April 2021 • Issue #526

AMSTATNEWS

The Membership Magazine of the American Statistical Association • *http://magazine.amstat.org*

Celebrate MSAM

Mathematics & Statistics Awareness Month

ALSO:

Nan Laird
Honored with International Prize in Statistics

My ASA Story: David Corliss

Women in Statistics and Data Science is heading to PITTSBURGH!

Join us as women representing industrial, academic, and government communities unite to present their work and share their perspectives on the role of women in today's statistics and data science fields.

OCTOBER 7–9, 2021

ATTEND

Registration and Housing Open May 27

Early Registration Closes August 19

Regular Registration Closes October 9

Formal sessions and informal networking opportunities will empower and challenge women statisticians and data scientists to:

SHARE KNOWLEDGE by offering technical talks about important and cutting-edge research

BUILD COMMUNITY by encouraging discussion, collaboration, and mentoring relationships

GROW INFLUENCE by establishing and sustaining successful careers, showcasing the accomplishments of successful women professionals, and supporting the development of leadership skills

> "Great session about confronting privilege and reducing barriers to #statistics and #datascience education featuring @FelicityEnders @EKTBenn @minebocek at #WSDS2020!"
>
> Dr. Leslie McClure | @StatGirlLAM

Learn more and get involved in WSDS 2021 at *ww2.amstat.org/wsds*.

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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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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

Nan Laird Honored with International Prize in Statistics.

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columns

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 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.*

NATIONAL POETRY MONTH

In honor of April being both National Poetry Month and Mathematics and Statistics Awareness Month, The University of Texas at El Paso Professor Larry Lesser wrote two haiku poems. The first parallels tightening a statistical model and tightening a poem, and the second uses a fortuitous numerical fact connecting a birthday probability to the fraction of values within three standard deviations of the normal distribution.

"Adjusted R Squared"

At some point, adding

lines to a poem only

dilutes its impact.

"99.73%"

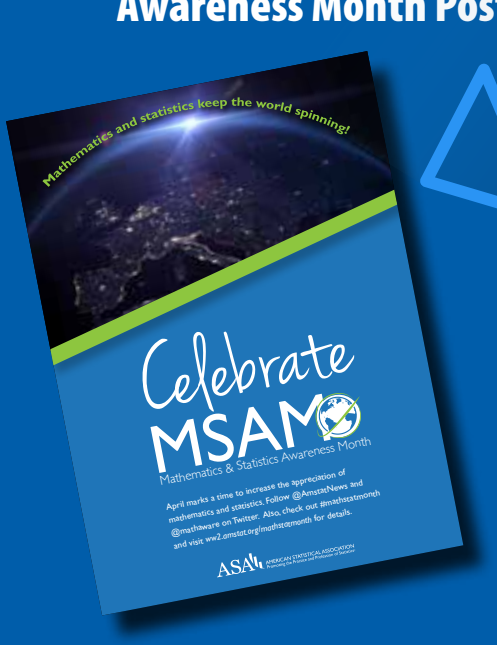
It's why your birthday

is viewed as an outlier,

normally speaking.

Correction
In the January 2021 issue of *Amstat News*, we incorrectly posted an image of the *Journal of Survey Statistics and Methodology*. The correct image should have been of the journal *Survey Methodology*. We regret the error.

LOOK INSIDE for the Mathematics and Statistics Awareness Month Poster.



departments

Photo by Smeta Mahanti

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member news

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A Stormy Spring Sprouts Blossoms of Optimism

Rob Santos

Greetings, my fellow statisticians, data scientists, and math geeks. May we see a spring season that blossoms with health, tolerance, and friendship.

I was so hopeful we had turned a page in the USA with the rollout of the vaccine and the downturn in new infections and death. I also looked forward to early bluebonnet fields here in Texas. Their steepled, dark blue blooms often adorn the landscape in early February.

But as so many springtime stories have unfolded, this year brought storms. The February deep freeze in Texas left millions without power and, like me, days of shoveling snow into bins because there was no running water. And any hope for early wildflowers was summarily dashed. In the meantime, COVID variants emerged and are now present in most states, CDC guidelines are not being followed consistently, and a subgroup of the population continues to eschew vaccination.

Then this happened: On March 16, with Asian Pacific Islander Heritage Month quickly approaching (May) and in the midst of National Women's History Month (March), we witnessed and now must cope with the horrendous attack against Asian women and others in Atlanta, Georgia. And as we all know, this incident is but the latest in a continuing saga of violence and hate against Asians, as well as African Americans, Latinx people, Native Americans, the LGBTQ+ population, women, immigrants, Jews, and others.

The three presidents of the American Statistical Association issued the following joint statement March 19 condemning the senseless atrocity:

> This latest despicable episode targeting Asian women—in combination with the events of the past year against people of color—profoundly illustrate the need for us to come together; acknowledge cultural and institutional bias; and work toward making this society more just, equitable, diverse, and inclusive.

There may be some who wonder about the relevance of these issues appearing in a statistical monthly newsletter, specifically the President's Corner. In my mind, they have never mattered more to our association membership, to our statistical community, and to our society. Here's why:

Statistics, statistical theory, and mathematics are powerful tools. They have proved foundational in the advancement of technology and society, especially since the new millennium. And just as statistics can be used for social good, they can be misused, distorted, and adulterated. In fact, we have seen this with COVID reporting in just this past year.

Equally concerning is that statistical methods can be rigorously applied, yet their results may be misinterpreted in the absence of a proper lens or context within which to consider them when generating

Being an effective statistician, . . . involves valuing and embracing diversity, cultural relevance, inclusion, and equity and offering support to all colleagues while concurrently being statistically astute.

insights. By examining the last half century of crime statistics, for instance, one would observe that people of color—especially young African American and Latinx males—disproportionately go through the criminal justice system and are incarcerated.

If you are arrested and convicted of a crime, you deserve to do time, right? But such a simplistic, narrow lens fails to account for the broader context of institutional racism in society. There is ample factual evidence that people of color are profiled for police searches and juries are more prone to conclude guilt in the face of exculpatory and/or insufficient evidence. Moreover, judges hand down more severe sentences to defendants of color relative to whites and they are not provided the same reentry opportunities.

Without the proper grounding of historical context of racism in our society, criminal justice statistics can easily be misinterpreted. And this is just one of many policy areas that profoundly affect our nation. Plus, it does not touch the social determinants of "life, liberty, and the pursuit of happiness" that include living wages, educational opportunities, access to quality health care, affordable housing, and so on. Thus, context matters in the interpretation of statistics.

The events of March 16 illustrate that Asian Americans and Pacific Islanders, as well as Asian immigrants, historically and increasingly suffer at the hand of racism, being routinely stereotyped, harassed, assaulted, and ignored as the vibrant and valuable contributors to our society they are. To be clear, this happens to our Asian statisticians just as it does the general Asian population.

How do we know all this? It is through statistics generated from administrative records; surveys and big data from federal, state, and local governments; and commercial and social media sources. But statistics alone—in the absence of context, cultural awareness, and (yes) ethical values—can be terribly misinterpreted.

This is why the statistics profession can benefit greatly from embracing and acting upon principles of justice, equity, diversity, and inclusion. We need diverse voices, perspectives, interpretations, and leadership in our statistical community and our society overall, which is why the ASA has commissioned an Anti-Racism Task Force to examine our policies, practices, products, and outreach efforts. We must be the leaders we are and lead by example.

Being a capable statistician is relatively easy once you master the math, understand the theory, and can execute the computations. Being an effective statistician, on the other hand, involves valuing and embracing diversity, cultural relevance, inclusion, and equity and offering support to all colleagues while concurrently being statistically astute. Being effective is much more challenging, yet ever so rewarding. My wish is that all ASA members aspire to be effective statisticians. We need to help each other to make this happen.

Getting back to the events of the day, our Asian colleagues and the Asian communities across the USA are hurting. In the spirit of my presidential-year initiative of "Building Community," I encourage you to reach out to your Asian colleagues and provide support, camaraderie, and friendship to help them and yourselves through these harrowing times.

Spring has sprung. The storms will pass and things will get better for us all, especially if we support each other and show we care. Let's be optimistic. And, thankfully, the bluebonnets will once again blanket our Texas meadows.

Be well, everyone.

Recognizing the ASA's Longtime Members

Each year, the ASA recognizes all members reaching a milestone of 35, 40, 45, or 50 years of membership. All members who joined 35 or more years ago are also extended an invitation to a reception at the annual JSM. If you are not listed below but think you should be, please contact *asainfo@amstat.org* or call (703) 684-1221 to correct your record.

The ASA thanks all these members for their distinguished and faithful membership.

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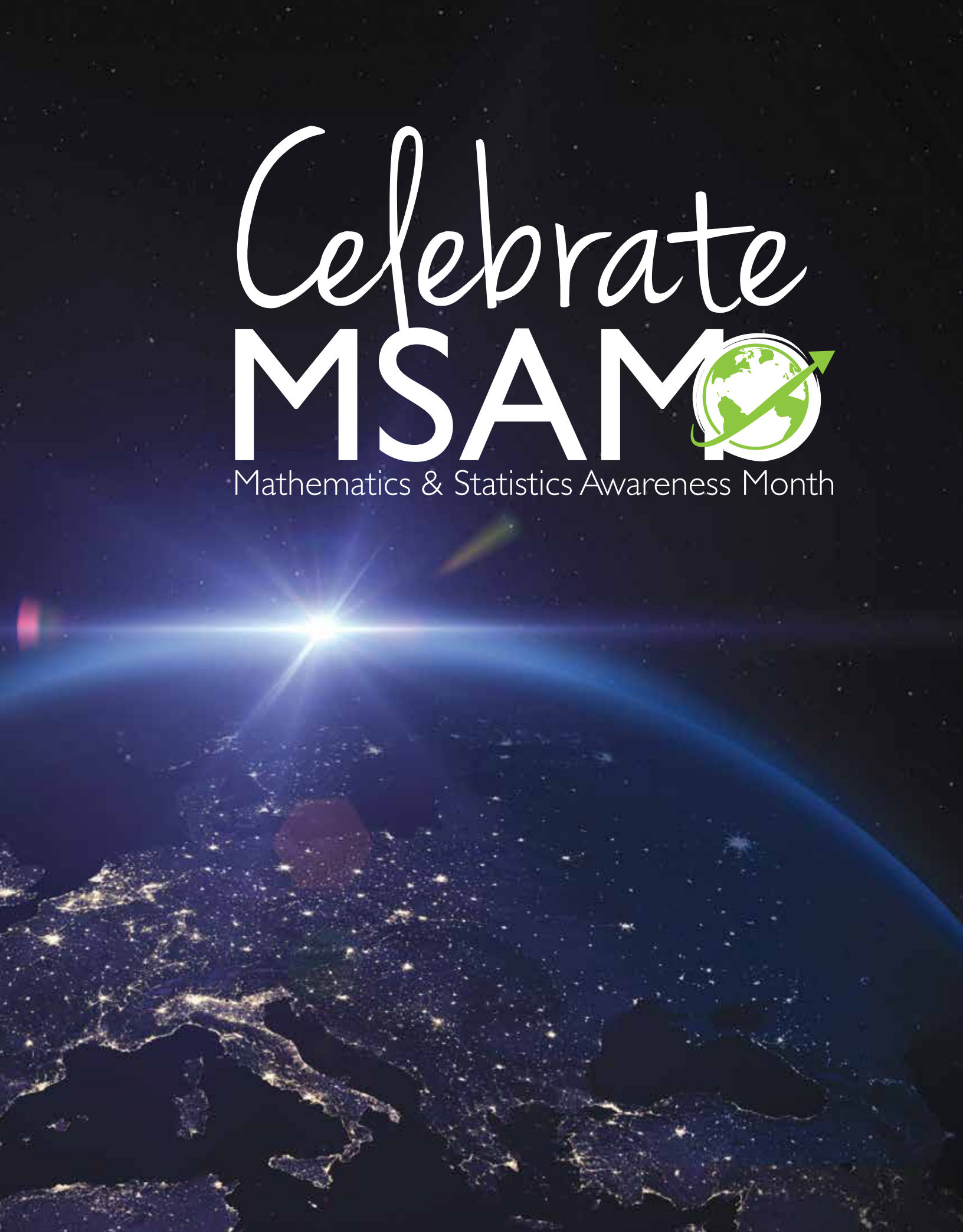
Celebrate
MSAM
Mathematics & Statistics Awareness Month

