AMSTATNEWS

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CELEBRATING
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HISTORY MONTH

ALSO:
My ASA Story: Katherine Monti

Skills and Strategies for
Successful Negotiation

JSM Seattle 2021

Statistics, Data, and the Stories They Tell

Be on the Program!

Key Dates for Participants

January 20 – April 1, 2021
Meeting and Event Request Submission

March 16 – April 14, 2021
General Abstract Submission

February 3 – April 15, 2021
Late-Breaking Session Proposal Submission

July 1, 2021
Draft Manuscript Deadline

Key Dates for Attendees

May 3, 2021
Registration and Housing Open
(11:00 a.m. ET)

June 1, 2021
Early Registration Deadline

June 30, 2021
Regular Registration Deadline

July 1, 2021
Housing Deadline

August 7–12, 2021
Washington State Convention Center

ww2.amstat.org/meetings/jsm/2021

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ASA

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

features

columns

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

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

Student Competition

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

Posters (grades K–12) are due every year on April 1. *https://bit.ly/38CWczk*

Projects (grades 7–12) are due June 1. *https://bit.ly/35DMSJL*

Look closely at the rules for the project competition and rubric for the poster competition.

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Symposium on Data Science & Statistics

Early registration is open! Register today and save. *https://bit.ly/3smNKfp*

Members Elected as Fellows of AAAS

The following members were unintentionally left off the list of AAAS Fellows announced in last month's issue of *Amstat News.*

SECTION ON SOCIAL, ECONOMIC, AND POLITICAL SCIENCES

John Maron Abowd, US Census Bureau/Cornell University

Kristen Olson, University of Nebraska-Lincoln

SECTION ON INFORMATION, COMPUTING, AND COMMUNICATION

Anuj Srivastava, Florida State University

If you or someone you know was named a new AAAS Fellow in 2020, please let us know.

departments

member news

Apply for the Annie T. Randall Innovator Award! **Page 34**

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A Story of Resilience in Troubling Times

Greetings, fellow statisticians. Here we are, in the throes of our dark winter of 2021. I thought we would be in a better place when I closed my January note to you with this sentence: "Let's do our part to help society get through the pandemic and address societal imperfections, and let's do that with our statistical acumen and our hearts." Alas, that closing statement appears to be even more relevant today—in mid-January, after the US Capitol insurrection but before the US presidential inauguration—than when I wrote it.

I suspect many of us are miserable and stir crazy from being confined to our homes, or apprehensive due to a job that requires in-person interaction with others. Yet most of us are the lucky ones who continue to be employed, a blessing too few of us enjoy in society. We have been apprised by our fellow epidemiologist experts that the worst of the pandemic is yet to come, especially as more contagious viral variants emerge. Moreover, we in the US are in the midst of unprecedented civil upheaval and racial strife. I am optimistic that the civil unrest will abate, but that is yet to be seen. And so I begin this second communication to you much as I ended my first, encouraging you to help your family, friends, colleagues, neighbors, strangers, and society cope with the challenging, darker days that still that lie ahead. We will emerge stronger for having survived.

A key to surviving and thriving is to draw upon our personal resilience and reach out to others for support. So, for my president's corner this month, I will relate a personal story of resilience from a time I was in graduate school in the late '70s.

I first attended the Joint Statistical Meetings in 1979 when it was held in Washington, DC. I was 23 years old and only two years earlier had moved from Texas to Ann Arbor, Michigan, for graduate school in statistics. Being a native of San Antonio, moving to Michigan was the first time I had been north of Dallas, Texas. Moreover, the 1979 JSM represented my first trip to the nation's capital. I was awestruck, of course, and totally intimidated by all the seasoned statisticians around me. I knew nothing about being a 'professional.' I was just this long-haired hippie type sporting an earring (long before they became popular) as part of my evolving Chicano identity. At the JSM, I wore the one suit I owned that my parents had bought me and donned a pair of 'dress shoes' that totally did not match the suit (tan vs. navy blue). But I wore them together because I had nothing else to wear and wanted to at least try to 'look professional.'

So there I was at JSM with my long hair, earring, and mismatched attire, wandering around like a lost puppy, fascinated every minute by the JSM spectacle before me—including all the people who, like me, loved statistics. Fortunately for me, a wonderful demographer on the faculty at the University of California at Los Angeles named Leo Estrada, who was a longtime ASA member and well known to the federal statistical system, took me under his wing at these meetings.

I met Leo earlier in Ann Arbor when we worked together on a summer research methods training program for Latinx graduate students from across the country. He showed me around JSM and was especially helpful at mixers, introducing me to famous statisticians he knew. I was pretty shy back then and would not have gone to those mixers alone.

At one point, Leo introduced me to a fairly high-ranking statistician in a federal statistical agency using the typical language one draws upon for such introductions—nothing special. I will never forget this. As he introduced me, I raised my hand for a handshake and … the person refused to reciprocate, even acting a bit annoyed by my mere presence. We awkwardly exchanged oral greetings and Leo hastily ushered me to someone else. Naturally, I was devastated. I fairly quickly exited the event, sequestering myself in my hotel room for the evening.

I suspect this person's recalcitrance was based on my appearance, but the reason really did not matter. It hurt. And as a shy kid at a big conference, I wondered if I had made a huge mistake by attending. I did not sleep well that evening.

This is where resilience emerged. The next morning brought a new perspective. Although I did worry that new encounters risked a repeat of my terrible experience, I decided I was not going to let this one instance ruin my JSM anymore than it already had. So I went back to the conference and met fellow students and some wonderful, seasoned statisticians. This was the start of my

Rob Santos

Olivia Brown/ASA

Attendees mingle during the Opening Mixer at JSM 2019 in Denver, Colorado. First-time interactions at professional social situations can be difficult. When unproductive interactions occur, draw upon resilience to build a professional network and help others who are challenged.

national network of friends and colleagues that would last a lifetime.

