analysis.

Promoting innovation: The creation of partnerships between the ASA, academia, industry, and government to generate innovative research questions and solutions to benefit society and human welfare is critical. Data challenges are serving to benefit many other fields. Building on activities of some ASA sections that have sponsored data challenges, I will engage with other sections to establish an annual ASA Data Challenge Expo.

Surveying our members' needs: While the ASA Board and staff provide leadership and support, it is the members who make things happen. I want the goals of all our members, including our international colleagues, to be shared. So, I will be reaching out to you as president-elect to determine what is important to our community.

Someone asked me, "Why do you support the ASA?" I said we need to do things we are passionate about when 'our hearts sing.' This is why I am so excited about the opportunity to support the ASA as president—because it makes my heart sing to help shape our future! To learn more about me and my hopes for our future, go to *www.pi-sigma.info.* ∎

Martinez

Studio B Photography
Barbi Barnum

Richard De Veaux

Department of Mathematics and Statistics, Williams College

De Veaux

Could Dickens have been talking about being a statistician in 2018 when he wrote:

"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair"?

Ok, probably not. But it *is* the best of times for us—we have more job opportunities as statisticians now than at any point in my lifetime. And we've all heard the forecasts that we'll need hundreds of thousands more data-savvy analysts in the next decades. But it may also seem the worst of times. Why? Because, these days, everyone thinks they're a statistician. John Tukey was once quoted as saying that he loved statistics because we got to play in "everyone's backyard." Now it seems everyone wants to play in ours. Data scientists, computer scientists, machine learners—everyone is doing data analysis—and some (although clearly not all) are doing it very, very well.

As the ASA representative to the IEEE Data Science conference the past two years, I've heard many excellent talks on statistics, data analysis, and how the methods solved important problems in science and industry. Unfortunately, I was one of only two statisticians at the conference. Some of the analyses checked the source of the data, worried about its integrity, and were careful with their inferences—all things that lie at the core of our profession. But others focused only on the power and speed of the algorithm, with little regard to the quality of the data, or even of the questions being asked.

So, what keeps me up at night? Like many of us, I worry our profession is growing out of touch with the demands of a data-driven world. As an educator, I share the worry that our statistics courses are becoming irrelevant, as well. For decades, we've seen many other disciplines teaching their own versions of statistics. As that continues and data science becomes the source for their courses, will students still be taught to ask about the pedigree of the data, or will it be enough just to know which algorithm won the latest Kaggle contest?

Will we be overwhelmed by the data science tide, or can we guide data science with statistical insight? And what would be the role of the ASA in doing so? Given the immense talent and diversity of its members, I'm convinced the ASA can, and should, be a central force in forging the role of statistics in data science. I would be honored to be given the chance to help.

A statistics software executive was recently quoted as saying, "Nothing that I've learned in the last 30 years of working in this industry is relevant today." That may be a bit dramatic, but I know how he feels! As I think about what to teach students in an introductory statistics course in 2018, much of what I learned and much of what I've taught seems irrelevant. It's a fantastic time to be a statistician, but it's not without its challenges.

I am deeply honored to be a candidate for vice president of the ASA. I've been involved in the ASA for many years in many different roles—program chair for JSM in Atlanta in 2001, program chair for SPES, COSGB representative to the board, founding member and later chair of the Section on Statistical Learning and Data Science. With your support and input, we can work together to find answers to some of the questions I've posed and help position the ASA as an even stronger force and advocate for statistics and statisticians. ■

Thomas Short

Department of Mathematics, West Chester University of Pennsylvania

The themes of our Strategic Plan—enhancing the diversity and breadth of our association, increasing the visibility of our profession, and ensuring the future of our profession—directly connect with my ASA experience and inspire me to lead and support initiatives. Reflecting upon my service to the ASA—in chapters, sections, committees, journals, and as a board member—leads me to four pathways through which I will exemplify these themes: Celebration; Culture; Collaboration; and Challenges.

Celebration

It's the best time ever to be a statistician, and we have so much to celebrate! The ASA leads efforts to fund the new International Prize in Statistics, to support DataFest for undergraduate students, and to continue K–12 student competitions. The Conference on Statistical Practice, the Women in Statistics and Data Science Conference, and credentials such as our PStat® and GStat accreditations benefit members and increase visibility. I recently proposed an Awards and Recognition Committee for the Philadelphia Chapter to celebrate the accomplishments of members in our region, and, if elected, I will continue to highlight the accomplishments of our members and the activities of our organization.

Culture

I'm impressed by the variability in cultures between chapters, sections, and committees. People are one source of variability, but so are the habits and traditions within each entity. Communication and awareness are the cornerstones of sharing culture among entities, and such sharing sparks activity and creates opportunities for growth. For example, our advocacy has impacted the culture of statistics within governments around the world. We express our culture to others through thoughtful and timely statements endorsed by our board. If elected, I will continue to facilitate communication and awareness, helping entities to replicate, expand, and refine approaches that have worked for others.

Collaboration

With resources and experience on our side, the ASA has already assumed a leadership role through our "Big Tent" vision. We can work to ensure the future of our profession by collaborating with existing and emerging organizations. I recently facilitated an event co-organized by the Cleveland Chapter of the ASA and the Cleveland R Meetup Group. Now that I've moved to Philadelphia, I've reconnected with a local teachers group to promote an ASA presence in schools. We must continue to strive to collaborate with teachers, advisers, parents, and students to highlight pathways that lead to careers in statistics and related disciplines; the *This*IsStatistics website is one impactful resource the ASA has developed for this purpose. I will continue to work to collaborate locally, and, if elected, I will work to develop shared initiatives that benefit our profession beyond the local level.

Challenges

As statisticians, we notice that data science, analytics, and big data analysis are blossoming, and we wonder how our identities will evolve. We consider rebranding and repositioning to share our experience in culture and communication and our tradition of celebrating achievements and diversity. We extend our invitation to collaborate with students at all levels and both new and experienced practitioners. We face challenges of identifying funding mechanisms and sources in order to maintain support for current initiatives and projects and to expand in creative and timely directions. If elected, I will apply my accumulated experience in a diversity of roles in service of the ASA to strategize solutions to our challenges. ∎

Short

TO THE BOARD OF DIRECTORS

Steve Gulyas

Health Care Value Data Analytics, Blue Cross Blue Shield of Michigan

Gulyas

The field of statistics is in a golden age. Data abounds, statistics software is answering centuries-old questions that could only previously be framed in mathematical equations, and more students than ever are entering the discipline. The ASA, with its more than 175 years of experience, is recognized as the flagship organization for our profession. JSM has been breaking attendance records over the past few years, and the program continues to grow. And yet, threats to the ASA exist. Membership is not fully reflecting the youth movement into our field, revenue streams for journals are changing, and the ASA is wrestling with an identity crisis with respect to data science. These opportunities and challenges excite me when I consider the prospect of serving on the ASA's Board of Directors (BOD).

The duties of a Council of Sections (COS) BOD representative include speaking for the COS on the BOD—including budget issues impacting COS, being a liaison between the BOD and COS Governing Board (COSGB) and COS, serving on the ASA Committee on Meetings (COM), and serving as part of the Strategic Planning Committee. Having served six years on the COS, including three years recently as a member of COSGB, I have developed a broad understanding of the issues sections face. Some of these include growing section membership, managing the growth of new sections, identifying an expanded role for interest groups, and cross-pollinating sections' ideas such as distance learning. My prior treasurer experience from the largest section treasury in the ASA would be helpful to inform BOD financial issues. I also have recent experience with COM through a recent JSM session reallocation exercise.

The ASA's Strategic Plan currently focuses on three major areas: enhancing the diversity and breadth of our association; increasing the visibility of our profession; and ensuring the future of our profession. Within these areas, I believe public awareness and education are especially critical today. The ASA needs to educate the general population about statistics, sensitizing them to when misleading inferences are being made. When the public is confused about statistics, the ASA should be an independent and unbiased voice to provide technical guidance and clarify interpretation. Further, I believe the ASA should play a leading role in defending science and exposing where only naked beliefs exist.

I am proud that the ASA BOD has stepped into public debate about many important issues recently. Given the number of ASA members in the government sector and the breadth of public policy dependent on the work of federal statisticians, I view the Count on Stats campaign as essential in defending valuable work for our country. White papers such as the ASA's statement on p-values are important to distinguish the ASA as the authority on academic statistical issues. The ASA's opinions on gerrymandering, climate change, and the census are important to be heard.

I believe the outreach of the ASA into the international community has been wise, and I support further expansion. Many domestic organizations have statisticians working in foreign countries, and having an ASA presence abroad helps strengthen the ASA's position as a world leader and professional resource to our members. The ASA's leadership also permits many to seek statistics careers here.

I believe many individuals choose statistics as a career because they like to play in others' sandboxes. The ASA's sections naturally provide this cross-functional opportunity, and the ASA should leverage them for further growth. I am humbled to have been asked to run as one of its representatives to the ASA BOD. With your support, I would welcome the opportunity to serve our profession at its highest level. ■

Mark Glickman

Senior Lecturer and Director of Sports Analytics Lab, Department of Statistics, Harvard University; Senior Statistician, Center for Healthcare Organization and Implementation Research, a Veterans Administration Center of Innovation

It is my pleasure to be considered for a position on the ASA Board of Directors as one of the Council of Sections' Governing Board representatives. I have consulted over my career with industry collaborators on a wide variety of applied statistical problems. My background in academia, government, and industry has provided me with a diverse set of experiences that make me well-suited for the board of directors position. The greatest ongoing challenge to the ASA is to create initiatives and opportunities that respond to an ever-changing landscape of our memberships' professional interests, set the standards for the delivery of quality statistical education, and increase the visibility of statistics in society. The ASA has demonstrated superb leadership in these areas, and I see my role on the board of directors as continuing and enhancing this tradition of excellence.

*This*IsStatistics, launched in 2014, is an outstanding example of the ASA's ongoing initiative to communicate on a national level the importance of statistics in society and the diversity of applications that statisticians confront.

The response to the quick emergence of data science as a closely related discipline has been equally strong. Since 2015, the ASA has formally acknowledged the importance of having a role in data science in several ways. These include sponsoring conferences with substantial data science presence and considering the ASA's creation of data science accreditation.

As a faculty member who regularly co-teaches a data science course in tandem with computer science colleagues and who has been part of the data science initiative at Harvard, I can help provide leadership in navigating the data science revolution. In its current form, the practice of data science is much broader than the exposure a typical statistician receives. Given the evolving nature of data science, the ASA needs to remain nimble in continuing to create opportunities for its members and to educate and communicate to consumers of data science the role of statistics in the data science process.

We are living in unusual times, and we face new challenges the ASA needs to address. In my view, statisticians need to become the discussion leaders in support of evidenced-based science and policy in our society. This past year, we have witnessed the ascendancy of "alternative facts" and a new leadership in Washington that seems ignorant [of]—if not downright hostile toward—principled statistical argument.

One recent positive step taken by the ASA is the proposed development of a communication initiative to support awareness of the federal statistical system. The initiative, "Count on Stats," will be designed to educate society and stakeholders about the work performed by statistical agencies and the importance of their work.

The ASA should continue to be an influence on important national issues. For example, the ASA intends to issue a joint statement with the AMS [American Mathematical Society] to address partisan gerrymandering, advocating for fair districting in advance of the 2020 national elections. The ASA's ability to put out statements about critical societal issues on the national stage and to educate stakeholders about the consequences of proper statistical thinking is a potent combination.

Thank you for your consideration. It would be my privilege to serve on the ASA Board of Directors and to help improve opportunities for our ASA membership, as well as improve communication about evidenced-based science and policy in these critical times. ∎

Glickman

Ananda Jayawardhana
Pittsburg State University

Jayawardhana

I would be honored to serve as a member of the board of directors representing the Council of Chapters (COC). I have served in all the chapter officer positions in our chapter, as the secretary/treasurer of the COC for six years, and recently as the chair of the COC. I believe 15 years of chapter-related service has prepared me well to understand the diverse needs of the chapters.

Challenges are changing for the ASA, as well as the chapters. Declining interest in chapters among the ASA members is one such issue unique to chapters. I will work with the COC Governing Board to find ways to persuade the value of the chapters to membership. Converting student members to full-time ASA members and chapter members is another issue that needs attention.