MSAM 2021 Lineup Includes Science Fair, Surprises

Mathematics Awareness Month began in 1986 as Mathematics Awareness Week with a proclamation by President Ronald Reagan, who said in part:

> Despite the increasing importance of mathematics to the progress of our economy and society, enrollment in mathematics programs has been declining at all levels of the American educational system. Yet the application of mathematics is indispensable in such diverse fields as medicine, computer sciences, space exploration, the skilled trades, business, defense, and government. To help encourage the study and utilization of mathematics, it is appropriate that all Americans be reminded of the importance of this basic branch of science to our daily lives.
>
> *—President Ronald Reagan in Proclamation 5461 - National Mathematics Awareness Week, April 17, 1986*

Beginning in 2017, Mathematics Awareness Month became Mathematics and Statistics Awareness Month to recognize the unique and important contributions from the statistics discipline, but the goal remains to increase public understanding of and appreciation for mathematics and statistics. We encourage members of our community to organize activities for Mathematics and Statistics Awareness Month. Events could include workshops, competitions, exhibits, or lectures. You may even be able to convince your local elected officials to issue a proclamation for MSAM.

To celebrate Mathematics and Statistics Awareness Month, the American Statistical Association will once again host a Virtual Science Fair. Participants will work independently or as part of a team, spend the month investigating an interesting topic, and submit a short video highlighting their process and results. More information can be found at *www.amstat.org/ASA/Virtual-Science-Fair.aspx.*

We also want to encourage your creativity, so we are introducing a meme contest. Create a meme that showcases the goal of MSAM by highlighting the importance of statistics and data science. The contest is open to all. You might want to check out memer (*https://github.com/sctyner/memer)* to get started. Use the form at *https://form.jotform.com/zzlalo/MSAM2021-meme* to submit your entry by 5 p.m. ET on Friday, April 30. Examples of memes the ASA has created can be found in the Resources section of the Mathematics and Statistics Awareness Month website at *ww2.amstat.org/mathstatmonth.*

Share your MSAM activities on social media using #mathstatmonth! We are planning some surprises, so follow us on social media and don't miss the fun. ■

MORE ONLINE
Follow @AmstatNews and @mathaware on Twitter. Search #mathstatmonth.

Also, check out *ww2.amstat.org/mathstatmonth* for details.

ICSA Symposium Panelists Offer Leadership Advice

Haoda Fu, Eli Lilly and Company; Lauren Lee, Pfizer Inc.; Mengling Liu, New York University; Jie Tang, Lotus Clinical Research LLC; Yuanjia Wang, Columbia University; Tian Zheng, Columbia University, Richard C. Zink, Lexitas Pharma Services, and Kelly H. Zou, Viatris


Haoda Fu


Lauren Lee


Mengling Liu


Jie Tang


Yuanjia Wang


Tian Zheng


Richard C. Zink


Kelly H. Zou

As invited session panelists for the **2020 International Chinese Statistical Association (ICSA) Applied Statistics Symposium,** eight statisticians and data scientists were asked to share their thoughts and advice on leadership, with a special focus on statistics and data science. The following is a summary of their answers to the questions about how to lead, negotiate, and deal with a pandemic.

Why and how is leadership about empowerment?

Empowerment is a key determinant of effective leadership in both manager-team dynamics and self-empowerment. First, empowerment from a leader to the team often takes the form of substantiated support to team members who are taking initiative on high priorities in the form of resources and mentoring.

Second, empowerment comes from within. Leaders who are confident in their abilities can lead with assurance, kindness, generosity, and aspiration. Leaders who are not threatened by others can trust their leadership journeys.

Third, empowerment is trust. The first job of leaders is to inspire trust, because trust is the single most essential element of our ability to deliver extraordinary outcomes in a long-lasting way. Consequently, trust likely leads to success because it enables an organization to work in a psychologically safe environment and in its culture.

How do you negotiate professionally while showing respect?

We use negotiation in our daily lives, whether knowingly or subconsciously. Winning a debate is not a good way to think about and approach negotiation. There are several insightful books that can help shed light on this topic. We would like to recommend *Getting Past No: Negotiating in Difficult Situations* by William Ury. The author was a co-founder of Harvard's program on negotiation and one of the world's leading experts on negotiation and mediation. One technique he writes about is reframing the problem from face-to-face confrontation to side-by-side problem solving. Showing respect is important, but it doesn't mean you need to be soft. But where is the line? The book showcased a key principle: soft on people and hard on questions.

Another recommended book is *Crucial Conversations: Tools for Talking When Stakes Are High* by Kerry Patterson and Joseph Grenny. Often, we have too many assumptions before conducting a conversation or negotiation. Thus, it is important for us to first listen and understand before conveying our ideas to others.

Just like in all career sectors, negotiations happen frequently in academia. In many cases, compromises must be made so everyone benefits. When there are shared interests, it is easier to reach agreement. It is helpful to bear in mind what everyone can offer as well as what their constraints are. The perspective of viewing the negotiating parties as complementary, rather than conflicting, members is helpful. For junior investigators, it takes courage and patience to become seasoned at negotiation. Constantly building one's strength will lead to successful negotiations.

What are effective leadership skills in statistics/data science?

According to the Effective Statistician Leadership Course Program, one of the most useful activities to spend time on is developing a personal leadership statement and list of principles by a leader. First, any interaction should be approached with humility. This humility should be applied to direct reports since they are immersed in the details of their tasks and their success leads to the success of the department. It also applies to nonstatisticians, so we can effectively communicate both simple and complex concepts.

For a leader, communication should be applied early and often. Often, people make assumptions about what others know, understand, or agree with. One reason could be that people hesitate to ask questions about the basics so they do not look timid or foolish. However, these questions can lead to meaningful and necessary discussions and actions. Statisticians should seek responsibility and take responsibility. Do not be the individual on the side of the room who does not ask questions or offer advice. Come to meetings prepared with at least one question and, if there is the opportunity to volunteer for a task or to find a solution, take that opportunity! An obvious skill is to use data to guide decisions.

Finally, management does not automatically equal leadership, and people of all levels can exhibit leadership qualities. Leadership is a talent, but it is also a learned skillset through self-awareness, technical capability, and people-centricity.

Why is it important to embrace diversity, equity, and inclusion, including women?

Alondra Nelson, deputy director for science and society at the US Office of Science & Technology Policy, said, "[W]hen we provide inputs to the algorithm … we are making human choices, choices that bring our social world to bear in a new and powerful way. … I've always sought to understand the perspective of people and communities who are not usually in the room when the inputs are made, but who live with the outputs." We are missing out on our chance to reach our goal of excellence if "people in the room" do not reflect the diversity of "people out of the room."

People's backgrounds, experiences, knowledge, skillsets, mindsets, and views are diverse. When we embrace these, we can essentially broaden ourselves in all these aspects. Without diversity, equity, and inclusion, we won't know what we don't know. To embrace diversity, equity, and inclusion, we should engage all members of our community in a conversation about our shared vision of excellence and examine how much of this vision has not been realized in some underrepresented parts of our community. Through such a conversation, we can recognize the need for more proactive efforts in the direction of diversity, equity, and inclusion.

What are some effective ways to foster and encourage collaborations?

Leaders should be willing to collaborate, roll up their sleeves, and dive into the weeds, no matter how tough situations become. A gritty mentality lets the team know we're working for them and are always willing to jump into the mix. It is most important to frame problems in a language everyone can understand, otherwise not everyone is starting out in the same place. One effective way to do this is to limit jargon as much as possible. Delegate and assign tasks that are enjoyable and completed on time with high quality.

Technology-oriented and methodology-savvy, we must be proactive in offering our solicited and sometimes unsolicited expertise. Although we may directly develop questionnaires and deal with health care providers, we are acutely aware of different types of survey instruments and patient-reported outcomes. Set up ongoing meetings to regularly check in or have face-to-face meetings with key individuals to develop better professional relationships on a personal level. The bottom line is communication is key to effective collaboration, and it makes everyone feel like a partner with something to gain.

Successful collaborations stem from getting people to agree on several common goals and work hard to reach them. On such initiatives, many decisions need to be made about the aims, choices of analytic methods, and interpretations of the results. Structured discussions can be helpful to facilitate collaborations. Keep organized and engage members. When there are competing interests, skills for

Our gestures, facial expressions, and body language are harder to read via a two-dimensional screen. Be present, avoid multitasking, and turn on video during virtual conferencing to fully engage with others.

conflict resolution are helpful. For large initiatives and collaborations in particular, breaking complex problems into subproblems and working in smaller groups is effective. Last, having a few highly reliable, active, and engaged members to lead can be the key to success.

EDITOR'S NOTE
The views expressed are the authors' and do not necessarily represent those of their employers.

How can leaders rise to challenges during a pandemic?

There have been work challenges and life challenges during the pandemic. Leaders who can provide critical resources to overcome work challenges and genuine support to overcome life challenges are necessary. To assume leadership roles and deal with the current and future pandemic, training in communication with the media and public to convey uncertainty and statistical concepts could be especially helpful.

Statisticians have contributed to major efforts on multiple fronts, including modeling the epidemiology and spread of infectious diseases such as COVID-19, designing and analyzing vaccine trials and therapeutic trials, and studying risk factors and prognostic factors of the virus. We have seen groups pivoting their efforts to quickly turn to research during the pandemic, actively communicating with local governments to inform policy decisions, and organizing online symposiums and seminars to disseminate information. For example, a research group (see *https://github.com/COVID19BIOSTAT/covid19_prediction*) is part of the COVID ensemble modeling hub, which provides weekly forecasts to the US Centers for Disease Control and Prevention (*www.cdc.gov/coronavirus/2019-ncov/covid-data/forecasting-us.html*) to inform the public. The mental health of health care workers due to COVID-19 is also evaluated.

How can we be change-agile professionally these days?

Given the global nature of workforces, a nine-to-five job may no longer be the norm. Working from home with a more flexible schedule has become the trend. As much as possible, take opportunities to practice! This is especially important when using new technologies (e.g., Zoom, Teams, RingCentral) or when using a major new feature from a familiar technology, particularly if important customers or potential customers will be involved. The *laissez faire* style can be useful to empower colleagues and mentees. For new and less experienced staff, coaching may work better. It is helpful to ensure the coaching and mentoring process is a two-way interaction, where careful and empathic listening comes before sharing or guiding.

With most interactions being virtual, there are several opportunities for training webinars and online meetups. Take the opportunity to learn new topics such as "estimands," even if the concept sounds unfamiliar or not for immediate use. Perhaps set up a mentoring group to take courses or discuss new topics together. Brief check-in meetings with colleagues may provide opportunities to offer expertise early on.

What are some good tips for communicating with teams virtually?

Digitalization has accelerated in a virtual environment. Nevertheless, there are pros and cons of virtual interactions. We need to realize that many of our messages are delivered instantaneously. Our gestures, facial expressions, and body language are harder to read via a two-dimensional screen. Be present, avoid multitasking, and turn on video during virtual conferencing to fully engage with others. Having a separate section in your home for virtual work helps, as well as communicating in ways other than web conference calls, such as Teams.

While on videoconferences, we may leverage technology for efficiency. The virtual background function can be used in multiple apps. It can help deliver messages in different situations. For example, setting up an agenda or providing the meeting objectives.

The virtual work environment may save a significant amount of time in terms of meeting transitions and commuting to work. On the flip side, it may make us more stationary. Instead of having back-to-back long meetings, consider shorter meetings with reasonable breaks in between. ■

APPLICATIONS SOUGHT FOR ASA SCIENCE POLICY FELLOWSHIP

Influence Policymaking While Helping the Statistics and Data Science Professions

The ASA is accepting applications for its science policy fellowship for Fall 2021. A one- to two-year position, the fellow will be based at the ASA headquarters in Alexandria, Virginia; however, they will spend much of their time in Washington, DC, advocating for statistics and experiencing first-hand how federal science policy is formed.

Past fellows have furthered ASA efforts across all branches of government. For example, they have helped draft amicus brief arguments for the Supreme Court on issues such as immigration and diversity in the media and made recommendations to the legislature on the use of statistical evidence and funding agencies to support reproducible research. They have led ASA communication initiatives, like the "State of the US Data Infrastructure" article series and organized and participated in Ask Me Anything digital town hall events, which answered question about elections and the decennial census.

We will start considering applications May 1 and continue until the position is filled. Questions about this opportunity and application requirements may be directed to ASA Director of Science Policy Steve Pierson at *pierson@amstat.org*.

The fellowship was created in 2016 to elevate the profile of statistics in policymaking and advocate on behalf of the profession. Amy Nussbaum was the ASA's inaugural science policy fellow; Daniel Elchert was the second, and Jonathan Auerbach is the current fellow. Elchert discussed his time as a fellow and encouraged others to apply in a February 2020 article (*https://magazine.amstat.org/blog/2020/02/01/elchert*). Learn more at *ww2.amstat.org/policy/fellowship.cfm.*

ASA Empowers Journalists Through Federal Data Resources

In 2020, the ASA's Count on Stats initiative collaborated with its partners and other key organizations to improve journalists' understanding of federal statistical agency resources and how they can use federal data to enhance their news stories.

First, the ASA worked with the Society for Advancing Business Editing and Writing (SABEW) to host two webinars offering training opportunities for reporters seeking to better understand federal data as they cover economy-related stories in their communities.

The webinar "Local Economic Stories Using Data from the BLS Quarterly Census of Employment and Wages" on June 4 featured moderator Kimberly Adams, correspondent at Marketplace; Paul Overberg, data reporter at *The Wall Street Journal*; and David Hiles, supervisory economist at the Bureau of Labor Statistics. Panelists shared best practices for using county data to report on various economic stories affecting local industries.

During a second SABEW webinar, "Using Census Data to Tell Stories About the People and Businesses in Your Communities," on October 8, journalists learned how to use the Census Business Builder tool and other relevant data sets to develop news stories about COVID-19's effect on American households and businesses. Featured experts included moderator Olivera Perkins, an award-winning business journalist and contributor to fact-checking site Lead Stories; panelist Andrew Hait, US Census Bureau data product and data user liaison; and panelist MaryJo Webster, data journalist for the *Star Tribune* in Minneapolis. Access the recording at *http://bit.ly/3rwFbhn.*

In addition to the SABEW webinars, ASA sponsored a free training with The National Press Foundation on June 30. This training session helped journalists better understand and analyze the statistics included in the latest Bureau of Labor of Statistics jobs report. Erica Groshen, former Bureau of Labor Statistics commissioner and ASA fellow, explained how the bureau aims to protect the data's integrity and addressed how employment statistics could be politicized and distorted.

These webinars were attended by 207 reporters and data journalism advocates.

Journalists are key to helping the country navigate the COVID-19 pandemic and its effect on our economy, public health, and education system. The ASA will continue to share federal statistical agency resources to empower reporters as they inform and educate the public about the critical issues facing our nation. ■

MORE ONLINE
Access the webinar "Using Census Data to Tell Stories About the People and Businesses in Your Communities" at *http://bit.ly/3rwFbhn.*


Kimberly Adams


David Hiles


Paul Overberg

Nan Laird

Honored with International Prize in Statistics

Nomination Cites Transformative Contributions to Random Effects Modeling

Louise Ryan, ACEMS Chief Investigator and Professor of Statistics, University of Technology Sydney

Laird

Like most Australians, I'm used to taking phone calls and Zoom meetings at strange hours. But I was particularly delighted to learn on a recent early-morning call with Ron Wasserstein that our nomination of Nan Laird as the 2021 recipient of the International Prize in Statistics had been successful! Ron asked if I could do a short writeup about Nan for *Amstat News*, so I decided to simply give you a slightly shortened and adapted version of the nomination statement.

Nan had just been promoted to associate professor in the department of biostatistics at the Harvard School of Public Health (HSPH) when I started there as a postdoctoral fellow in 1983. She was already well recognized as a powerhouse within the department and in the broader community. Because it was quite rare in those days to encounter such a prominent and successful female academic, I was somewhat awestruck and looked to her as a mentor and role model. A few years later, she became my department chair and boss. A few years after that, I became her department chair and boss! Although we have never written a paper together, I consider her to be a cherished colleague. Indeed, it was my pleasure and honor to interview her and write about her fascinating life in a 2015 *Statistical Science* article, "A Conversation with Nan Laird."

Like other intellectual giants, Nan has been extraordinarily productive throughout her career and made ground-breaking contributions to several distinct areas of statistical science. Indeed, Google Scholar reports more than 174,000 citations of her work. But because the International Prize in Statistics is awarded for a single work or body of work, it was necessary to pick a single area of focus.

One natural possibility was her work on missing data and the EM algorithm, accomplished during her PhD years (her first published paper, "Maximum-Likelihood with Incomplete Data via the EM Algorithm," published in the *Journal of the Royal Statistical Society, Series B* in 1977, has more than 61,000 citations). Her work on meta-analysis was also a contender (her paper, "Meta-Analysis in Clinical Trials," published in the *Journal of Controlled Clinical Trials*

in 1986, has more than 28,000 citations). Nan has also made seminal contributions in statistical genetics, especially family-based association studies.

In the end, we decided to focus on her ground-breaking contributions to random effects modeling for longitudinal data analysis. Indeed, this was her research focus when I met her at HSPH and I have witnessed first-hand the transformative effect her work has had, not only on my own work but on the work of so many other methodologically-focused statisticians and in practical application over multiple domains.

As described in my 2015 *Statistical Science* article, the HSPH Biostatistics Department was tiny when Nan started as an assistant professor in 1975, but started to expand under the transformative leadership of Fred Mosteller and, soon thereafter, Marvin Zelen. Both strove to create a stimulating intellectual environment with young, talented statisticians working on interesting collaborative projects. They also gave the time and space for creative exploration of statistical methods ideas and challenges that arose from those collaborations. This was an environment in which Nan thrived.

A fateful encounter was with another young assistant professor in the department, James Ware, who arrived in 1979 to work on the Harvard Six Cities Study. This large longitudinal cohort followed children recruited from six US cities with the goal of studying the impact of air pollution on the development of their lung function. Nan's unique background and perspectives, honed during her PhD with Arthur Dempster in the Harvard Statistics Department, led her quite naturally to formulate the problem in terms of each child having a unique intercept and slope, which were influenced by exposure to air pollution. By viewing these random intercepts and slopes as unobserved or missing data, she was able to apply the EM algorithm, thereby achieving a brilliant analytic strategy that made fitting random effects models computationally feasible. While random effects models had been around for some time and understood from a theoretical perspective, fitting them was extremely difficult, except in certain restrictive settings (e.g., balanced and complete designs where all subjects were measured at exactly the same set of times).

The 1982 paper Nan and Jim published in *Biometrics*, "Random Effects Models for Longitudinal Data: An Overview of Recent Results," has earned more than 9,200 citations and is still getting well over 400 citations a year, even today. Nan and Jim were savvy enough to recognize the importance of disseminating their work with user-friendly software and did so via a Fortran program called REML, which many people soon started to use.

It is important to remember this was in the early '80s, when statistical software packages were in their infancy. Indeed, when SAS released their PROC Mixed module in 1992, it is my understanding that it was largely based on the Laird-Ware algorithm. Modern day advances in computational power have made it possible to fit mixed effects models more quickly using other algorithms. But, back in the 80s and 90s, recognition that the EM algorithm could be used to fit broad classes of random effects models resulted in an explosion of activity, not only in terms of applications but also in terms of statistical methodology development.

Over the next several decades, Nan guided numerous students and postdoctoral fellows to explore a wide range of topics derived from her foundational paper with Jim. Building on the foundations she helped them lay, an impressive number of her students and mentees have gone on to forge prestigious careers of their own. One of them, Garrett Fitzmaurice, was co-author with her and Jim on a highly cited monograph on longitudinal data analysis, *Applied Longitudinal Analysis*.

It is no surprise Nan has been recognized with many prestigious awards and honors throughout her career. However, having recently retired from her academic career at Harvard, being selected as the third winner of the International Prize in Statistics seems like a fitting, crowning accolade for her. I also believe having a female winner of the prize is powerful and timely. As I indicated above, Nan made a strong impression on me as a young postdoc and I vividly recall how, through her example, she inspired me to think that perhaps I could also succeed in my career.

Almost 40 years later, our field has come a long way, but there is still much to be done. If you were to ask a young person in our profession today to close their eyes and imagine a world-class statistician, how many will see a woman? The impact of awarding the International Prize in Statistics to Nan not only recognizes her ground-breaking contributions to statistical science, but it will help empower many young females in our profession and inspire others to join our profession. ■

EDITOR'S NOTE
Marie Davidian, Garrett Fitzmaurice, Ross Prentice, Kathryn Roeder, and Scott Zeger helped draft the nomination and wrote letters of support.

CRACKING the Glass Ceiling

Jean Dickinson Gibbons, Russell Professor Emerita of Applied Statistics, University of Alabama

Jean Gibbons

Reading Sastry Pantula's reflections (*https://magazine.amstat.org/blog/2021/01/01/my-asa-story-sastry-pantula)* of his early associations as an Asian with the ASA community inspired me to reflect on my own early experiences as a female in a predominantly male profession in the 1960s and '70s. To accomplish this, I have to start at the very beginning, in 1954, when I matriculated as a 16-year-old freshman at Duke University.