Diversity is a very close subject to my heart. I have served on a committee to organize an annual conference on diversity among the state universities in Kansas since 2007 and have co-chaired the conference twice. I would work on improving the diversity in our profession. I believe this should start from K–12 and undergraduate classes. As an educator, I am working to recruit students to our profession by visiting schools, conducting an annual poster competition, and recruiting students from my undergraduate classes. I would promote such activities, including career fairs among our chapters, and welcome new ideas from chapters. I would be a great supporter of the ASA's education outreach activities.

I have met with local politicians and attended the meetings with our representatives at Capitol Hill to promote our profession. I will whole-heartedly participate to preserve the integrity and enhance the visibility of our profession. I trust the competence of our diverse membership, and I am confident we can find answers for the challenges ahead of us.

I would like to propose chapter-driven regional meetings to replicate the activities of the Conference on Statistical Practice. There are lot of statistical practitioners and data scientists in our chapters' catchment area who never participate in our chapter activities. We can give leadership to organize local opportunities to advance their careers. This kind of outreach could increase the chapter membership, if not the ASA membership.

As an isolated statistician in a mathematics department, I had to find my own way to success as an academic. I would like to find out the feasibility of starting a program to help starting statistics faculty members. Though this is not a chapter-related goal directly, being a member of the board of directors will provide me with the opportunity officially or unofficially to discuss the idea with the highest body of the organization.

Over the years, I have seen the natural life of chapters. COC has rejuvenated some chapters from the brink of dissolution and helped some chapters to start new chapters or merge. As the COC representative to the board of directors, I will attend to the needs of the chapters, support chapters that participate in the International Science and Engineering Fair, and advocate to continue the traveling course.

The ASA has been a very important part of my professional and private life and I am honored and happy to serve as a member of the board of directors if you provide me the opportunity. ∎

Anamaria Kazanis

ASKSTATS Consulting, LLC

It is my privilege to be a candidate to represent the Council of Chapters Governing Board (COCGB) on the ASA Board of Directors. I joined the ASA as a graduate student in the belief that there was more to statistics than just a degree. I was not disappointed. The community spirit at the Joint Statistical Meetings (JSM) inspired me to put my name as candidate to the Executive Committee of the Statistical Consulting Section. I was elected and served for three years. When I decided to devote more time to energizing the Ann Arbor Chapter, I was elected chapter representative, vice president, and president. I was appointed communications officer and then elected District 3 vice chair of the COCGB. It is an inspiration to witness the level of commitment from all elected and appointed officers to the mission of the ASA.

Statistics, data science. … Yes, there is more than just a degree! Statisticians already know statistics and data science are required for success in every industry. Meanwhile, the emergence of data science is motivating public use of statistical terminology and recognition of the role of statistics in today's world.

The ASA is perfectly positioned to increase visibility of the profession and establish itself as the big tent for statistics through education initiatives reaching into classrooms as children begin learning the scientific method, as well as advising and impacting professionals who are designing future infrastructures. These initiatives include local chapter outreach to science fairs; career days; and professional-level training available to statisticians, non-statisticians, and everyone in between. As the District 3 vice chair, I have established lines of communication with each chapter in my district. My role has been to facilitate problem solving through in-depth understanding of chapter operations. In the role of the COCGB representative to the board, I will be able to bring this understanding and experience, relaying COCGB initiatives and facilitating high-level problem solving to achieve national results through regional actions. The ASA emphasizes a local, regional, and national commitment to education initiatives in pursuit of its two missions that I believe in with all my heart and will support in my new role. ∎

Kazanis

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ASA, AMS Issue Joint Statement on **Drawing of Voting Districts, Partisan Gerrymandering**

The American Statistical Association and Council of the American Mathematical Society (AMS) issued a joint statement to inform discussions and planning around the drawing of voting districts as we approach the 2020 census. This marks the first time in recent history the two organizations have issued a joint statement of broad interest to the American public.

The statement is organized around the following three facts:

- Existing requirements for districts generally do not prevent partisan gerrymandering.

- It has become easier to design district plans that strongly favor a particular partisan outcome.

- Modern mathematical, statistical, and computing methods can be used to identify district plans that give one of the parties an unfair advantage in elections.

"While these points may be common knowledge in some circles, it's important they be stated by objective and respected authorities like the AMS and the ASA and for them to be more widely known in the redistricting discussions around the 2020 Census," noted 2018 ASA President Lisa LaVange.

AMS President Ken Ribet said, "Our community is poised to play a central role in ongoing discussions about methods for creating voting districts and the evaluation of existing and proposed district maps. It has been a pleasure for me to observe the recent explosion in interest in this topic among colleagues and students in mathematics and statistics. I anticipate that the new statement by the ASA and AMS Council will lead to increasing transparency in the evaluation of districting methods."

"Statistical and mathematical standards and methods can be very helpful to inform decision-makers and the public about partisan gerrymandering," remarked the statement's main architect, Jerry Reiter, chair of the ASA Scientific and Public Affairs Advisory Committee. "The statement acknowledges the value of partisan asymmetry as a standard, and it highlights some methods for measuring partisan asymmetry. The statement does not endorse any one method, as ultimately this issue is determined by policymakers and the courts."

In issuing the statement, the two societies also offer to connect decision-makers and policymakers with mathematical and statistical experts. Read the joint statement online at *https://goo.gl/PnCfZU* ∎

Poster and Project Competition Deadlines Near; Judges Sought

Introduce your K–12 students to statistics through the annual poster and project competitions, directed by the ASA/NCTM Joint Committee on Curriculum in Statistics and Probability. There is no cost to enter either competition.

Posters (grades K–12) are due every year on April 1. See details at *https://goo.gl/rhJW3K*.

Projects (grades 7–12) are due June 1. More information can be found at *https://goo.gl/43yxLX*. Look closely at the new rules for the project competition and a new rubric for the poster competition.

Also, judges for the 2018 project competition are needed this summer. Judging takes place via email and requires about four hours of your time. If interested, email head judge, Nathan Kidwell, at *nathan.kidwell@gmail.com*.

Puerto Rico Government Considers **Eliminating Statistical Agency**

The Government of Puerto Rico (PR) is considering a bill (PS-809) that would eliminate the Puerto Rico Institute of Statistics (PRIS), a move that—if approved—would remove the many protections in place for the independent production of statistics for the Caribbean island.

Introduced January 19, PS-809 proposes the following:

1. Replacing the PRIS with the Puerto Rico Statistics Program in the Department of Commerce and Economic Development

2. Transferring oversight of all PRIS activities from its director to the secretary of the Department of Commerce and Economic Development, effectively eliminating the director position

3. Directing the secretary to outsource through privatization all statistical functions currently performed by PRIS, as well as by the Puerto Rico Planning Board and the Government Development Bank

4. Eliminating the PRIS Board of Directors

The proposal is alarming because PRIS is an independent government agency of the executive branch with many protections in place to ensure its impartial collection, production, and communication of statistical data. The director position, for example—currently held by Mario Marazzi—is a 10-year appointment by the PRIS Board of Directors. Marazzi has full control over PRIS operations to ensure the independence of its data.

The ASA, with guidance from its Puerto Rico Chapter and other members, has coordinated with leaders of Ciencia Puerto Rico to post a petition to Governor Ricardo Rosselló and the legislature urging a stronger PRIS, instead of its dismantling. The ASA asks its members and others to sign the petition—which has gathered 2,800 names so far—at *https://goo.gl/veMRKT*.

ASA President Lisa LaVange, after learning about the precarious funding and independence of PRIS and inadequate estimates of deaths due to Hurricane Maria, wrote to Rosselló expressing sympathy for the Puerto Rican people and offering the ASA's help. Regarding PRIS, LaVange stated the following:

> Government statistics play a powerful role in any democracy. They empower the economy, serve the health and welfare of its citizens, improve governance, and inform decisions and policies in the public and private sector, among many other vital functions. Government statistics are also fundamental to evidence-based policymaking, the engagement of which is on a rapid rise in local, state, and federal governments. Government statistics are produced through rigorous scientific processes and analyses performed by experts that can function independently…. Accurate, objective, and timely statistics will help you and all PR residents.

LaVange also noted disappointment in her letter that a to-be-established panel to revise the number of deaths due to Hurricane Maria does not require independent experts in statistical analysis be involved.

LaVange's comments echoed those of a US Congressional Task Force on Economic Growth in Puerto Rico that wrote in 2016 "that the government of Puerto Rico consider appropriating a level of funding to the Puerto Rico Institute of Statistics that is commensurate with its important responsibilities … [and] that the Institute of Statistics continue to protect its independence."

Early indications there would be a bill to eliminate PRIS were surfacing as LaVange sent her letter.

In addition to signing the petition to save PRIS, read the two articles about the Puerto Rico developments in the February issue of *Significance* magazine at *www.significancemagazine.com*. ∎

Hundreds Sign Statement to Halt Legal Proceedings Against Georgiou, Colleagues

The ASA's sign-on statement in support of Andreas Georgiou—the former head of the Hellenic Statistical Authority (ELSTAT)—and his colleagues, who continue to face charges of wrongdoing by the Greek government for revising inaccurate and misleading deficit and debt figures, has garnered widespread support from a broad array of prominent individuals and organizations within the statistical and scientific communities.

Thus far, more than 45 organizations and 1,050 individuals have signed the statement, including organizations representing economists, statisticians, and researchers. The list of individuals supporting the statement is equally impressive, including the following:

- Nine Nobel laureates

- A former managing director of the International Monetary Fund

- A former chair of the White House Council of Economic Advisers

- Two former chief statisticians of the United States

- A former director of the United Nations Statistics Division

- Current and former heads and officials of national statistical offices from around the world

- Many officials and former officials of national statistical offices

- National statistical society officers

- Academicians, professionals, and dozens of Greek nationals

The statement calls on the Greek government to immediately halt legal proceedings against Georgiou and his colleagues and notes the detriment of the Greek authorities' approach to the country's economy. In addition, the statement reads:

> The continued prosecutions of Dr. Georgiou for his work, many times after findings of innocence—amounting to double or even potentially triple

Andreas Georgiou, Consultant-Official Statistics Giving the Late-Breaking Session I: National Governments, Coerced Narratives, Creative Language, and Alternative Facts. Greece: When Official Statistics Fall Prey to Political Interests at this past JSM in Baltimore, Maryland in 2017. Photo by Eric Sampson

jeopardy—are troubling on multiple levels. The prosecutions undermine the current production of Greek statistical figures, which in turn undermines Greece's efforts to end its cycles of economic crises and attract foreign investment. Trusted, credible statistical data are a cornerstone of a well-functioning democracy and a healthy economy. The prosecutions also violate the scientific freedom and human rights of Dr. Georgiou and his colleagues to present their scientifically derived statistical data without interference and to "extend and disseminate knowledge for the good of humanity."

This statement is the latest in a series of actions taken by the ASA and other statistical bodies to protect the integrity of official statistics and those who produce them in accordance with rigorous statistics rules and principles.

The ASA is still asking for people to sign the statement. If you haven't yet signed, visit *www.tinyurl.com/SupportGeorgiou*. ∎

MEMBER GIVING REACHES
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Thank you for making 2017 another successful year for the ASA! Your donations are doing so much good work, and we are incredibly grateful.

A total of $224,755 was raised in 2017 in support of ASA programs and initiatives. That is a 38% increase from last year's total of just under $163,000. These funds help the ASA do the following:

- Provide free resources and training for K–12 teachers

- Engage students through classroom projects and competitions

- Help the K–12 Statistical Ambassador deliver valuable professional development to educators across the country and advocate for better statistics education

- Help government officials and the public understand the vital role statistics plays through campaigns such as *This*IsStatistics and Count on Stats

- Provide professional development and mentoring opportunities to our community of young statisticians

A special thank you to the three anonymous Google statisticians who matched other ASA member donations up to $12,000! Once again, ASA members rose to the challenge and a total of $24,000 was raised in just under two weeks.

We can do more today than ever before thanks to these generous contributions. Your membership in the ASA makes our association strong, and your donations make it even stronger. Thank you!

Helen Walker
S O C I E T Y

Thank you to Helen Walker Society members, who contributed $1,000 or more in 2017.