To the total dismay of my family and friends, I was determined to major in mathematics with a minor in economics. In those days, the men and women at Duke had separate campuses. Because of my major, I had to take a 10-minute bus ride followed by a long trek to the math/physics building on the men's campus to attend most of my classes. I almost always enjoyed the distinction of being the only female in the class. William Hotelling was one of my classmates; I only learned much later he was the son of the statistician Harold Hotelling.

In my junior year and as part of my economics minor, I took a graduate class in business statistics using the books by Mills and Croxton and Cowden. It was the only course on campus with the word statistics in its title. I learned a lot about index numbers, time series, and compound interest and only a little about hypothesis testing, but I really enjoyed the class.

In my senior year, I took an elective class in business law taught by Gerald Gibbons because my father was a lawyer and circuit court judge. At the end of that semester, Professor Gibbons and I were married in Duke Chapel. I took his name, much to my later regret. (Note to females: Always keep your maiden name!) He convinced me to start graduate school in math at Duke when I was 19.

At the end of that year, we both got teaching jobs at Mercer University in Macon, Georgia, and started saving money to continue graduate study. I happened to see a flier on the bulletin board for a National Science Foundation (NSF)–sponsored summer institute in statistics at North Carolina State University. Thus, began my love affair with statistics.

The next summer, I attended another institute sponsored by NSF at the University of Florida and took a class in nonparametric statistics from Herbert A. David, who later became my major professor when I earned my PhD at Virginia Tech in 1962 at age 24.

We had saved enough money to go back to graduate school that fall if we both got scholarships. Only a few universities offered the JSD law degree my husband sought, and he applied to all of them. Since we did not know which university would support him, I had to apply for scholarships that would be honored at any US university. I found only two, offered by General Electric and the Southern Fellowships Fund; I was offered the latter. My husband got a scholarship at Columbia University and I followed him there to take statistics classes.

A little later, I wrote a letter to Boyd Harshbarger, then chair of the statistics department at Virginia Tech, asking if I could transfer all my graduate credits to VT and earn my PhD there. He agreed to waive the residence requirement if I came to VT for that summer, passed the written and oral comprehensive examinations there, and wrote my dissertation there with Herb David. And so my husband actually followed me for a change, but only for one summer.

My husband took a position teaching at the University of Cincinnati Law School in the fall and I followed him, teaching in the math department while writing my dissertation. When I flew to Virginia to defend my dissertation a year later, Herb David met me at the airport in Roanoke and had me stay at his home in Blacksburg for two nights. My husband completed the requirements for his JSD at Columbia that same year and accepted a position teaching at Rutgers Law in Camden, New Jersey.

I applied for jobs at Drexel and Penn in Philadelphia. Only Drexel responded with an invitation to interview; the dean suggested I stay at his home since unaccompanied young ladies did not stay in hotels in those days. At the close of a highly promising interview, I asked for time to walk around the area. A few blocks away, I presented myself at the office of Parker Bursk, then chair of the statistics

department at the Wharton School of the University of Pennsylvania. I inquired whether he had received my application letter and he said yes, he had, but they did not hire females, especially married ones who would just get pregnant and quit. (You have to remember there was no affirmative action or birth control pill in those days.) I begged him to give me a chance, and we had a very promising interview. I received offers from both schools and accepted Penn.

When I walked into a class of all young men on my first day at Wharton, one of the men said, "Here comes a curve breaker." Were they surprised when I walked up to the podium and began calling the roll! I taught a probability class in the math department, and Fred Mosteller's son was enrolled.

During my time at Penn, I was exposed to some of the best scholars in the country and was a very apt pupil. My mentors, especially Morris Hamburg and Don Morrison, stressed the importance of being active in the ASA in addition to publishing. I presented my first paper (based on my dissertation) at a regional ASA meeting at Harvard in 1963 and was quite impressed to meet the talented composer/comedian Tom Lehrer at the mixer afterward. I reviewed papers submitted to *The American Statistician*, attended all ASA annual meetings, served on several ASA committees, and ran for national office (and won!) as representative at large to the ASA Board of Directors. The day I learned I was awarded tenure and promoted to associate professor at Wharton was one of the happiest days of my life.

Unfortunately, my husband was then offered a position as director of the Alabama Law Institute and professor of law in Tuscaloosa. It honestly never occurred to me to do anything other than follow him there, even though it was the fifth time. I decided to make the best of a bad deal and strive to be a big fish in a small University of Alabama (UA) pond (excluding the football pond), rather than a little fish in the prestigious Wharton pond.

One of my early ASA activities was to chair the first Committee on Women in Statistics (COWIS) and convince the ASA Board to pay for publishing a roster of women in statistics to help organizations that needed to hire a statistician to have access to names of females that would enable them to meet affirmative action requirements. It was a pathetically slim roster, but it was a start in encouraging females to enter the profession.

After a short while, I became disenchanted with the activities of COWIS and Caucus for Women since I disagreed with some of their goals. I considered myself to be a statistician who happens to be a female, as opposed to a female statistician. The difference is quite subtle, but it works for me. And so I sought other means of breaking the gender barrier. I contributed a chapter on statistics to a book titled *Nontraditional Careers for Women,* published in 1972.

About this time, my husband decided he needed a woman who would stroke his ego more than a wife, so we divorced. I became chair of the graduate program in applied statistics at UA and encouraged female students to pursue careers in the field. I did the same through my activities on the Southern Regional Committee on Statistics. I participated in the ASA Visiting Lecturer Program, visiting smaller colleges in the South to encourage undergraduates to pursue graduate study in statistics. I actively pursued potential co-authors for writing scholarly books and articles and succeeded beyond my wildest dreams with distinguished statisticians from places like Stanford and Harvard.

I wasted no time in my private life and soon married John Fielden, dean of the business school at UA. He encouraged me to continue to be active on many of the important ASA committees, including constitutional revision and continuing education. I was chair of the 135th anniversary meeting of the ASA in Boston and served three more terms on the board of directors.

These activities brought national recognition that led to my testifying before Congress and in jury trials as an expert witness in statistics and becoming a Fulbright/Hays scholar at the Indian Statistical Institute in Calcutta. I did contract teaching for the Department of Defense at the Army Logistics University in Fort Lee, Virginia, during several summers. The sixth edition of my acclaimed book, *Nonparametric Statistical Inference* (1st edition 1971), now co-authored with Subhabrata Chakraborti, appeared in January 2021, published by Taylor & Francis.

One of the most gratifying experiences I have ever had was being elected an ASA Fellow at age 34. However, every experience I had in the ASA was wholly rewarding and I would not trade them for anything. When you give your time to the ASA, you get back more than you give. I will be forever grateful to the ASA and am bequeathing money to them to fund graduate scholarships in statistics at any university in the US.

I am also eternally grateful to VT for waiving the residence requirements for me. I am thrilled that VT has decided to name their graduate program after me. I fund scholarships there for PhD students. ■

CONTACT
Jean lives in Vero Beach, Florida, and would love to hear from friends, colleagues, and former students at *jdfieldenb111@gmail.com.*

MY ASA STORY

David Corliss
DATA SCIENTIST

This is a series featuring ASA members who share their ASA stories. Our mission is to collect authentic and meaningful accounts of member experiences. If you have a story you would like to share, email the ASA's marketing and communications coordinator, Kim Gilliam, at kim@amstat.org.

David Corliss is lead, Industrial Business Analytics, and manager, Data Science Center of Excellence, Stellantis

My story with the American Statistical Association begins with the influence of a mentor, Bruce Lund. I had long known about the ASA but, with a background in statistical astrophysics, most of my connections were in physics and astronomy or through the SAS community. As I began to take on more of a leadership role in analytics R&D through my work in the automotive industry, Lund recommended I become more involved with the ASA. In the last semester of my PhD program, I contacted my local ASA chapter in metro Detroit. I should have done it sooner!

I made contact with many talented people and immediately got involved with chapter activities. I was working full time in the industry while continuing academic research on the side—something not often done in my area at the time. The local ASA chapter provided opportunities to bridge the gap between academia and industry.

> My ASA story has been filled with collaborations with so many wonderful, talented, and giving people dedicated to using our shared talents to do the most good.

A major milestone for me was my first ASA Conference on Statistical Practice in 2014. Becoming involved with conferences opened so many doors and created so many opportunities. It's so important to do more than just attend presentations! You can always read the papers later; it's only at the events that you can meet the authors, ask questions, and talk about their work. Getting involved with the conferences, themselves, is the most valuable part. The connections I have made—especially through CSP as a presenter and serving on the steering committee—have made all the difference, taking all aspects of my work to a new level.

While I have worked for some great companies, volunteering outside of work has been the most rewarding, and my involvement with the ASA has played a crucial role. Always involved in community service, the local Habitat for Humanity chapter where I helped build houses asked me to develop a model identifying the best places to find more donors and volunteers in 2004. I did several more Data for Good projects over the following years, eventually focusing on justice advocacy such as poverty, homelessness, and education. When I became involved in the ASA, things really took off.

While there are so many people who are fortunate to dedicate their professional life to Data for Good, I came to see my role as an advocate for volunteering. Networking with colleagues, I formed the NGO Peace-Work in 2014 as an all-volunteer collaborative of statisticians, data scientists, and other researchers. Through volunteering, every one of us has a place in using statistics for the greater good. Working with the ASA has led to more contacts, projects, and opportunities to present our work to a wider audience. Peace-Work has become best known for human rights and justice analytics, especially in the fight against human trafficking.

In 2017, fellow CSP committee member Mary Kwasny invited me to write a guest column on statistical volunteering for "Consultant's Corner" in *Amstat News*. Through the support and mentorship of Megan Murphy and the *Amstat News* staff, this one-time guest article grew into a regular monthly column: Stats4Good. My ASA story has been filled with collaborations with so many wonderful, talented, and giving people dedicated to using our shared talents to do the most good. ■

Diversity Mentoring Program Returns to JSM 2021

2019 Diversity Mentoring Program participants in Denver, Colorado

The 2021 JSM Diversity Mentoring Program will be held during the Joint Statistical Meetings (JSM), August 7–12 in Seattle, Washington. This hallmark program brings together historically underrepresented minority (African/African American, Hispanic/Latinx, and Native American) statisticians and data scientists at early- to mid-career levels (i.e., graduate, post-doctoral scholars, and working professionals) with senior-level statisticians and data scientists from academia, government, and the private sector. The program features one-on-one mentoring and professional development such as engaging small group discussions and networking.

Interested students and professionals are encouraged to apply on or before May 31. Limited student travel funding support is available. Full consideration for travel funding will be given to applications received by May 31.

For more information and the mentee application link, visit *https://community.amstat.org/cmis/events/dwmp/dmp2021* or contact Emily Butler at *emily.lynn.butler@gmail.com*.

This program is provided by the American Statistical Association's Committee on Minorities in Statistics. ■

JSM
Seattle, Washington
August 7–12, 2021

The ASA is closely monitoring the spread of COVID-19 and its implications for JSM 2021. As the situation continues to evolve, we are moving ahead with plans for hybrid participation. Please continue to adhere to deadlines and watch for updates while we work through details. Questions may be sent to *meetings@amstat.org*.

State of the Criminal Justice Data Infrastructure

Jeri Mulrow, former BJS Principal Deputy Director; Jeffrey Sedgwick, former BJS Director; and James Lynch, former BJS Director

Jeri Mulrow

Jeffrey Sedgwick

James Lynch

With the federal statistical community focused on the controversies of the 2020 Census and relocation of the US Department of Agriculture's Economic Research Service over the last few years, concern for the Bureau of Justice Statistics (BJS) has largely gone unnoticed. However, a new administration focusing on equity and emphasizing evidence-based policymaking has prompted former BJS leaders to join with the ASA and other BJS stakeholders to draw attention to the agency's challenges and recommend short- and long-term steps to address them.

One such challenge pertains to delays in report and publication releases. Part of the Department of Justice (DOJ), BJS is the principal federal statistical agency providing wide-ranging statistics on criminal justice topics in the United States. The agency addresses challenging issues, some as fundamental as prison- and jail-related deaths or interactions between the police and public and others as complex as estimating crime unreported to law enforcement. Its data are used by federal, state, and local lawmakers, as well as law enforcement agencies, prisons, jails, local communities, advocacy organizations, and researchers.

BJS stakeholder organizations started expressing their concern about these report and publication delays in 2019. In October of that year, the Consortium of Social Science Associations (COSSA) and Crime & Justice Research Alliance (CJRA) sent a letter to Katherine Sullivan, the DOJ principal deputy assistant attorney general for the Office of Justice Programs (OJP), about several BJS reports that were substantially delayed. Soon after, the Prison Policy Initiative elaborated on and documented the delays.

In February 2020, the ASA also wrote Sullivan, focusing on seven BJS awards that funded research on rape, sexual assault, and victim services—amounting to nearly $17 million—for which, at the time, BJS had yet to release the majority of the data and associated reports. In response, Sullivan organized two calls for the concerned stakeholders with herself and the BJS leadership team in the summer and fall of 2020 to discuss the delays and the agency's uninformative publication calendar.

In December 2020, the ASA, CJRA, COSSA, and Consortium of Professional Associations on Federal Statistics teamed with former BJS leaders to recommend to the new administration and Congress how to address BJS' challenges and opportunities, including both immediate data integrity issues and decades-long challenges that have hamstrung the BJS' ability to meet the nation's criminal justice information needs. The document emphasizes the need for attention to the BJS budget, budget structure, and strong leadership structure to accomplish the following:

- Modernize and strengthen its data collections and publish data and reports in a timely manner
- Produce new products that are timelier and more specific to communities
- Build partnerships to achieve these needs and relationships with stakeholders

As part of its ongoing State of the Data Infrastructure series—an effort to both communicate the fundamental importance of the federal statistical agencies and highlight their challenges (see sidebar)—the ASA's Count on Stats team spoke with three former BJS leaders about their perspectives on the state of criminal justice statistics.

The ASA and others have categorized BJS as one of four principal federal statistical agencies facing the most acute threats. Would you agree with that and why?

JAMES LYNCH

I think it's in bad shape, at least in the short run. I can't remember a time when BJS has been subjected to this kind of external excoriation. If you add up the publications that have come out in the last three years, compared to other years, there has been a substantial reduction in the agency's productivity. It is not that reports are not being written, but that they are simply not being released.

When you're getting to the structural issues that are causing cumulative agency strain, the problem I had when I was at BJS was too much demand for our products. Indeed, one of the things that the 2008 National Academy panel pointed out is the mismatch between BJS' mission and its funding. I'm not talking 20 to 30 percent; I'm talking orders of magnitude.

If you look at England and compare what they spend on crime statistics by the size of their crime problem and population to the United States, it's ridiculous. There are other kinds of structural and long-term issues to be addressed, but the immediate crisis is to get promised and required products out.

JERI MULROW

BJS is definitely a gem of a federal statistical agency, but it certainly has more than its fair share of challenges, including being woefully—and historically—underfunded and understaffed. This is a challenging area to measure and to gain cooperation of data providers and the trust of data users. They've really strived to do that with a small staff and a small budget. But, as Jim alluded to with the lack of publications coming out and the schedule not available, I think there has been an even further erosion of that trust by data users and data providers.

I also think the lack of adherence to or veering away from the principles and practices of a federal statistical agency needs to be immediately corrected. I'm sure there's a kernel of that still in the agency, but they need a strong leader to come in and have some foresight to not only manage the current challenges, but to also set a strategic path for the future. These are very challenging data and very challenging measures, so a longer-term plan is also needed.

JEFFREY SEDGWICK

BJS has a structural problem in terms of funding and staffing. The agency's mission keeps growing without concomitant increases and resources to accomplish the mission. So, it becomes increasingly difficult to run BJS—in terms of what you're supposed to be doing, need to be doing, and are asked to be doing—because of limited resources.

Then there's a dissemination problem in the sense that it's hard to get resources for an organization if you're not doing a good job disseminating because nobody knows you exist. Who's going to invest in something that you've never heard from, or what you hear is mundane and not all that important?

But after you get past the structural and dissemination problems, I would say next in line would be a management/leadership problem. I always thought my main job was translating what statisticians say to lawyers, because you're a statistical agency embedded in a department where virtually everybody you're working with has training that doesn't include a course in statistics. And so, if you can, go to the leadership and say, "Look, here's what our people are finding, and this is why it's significant. You might want to pay attention to it." That requires a skill set that you don't automatically think

State of the Data Infrastructure

Former Chief Statistician of the United States Katherine Wallman initiated the series in 2019, writing, "just as our roads and bridges are crumbling, our nation's data infrastructure is at grave risk," and calling for "a robust discussion about our nation's data infrastructure." She went on to discuss her concerns about declining response rates, the need for funding to modernize methods and IT, and minimizing undue political influence. She concluded her piece with an expression of her optimism about the future, stating, "The dedicated professionals working in our federal statistical agencies are among the best and the brightest I know."

Former Economic Research Service Administrator Katherine Smith Evans, former National Center for Health Statistics Director Charles Rothwell, former National Academies Committee on National Statistics Executive Director Constance Citro, and former Bureau of Economic Analysis Director Steve Landefeld have also penned State of the Data Infrastructure pieces:

1. State of the US Data Infrastructure, Katherine Wallman
   http://bit.ly/325DSue
2. State of the US Data Infrastructure at the Economic Research Service (ERS), Katherine Smith Evans
   http://bit.ly/3ezwRtg
3. State of the US Data Infrastructure at the National Center for Health Statistics (NCHS), Charles Rothwell
   http://bit.ly/31aFRht
4. Federal Statistical Agencies Struggle to Maintain Their Vital Role in the US Data Infrastructure—Why and Whence?, Connie Citro
   http://bit.ly/2PVpa6N
5. State of the US Data Infrastructure at the Bureau of Economic Analysis, Steve Landefeld
   http://bit.ly/3l2cG8b

is an important qualification for somebody running a statistical agency. There is a translation problem between the way people in a statistical agency talk to each other and the way you can effectively communicate with the outside world. I think that needs to be embraced and understood from the beginning when you're picking somebody for a leadership position.

The other management issue is that BJS' culture has, in many cases, operated on a hierarchical model of management, which is not really productive for the agency. BJS is organized internally into units around the different data collections. There's a victimization unit, the corrections unit, a policing unit, and so on. It makes a lot of sense to take the heads of those units and run the agency like an academic department. You essentially bring people to the table and make decisions by consensus among the unit heads, as opposed to a pyramid in which everything has to go through multiple layers and ultimately the director gets to decide everything. That just paralyzes the organization if you have a front office model where all decisions are made. You have to get your best people, who typically are unit heads, and put them around the table and say we're going to make a decision as a collegial group. You can get a lot of mileage out of that. Not everything is being funneled through the director. You actually have people who are authorized and empowered to show initiative at the level of the unit, or the data collection, and that helps things in terms of productivity.

The final nail in the coffin is if, hopefully not when, a political appointee decides his job is to squelch things that the boss doesn't approve of. One cannot effectively lead a statistical agency by serving as a gatekeeper between the agency staff and the external environment.

It's all of those things stacked up—a structural problem, a dissemination problem, management challenges, and then the politicization of the agency. BJS is in trouble, and it's not going to get turned around short term. I would bet this is a decade-long project, if not longer.

What do you see as BJS's strengths and potential?

JAMES LYNCH

BJS has two important products that allow ordinary citizens to define the crime problem unfiltered by the authorities. The first is the National Crime Victimization Survey (NCVS). It's probably the world's best victimization survey. The survey provides a wealth of information about crimes not reported to the police, as well as the nature of interactions between the police and public. In this period of friction between the police and public, the NCVS should be providing objective data on the interactions between police and citizens and how they are changing over time.

The other is the Survey of Prison Inmates (SPI). This provides a detailed profile of the custody population and allows prisoners to report on their experiences in prison unfiltered by correctional staff. Moreover, SPI gives you an opportunity to do all sorts of disaggregations that aren't possible in the aggregate statistics reported by state departments of correction.

I think BJS deserves a lot of credit for maintaining these expensive and difficult, but indispensable, data collections.

I think there have been a number of other instances in which BJS has been punching above its weight, such as measuring police killings and rape and sexual assault. Here, the agency has taken on complicated measurement issues in a serious and creative way that is not easy to do for a small statistical agency. I thank Jeff for shaking loose the resources to do some of these things before he left. BJS still has the challenge of preserving the NCVS in an era when the cost of household surveys is increasing dramatically, but there are ways to address this problem without sacrificing the survey. You don't give up the only chance the citizens have to define the crime problem without a fight.

What is the constructive path forward for BJS, in the short term and long term?

JERI MULROW

BJS really needs to modernize pretty much everything it does. For publications, it should be thinking digitally first to release these data. The agency needs to modernize the way it does the data collections, data storage, and data linkages. But if you don't have the budget and the staff, it's hard to even think about what you ought to be doing.

The new director is going to have to figure out how to balance getting the current situation back on track and bringing the agency into the modern age. They have a huge mandate. And that's just measuring criminal justice. That doesn't even go beyond thinking about how to integrate it with other data to be talking about what the drivers of crime are and how we prevent them. It's all the big-picture stuff that everyone wants, plus produce data at the granular level. There are all sorts of challenges, for sure.

The new director needs to come in and restore the trust of the communities that need to be involved. That includes the federal statistics community and the criminal justice communities that range from victimization all the way through the

whole pipeline of the criminal justice system. I think the director needs to focus outwardly on that and get a really strong deputy director who can focus on managing and helping to restructure the inside of the organization and get it moving forward. Those two together need to create a strategic plan for the whole organization to meet the current challenges and move into a new era.

JAMES LYNCH

It was a big mistake to remove the BJS director as a Senate-confirmed presidential appointee. Restoring that aspect would help in the recruitment process to attract talent.

You're also going to have to get out of the structural hole BJS is in. The agency is required to build new statistical collections to report on parts of the justice system currently not included in its holdings at the same time it maintains ongoing data collections. The annual budget, which has been in steady state or worse for decades, does not allow for developing new statistical collections. The Office of Management and Budget (OMB), BJS, and Justice Department should agree to a series of revolving five-year plans in which BJS has a capital budget and maintenance budget. The former should be used to build new collections, while the latter is used to maintain current collections. This is the only way BJS will make progress in providing data on the full range of decisions made in the criminal justice system.