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Mark Otto

Jane Pendergast

Eva Petkova

Darwin H. Poritz

Betram Price

David Pyne

Adrian Raftery

Aparna Raychaudhuri

Martin Ribe

Sarah Elise Roberts

Guilherme Veiga Rocha

Charles Rowland

V.A. Samaranayake

Abdul Sankoh

Serap Sankoh

Carl Schaper

Christopher Schmid

Paul Schmidbauer

John Schoolfield

John Schuenemeyer

Stanley Sclove

Marilyn Seastrom

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Patrick Shrout

Miles Edward Simpson

Monroe Sirken

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Nancy Spruill

W. Robert Stephenson

Yves Thibaudeau

Ronald Thisted

Carol Thompson

David Thomson

Theresa Utlaut

David Van Dyk

Steve Verrill

John Helge Volstad

Sean Walker

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Zhiwei Zhu

Stephen Ziliak

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Michael Adena

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Masakazu Ando

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John Bailer

Jarrett Barber

Chris Barker

Laurie Barker

Wesley Basel

Sam Behseta

Jonathan Berkowitz

Jesse Berlin

Cynthia Bocci

Nancy Brucken

Bart Burington

Patricia Busk

Betsy Cadwell-Gunnels

Mary Carlson

Grace Chan

Karen Chiswell

Charles Clemens Jr.

Dana Creanga

Andrew Joseph Cucchiara

Harry Michael Cullings

Francis Dane

James Dignam

Rositsa Borislavova Dimova

Kevin Dobbin

Peter Dolan

Michael Scott Douglass

Edward Drozd

Josee Dupuis

Susan and Jonas Ellenberg

Stephen Elston

Hans Engler

Arturo Erdely

Gilbert Fellingham

Julie Fondurulia

Ralph Frankowski

Rongwei Fu

Michael Fundator

Jan Theodore Galkowski

Hanna Gerlovin

Mae Gordon

Robert Gould

Timothy Green

James Hall

Harold Haller

E. James Harner

Bradley Hartlaub

Rachel Hartmeier

Daniel Hawkins

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Nathaniel Alan Heckert

Albert Noble Hendrix

Edward Herranz

Susan Hilsenbeck

David Hoaglin

John Holcomb Jr.

David Holtschlag

Ping Hu

Thomas Ilvento

Peter Imrey

William Iwig

Justin Jacobs

Peter Jaehnig

Ananda Jayawardhana

Booil Jo

Alicia Johnson

Brian Johnson

John Kalbfleisch

Sarah Kalicin

Stephen Kaluzny

Deepak Khatry

Mimi Kim

Antje Kirchner

Sarah Hurwics Kogut

Lancine Konate

Laura Kubatko

Chrisnel Lamy

Philip T. Lavin

Jerald Lawless

Kerry Lee

Russell Lenth

Sergei Leonov

Sally Lesik

Ernst Linder

Clifford Long

Stephen Looney

Thomas Louis

Thomas Love

Timothy Lutz

Valery Lynn

Krisanna Machtmes

Greg Maislin

Dalisay Maligalig

Elizabeth Mannshardt

Dennis Mar

Olga Marchenko

Leslie Ain McClure

Marcelo Medeiros

Grace Medley

Stephen Meskin

Mary-Jane Mietlowski

William Mietlowski

Steven Millard

Charles Miller

Shirley Mills

Thomas Murray

Teruo Nakatsuma

Charles B. Nam

Ronald Neath

Fassil Nebebe

Regina Nuzzo

Jane Oppenlander

Ian Parke

Rusi Patell

Roxy Peck

Edsel Pena

Gene Pennello

Eswar Phadia

Joseph Pigeon

Dudley Poston

Dale Preston

Megan Price

William Robert Prucka

Weiliang Qiu

Ray Redd

Melissa Reitkopp

Winston Ashton Richards

Edwin Robison

Richard Rode

Deborah Rolka

Igor Rubets

Estelle Russek-Cohen

Leah Sahely

Alan Salzberg

Susan Sanchez

Roger Sauter

Christian Schindler

John Schoenfelder

Howard Seltman

John William Senner

Venkatraman Seshan

Lynne Seymour

Nagambal Shah

Michelle Shardell

Takayuki Shiohama

Stephanie Shipp

Pedro Luis Do Nascimento Silva

Jeffrey Smith

Stephanie Smullen

Alexa Jean Mokede Sorant

Susan Spruill

Nancy Stambler

A. Jackson Stenner

Susan Stewart

Brad Stiritz

Charles Leslie Strecker

Donald Strickert

James Swain

Peter Swanson

Julie Tackett

Thaddeus Tarpey

Mary Thompson

Camlin Tierney

Tammy Tom

Robert Tortora

Tor Tosteson

Tomer Tsiporen

Hiroe Tsubaki

Esa Ilkka Uusipaikka

Jennifer Van Mullekom

Timothy Victor

Roger Walker

Kristie Wallace

Michael Weaver

James Weber

Sanford Weisberg

James Whipple

Andrew White

Jennifer White

Linda Whitehand

Haviland Wright

Colin Wu

Gooloo Wunderlich

Kazunori Yamaguchi

Keying Ye

Robert Yerex

Lisa Ying

Bing Zhang

Yuxin Zhang

Corwin Zigler

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Erin Abrahams

Rich Allen

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Josephine Asafu-Adjei

Robert Baker

Paul Baum

Joanne Carolyn Beer

Alvin Beltramo

Shijia Bian

Jonas Bilenas

Nicholas Bowersox

Jan Bruha

Damian Brunold

Kevin Cain

Joseph Caldwell

Vittorio Castelli

Paramita Chakraborty

Edmond Cheng

Yansong Cheng

Krishna Kiran Chotneeru

Stephanie Coffey

Brenda Collins

John Craycroft

Nairanjana Dasgupta

Yves Deville

Xue Ding

Muriel Dow

Bonnie Dumas

Leonardo David Epstein

Richard Forshee

Benjamin Frisch

Neal Fultz

Joel Galang

Stuart Gansky

Kathleen Campbell Garwood

Jonathan Adam Gelfond

Sujit Ghosh

Warren Glimpse

Jeanine Gnang

Rebecca Gore

Christopher Gray

Marilyn Greene

Joel Greenhouse

Sylvia Halasz

Janice Hartgrove-Freile

Audrey Eleanor Hendricks

Nicholas Hepler

Dilrukshi Chandima Hewage

Brennan Hodge

Richard Holcomb

Stephen Houston

Welling C. Howell Jr.

Ozenim Paul Igumbor

Philip W. Iversen

Augustus Jayaraj

Imededdine Jerbi

Kenneth Johnson

Monica Johnston

Nina Kajiji

Mona Kanaan

Ihsan Karabulut

Vatsala Vachaspati Karwe

Thomas Keefe

Eunice Kim

Hans-Friedrich Koch

Henry Kranendonk

Divya Kumar

Esra Kurum

Luca La Rocca

Margaret Land

Doug Langbehn

Kelvin Lee

Herbert Lee III

Eric Leifer

Jerry Li

Simon Harold Linder

Jean Linner

Gang Liu

Jin Long

Travis Loux

Vered Madar

Carole Makela

Binod Manandhar

Muhammad Abdul Mannan

Todd Mattson

Barbara McKnight

Phoebe McLaughlin

Lisa McShane

Michele Melia

Kathleen Mellars

Christopher H. Morrell

Mark Mueller

Vinh Nguyen

Loc Nguyen

Violeta Alicia Nolberto Sifuentes

Michael Nolte

Julia Norton

Thomas Nunnikhoven

Robert O'Brien

Frank Olken

James O'Malley

Megan Orr

Edgar Ortiz

James Peck

Raymond Peck

Jiayu Peng

Edward Perrin

Karriem A.J. Perry

Luigi Pieri

Laila Poisson

Kyle Porter

Dionne Price

Memorial Gifts

Gifts were made in fondest memory of the following individuals:

Xingdi Shi	Gertrude Cox	T.W. Anderson
Martha Aliaga	James R. Thompson	Bernard Harris
Belayet Hussain	Lawrence Cox	Patrick Carmack
Bob Hogg	Merle Stangl	Emanuel Parzen
Chen Zipei	Rita Zemach	

Gifts in Honor

Gifts were made in honor of the following:

Ron Wasserstein	ASA's Immigration Statement
Herman Chernoff	James E. and Sharron L. Bennett

Larry Price

Philip Prorok

John Ragland II

Carol Redmond

Maureen Taylor Reiner

Angela Ren

Danny Rithy

Russell Roegner

Robert Rosenfeld

Janet Rothers

Juan Salazar

Stephen Salbod

William Ellery Samuels

Sanjaya Kumar Saxena

Patricia Scanlan

Mark Schluchter

Stephen Senn

Babak Shahbaba

Mohammad Shakil

Gary Shapiro

Abbass Sharif

Julia Sharp

Eric Siegel

Jonathan Siegel

Susan Simmons

Harvey Singer

Janet Sinsheimer

Mary Ellen Slaughter

Richard Smiley

David McCulloch Smith

Robert Smith

Boubacar Sow

Kenneth Soyemi

William Stager

John Staudenmayer

John Stickler

Mark Strong

Dionne Swift

Josh Tabor

Steven Thomson

Margot Tollefson

Nancy Torrieri

Charles Twardy

Jeffrey Vaks

Carl Norwood von Ende

W. Duncan Wadsworth

Brandie Wagner

Peter Westfall

Roseann White

Brian Whitlow

Colin Williams

Jean Williams

Rebecca Wong

Dongfeng Wu

Ling Xu

Yuxin Xu

Robert Yaffee

Kathleen Yeater

Marian Yong

Binbing Yu

Jerome Yurow

Sahar Zangeneh

Jun Zhang

Celebrating WOMEN in STATISTICS + DATA SCIENCE

In honor of Women's History Month, we are celebrating more than 30 ASA women who work in statistics and data science. These accomplished women were chosen because they inspired and influenced other women in their field. Read their full bios at *www.amstat.org/wis* and find out why they chose statistics, who influenced them, and what they have accomplished.

ALICIA CARRIQUIRY hated her first job, and this motivated her to pursue a graduate degree, which eventually led her to become the first female full professor of statistics at Iowa State. Since then, she has mentored 20 doctoral students and was principal investigator on a large award that helped establish the Center for Statistics and Applications in Forensic Evidence.

EMMA K. T. BENN questioned why racial/ethnic minorities were not adequately represented in the field of biostatistics. Eventually, she co-founded the BEST Diversity Program, a summer program to expose under-represented minorities, economically disadvantaged students, and students with disabilities to biostatistics and its applications to cardiovascular research and public health more generally.

MINE ÇETINKAYA-RUNDEL—who is originally from Istanbul, Turkey—works on the OpenIntro project, whose mission is to make educational products that are free and transparent and to lower barriers to education.

BETH CHANCE always had a talent for mathematics and a love for human learning, but was never sure what she could "do" with them. Eventually, she discovered she could teach statistics and make it as applicable as possible to anyone who will listen. This past year, she received the Text and Academic Authors Association Award for Most Promising New Textbook.

Having received very theoretical training at the University of North Carolina, Chapel Hill, **MARIE DAVIDIAN** learned through "trial by fire" how to be an effective applied statistician-collaborator. Her first book, *Nonlinear Models* for *Repeated Measurement Data*, co-authored with David Giltinan, is considered a seminal text on nonlinear mixed effects modeling and pharmacokinetic analysis.

As a first-generation student, **REBECCA DOERGE** studied theoretical mathematics at the University of Utah. There, she gained an interest in both computing and human genetics. Now dean of the Mellon College of Science at Carnegie Mellon University, she has earned mentoring awards and was elected Fellow of the AAAS and ASA in 2007.

FRANCESCA DOMINICI always loved mathematics and probability, but statistics was love at first sight because she could become an expert in different fields as long as there was data. Her studies have directly and routinely affected air quality policy and led to more stringent ambient air quality standards in the United States. For her contributions, she has earned the Janet Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences.

MICHELLE DUNN fell in love with statistics on her way to freshman year at Harvard, after studying for a quantitative reasoning test. Now, she is CTO and co-founder of Data Collaboratory, a technology company that builds data science tools—and a company she built from the ground up. Michelle's goal is to continue to put into action what she has learned about leadership from her hero, statistician and hiring manager Brenda Edwards.

MONTSE FUENTES began her journey as a pianist, but developed an interest in statistics as a way to transform data into knowledge. As a dean now, promoting inclusive excellence and bringing leadership opportunities and career success to women and minorities is a priority for her.

Benn's photo by Marcia Wilson

Dominici's photo by Kris Snibbe/Harvard Staff Photographer

RACHEL HARTER was inspired to study statistics during an internship at Oak Ridge National Laboratory. Being an academic was not her calling, so she jumped at the chance to work as a survey statistician. Now she oversees the statistical work on RTI's largest survey project.