BJS can abet this process of building new collections through collaboration with agencies like Office for Victims of Crime (OVC) or other client agencies in OJP [Office of Justice Programs]. Cooperative agreements with these agencies can be used to build data collections of particular substantive interest to those organizations. These collaborations give the mission agencies the information they need and allow BJS to fill gaps in the coverage of the current statistical collections.

Unless BJS's budget takes account of the need for both a capital and maintenance budget, the structural problems of the agency will never be fixed.

JERI MULROW

I want to build on that and talk about strategic partnerships. When I was there, there was a really nice partnership with BJS and OVC to support some of the NCVS redesign work, and there was the partnership with the FBI to access the National Incident-Based Reporting System (NIBRS) data and push it out. There are opportunities for some of those types of strategic partnerships that can help augment what Jim was talking about in terms of putting together this five-year, two-phase plan. Maybe it's a five-year, three-phase plan in which you also engage external partners to help provide some of the funding, expertise, and knowledge resources. I think there are many opportunities, but it would need some creative thinking and it will need somebody who can barter those partnerships.

JEFFREY SEDGWICK

I love the idea of a capital budget to look at the long-term needs of the agency infrastructure and its core funding. And then there's the operating budget—I love that idea. I think that's sellable if you're prepared to make this kind of a commitment of resources that can be depended on and not vary wildly from year to year, depending on the mood on The Hill. Then, you can begin to plan. But if you're going to plan to take advantage of that stable commitment of resources, can you execute unless you've got a similar kind of stability in the leadership of the organization?

I'm a big fan of a fixed term for the director of BJS with Senate confirmation and a term that's staggered across presidential administrations. If a BJS director's term is coterminous with a president, then the dynamic is every president deserves their own director. But if you're looking at somebody who's up for confirmation, and they're going to serve this president and potentially the next president, then the question is, is this person the best person for the people of the United States? Because they're not tied to a particular president or administration. They're serving the country. It also gives the director some tenure. Turnover in the leadership of the organization is a good thing. But too rapid turnover undermines the ability to address some of these long-term structural challenges.

The Foundations for Evidence-Based Policymaking Act is changing the way the federal government uses data. How do you see BJS responding to these changes?

JERI MULROW

I think they can't do anything until they address the other challenges that we talked about. Right now, they're just not able to fully participate in the activities surrounding the Evidence Act. At this point, they just don't have the resources, and they don't have the brain space. And they are so far behind in their current data. But this is part of what needs to be their long-term strategy. How do they get to this? How do they get to fully realize all of the opportunities they really have? I feel a little discouraged that they're not participating and not able to participate very well right now. ■

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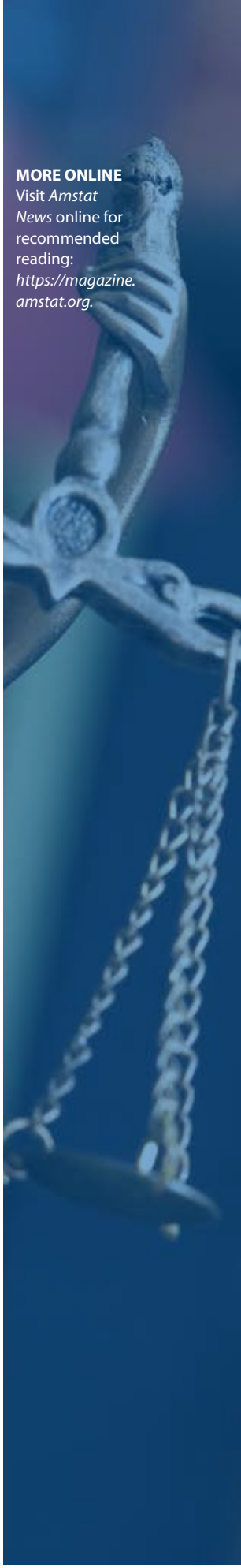


STATtr@k

BREAKING THROUGH the NSF GRANT-WRITING PROCESS

Mark Daniel Ward is a professor of statistics and (by courtesy) agricultural and biological engineering, mathematics, and public health at Purdue University. He is the interim co-director of Purdue's Integrative Data Science Initiative. Email him at *mdw@purdue.edu*.

For colleagues who want to better understand National Science Foundation (NSF) grants (especially early in their career), my best tip is to offer to serve as an NSF reviewer. The process is fully described at *http://bit.ly/3eDYpy1*.

If you are not immediately invited to serve on a panel, do not be discouraged. Continue to offer to serve. When you are invited, put your heart into it. Invest time in the proposals you are assigned. Write thorough reviews that help guide the team of investigators. Offer a balance of praise and critiques for improvement. Although you are obligated to destroy all materials related to the review process after the panel is over, you will take with you a deep knowledge of how the NSF review process works.

Ask to serve on cross-disciplinary panels. It is a joy to serve on panels that review proposals from interdisciplinary teams that aim to solve some of science's biggest challenges. You learn how visionary grant writers manage to translate their scientific understanding into practice. You also see some of the broadest (potential) scientific impacts you can imagine.

Following are 10 tips for when you are ready to start on your grant proposal:

1. Work together with your colleagues on their grants. Funding rates from NSF can be discouraging to single investigators who are new to the grant-writing process or who feel a great deal of pressure to win a grant while they are on tenure track. Part of this pressure comes from the struggle to compete with colleagues who have many more years of experience. Early in one's career, it is worthwhile to apply with colleagues as part of a larger team.

2. Start early, brainstorm, and be sure to address the intellectual merit and broader impacts aspects. Proposals are usually stronger when broader impacts are not relegated to the end, but rather integrated into the narrative. Think outside the box about student-centered initiatives, team building, strategies for broadening groups of colleagues in the proposed research, and plans for carrying out the grant in a sustainable way.

3. Know the solicitation inside and out. I print the solicitation and paste each page at the front of the notebook where I keep my grant-writing thoughts. I read the solicitation over and over again. I use the solicitation like a guidepost—to indicate what sections I need in the grant—so I do not miss any required pieces. To my early-career colleagues: I assure you that, although a solicitation looks daunting to read at first, you will get to the point where you get comfortable with reading the salient parts.

4. The solicitation relies heavily on the *Proposal & Award Policies & Procedures Guide*, which can be found at *http://bit.ly/3euCOrC*. It is much longer, and it is daunting to read, but it can be your best friend while working on a proposal. I use it to remind myself about font types, font sizes, spacings (number of lines per inch), letters of collaboration, results from prior NSF support, and more.

5. Think big! Once I carried a notebook with me everywhere, even taking it into the kitchen, bedroom, restroom, etc. I wrote down any and every thought using pen and paper. Brainstorming and considering cutting-edge ideas might potentially have big rewards.

6. Share your grant proposals with everyone you trust. Urge senior colleagues to be tough when giving you feedback, like a mock review, and take their suggestions seriously. You can save yourself the difficulty of waiting months for official panel reviews if you go through several rounds of pseudo-reviews with people you trust. Such informal reviews will also give you a chance to know your colleagues on a much deeper level. Sharing one's grant proposal is a vulnerable process, but it builds trust and camaraderie.

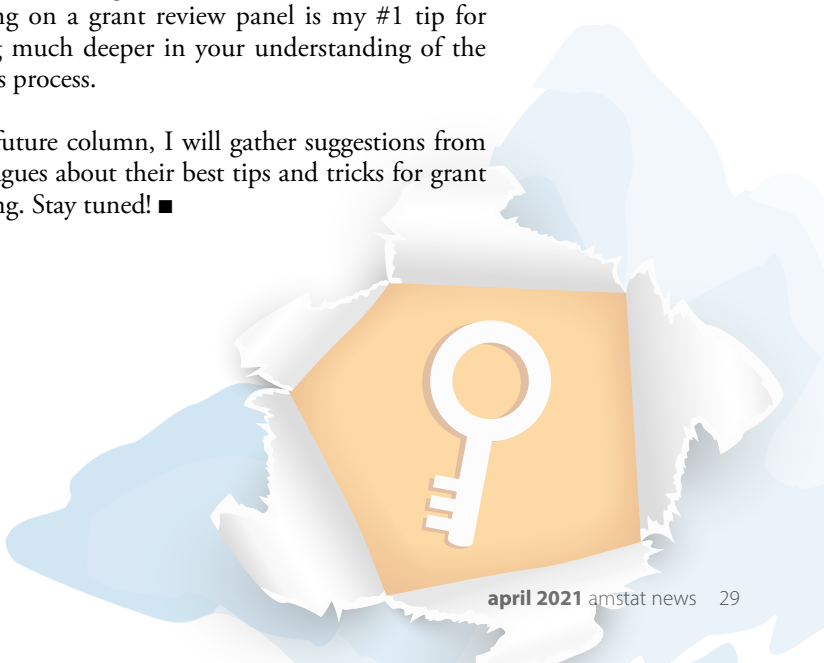
7. Talk with your sponsored research office or business office as soon as you know you will be assembling a grant proposal. These offices have expertise in getting a grant submitted on time, without missing key pieces. After the fact, a handwritten thank-you note to your colleagues goes a long way in acknowledging the helpful role they played in the process.

8. Recently, the NSF and National Institutes of Health introduced SciENcv (*www.ncbi.nlm.nih.gov/sciencv*), which allows investigators to store their two-page NSF "Biographical Sketch" and "Current and Pending Support." The "Collaborators and Other Affiliations" (*https://nsf.gov/bfa/dias/policy/coa.jsp*) is not in SciENcv.

9. Have fun! Remember that grants enable us to make scientific discoveries, build collaborations, and create opportunities for advancing our field.

10. Start early, dream big, leverage your collaborators, and don't forget the details along the way. As I said at the outset, serving on a grant review panel is my #1 tip for going much deeper in your understanding of the grants process.

In a future column, I will gather suggestions from colleagues about their best tips and tricks for grant writing. Stay tuned! ■



STATS4GOOD

Solve the Equation, Save the Planet:

With a PhD in statistical astrophysics, **David Corliss** is lead, Industrial Business Analytics, and manager, Data Science Center of Excellence, Stellantis. He serves on the steering committee for the Conference on Statistical Practice and is the founder of Peace-Work, a volunteer cooperative of statisticians and data scientists providing analytic support for charitable groups and applying statistical methods in issue-driven advocacy.

In celebration of Earth Day on April 22, this month's column focuses on environmental analytics, highlights some of the many ways people are making an impact, and provides information about opportunities to get involved. When Data for Good intersects with environmental activism, the result is data-driven sustainable change for the good of the planet and everything on it.

Hackathons are one of the most popular and effective ways to use our statistical and data science skills to make a positive difference. One great place to find events and join a team is Earth Hacks (*https://earthhacks.io*), which uses the power of hackathons to create powerful, innovative, and data-driven responses to the climate crisis. One amazing feature Earth Hacks offers is a list of environmental hackathons (*https://earthhacks.io/allhackathons*). Well-researched and up-to-date, this is definitely a site you will want to bookmark. New hackathon opportunities appear almost every month.

Earth Hacks also has a resource archive and project presentations from environmental solutions developed in past hackathons. It's a great place to find cool ideas and connect with hackathon sponsors. Earth Hacks takes an interdisciplinary approach, so their activities aren't restricted to people with a lot of heavy technical skill and you are likely to meet people with diverse backgrounds. With a particular focus on creating opportunities for students to get involved, student groups, professors, and individuals will want to check out Earth Hacks, refer others to their website, and maybe even consider starting a local chapter.