AMY HERRING always asked questions and never said no to an opportunity, even when it involved being a team statistician for her high-school basketball team. Now, she loves to bring research topics into the classroom and is consistently on the lookout for potential statistics scholars to recruit.

MONICA JACKSON began her research career when she was an undergraduate student at Clark Atlanta University. Since then, she has, as a spatial statistician, worked on applying her spatial techniques to a wide variety of medical problems. Now she is invested in developing research programs for undergraduate students.

FRAUKE KREUTER grew up in Heidelberg, Germany, and has had a passion for math and statistics from early on. As a statistician, she has leadership roles in multiple institutions—including on several continents. She makes all these positions work through wonderful teams and partnerships.

SHARON LOHR became a statistician because she liked math, but did not want to be restricted to one narrow area of scholarship. In 2014, she became the first woman to give the Deming Lecture. Today, she is a freelance statistical consultant and writer, following a 25-year career in academia.

For as long as she can remember, **KRISTIAN LUM** has enjoyed math and logic puzzles. Her interest in math took off in high school when she took calculus from an excellent professor at the local community college. She has concentrated on applying statistics to important problems in human rights ever since and is the lead statistician at the Human Rights Data Analysis Group, where she examines the use of machine learning in the criminal justice system.

WENDY MARTINEZ, who served as an active member of the US Army Signal Corps for several years, became interested in data science when pursuing her PhD at George Mason University. She held the position of science and technology program officer at the Office of Naval Research, where she established a research portfolio comprised of academia and industry performers developing data science products for the future Navy and Marine Corps.

Born a highly competitive math nerd, **BHRAMAR MUKHERJEE** rose through the academic ranks while being a full-time single parent with no family support. Now a professor of biostatistics, she is also associate director for cancer control and population sciences at the University of Michigan comprehensive cancer center.

BONNIE RAY always loved mathematics, but it was during a summer internship at Texas Instruments that she began to appreciate the power of computing. She currently leads data science activities at Talkspace, a NYC-based startup that enables improved mental health for all by providing an affordable, accessible, and secure platform for messaging-based psychotherapy.

The daughter of two immigrant doctors, **SALLY MORTON** has focused her career on health policy with the objective of using statistics to help patients and their families make better health care decisions. She chose to study statistics because she enjoyed applied mathematics and desired a career with the potential for helping people live a better life.

SUSAN MURPHY always loved mathematics and made it a career when she realized statistics could use mathematics to improve our society. In 2013, she was awarded a MacArthur Fellowship for her work on experimental designs to inform sequential decision-making.

When **RACHEL SCHUTT** was five years old, her father realized her primary school was directing the girls to practice knitting while the boys solved math problems. He intervened and came to the class to teach the girls set theory. Her interest in math persisted and she went on to become one of the first chief data scientists of a Fortune 500 company.

Martinez's photo by Barbi Barnum from Studio B Photography

Murphy's photo by Eliza Grinnell

Lohr's photo courtesy of Southwest Portraits

Inspired to study statistics while earning her undergraduate degree, **KIMBERLY SELLERS** has gone on to be recognized both nationally and internationally for her work on generalized statistical methods involving count data that contain data dispersion and image analysis techniques. She is also actively committed to diversifying the fields of mathematical and statistical sciences, both with respect to gender and race/ethnicity.

As a first-generation college student, **DALENE STANGL** studied psychology and sociology at Iowa State University, but it was her research in the area of mental health that convinced her to pursue a PhD in statistics. Among her many achievements, she garnered four strategic initiative awards—one that kick-started the popular Celebrating Women in Statistics and Data Science conference.

JESSICA UTTS developed a love of teaching and a passion for promoting statistical literacy during her graduate years at Penn State. Watching her sister and mother struggle through formula-based statistics courses prompted her to write two literacy-based textbooks: *Seeing Through Statistics* and *Mind on Statistics*. She has won awards for outstanding teaching and has served in a variety of leadership positions.

DANIELA WITTEN is the recipient of a number of honors, including an NIH Director's Early Independence Award and the Gertrude Cox Scholarship. She is committed to translating key concepts in statistical machine learning to a broad scientific audience and is also a co-author of the extremely popular textbook, *Introduction to Statistical Learning*.

After receiving tenure at Cornell, **DAWN WOODARD** went on sabbatical at Microsoft Research, where she created travel time prediction methods for use in Bing Maps. She then transitioned to a role at Uber, building and leading their Marketplace Optimization Data Science organization, which is one of the premier data science teams at Uber and includes specialists in operations research, economics, statistics, and machine learning.

XIHONG LIN gained an interest in statistics while working on her undergraduate thesis on analysis of time-series data. She currently works on whole genome sequencing association studies, genes and environment, integrative analysis of different types of data using causal mediation analysis, and analysis of electronic medical records.

When **LINDA YOUNG** went to the Oklahoma City zoo with a team working to determine why the golden marmosets were getting sick, she knew she wanted to be a statistician. Young has since explored her interests in agriculture, the environment, and education and, recently, has worked with others to explore the potential of web scraping to develop list frames for surveys.

BIN YU was born in Harbin, China, and grew up during the Cultural Revolution. When she was little, her cousin gave her a math book that hooked her on math. Bin's current research interests focus on statistics and machine learning algorithms and theory for solving high-dimensional data problems. She shares her knowledge by serving on many editorial boards from different societies.

HAO HELEN ZHANG was born and raised in Taiyuan, Shanxi Province, China. From a young age, she was passionate about mathematics. Since then, her research has been supported by NSF, NIH, and NSA. She also serves on several editorial boards of professional journals.
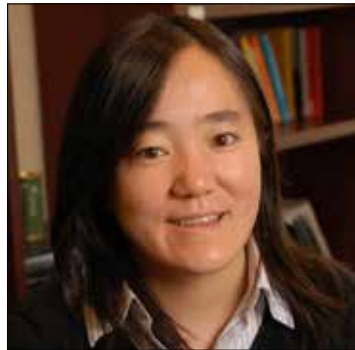
TIAN ZHENG grew up in Beijing, China, and her interest in statistics stemmed from her keen curiosity about complex patterns and trends in natural and social phenomena. Currently, she works in machine learning, spatiotemporal modeling, image analysis, and social network analysis and earned the Outstanding Statistical Application Award in 2008.

KELLY ZOU is a native of Shanghai and her work on receiver operating characteristic analysis has led to her being the recipient of the Stauffer Award for the best article published in *Academic Radiology*. She has received multiple prizes in the ASA Biopharmaceutical Section's poster competitions and Statistical Significance contests and held a number of leadership roles.

Read their full bios online at *www.amstat.org/wis*.

Witten's photo by Jenny Jimenez, photojj.com

MASTER'S NOTEBOOK

A Master's in Statistics from a Scientist's Perspective

Sheila Rosenberg

Sheila Rosenberg recently began working as a data scientist at Kaiser Permanente. She completed a master's in applied statistics from Colorado State University and a PhD in neuroscience from the University of Southern California. She also completed postdoctoral training in neuroscience, bioengineering, and clinical research at the University of California, San Diego.

I always enjoyed math when I was growing up. When I was in college, my mom wisely suggested I pursue a career in something math related. I remember telling her I liked the idea, but I wasn't sure how to use math to help people. As I discovered later, there are clearly many ways to use math to help people, and there are several careers—including ones in statistics, engineering, etc.—that provide this opportunity.

At the time, I hadn't made that connection, so I went to graduate school to study neuroscience instead, with the goal of developing new therapeutic treatments for diseases. I began by examining molecular strategies for treating diseases and gradually ventured into translational, bioengineering, and clinical research, where I had the opportunity to help develop and evaluate therapeutic treatments for a range of medical conditions.

Interestingly, this career path kept leading me back to the need for quantitative approaches. As soon as I started working with human subjects, I discovered I needed statistics to balance my groups, determine the relationship between sample size and power, optimize my study designs, and analyze my data. The exciting potential for simultaneously analyzing physiological, behavioral, and clinical data highlighted the need to learn approaches to evaluate multi-modal data and draw useful conclusions.

I was fortunate to work with a postdoctoral mentor, Todd

Coleman, who exposed me to myriad opportunities for using quantitative methods to uncover biological mechanisms and, ultimately, advance medical care. I could see the value of being a scientist who collaborated with analytical experts. But I also found myself feeling a little envious of the statisticians and engineers I met, because they had the opportunity to develop and use interesting quantitative methods to analyze data.

Shortly after starting a position in which I was designing, implementing, and analyzing research studies in a neurological rehabilitation hospital, I kept finding myself with questions such as the following:

- What is the right analytical method to use to analyze this data?

- What kind of power do I have with these small groups?

- How do I make predictions about which patients might benefit from certain treatments based on their physiological results?

In my efforts to answer these questions, I struggled to know what resources to use and became lost trying to follow the more mathematical explanations I discovered online. I decided that if I wanted to continue to advance and optimize my scientific endeavors as an independent investigator, I really needed to learn more math and pursue additional training as a statistician.

Going back to school was hard—harder than I expected.

But worth it. I just completed my master's in applied statistics about a month ago, and I am now actively searching for a job. While I don't know yet what my next career phase will look like, I believe pursing the master's was completely worth it and came with many benefits (some more unexpected than others). Here is what I learned through the process and reasons I would highly recommend a master's in statistics:

Distance learning programs offering flexible schedules make a master's degree accessible and adaptable. From what I have seen, the number of graduate programs offering a distance learning option is continuing to increase. Many of these programs seem willing to accommodate students who want to work and go to school or take classes full time. This means you have the flexibility to find a program with a curriculum and schedule you like (hopefully) without having to relocate (in case that isn't an option). There are certainly downsides and drawbacks to not being in the classroom, but video lectures work pretty well and provide the opportunity to rewind and review material. Some professors offer options like office hours over Skype. And many schools, libraries, and testing centers offer proctoring services for you to take your exams locally. Overall, I think the system works well and likely will only improve with time.

The statistical community seems very welcoming and friendly. In my experience so far, statisticians seem to be awfully nice overall. For example, I attended a

local San Diego Chapter event and former ASA president Jessica Utts gave a talk. I ran into her later and she was extremely friendly and approachable. I've also been amazed at the amount of interaction that takes place through the ASA chapter and section emails. There seems to be many opportunities for students and recent graduates, as well as outreach globally (with organizations like Statistics without Borders).

You can make great new friends with unique perspectives. I interacted with great classmates through the online discussion forums my courses offered. I also was extremely lucky to form a study group with three other distance-learning students, all of us located in different places with different backgrounds and careers at different stages of our lives. This group made the program infinitely easier and more enjoyable. We had the chance to help each other with assignments and work together on group projects. It was great to have moral support and humor and advice from each other, and I would never have predicted I'd leave the program with these great new friends.

You will develop a fun and exciting set of tools and build a quantitative foundation. I was lucky to find a program at Colorado State University focusing on applied statistics while emphasizing quite a bit of theory and underlying calculus/linear algebra, which was what I wanted. I felt this combination has enabled me to continue to learn on my own after graduating, because I can speak the mathematical language in a way I wasn't able to before completing the master's. For me, the coursework was challenging, but also extremely interesting and intellectually satisfying.

You will learn how to code (and have to develop a lot of patience while trying to code). I had never coded in SAS or R

before starting the master's program. It was a bit of a rough learning curve initially, but like learning any language, immersion was definitely effective. The practice I gained with coding was both insanely frustrating at times and incredibly valuable. Plus, it exposed me to the vast resources and advice for coding available online. As my study group often remarked, it's also amazingly satisfying when you find that one silly error in the code you've been stuck on for hours and get the code to compile successfully!

You will expand (I think!) your career opportunities. I don't have a new job yet, but I'm now qualified to apply for a fresh set of jobs as a result of the master's degree. I'm hoping to combine my previous experience in research with my statistical training and continue to work on the discovery and development of new therapeutics. It's thrilling to

have a whole new arsenal of strategies for analyzing biological data, but it's also exciting and useful to know having a master's in statistics should allow me to explore new fields if I desire. The statistics community provides an exciting arena, where people may work in many environments with different goals but come together and speak a common language to provide ideas from disparate fields that might be useful to your project. There also appears to be ongoing potential to move between fields because of the relative generalizability of many statistical techniques.