Whether you are getting involved in Data for Good for the first time or have been active for years, it's important to leverage connections with organizations with which we participate now. While COVID-19 may have a lot of us working from home, outdoor activities to take action on our analyses and collect data for new ones offer a great way

to interact with people in relative safety while working to help the world around us. Bird counts, listening for frogs, collecting light pollution data to measure impacts from urbanization, and other activities provide vital data and a chance to enjoy the milder weather and interact with others. Partnering with local parks, community groups, and environmental organizations will add the power of data and science to their programs to maximize their impact.

One important area in which scientific research is much needed today is the environmental effects of the COVID-19 pandemic. There have been many effects on the environment, including reductions in greenhouse gas emission, reductions in some pollutants, and changes in human behavior that affect the environment. Not all of these have been beneficial, such as the increase in medical waste. A good place to start developing a new D4G project is a study on the environmental effects of the pandemic from the National Center for Biotechnological Information (*http://bit.ly/3rINLcW*). This gives an excellent overview of many of the effects that have been reported and the methods proposed to address them.

The situation on the ground and in the water and air is changing rapidly, calling for fast action. This is one area in which thinking globally and acting locally is especially important. While much has been done on overall effects on the planet, local studies are needed to track, visualize, understand, and forecast the evolving environmental impact from the pandemic. Partnering with local groups will empower them to leverage analytics in guiding their course of action for maximum effect.

One often overlooked area with a great need for analytics is governmental and legislative advocacy. This takes some special skills, because putting science into action requires more than analytics. A key feature is teaching and presenting to people who don't have a statistical, or even scientific, background. D4G practitioners can bridge the gap between technical research and public policy.

Activities include identifying the key drivers of environmental outcomes, analyzing past policy to identify best practices, writing and presenting to explain the actions and evidence to people outside of scientific research, and recognizing what can be changed and what cannot. For example, the COVID-19 pandemic has reduced air pollution but I wouldn't recommend having another pandemic as a practical strategy. Instead, showing people—especially policymakers—the environmental changes during the pandemic will allow them to accurately project the beneficial effects from increasing the use of alternative energy.

Much of this work is undertaken by environmental organizations and supportive political candidates. Volunteering for a candidate is a great place to start. My own first experience in legislative advocacy was as a volunteer statistician for a congressional candidate—someone I already knew, thus leveraging an existing connection. I soon found myself writing position statements and explaining the candidate's views to environmental advocacy groups to persuade them to endorse the candidate and donate to the campaign. Getting the science into policy takes more than just the science. The statistics are needed first, but it's public-facing written and spoken communication skills that empower the best science to become the best policy.

For Earth Day this year, consider the different ways your statistics and data science skills can be applied to literally make a better world and more sustainable future for all. When it comes to scientific advocacy for the environment, solving the equation means helping save the planet. ■

Getting Involved

In opportunities this month, I would like to give a shout out to an amazing organization using data to fight human trafficking. Human Trafficking Data (*www.humantraffickingdata.org*) collects, curates, and maintains a searchable database of US human trafficking cases. Vanessa Bouché, a human trafficking researcher at Texas Christian University, leads a team of volunteers using federal case reports and web scraping of news articles to create this powerful tool for trafficking researchers.

But they need our help. With no paid staff, there is a backlog of about 1,000 case reports to be entered into the database. I need to emphasize that these folks are completely focused on data quality, so only the highest-quality information makes it into the database for researchers to use. That means statisticians and data scientists are ideal for this important work. Interested volunteers can reach out to Bouché at *vanessa.bouche@tcu.edu*.

CSP 2021:

The (Virtual) Art of Statistical Practice

Eric Stephens, Chief Analytics Officer at Nashville General Hospital and Chair of the 2021 CSP Steering Committee

The 10th annual Conference on Statistical Practice (CSP) was held virtually February 17–19, 2021. Originally scheduled to be held in Nashville this year, the conference (like many others) was forced to pivot to an online-only format due to the COVID-19 pandemic. Despite this change, attendance was still strong at 335 attendees and the content was as practical and enlightening as ever.

By nature, CSP concentrates on the element of application, so the primary goal of the conference is less about theory and more about helping statistical practitioners develop themselves and their skill sets to be more effective in their respective roles. This year's conference consisted of 20 concurrent sessions and three poster sessions, as well as a variety of short courses and tutorials designed to give participants hands-on experience in a particular area. Topics ranged from time series to anomaly detection, from missing data to machine learning, and from collaborative grant writing to challenges in cross-disciplinary collaboration. Of particular note, ASA Executive Director Ron Wasserstein, along with Nicole Lazar of Penn State, presented a fascinating and practical session focusing on the challenges and opportunities of a post $p < 0.05$ world. Overall, the conference program addressed many of the myriad issues facing today's applied statistician.

To better reflect the needs of CSP attendees and help ensure a variety of topics were presented, the four conference themes were revised this year to include 1) Career, Professional, and Leadership Development; 2) Study Design and Data Management; 3) Implementation and Analysis; and 4) Effective Communication. One of the aspects that differentiates CSP from other ASA conferences is the concentration on some of the so-called "soft"—yet highly important—skills, so this theme revision was designed to help reinforce that concentration and offer attendees practical information and tips for becoming better communicators and collaborators.

It should come as no surprise that COVID was a major topic at this year's conference. One event that has become a standard component of CSP in recent years is the ethics panel. This year's panel was moderated by 2021 CSP Steering Committee Vice

Teams attempted to answer a series of trivia questions about pop culture, history, sports, and (of course) statistics during Thursday Night Trivia at CSP.

Dr. Emily H. Griffith • @EmiyHGriffith1 Had a blast attending #csp2021 this year— I've bookmarked more sessions to watch in the next few days! Also very much enjoyed being on a panel with @JuliaSharpCSU, @wellerstats and @critical_infer

Chair David Corliss and focused on organizational needs and data and analytics issues resulting from the pandemic. One of the participants in that panel, David Parker of the University of Alaska at Anchorage (UAA), also delivered the conference's keynote address. Parker, who is the director of the UAA Division of Population Health Sciences and an applied computational epidemiologist, spoke about the considerations for statisticians and methodologists to be able to adapt quickly during a pandemic so they can provide the best data rapidly and ultimately help save lives.

CSP is not all serious business, however. Each year, the conference features a social event at the end of the first day. Had we been in Nashville as planned, this likely would have involved heading downtown to check out the honky-tonks, eat some hot chicken, and dodge all the bachelorette parties! In lieu of this, this year's conference featured Thursday Night Trivia, during which several teams attempted to answer a series of trivia questions about pop culture, history, sports, and (of course) statistics.

Also, as with most conferences, the ability to network with fellow attendees is a major reason people attend CSP. This year, a series of more than 20 virtual networking breakout rooms were set up at various points during the conference, allowing smaller groups of people to get together and chat about either a pre-determined topic or just have a general conversation.

As I reflect on the past year as chair of CSP, I must acknowledge that it was truly a team effort to make this event come together. Corliss will chair the 2022 conference, so make your plans now to attend CSP 2022 next February. ■

Postdoc Breaks New Ground in Biostatistics

Alexandra McLaughlin

Photo by Smeta Mahanti

Suzanne Dufault

EDITOR'S NOTE
This article originally appeared in Macalester College's alumni magazine, *Macalester Today*, and is reprinted here with permission.

The world is one step closer to an end to dengue fever and other deadly mosquito-borne diseases because of the biostatistics work of Suzanne Dufault.

Dengue occurs in tropical areas and sickens nearly 400 million people a year. It kills 25,000. While a first dengue infection looks like a severe cold, a second infection can be deadly. Victims may suffer internal bleeding and require constant hospital attention.

"Your chance of survival depends on the resources where you live," Dufault says. When dengue is left untreated, the death rate can reach a staggering 20 percent. Neither an effective vaccine nor an antiviral treatment exists.

Wolbachia may be the answer. The natural bacterium lives in around 60 percent of insect species, but not the Aedes aegypti mosquito that transmits dengue, Zika, and many other viruses. Wolbachia prevents the virus from replicating inside mosquito cells; modifying mosquitoes to carry Wolbachia can block virus transmission.

In 2016, the nonprofit World Mosquito Program (WMP) launched a trial of this biological technology in Yogyakarta, Indonesia, releasing the Wolbachia-carrying mosquitoes to randomly designated parts of the city.

In the years following the release, dengue fever rates in these areas were 77 percent lower than in areas that did not receive the Wolbachia-treated mosquitoes. Bolstered by this evidence, in the next decade, the WMP hopes to release Wolbachia mosquitoes in areas containing half a billion people at risk of dengue.

"It's rare to see an intervention with this high of an efficacy, especially for an infectious disease," says Dufault, who joined the WMP research team while pursuing her PhD in biostatistics at the University of California, Berkeley School of Public Health. After graduating in 2020, she was selected for a two-year postdoctoral research position to continue assisting the WMP's efforts to eliminate dengue. Along with examining questions from the Yogyakarta trial, Dufault investigates methodological questions that arise in other WMP sites or that remain unanswered in the realm of infectious disease epidemiology more broadly.

Her adviser, Nicholas Jewell, was the Yogyakarta study's lead trial statistician. An expert on infectious-disease interventions, Jewell likened the Wolbachia intervention's effectiveness to that of condoms preventing the spread of HIV.

The study required a new design—called cluster-randomized test-negative trial—to relate people-based outcomes to a mosquito-based intervention. Dufault and Jewell developed statistical methods for the study.

The results illustrate the groundbreaking research emerging from biostatistics. By applying statistical principles to questions and problems in medicine, biology, and public health, this field helps us interpret scientific data and understand chronic diseases, cancer, human development, and environmental health.

Dufault credits Macalester for changing her trajectory. Upon arriving at Macalester, "I had no idea how to write a proof," she says. Proof-based classes like calculus were not available in her rural Minnesota hometown. During her first exam in Professor Vittorio Addona's probability class, Dufault drew pictures to show her work.

"At the bottom of the exam, he had written, 'Very good, but let's meet and talk about proof writing,'" Dufault says. "We sat in his office, and he walked me through how to write a proof. He never doubted that I could do it."

In 2014, Dufault's passion for biostatistics ignited after Addona

encouraged her to apply for a University of Minnesota summer training program in the subject.

"The first speaker talked about how biostatistics is involved in every medical miracle you could think of, every improvement of quality of life," Dufault says. "It was the perfect clicking together of the things I really wanted to do."

At Berkeley, Dufault taught several graduate-level courses, among them a 120-student statistics course. For three summers, she instructed international doctoral students in Italy.

Along with teaching, Dufault tackled research. One project investigated genetic predictors of breast cancer outcomes in a cohort of a quarter-million women in the UK. Another looked at the impact of the declining American auto industry on suicide and self-injury in autoworkers. The study suggested that rates of self-harm are affected by whether people feel secure about the future of their job. "This is really important as we see the impact of COVID-19 and the death of a lot of industries," Dufault says.

A project she'll publish soon with UC Berkeley School of Public Health Professor Amani Allen creates a scale to assess the anticipation of racism and discrimination in Black women. A growing body of research has identified the harmful toll that prolonged stress exposure can have, physically and chemically, within the body. Recent work suggests the chronic anticipation of stress can itself trigger similar biological dysregulation. "The better we can measure that anticipation, the better we can measure the health impacts," Dufault says.

When she completes her postdoc in December, Dufault hopes to join the faculty of an institution where she can continue biostatistical research and incorporate the approach she admired in her Mac professors: patience; a willingness to experiment with teaching styles; and an open-door policy.

"Sometimes I think, if I hadn't gone liberal arts and had just focused on math and statistics, would I be a better biostatistician?" Dufault says. "I firmly believe that answer is no. The liberal arts degree enriches your ability to be involved in any kind of project that has meaning."■

Tigray War Forces Professor to Wonder if Family Still Alive

Mulugeta Gebregziabher, a biostatistician and professor at the Medical University of South Carolina (MUSC), has contended with more than a global pandemic this year. He doesn't know if his family is still alive.

Twenty years ago, Gebregziabher and his wife left their hometown of Adwa, Ethiopia, for a better life in the United States. Now, there is a war in the Tigray region of Ethiopia, where his mother, brother, three sisters, and wife's family still live. Gebregziabher has not spoken to his 79-year-old mother in more than four months.

The Tigray War began in November 2020. It is a conflict between Ethiopia's prime minister and the government of the Tigray region led by the Tigray People's Liberation front. In an article on the MUSC website, Gebregziabher said, "It's really hard to wrap my mind around what's going on. What I tell people here, people who might not fully understand what is going on in Ethiopia, I tell them to imagine the US government teaming up with Cuba to attack Florida. That's what this is like."

Gebregziabher, an ASA Fellow, recently took time off to do humanitarian work for the region and raise funds. He is using *www.ed-reap.org*, a 501(c)(3) organization he founded with four other professors in the US, to help with the rehabilitation efforts of the war-torn Tigray region and its people. "It helped a little bit," he said. "I can't just sit here while this is happening and not speak out."

To read Gebregziabher's story and more about what is happening in Ethiopia, visit the MUSC website at *https://web.musc.edu/about/news-center/2021/02/04/ethiopian-war.* ■

sectionnews

Government Statistics

In fall 2021, 11 mentor/mentee pairs were matched through the Government Statistics Section (GSS) mentoring program; most are still interacting to the benefit of both mentors and mentees. The mentoring committee is working with participants to produce a roundtable event and formalize plans to cycle the program in sync with the 2021–2022 academic year.

The collaboration of the committee with mentoring program participants is part of the section's broader efforts to invite GSS members to engage in building, strengthening, and energizing the section. To get involved, send a note to *mjaymessner@gmail.com*.

Obituaries

Jim Harner

Jim Harner passed away February 9, 2021.

Born June 16, 1945, in Winchester, Virginia, he attended West Virginia University on a Board of Governors Scholarship. He earned his PhD from Cornell University in operations research and returned to Morgantown as an assistant professor, eventually becoming chair of the statistics department, a position he held until his retirement.

During his career as a statistics professor and software consultant, Harner presented numerous invited papers. He was instrumental in creating the American Statistical Association's Symposium on Data Science & Statistics, a continuation of the Symposium on the Interface of Computing Science and Statistics (The Interface).

Harner's family will hold a celebration of his life in the summer, when it is safe to gather.

Read his entire obituary from *The Dominion Post* at *www.dominionpost.com/2021/02/13/james-harner.*

Allan Sampson

Allan Sampson, professor and founding chair of the University of Pittsburgh Department of Statistics, passed away January 30, 2021.

Sampson served many leadership roles in the American Statistical Association and AAAS. A survivor of childhood polio, he was a tireless advocate for handicapped accessibility.

Read the memorial message from the University of Pittsburgh at *http://bit.ly/30xApEs*. His complete obituary can be found at *https://bit.ly/3t5CTWK.*

California

■ Tenure-Track Assistant Professor – Black Health & Big Data Methodology, UCLA. We invite applications for a tenure-track assistant professor whose scholarly focus encompasses Black health inequities and "Big Data" methodology. Stark discrepancies associated with the COVID-19 pandemic have elevated public consciousness of broader social inequities and recognition of racial justice as a crucial priority. Further, methodological expertise is essential to translating data into policy-relevant initiatives. Apply directly at *https://recruit.apo.ucla.edu/JPF06112*. EOE

Florida

■ The University of South Florida Health Informatics Institute invites applications for an open-rank research faculty position in biostatistics with application to rare diseases and diabetes. The Institute is an NIH-funded statistics and data coordinating center for several large clinical research networks (*www.hii.usf.edu*). Preferred areas of interest include longitudinal data analysis, clinical trials, and big data. University benefits package, EOE. Interested applicants contact Kelly Sadler at *ksadler1@usf.edu*.

Massachusetts

■ The Division of Pharmacoepidemiology and Pharmacoeconomics of Brigham and Women's Hospital seeks a junior faculty member in biostatistics to join our program. Applicants should have graduate training in biostatistics or statistics. Our applied research activities relate to the use, effectiveness and safety of medical products in clinical practice. Many of our methods-focused projects aim to improve estimation of causal treatment effects in non-randomized data.

Missouri

■ A. T. Still University (ATSU) in Kirksville, MO, is seeking a biostatistician to join our research support team in Kirksville, Missouri. The biostatistician will collaborate with ATSU researchers in recommending study design and data management

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

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

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

These listings and additional information about the 65-word ads can be found at *ww2.amstat.org/ads.*

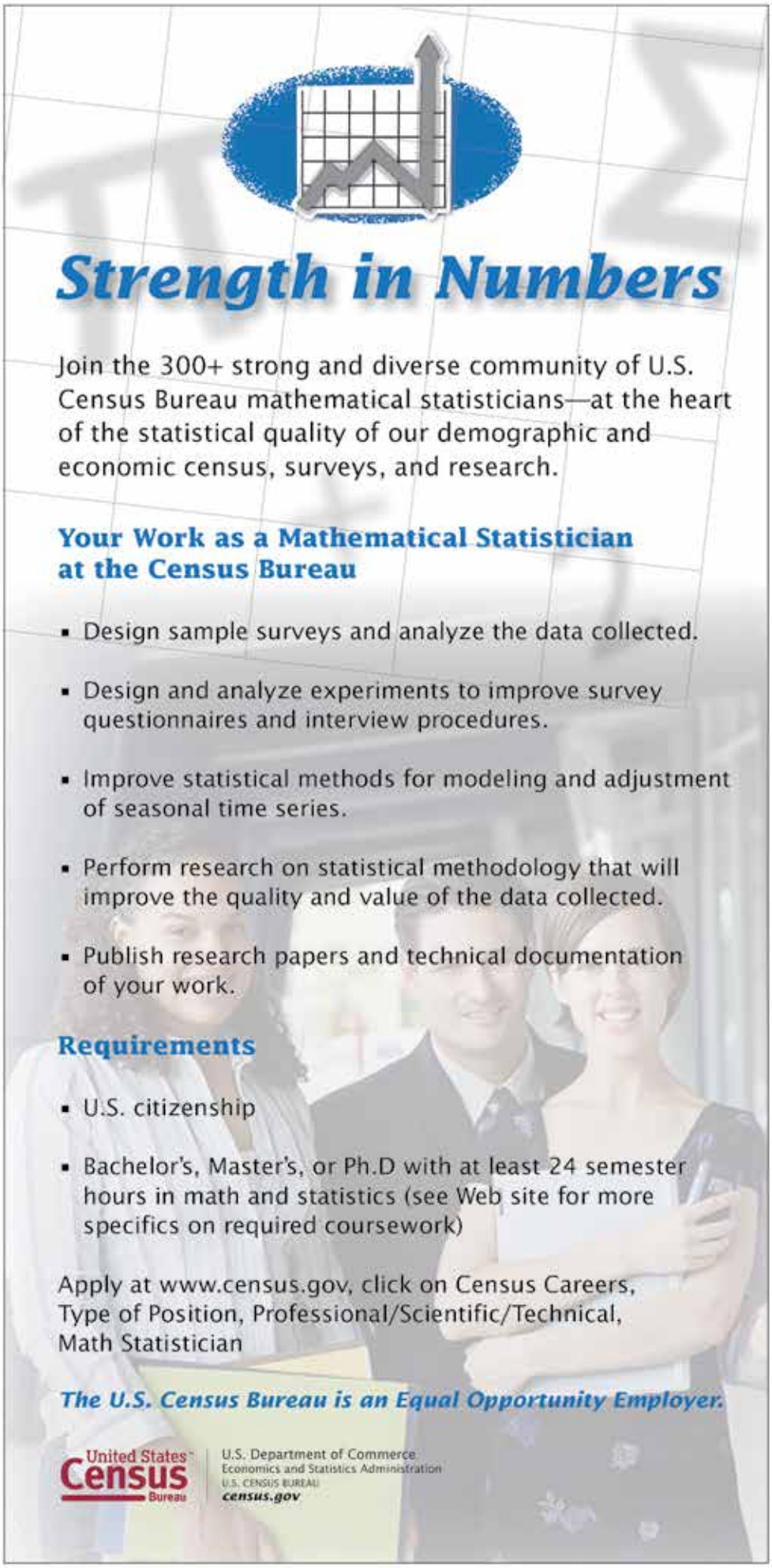
Employers are expected to acknowledge all responses resulting from publication of their ads. Personnel advertising is accepted with the understanding that the advertiser does not discriminate among applicants on the basis of race, sex, religion, age, color, national origin, handicap, or sexual orientation.

Also, look for job ads on the ASA website at *https://jobs.amstat.org/jobseekers.*

procedures, performing data analysis, and writing reports for dissemination. A master's degree in statistics or biostatistics is required. Please visit *https://bit.ly/2ZjJK1R* for more information and to apply. EOE

Virginia

■ Statistics Department, University of Virginia, invites applications for Assistant Professor (non-tenure, 3-year contract, renewable). Applicants must present evidence of outstanding accomplishments and future promise in teaching, and be dedicated to UVA's mission of excellence in teaching undergraduate/graduate courses and service. We expect continued growth in student majors and department initiatives over the coming years. UVA is committed to a diverse faculty. Link to application: *https://uva.wd1.myworkdayjobs.com/en-US/UVAJobs/job/Charlottesville-VA/Assistant-Professor-of-Statistics-General-Faculty_R0022140.* ■



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SOCIAL CHATTER

Statisticians, what is your theme song for today?

Peter Klaren @peterklaren
"When numbers get serious", Paul Simon.

Andrew Ekstrom@AndrewEkstrom2
When I'm writing papers or grading exams, I tend to listen to metal and prog rock. Though, Rational Gaze and Stengah by Meshuggah help get me in the right mood...

Jonas Latz in continuous time
@latzplacian
"Don't stand so close to me" by the Police, like always when I hope that my proposed MCMC steps are being accepted.

whowhatwhenlies
@whowhatwhenlies
"Fakin' It" by Simon & Garfunkel

Susana Pérez-Álvarez
@susana4dats
Few days ago I was on a meeting with some of my non-statisticians colleagues, and I introduced my slides with a part of "Welcome to my truth" from #Anastacia (2004)
Maybe a bit #dramatic but I was trying to add a bit of humor...

Kel Zou With hope and probability...
"Somewhere" by Barbra Streisand

Carolina Liskey Tinseltown in the Rain (The Blue Nile)

Lee D. Witt Rock and Roll is King (ELO)

Anirban Chakraborty Dheeme Dheeme gayoon.,... I sing softly

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