If you are like me and you enjoy variety and the opportunity to try new experiences, I think you'll find a master's in statistics rewarding. You'll also be excited to hear the quote by John Tukey really does appear to be true: The best thing about being a statistician is that you get to play in everyone's backyard. ■

PENN STATE | STATISTICS DEPARTMENT

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PASTIMES OF STATISTICIANS

What Does Claire Bowen Like to Do When She Is Not Being a Statistician?

Bowen, after a day of training for the Ironman, hulks in front of the White House.

Claire Bowen

Out front, #17 runs past her competitors during the Kalamazoo Klassic in 2016.

Who are you, and what is your statistics position?

My name is Claire Bowen, and I am a statistics PhD candidate in the applied and computational mathematics and statistics department at the University of Notre Dame.

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

When I'm not being a statistician, I participate in endurance races such as marathons and triathlons.

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

During high school, I was overweight and could barely run a mile. Originally, I joined the cross country team as the student manager and started running to keep up with the team better. Through the encouragement of the team and coach, I changed to a runner by the end of the season.

Since then, I discovered I enjoy long-distance races. I completed my first marathon when I was 19 and my first half-Ironman when I was 24. My goal is to complete an Ironman before I am 30.

I continue this hobby to help maintain a healthy lifestyle and for the overall positivity I've experienced from running and triathlon communities. Being overweight before, my training keeps my physical and mental health in check more easily. I love that I can do other physical activities like hiking and snowboarding without being exhausted afterward. My stress has gone down considerably, and training breaks up my day when I'm stuck on a research problem (or sometimes I figure out the problem during a run).

I joined the local biking and triathlon clubs, where I have the opportunity to meet people in different social groups. In these endurance race communities, everyone is encouraging and positive about the sport they're in, because it doesn't matter how you perform in the races. What matters is that you are swimming/biking/running and you are doing it for you, becoming the best you can be. ■

STATS4GOOD

DataKind's Vision Zero Traffic Models Save Lives

DataKind is one of the most prominent organizations in the Data for Good volunteer movement. Founded in 2011 by data scientist Jake Porway, DataKind (*www.datakind.org*) has grown rapidly to become a large, global organization making a great impact, with thousands of volunteers working on dozens of projects. Headquartered in New York, DataKind has chapters in San Francisco; Washington, DC; London; Dublin; Bangalore; and Singapore and hosts events around the world. The organization combines the resources of a large number of volunteers with a smaller cadre of professional staff. With substantial financial support from foundations, grants, and other donations supporting a multitude of projects, DataKind is a powerful engine for using data and analytic science to make a difference in communities and around the world.

For many projects, DataKind partners directly with other organizations—not-for-profits, nongovernmental organizations (NGOs), and government agencies—engaged in addressing problems and creating solutions with data science. DataKind also collaborates with corporate data science efforts, partnering with Informatica, Cloudera, Pivotal, Microsoft, and others. Volunteers often work closely with a project team centered on a particular issue or organization.

DataKind's labs are large, long-term projects with many volunteers led by DataKind core professional staff. Data Corps projects connect volunteers with a social service or community group to use data science to further the organization's goals. DataKind also offers opportunities for short-term projects, including engagements with a four-hour stint and weekend Data Dive events.

With its own core professional staff in addition to many volunteers, DataKind offers opportunities for direct employment in Data for Good. DataKind is well known and respected in professional circles.

One large DataKind project now underway is with Vision Zero, an international traffic safety project working to design a highway system with zero fatalities or serious injuries. Vision Zero started in 1997 in Sweden, which saw a 42% decrease in traffic fatalities between 1999 and 2009, even as traffic volumes were increasing. After being copied in various ways in several European countries and Canada, DataKind collaborated with Microsoft to begin a project early this year aimed at applying Vision Zero goals, principles, and methods to cities in the US.

DataKind's multi-year Vision Zero project targets three American cities: New York, Seattle, and New Orleans. This partnership with Microsoft and the city governments has already produced a number of important statistical models. "Exposure" models to estimate traffic volumes have been developed for New York and Seattle. These models are able to estimate traffic volumes on individual streets throughout these cities. The information makes a critical difference in planning and evaluating accident mitigation strategies: While the cities have had good data on outcomes—the accidents—for some time, predictor information has been incomplete. Armed with traffic estimates at the individual street level available for the first time, this ongoing analytic work is developing models to save lives.

While the exposure model can be applied to different cities, several models developed by the DataKind Vision Zero project have been designed for specific locations. In New York, a crash model identifies accident locations and the street features associated with them. In Seattle, with the highest rate of bicycle usage among the first three cities, a suite of models examines vehicle collisions with bikes and pedestrians. In New Orleans, an impact assessment tool measures the effects of treatments to improve traffic safety, such as improved signage.

This project displays many important characteristics of the Data for Good movement. An organization engaged in the public good—in this case, the city governments seeking to reduce traffic accidents—has some data, but lacks the analytic resources to leverage it. Volunteer data scientists provide the needed expertise to manage existing resources, develop new data sources, and provide analytics needed to empower action for the good of all. In each city, the DataKind team is developing data infrastructure and models that can be adapted to other cities across the country and around the world.

As one of the leading Data for Good organizations in the world, DataKind offers many opportunities for statistical volunteers—and even a few professionals. With large and small projects partnering with social organizations, NGO's, government agencies, and others, Data for Good with DataKind is one of the most important channels for statisticians working for the benefit of society. ∎

With a PhD in statistical astrophysics, **David Corliss** works in analytics architecture at Ford Motor Company while continuing astrophysics research on the side. He is the founder of Peace-Work, a volunteer cooperative of statisticians and data scientists providing analytic support for charitable groups and applying statistical methods to issue-driven advocacy in poverty, education, and social justice.

MORE ONLINE
Find out more about the Vision Zero project at *https://goo.gl/SZDVgH* or learn about DataKind projects at their Get Involved monthly roundup at *www.datakind.org*.

MORE DATA for GOOD
On March 14, the National Academies of Sciences, Engineering, and Medicine are presenting a conference, Data Matters: Ethics, Data, and International Research Collaboration in a Changing World in Washington, DC. Registration is free. *https://goo.gl/M6cBYF*

JSM Session: The Leadership Journey for Statisticians

Mark Otto and Gary Sullivan

At the 2017 Joint Statistical Meetings, four statisticians representing government, the business/private sector, and academia participated in a panel discussion, "The Leadership Journey for Statisticians," organized and chaired by Gary Sullivan. Panelists shared their perspectives and experiences regarding the importance of leadership for statisticians and how leadership skills are developed. Here are excerpts from that discussion. In addition, 2018 ASA President Lisa LaVange shares thoughts about her planned leadership initiative.

What Is Leadership?

GARY: *One definition of leadership is the ability to inspire people to take a specific direction or action when they truly have the freedom of choice to do otherwise. Will you start by saying a few words about your experiences and perspective on the importance of leadership development for statisticians … or your first realization of the importance of leadership?*

STACY: My first realization of the importance of leadership came when I found myself asking how can I be more involved? Ask yourself what do you want to do or what are you passionate about. How do you want to commit your time and energy? You cannot lead if you do not have that passion and take that first step.

BOB: Leadership development—gaining the ability to influence others—is critical for statisticians, because collaborating with people in other fields is a fundamental aspect of our work. Few statisticians enter their careers intending to become leaders. I certainly didn't, and I was unprepared for my first management assignment. However, as I have learned over time, statistical leadership does not come with a title; it is emergent, rather than assigned. You become an emergent leader by recognizing a problem that matters to your organization, moving to the middle of the situation, and influencing others to accomplish a common goal. Statisticians who can do this are increasingly valued in today's data-driven organizations, and so we should all be prepared to become leaders.

DUBOIS: Leadership is a skill. Skills can be developed. We may each possess an aptitude for certain aspects of leadership, but we are all capable of working to become more effective leaders. A common

Gary Sullivan recently retired from Eli Lilly and Company, a major pharmaceutical research and manufacturing company, where he was the senior director for nonclinical statistics. He earned his PhD in statistics from Iowa State University in 1989. His current focus is leadership development for statisticians, and he is the chair of the ASA's Ad Hoc Leadership Training Committee.

model for academic leadership is to find individuals who have been successful researchers and educators, and then recruit them to be leaders. Success largely rests upon what one can learn from on-the-job training! This is clearly not an optimal model for building effective leaders.

There are an increasing number of opportunities to advance one's leadership skills through formal courses, workshops, or reading, and I highly recommend them. The first such course I took was while I was at an early career stage, transitioning from an assistant to associate professor. I found the experience to be enlightening, and it helped to orient my thinking toward leadership, to expand my leadership and management skills, and to expand my network by connecting me to other current and emerging leaders at the institution.

NANCY: I always had role models … my mother was a role model. I also took on leadership roles as early as when I was a junior counselor at day camp. I took on leadership roles starting in high school and on into college. My mother was always there (figuratively). Gestalt workshops helped. I was acting head at Sloan-Kettering, but didn't get the real position. Nevertheless, I kept on persevering.

GARY: *Can each of you talk about some leadership characteristics or competencies that are especially important to develop if one is to become a statistical leader?*

NANCY: Eye contact is important. … Do you know what the difference is between a mathematician and a statistician? The statistician looks at your shoes when (s)he talks! It's important to read body language and communicate effectively. You also need to be able to explain statistical concepts in layperson's terms.

DUBOIS: Lead from a position of principles, driven by strong moral and ethical standards. Simply stated, try to do the right thing. I select this competency because, in many ways, it allows us to tap into skills that are very natural to us as statisticians. If you can approach leadership issues from a perspective of principles, then the path toward a solution can almost be approached in the same manner you would approach a research problem or statistical analysis.

Our training equips us with skills to listen, frame a problem, gather and synthesize information, analyze available data, make decisions informed by data, and

Nancy L. Geller is director of the Office of Biostatistics Research at the National Heart, Lung, and Blood Institute of the National Institutes of Health, where she directs a group of 12 statisticians. She is a Fellow of the American Statistical Association and was ASA president in 2011.

F. DuBois Bowman is chair of the department of biostatistics in the Mailman School of Public Health at Columbia University and the Cynthia and Robert Citrone – Roslyn and Leslie Goldstein Professor of Biostatistics. He is a Fellow of the American Statistical Association and has served as president of the Eastern North American Region (ENAR) of the International Biometric Society.

Bob Rodriguez is a senior director at SAS Research and Development with responsibility for the development of statistical software. He earned his PhD in statistics from The University of North Carolina. Rodriguez is a Fellow of the American Statistical Association and served as ASA president in 2012.

Stacy Lindborg is the vice president of biometrics at Biogen, one of the world's leading biotechnology companies. She has a PhD in statistics from Baylor University and more than 20 years of experience in the pharmaceutical industry. She is a Fellow of the American Statistical Association and has held multiple elected positions with the ASA and International Biometric Society, Eastern North American Region.

communicate decisions effectively back to stakeholders. As statisticians, we often find ourselves the member of a research team helping to ensure rigor and maintain scientific integrity. This position enables us to proceed in a relatively objective and unbiased way. Similarly, leading from principles with high ethical standards allows us to have conviction that we are doing the right thing, regardless of who falls into the winners and losers columns, even, in some cases, if you happen not to benefit directly from a decision. Ultimately, this approach generates respect from colleagues and your principle-based leadership may deliver, rather than agenda-based leadership.

BOB: Business savvy is a critical competency. It means knowing the needs of your customers (internal or external) and understanding the processes by which things get done in your organization. It also means speaking the language of the business and applying metrics used by decision-makers. Another name for business savvy is organizational understanding, and it is a must for statistical leaders in any sector. For instance, as a newly elected vice president of ASA in 2005, I realized I had much to learn about the operation of the board of directors. I turned to one of our former presidents, Bob Mason, who painstakingly explained the board's structure and functions. The insights I gained from Bob substantially benefited my subsequent work on the board.

STACY: Have humility when you step into leadership roles. Understand the business from different levels and expertise. With a humble attitude, you are open to listening and learning. It gives you the ability to create an environment with more trust. One should not be discouraged by failures or setbacks, but instead use them as opportunities to look more closely at what went wrong and how you can learn. Let me give an example.

When I was at Eli Lilly, I took a leadership role outside my comfort zone as head of R&D strategy and decision sciences. Early in my role, I was networking, collaborating, listening, motivating areas of transformation—in short, I thought I was rocking my role! In a regular 1:1 meeting, my boss looked at me and asked, "How are we going to help you be successful?" I didn't even know I wasn't focusing on what they were seeking. This question was so incredibly helpful and crucial to my success. To be successful, I had to step back and explore what the focus of my role should be, seeking different perspectives.

AUDIENCE: *How do you identify and pursue the right opportunity?*

STACY: Early in my career, I turned down a few administrative jobs, opting to focus on technical roles. I ultimately took my first administrative position because it provided the opportunity to influence the entire early-phase portfolio. I could help translate areas that needed transformation (statistical innovation) across the whole early portfolio versus the much slower approach of motivating change one team at a time. Our focus could align our organization with

what we saw as opportunities and drastically speed up the adoption rate.

But it doesn't take an administrative, or even a big, role to grow as a leader. Taking on smaller leadership roles can also be very beneficial. For example, I served as the program chair for the Midwest Biopharmaceutical Statistics Workshop. Through this role, I learned how important it was to listen to all voices and leverage diverse input as I made key decisions for the conference.

DUBOIS: I think it is never too early (or too late) to pursue leadership. I encourage faculty and staff to lead from where you are, whether on research teams, in education programs, committees, etc. Look to your passion to invest your time, energy, and creative ideas. But don't discount serendipity, either, as often leadership opportunities will find you!

NANCY: Opportunities came to me and I said, "I guess I can do that," even if I never did it before. When I was asked to be ASA president, I was not active in the ASA. It was an honor to serve. Before I accepted, I thought the other parts of my life and my other responsibilities would not suffer. (Boy, was I wrong!) If you overcommit, you will not have the time for what is important.

STACY: I agree. Leadership is a marathon, not a sprint. Do your best in anything you do, but don't try to do everything.

GARY: *What role does mentoring play in leadership development, and how has it helped you?*

BOB: Early in my career, as a statistician at GM Research Laboratories, I learned the importance of effective technical writing from outstanding leaders such as Gary McDonald (statistics) and Joseph Colucci (fuels and lubricants), who not only modeled it in their own publications, but also spent many hours critiquing drafts of my papers. Looking back, I gained writing skills that have served me well throughout my career, and I learned leaders can have lasting impact by coaching younger colleagues in areas such as communications and leadership. I now apply that leadership lesson by coaching people in my group in those areas.

DUBOIS: Mentoring is a vital part of leadership development. I have benefitted directly from mentors over my career and have never hesitated to reach out to people, even now, to discuss or seek guidance on leadership matters. On the other side, while I don't officially mentor junior faculty to avoid potential conflicts of interest, I view myself as a resource for all faculty and try to identify opportunities for faculty to step into leadership roles within my department or school.

STACY: Whatever enabled success at your current level will not necessarily make you successful in a

future role. You may need new mentors at each stage of your career. When looking for a mentor, think of the skill sets or people who will have perspective on your future role and get a diversity of input.

BOB: Whether or not you have a good mentor at work—and that's not always possible—consider active involvement in the ASA as a wonderful way to meet outstanding people who share your interests and can benefit your career through their examples, their encouragement, and their advice. What it requires from you is a commitment to serve with others. I owe much of my professional development to working with talented volunteers on ASA committees.

NANCY: Being in a top position is lonely, and having someone to talk to is important. It's good to seek feedback and to get input from the outside. Among my colleagues, I encourage people to seek me out and ask questions. I will try to answer with empathy. I do know that my title gives me authority and I need to use that power wisely.

AUDIENCE: *With the explosion of data science, how do statistics and statisticians get in the conversation and lead effectively?*

STACY: It is not us versus them. We have a common interest in solving a problem, but we are so rigorous, we often can come late to the game. Data science and statistics have different training focuses. Focus on interests, rather than positions and stances. Focus on the solutions, not on the problems.

BOB: We need to avoid the perceptions that we are naysayers whose aim is to enforce statistical rigor, and that we are there solely to crunch the numbers at the back of the conversation. If we acquire the competencies of emergent leaders, we are more likely to be invited to shape the problem at the front of the conversation, where we can advise data scientists, business people, and others about ways to design studies and acquire data that can provide useful options and relevant answers to important questions. That is increasingly the case in companies where new sources of data are now being used to drive strategic direction and create customer value.

NANCY: The data science and statistics divide is not any different from other divides we have experienced, like with statistics and epidemiology, statistics and genetics, or statistics and bioinformatics. It is in some ways a difference in personality and expertise. Go the same way we go after other collaborations, with our expertise in modeling, analysis, and other methods.

GARY: *What are some common characteristics of statisticians that make them strong leaders?*

DUBOIS: We are collaborative, critical thinking, thorough, analytical, and effective communicators

across disciplinary boundaries. These skills position statisticians to play central leadership roles in complex organizations. I draw upon these skills to lead my department, as a leader in my school (among peer departments), and in university-wide initiatives.

STACY: We need to be aware that we can provide a perspective and a way of thinking that others can't.

AUDIENCE: *How do you handle a situation where the management asks for help, but then doesn't use the work of the technical staff, and the leadership just lurches from one crisis to another?*

DUBOIS: First, I think it is critical to empower staff to develop and implement solutions. Engaging employees to develop solutions without implementation is a recipe to weaken enthusiasm for future endeavors. Leaders must be agile enough to address emergent crises. However, it is ultimately much more effective to proceed in a proactive and strategic fashion. When crises emerge, one has to step back and examine the underlying issues. There are those who push to get things done immediately and those who work to understand the drivers of the problems, enabling them to formulate more sound solutions. I acknowledge that delivering timely solutions is important, but often it is more impactful to slow things down, pay attention to the context, prioritize, and develop and implement solutions that will achieve greater success.

BOB: I have found that not all crises are created equal, and many quickly evaporate. If you are in a technical role, business savvy can help you distinguish between passing crises and real crises (where you can contribute). If you are a manager, don't add to a passing crisis by redirecting the pressure you are under to the people in your group. Then, when a real crisis comes along, they will be more likely to respond appropriately.

STACY: You can take what you learn from other facets of your life and apply that to solve problems and become a better leader. For example, sometimes my children don't tell me what is bothering them; they simply act out. I have learned to "listen" by looking at the situation and the body language. Being able to read people makes me a better manager and leader. People want to be heard and feel important. Motivating my kids is not so different from motivating my staff. But don't tell them!

NANCY: I like peace. I like my colleagues to be at peace with one another. If one behaves badly, I have a one-on-one and we talk about how what they are doing is not effective. As there is a great deal of diversity in our profession, we need to appreciate different backgrounds, styles, and cultures, but not talking to one another is not permitted. I make it clear to my staff that we will need to have professional interactions.

During the Q and A session with the audience, Lisa LaVange, ASA president, described her presidential initiative to establish a leadership institute at the ASA. The institute will centrally house leadership training materials and resources for easy access by ASA members currently in leadership positions or interested in pursuing one in the future. In addition, she has chosen #LeadWithStatistics as the theme for JSM 2018. Details about her leadership initiative and plans for JSM 2018 will be announced in the coming months.

As the panelists shared, there are many paths for leadership development and many opportunities for statisticians to lead. The topic of statistical leadership has received an ever-increasing amount of attention within our profession in recent years, including courses, sessions, panel discussions, and webinars. As stated so well by 2012 ASA President Bob Rodriguez, "Leadership ability is a prerequisite for the growth of our field because statistics is an interdisciplinary endeavor and our success ultimately depends on getting others to understand and act on our work." The journey starts with becoming a student of leadership and encouraging others to do the same!

GARY: *What is the one thing you would want to say to yourself when you were starting out?*

STACY: Be accountable for your own growth. Find ways and find time to keep learning and growing. For example, as a young family with two working parents, my free time is limited, so one way I learn is to listen to TED talks while exercising, versus reading. This will change as I enter new life seasons, but no matter the season, you have to come up with ways you can grow.

BOB: Become a long-term student of leadership. Identify outstanding leaders in all areas of your life, observe their skills, recognize and adopt the skills that will help you, and continue to improve your skills.

DUBOIS: Embrace and leverage diversity. The department of biostatistics at Columbia University runs a summer program (the BEST program) for undergraduates to enhance diversity, and we recently celebrated the program's 10-year anniversary. Our keynote speaker, Katherine W. Phillips—who is an expert on diversity, teams, and leadership—described an experiment she conducted. She put people into either homogeneous or diverse groups and had them solve a problem together. At the end of the exercise, she had the groups do self-evaluations and also did external ones. The diverse groups outperformed the homogeneous groups, but this improvement was not the most shocking revelation. The homogeneous groups *thought* they did a better job solving the problem! Sometimes diversity challenges our thinking and may even feel uncomfortable, but the benefits of diversity are critical to our profession and to society.

NANCY: Stretch yourself and you'll probably be able to muddle through! ∎

12th ICHPS Takes Place in Charleston, Breaks Records

Bonnie Ghosh-Dastidar

More than 350 statisticians, methodologists, and health policy experts gathered January 10–12, 2018, at the Marriott Hotel in Charleston, South Carolina, for the 12th International Conference on Health Policy Statistics (ICHPS). This was a record-breaking year in terms of number of conference abstracts and attendance.

ICHPS is held every two years, jointly sponsored by the ASA and Health Policy Statistics Section (HPSS). Conference co-chairs Laura Lee Johnson (US Food and Drug Administration) and Bonnie Ghosh-Dastidar (RAND Corporation) were supported by a 30-member organizing committee, including two student representatives and past conference chairs.

The theme—**Health <-> Statistical Science <-> Care, Policy, Outcomes**—reflected the interactive relationship between health services and outcomes research and innovative statistical methodology to facilitate informed discussions regarding health reform and other efforts to improve health care in the United

States. Details of all sessions and activities can be found at *www.amstat.org/meetings/ichps/2018*.

ICHPS 2018 was supported by grant number R13HS025884 from the Agency for Healthcare Research and Quality and by the Patient-Centered Outcomes Research Institute (PCORI) through a Eugene Washington Engagement Award. Project officers took an active role, challenging attendees to find effective mechanisms for disseminating results so they translate into actual policy and practice.

Presentations and posters covered a range of topics, including fraud detection methods, causal inference and treatment heterogeneity, real-world evidence, pragmatic clinical trials, and comparative effectiveness. The Alan Alda Center for Communicating Science conducted a workshop using improvisational theater techniques developed to help people speak more vividly and expressively. Wednesday included a career panel and networking lunch for students. Thursday afternoon included town halls and round-table discussions to allow for idea

sharing and informal networking. Town halls were on global real-world data, the VA, engaging with community partners, Medicaid payment reform, and health care delivery system transformation.

Networking dinners and meet-ups afforded opportunities to mingle in a relaxed environment while enjoying Charleston's hospitality and delicious food during the local restaurant week.

Workshops included sequences on causal inference, complex survey analysis, and patient-reported outcomes, plus workshops on social network analysis and an introduction to several data sets from the US government, including the Medical Expenditure Panel Survey, National Health and Nutrition Examination Survey, and Medicare Beneficiary Survey.

Rousing addresses were delivered by Robert Califf, "Evidence Generation in the Era of Ubiquitous Information," and Suchi Saria, "A Methodologist's Quest to Improve Health Care." Each offered advice on opportunities to redesign the health care delivery system in an evidence-driven way with incentives. Both emphasized high-risk, interdisciplinary problems of real interest requiring scalable interventions.

Conference proceedings will be published in *Health Services and Outcomes Research Methodology*.

HPSS presented its Long-Term Excellence Award to

Conference co-chair, Laura Lee Johnson, get together with Arlene Ash, Sally Morton, and Kelly Zou during the International Conference on Health Policy Statistics
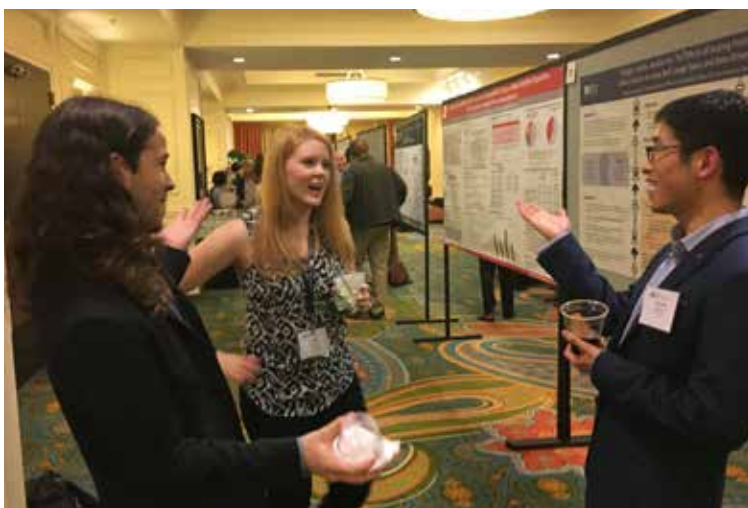
Glynis S. Ewing, discusses her poster "Alright Ladies, Buckle Up: The Effects of Seating Position, Gender, and Other Factors on Seat Belt Usage Rates and Data-Driven Policy Solutions"

HPSS Achievement Awards Go to … **Morton, Rosenbaum, Basu**

The Health Policy Statistics Section (HPSS) presented the 2018 HPSS Achievement Awards—including the Mid-Career Award and Long-Term Excellence Awards—January 12, following the plenary session of the 12th International Conference on Health Policy Statistics (ICHPS) at the Charleston Marriott Hotel in Charleston, South Carolina.

The awards "honor individuals who have made significant contributions to the development of statistical methods or have developed innovative statistical applications for health care policy or health services research." The awards are given to encourage research in this area and increase awareness of HPSS in the statistical community.

Sally C. Morton of Virginia Tech and Paul R. Rosenbaum of the University of Pennsylvania each received the 2018 HPSS Long-Term Excellence Award, which recognizes significant contributions to health care policy and health services research through mentoring and/or service that advance the aims of HPSS.

Anirban Basu of the University of Washington received the 2018 HPSS Mid-Career Award, which recognizes leaders in health care policy and health services research who have made outstanding contributions through methodological or applied work. Furthermore, the

Sally C. Morton (Virginia Tech University) and Paul Rosenbaum (University of Pennsylvania). Anirban Basu (University of Washington) received the Mid-Career Award.

ICHPS also provide 21 student travel awards, supported by grants, and ASA's Biopharmaceutical Section, and the ASA's Mental Health Statistics Section. Conference activities were supported by grants, awards, and multiple industry and institutional partners, including AbbVie, Amplexor, Pfizer, and Research Triangle Institute (RTI).

ICHPS2020 is planned for January 6–8 in San Diego, California. For more information, contact conference chairs, Kate Crespi and Ofer Harel, at *ichps2020@gmail.com*. ∎

award honors those who show a promise of continued excellence at the frontier of statistical practice that advances the aims of HPSS.

Morton is dean of the college of science, professor in the department of statistics, and Lay Nam Chang Dean's Chair at Virginia Tech. She was the 2009 president of the American Statistical Association and is a Fellow of the ASA and American Association for the Advancement of Science. She is a recipient of the Janet L. Norwood Award for Outstanding Achievement by a woman in the statistical sciences, as well as the ASA Founders Award.

Morton is an internationally known statistician, with more than 200 papers, book chapters, and peer-reviewed reports in statistical methods and applications—most recently related to patient-centered comparative effectiveness research (CER), observational studies, treatment efficacy and trial quality, and evidence synthesis. She has collaborated on a wide range of clinical and societal topics such as back pain, health care quality, homelessness, mental health, and substance abuse.

For her expertise in CER, Morton was appointed to the Methodology Committee of the Patient-Centered Outcomes Research Institute. She also serves as a meta-analytic expert for the Agency for Healthcare Research and Quality Evidence-Based Practice Center program, which provides systematic reviews on which many clinical practice guidelines and national health policy decisions are based. In addition, she has been a member of several National Academy of Medicine committees.

Morton has held multiple leadership roles in academia and industry. Prior to her current appointment at Virginia Tech, she was chair of biostatistics at the University of Pittsburgh, vice president for statistics and epidemiology at RTI International, and head of the Statistics Group at the RAND Corporation. Morton's effective leadership and mentorship have supported the members of these groups in making a significant impact on health services research and health policy in the nation.

Rosenbaum is the Robert G. Putzel Professor in the department of statistics at The Wharton School, University of Pennsylvania, where he is also a senior fellow at the Leonard Davis Institute of Health Economics. He is the author of three books: *Observational Studies; Design of Observational Studies;* and *Observation and Experiment: An Introduction to Causal Inference*.

Rosenbaum is a Fellow of the ASA, received the George W. Snedecor Award from the Committee of Presidents of Statistical Societies in 2003, and received the Nathan Mantel Award from the ASA Section on Statistics in Epidemiology in 2017. His research interests include the design and analysis of observational studies, health outcomes research, experimental design, and psychometrics. He has made extensive contributions to statistical methods for observational studies, including co-developing the propensity score, a now common tool in observational studies. Additionally, he has contributed to several other aspects of observational studies, including multivariate matching techniques, sensitivity analysis for unobserved confounding, evidence factors, the consequences of adjusting for a post-treatment variable, methods for generic unobserved biases, and instrumental variables.

Basu is the Stergachis Family Endowed Director of the Comparative Health Outcomes, Policy, and Economics (CHOICE) Institute, as well as a professor of health economics in the departments of pharmacy, health services, and economics at the University of Washington, Seattle. He is a health economist and statistician who specializes in research on comparative and cost-effectiveness analyses, causal inference methods, program evaluation, and outcomes research. He is also a faculty research fellow at the National Bureau of Economic Research and a Fellow of the American Statistical Association. In addition, he was one of the panelists on the Second Panel on the Cost-Effectiveness Analysis in Health and Medicine.

Basu's methodological contributions span works on developing new estimators for modeling health care expenditures, novel instrumental variable methods that deal with unobserved heterogeneity, and value of information methods. He chaired the 2010 ICHPS, was HPSS program chair for the Joint Statistical Meetings in 2008, and was a member of the planning or the advisory committee for four other ICHPS meetings. Basu's leadership has helped strengthen the core constituency and dissemination of health policy, health services research, and outcomes research within the Health Policy Statistics Section. ■

Jeanne E. Griffith Mentoring Award

The Jeanne E. Griffith Mentoring Award recognizes and encourages the mentoring of junior staff in the statistical community in federal, state, or local government. It is awarded annually to a supervisor, technical director, team coordinator, or other statistical staff member who is nominated by a supervisor and co-workers for his or her efforts in supporting the work and developing the careers of junior staff.

The Jeanne E. Griffith Mentoring Award was established to honor Griffith, who died in August 2001, after working for more than 25 years in the federal statistical system. Throughout her career, and especially in her latter senior management positions at the National Center for Education Statistics and the National Science Foundation, one of Griffith's highest priorities was to mentor and encourage younger staff at all levels to learn, grow, and recognize and seize career opportunities as they came along.

The award recipient will be selected for his or her efforts to support the work and develop the careers of junior staff. Preference will be given to individuals with a track record of mentoring government statisticians. Examples of typical mentoring activities include the following:

- Advising junior staff to help them create career opportunities, networking skills, and contacts for growth and development

- Counseling junior staff and providing resources to help develop their technical writing, analysis, presentation, and organizational skills and knowledge

- Encouraging the growth and career development of junior staff through attendance and oral presentations at meetings with higher-level officials, staff of other agencies, professional associations, training courses, and conferences

- Motivating junior staff and building self-confidence by providing feedback, being a listener when needed, and creating a caring and supportive environment

- Serving as a role model for junior staff through professional expertise; information and insights; balancing collegial and personal roles; and including everyone regardless of rank, race, ethnicity, or seniority

Nominations for the 2018 award will be accepted until April 16. The nomination form,

Previous Award Winners

Rich Allen (National Agriculture Statistical Service), 2003

Beth Kilss (Internal Revenue Service), 2004

Renee Miller (Energy Information Administration), 2005

Martin O'Connell (US Census Bureau), 2006

Stephanie Shipp (National Institute of Standards and Technology), 2007

Rosemary D. Marcuss (Bureau of Economic Analysis), 2008

Kevin Cecco (Internal Revenue Service) and Lillian S. Lin (Centers for Disease Control and Prevention), 2009

Deborah H. Griffin (US Census Bureau), 2010

Jenise L. Swall (US Environmental Protection Agency), 2011

Bill Mockovak (Bureau of Labor Statistics), 2012

Brian Harris-Kojetin (Office of Management and Budget), 2013

J. Gregory Robinson (US Census Bureau) and Kenneth Schoendorf (National Center for Health Statistics), 2014

Aldo "Skip" Vecchia (US Geological Survey), 2015

Diane L. Willimack (US Census Bureau), 2016

Cynthia Ogden (National Center for Health Statistics), 2017

guidelines, and a list of sponsors are available from the Government Statistics Section and the Social Statistics Section websites (see *http://community. amstat.org/governmentstatisticssection/home*).

The award committee will determine the winner in May. The award will consist of a $1,000 honorarium, a citation, and a plaque, which will be presented at a ceremony arranged by the co-sponsors. Contact Kevin Cecco at *kxcecc00@gmail.com* if your organization would like to co-sponsor the award.

The nomination package must be emailed or mailed The Jeanne E. Griffith Mentoring Award Committee, c/o The American Statistical Association, 732 N. Washington Street, Alexandria, VA 22314-1943.

Questions about the award can be addressed to ASA Professional Development and Sections and Chapters Manager Rick Peterson at *rick@amstat.org* or the chair of the award committee, Bill Mockovak, at *Mockovak.William@bls.gov*. ∎

Jerome Sacks Award

Jun S. Liu (center), winner of the 2017 Jerome Sacks Award, is flanked by NISS Board Chair Mary Batcher (left) and NISS Director (DC office) Nell Sedransk.
Photo by Greg Dohler

Past Sacks Award Winners

Jun S. Liu (2017), William F. Eddy (2016), Stephen Fienberg (2015), Terry Speed (2014), Kenneth Burnham (2013), William Meeker (2012), Emory Brown (2011), Sallie Keller (2010), Ramanathan Gnanadesikan (2009), John Rice (2008), Cliff Spiegelman (2007), Adrian Raftery (2006), Jeff Wu (2005), Douglas Nychka (2004), Raymond Carroll (2003), Max Morris (2002), Elizabeth Thompson (2001)

Other Awards Offered by NISS

NISS Postdoctoral Achievement Award, *www.niss.org/news/ shanti-gomatam-and-minge-xie-receive-2017-niss-former-postdoc-achievement-awards*

NISS Distinguished Service Award, *www.niss.org/ niss-distinguished-service-award*

The National Institute of Statistical Sciences (NISS) invites nominations for the 2018 Jerome Sacks Award. The deadline for sending nominations is April 1.

The Jerome Sacks Award recognizes sustained, high-quality, cross-disciplinary research involving the statistical and data sciences. The 2018 award will be presented at the NISS-JSM (Joint Statistical Meetings) reception in Vancouver, British Columbia.

About the Award

The Jerome Sacks Award for Cross-Disciplinary Research was created in 2001 in honor of Jerome (Jerry) Sacks, the founding director of NISS. The winner of this award receives $1,000 and a plaque. The winner's name will also be added to a plaque at NISS that lists all recipients of the award.

"The Jerry Sacks Award has traditionally been given to an individual. Anyone can send us a nomination, nominating a colleague or a friend," says Christy Chuang-Stein, NISS Board member and member of the NISS Awards Committee, adding, "The nominations are reviewed by the NISS Awards committee and the most qualified candidate is selected based on the spirit of the award."

Looking Back

Last year's award recipient, Jun S. Liu, is a professor of statistics at Harvard University. Liu was recognized for his groundbreaking research contributions at the interface of statistics and biology, including algorithms for protein sequence analysis, DNA sequence motif finding, gene expression analysis, and regulatory network elucidation that have become important tools for computational biologists.

"I feel extremely honored to be a recipient of the Jerome Sacks Award. Looking at the name list of former Sacks Award recipients and their achievements, I also feel so much humbled. This award is to celebrate achievements in interdisciplinary research. By its nature, it is not just for me. It is for all those who have taught me science, who have accepted me into their research teams, and all those scientists who have appreciated my statistical contributions," said Liu.

Looking Forward

At JSM 2018, Liu will speak at an invited session hosted by NISS, titled, "Cross-Disciplinary Research on Statistical Genomics and Bioinformatics." Wing Hung Wong, professor of statistics and biomedical data science at Stanford University, and Lingzhou Xue, assistant professor of statistics at Penn State University, will join Liu at this invited session. Liu's talk is based on a collaboration with the computational biology lab led by Vamsi K. Mootha, professor of systems biology and medicine at Harvard Medical School. Details can be found at *www.niss. org/events/2018-joint-statistical-meeting*.

How to Nominate

To nominate an individual, submit in one combined PDF document the following information to *officeadmin@niss.org* by April 1:

1. Nomination letter (maximum two pages)
2. Supporting letters from two individuals (other than nominator)
3. The nominee's CV

Nomination packets remain active for two years following the year the nomination is sent. ∎
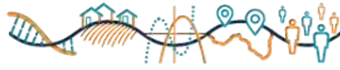
Links Lecture Award

The Links Lecture Award was created to honor the contributions of Constance Citro, Robert Groves, and Fritz Scheuren and contribute to the advancement of work in official statistics through the statistical use of administrative records and alternative data sources; record linkage; statistical methods for creating blended estimates; and issues associated with these activities such as privacy, confidentiality, researcher access, and reproducibility of results. Each year, a lecturer is chosen from among a set of nominated candidates to receive the award and present a lecture.

The award includes a modest honorarium and travel expenses to present the Links Lecture in the Washington, DC, area.

Selection Criteria

The award will be given to the nominee whose work, in the judgment of the award committee, has most contributed to the advancement of official statistics through the following:

- Statistical use of administrative records and alternative data sources
- Record linkage
- Statistical methods for creating blended estimates
- Issues associated with the activities listed here such as privacy, confidentiality, researcher access, and reproducibility of results

Nominations

Nominations are due by May 1. Nominators should submit—at minimum—a CV and two letters of support. The nomination should clearly document the ways in which the nominee meets the criteria for the award, emphasizing the impact of the nominee's work on official statistics. Email nominations to *awards@amstat.org*.

Award Recipient Responsibilities

The award recipient will present a lecture in the Washington, DC, area about their work at a mutually agreed-upon time. The award recipient is responsible for providing a current photograph and general personal information the year the award is presented. The American Statistical Association uses this information to publicize the award and prepare the prize.

Please contact the committee chair, Arthur B. Kennickell, at *arthur.kennickell@gmail.com*. ∎

section news

Risk Analysis

The 21st century has seen a revolution in big data analytics. Though there have been methodological advances analyzing these rich data sets, risk assessment science has often lagged behind.

To bring together the top minds within statistics and risk analysis communities and to cross pollinate ideas between practitioners in different areas, the Risk Analysis Section is having a symposium in the department of analytics at North Carolina State University May 10–11.

At this two-day symposium, participants will be challenged by leaders on topics such as toxic/environmental, economic, terrorism/defense, climate, and genetic disease risk. These speakers will present current challenges and stimulate discussion among participants. Additionally, focused breakout sessions will allow collaboration with other scientists.

To promote interest in risk analysis, student discounts will be given and a contributed poster session will allow all researchers to present their work while discussing challenges. Though this conference focuses on risk analysis, it should be of interest to any quantitative-minded researcher interested in big data analytics.

Registration is open at *www.harrissymposium.org/register*. ∎

Statistics in Physical and Engineering Sciences

Pete Hovey, 2018 SPES Chair

I know it is a little late, but Happy New Year!

I've been a SPES member for at least 20 years, and I still didn't realize how active SPES is until I took on the role of chair this year. I am taking this opportunity to remind you of the many activities SPES sponsors and invite you to participate in at least one this year.

Networking is vitally important in any career, and you can meet your colleagues in SPES at three conferences. First up is the 2018 Joint Research Conference on Statistics in Quality, Industry, and Technology. This is a joint meeting of the 25th Spring Research Conference on Statistics in Industry, which SPES jointly sponsors with the Institute of Mathematical Statistics, and the 35th Quality and Productivity Conference, which is sponsored by the ASA's Section on Quality and Productivity (Q&P). The joint conference is being held June 11–14 in Santa Fe, New Mexico. This is a small regional conference that provides a great opportunity for new researches to get to know the SPES and Q&P communities. You can find details at *https://goo.gl/K4kwVp* or send questions by email to *jrc2018@lanl.gov.*

The annual Joint Statistical Meetings (JSM) will be held in Vancouver, BC, Canada, this year from July 28 to August 2. SPES will host a variety of invited and contributed sessions during which you can learn about new statistical methods and applications to a variety of physical and engineering sciences. And don't forget to attend the business meeting/mixer, which SPES usually cosponsors with other sections.

The last SPES-sponsored conference of the year is the 2018 Fall Technical Conference being held October 3–5 in West Palm Beach, Florida. This conference is cosponsored by the ASQ Statistics Division and the ASA's SPES and Q&P sections. The theme is "Statistics and Quality: Riding the Big Data Wave." You can find details at *www.falltechnicalconference.org.*

A continuing SPES program is the Marquardt Memorial Industrial Speakers Program, which is funded by a generous endowment made by Margaret Marquardt in memory of her late husband, Donald Marquardt, who was an ASA Fellow and former ASA president. The program's objective is to familiarize students with the role of statisticians in industry, an application area to which students often are not exposed. The program seeks to fill this gap by bringing experienced industrial statisticians to campus to talk directly with students about their work and industrial experiences. If you would like to have a speaker visit your campus or if you would like to tell the world about life as an industrial statistician, contact the program's chair, Vaneeta Grover, at *vkgrover@yahoo.com.*

We are also interested in new initiatives to provide services to our members. Currently, the ASA is promoting an initiative to improve mentoring in the statistical profession. If you have an interest in mentoring and would be willing to help SPES develop a mentoring program, send me a note at *phovey1@udayton.edu.*

SPES is open to any type of career development programs you think would be useful. If you have an idea, please contact me or any of the officers to see what we can do to help implement it. Also, if you want to add a leadership role to your résumé, please consider running for a SPES office. The jobs don't require an excessive amount of time and you get the chance to meet some interesting and enthusiastic colleagues. ∎

North Carolina

■ IDDI seeks a senior biostatistician who collaborates on the design, analysis, interpretation and communication of scientific investigations by creating statistical products focused on data analysis and reporting. The senior biostatistician supports the analysis of data gathered during the completion of clinical trials. Applicants must have a master's in biostatistics or statistics and at least 5 years' experience in clinical research. Apply online: *www.iddi.com/category/jobs/vacancies-usa.* EOE.

Oklahoma

■ The Department of Mathematics at the University of Tulsa seeks candidates to fill a tenure-track position in

statistics at the assistant professor level. Requirements include a PhD in statistics or a closely related field, a commitment to teaching excellence, clear potential for productive research, and ability to contribute to a new interdisciplinary program in data science. To apply: Email to *coberly@utulsa.edu* or *https://utulsa.edu/about/working-at-tu/available-positions*. 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.

Wisconsin

■ The Zilber School of Public Health, University of Wisconsin, Milwaukee, seeks a visiting assistant professor in biostatistics, beginning in fall 2018. Priority will be given to candidates with research interests in clinical trials and Bayesian statistics. Apply online at *https://jobs.uwm.edu/postings/27089*. The review process will continue until the position is filled. UW- Milwaukee is an AA/EEO Employer and is committed to increasing diversity in recruitment and retention, and advancing our university as an inclusive, caring and accessible destination campus for all people.

Ontario

■ The Department of Statistics and Actuarial Science, University of Waterloo, invites applications for 2 definite-term lecturer positions. A graduate degree in areas of actuarial or statistical sciences is required. Apply through (*www.mathjobs.org/jobs*). Include cover letter, CV, teaching statement, and teaching evaluation summaries, and three reference letters. Full advertisement *https://uwaterloo.ca/statistics-and-actuarial-science/available-positions*. EOE.

Nationwide

■ RAND is currently seeking statistical programmers to work in our multidisciplinary environment in support of policy research on a wide range of issues. Programmers work closely with the research staff in creating, managing, and analyzing large and complex data files. BA/BS in statistics, biostatistics, economics, mathematics, quantitative social sciences, or related field required; MA/MS preferred. Locations: Santa Monica, CA; Washington, DC; and Pittsburgh, PA. *www.rand.org/jobs/id4676*. RAND is an EOE. ■

AMSTATNEWS

ADVERTISING DIRECTORY

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SOCIAL CHATTER

We asked our followers to tell us which **female statistician** they admire.

#statswomen #womenhist #womenlead

Chelsea Parlett Pelleriti • @ChelseaParlett
Gertrude Cox, Jessica Utts, @JennyBryan
So many more…

Sy • @syfi_24
Sophia Rabe-Hesketh (Berkeley), Marie Davidian (North Carolina State), Erica Moodie (McGill), Nan Laird (Harvard), Daniela Witten (U Washington), Sara van de Geer (ETH Zurich), Andrea Rotnitzky (Di Tella), Hae Kyung Im (U Chicago).

Yossi Levy • @yoslevy
Ester Samuel-Cahn

Kathy • @Bluelion0305
I admire @JennyBryan @minebocek, they should be celebrated #womeninstat

Alex Sundermann • @ACSundermann
@LucyStats is brilliant, passionate, and down-to-earth. What more could you want? Only a few years into her career, but this lady is going places. #StatsCrush #RisingStar

NEXT MONTH: In celebration of Math and Statistics Awareness Month in April, tell us: What is your title–but what do you actually do? Use #MathStatmonth and follow @AmstatNews

Gertrude Cox

Jessica Utts

Nan Laird

Pratheepa Jega • @PratheepaJ
@SherlockpHolmes We should celebrate Prof. (Susan) Holmes. She is a mobile statistics encyclopedia. #statswomen #womenhist #womenlead

EleanorVierling NBCT • @HSTATistics
@MonaChalabi Data Editor of @guardian

Mona Chalabi • @MonaChalabi
you are crazy! But thank you! xx

Positions Open
Assistant, Associate, and Full Professor

The Department of Biostatistics, founded in 2003, is currently home to 33 faculty, 21 staff biostatisticians, 15 IT staff, and 35 graduate students. It continues to expand rapidly, especially to meet the challenges of the booming data science era. Department members participate in methodological research, as well as collaborative efforts ranging from basic science, to translational and clinical research, to big data questions across a variety of domains. In particular in the big data space, the BioVU resource, which houses more than a quarter million unique patients with biospecimen along with de-identified clinical annotation data, is an increasingly rich source of genomic and phenomic data, available to Vanderbilt faculty for interrogation of questions of interest.
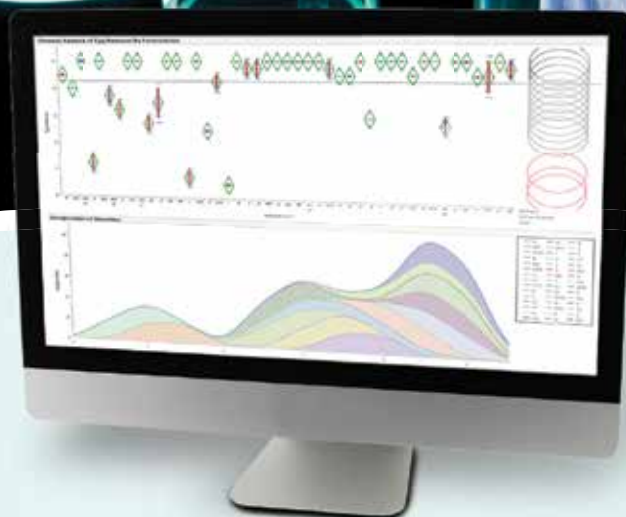
Vanderbilt University Medical Center is a top-ranked medical center located in Nashville, Tennessee – a vibrant, engaging city known proudly as Music City, U.S.A. The Vanderbilt University School of Medicine ranks 14th among the nation's elite programs, according to *U.S. News and World Report*'s annual ranking of top medical schools for research, released in the 2018 edition of America's Best Graduate Schools. It ranks 8th in the nation among U.S. medical schools in total grant support provided through the National Institutes of Health (NIH).

The department includes the Division of Cancer Biostatistics and several centers: Center for Quantitative Sciences, Collaborative Studies Comprehensive Coordinating Center, and Omics Coordinating Center. The department places a strong emphasis on continuing education and professional development. Department faculty members are expected to become statistical data scientists, on the forefront of biomedical research, as well as contributors to the body of knowledge in the biomedical field. Opportunities for contribution and collaboration exist across a number of prominent Vanderbilt centers, representing various disease and knowledge domains.

Vanderbilt University Medical Center is committed to the principles of equal opportunity and affirmative action. Additional information about the department is available at https://www.vumc.org/biostatistics/

Interested applicants: please email a cover letter, a research and teaching statement, and a CV to biostat@vanderbilt.edu.