I leveraged my self-resilience, intense interest in statistics, and desire to meet 'folks like me' to move past a humiliating experience and embrace my passion for statistics. And I guess it worked because I have attended all but a handful of JSMs since then and met some absolutely wonderful human beings who happen to be statisticians.

By the way, I do not hold grudges. So, guess what? Because we shared a passion for statistics and survey research, I ended up becoming friends with the senior statistician who refused to shake my hand. I suppose we just needed to understand that we had so much more in common than our appearances predicted.

Sound familiar? That lesson applies very much today. Our society could use a reality check to realize we are united by our humanity. We ASA members are united by our passion for all things statistical.

Returning to the topic of resilience, we all maintain personal reservoirs. Contemporary times require us to tap those reservoirs to navigate the day-to-day challenges we face and, more importantly, help those of us whose wells have run low. Helping others replenishes your own resilience reservoir, I promise.

So I have shared my story of resilience with you. I have many others, of course, including the one and only time I had a panic attack while making a conference presentation. But that is another story, although I now look back on that experience fondly because it helped me grow personally and professionally.

I'm sure you have your stories, too, and I would love to hear them if you would like to share. As I noted earlier, we have so much more in common than not.

Robert L Santos

BBSW 2020 Finds New Ways to Collaborate Virtually

Imola Fodor and Ruixiao Lu

The COVID-19 pandemic brought with it many challenges that fundamentally changed the way we live and work. The Bay Area Biotech-Pharma Statistical Workshop (BBSW)—which is a collaborative initiative supported by companies, academic institutions, and nonprofit organizations in the San Francisco Bay Area—adapted rapidly and found new ways to collaborate virtually and advance its mission: to promote connection, leadership, growth, and impact of the San Francisco Bay Area statistics and quantitative science community.

While the pandemic prevented a face-to-face event in 2020, two virtual symposiums—both related to COVID-19—were held. The first, with the theme "Embracing Challenges and Opportunities Posed by the COVID-19 Pandemic: A Showcase of Pragmatic Examples by Clinical Trial Statisticians," took place August 13–14. Cheng Su of BioMarin, BBSW president-elect and conference chair, opened the symposium and delivered the welcoming remarks. Robert Califf of Verily/Google presented the keynote address, "COVID-19 and the Evidence Generation System." Marcel Wolbers, Chin-Yu Lin, Zoe Zhang, and Xin Li of Roche/Genentech followed with "Statistical and Executional Considerations for Trials Impacted by the COVID-19 Pandemic." Finally, Tara Maddala of TMbiostats moderated a Q&A session with the audience and panelists.

The Bay Area Biotech-Pharma Statistical Workshop (BBSW) held many online events in 2020, including this end-of-year meeting.

Whedy Wang of Theravance Biopharma opened the second day, followed by three presentations: "Considerations and Practices in Monitoring COVID-19 Impact" by Priscilla Yen of Amgen; "Safety Assessment for Studies and Submissions Impacted by COVID-19" by Greg Ball of Merck; and "Summaries of COVID-19 Infections in Clinical Trials" by Mary Nilsson of Eli Lilly. Additionally, Julia Varshavsky of Occampoint moderated a panel discussion about how pharma/biotech navigates COVID-19 and what roles statisticians play.

The second BBSW virtual symposium, with the theme "Balancing Speed and Evidence in Developing COVID-19 Therapies," was held November 5. Peter Bach of Memorial Sloan Kettering Cancer Center presented the keynote, "The Inflexible Paradox of Scientific Research: Urgency Demands Patience." The rest of the day included the following four talks: "Designing Efficient Clinical Trials During a Pandemic: Some Personal Lessons from the RECOVERY Trial" by Thomas Jaki of Lancaster University; "Statistical Challenges of Designing COVID-19 Therapeutic and Prophylaxis Trials" by Julia Niewczas of AstraZeneca; "Balancing Speed and Evidence in COVID-19 Trials" by Hemal B. Mehta of the

Johns Hopkins Bloomberg School of Public Health; and "A Bayesian Design for COVID-19 Trials with Focus on Vaccines Development" by Natalia Mühlemann and Rajat Mukherjee of Cytel.

To enhance the virtual conference experience and community building, a significant investment was made in developing a BBSW mobile app, which participants of both symposiums used to view conference materials, enter a raffle drawing, and interact with others in the BBSW community.

In addition to the two symposia, BBSW organized several virtual meetups throughout 2020 on topics such as using R in the biotech-pharma industry, real-world data, and career development. The goal of these meetups—to increase networking and information exchange—was accomplished.

In the leadership development area, BBSW launched a pilot mentorship program—project YODA—with five pairs of mentees and mentors. Plans are to launch the program more broadly based on lessons learned. A leadership forum also took place that focused on developing data science capabilities in biotech companies.

BBSW has started to build strategic alliances with peer nonprofit organizations such as the San Francisco Chapter of the ASA to increase its collective impact. BBSW co-sponsored several SF ASA events, including the ASA virtual traveling short courses, "Empowering the Statistician with Spark" and "Machine Learning and Deep Learning," and the 2020 SF ASA holiday celebration. They plan to continue strengthening their partnership with fellow professional associations locally and nationally.

The events in 2020 reached more than 400 participants in the Bay Area. For more information about BBSW and to connect, visit *www.bbsw.org*. ∎

Special Issue Focuses

Johanna Hardin and Nicholas Horton, *JSDSE* Guest Editors

More than 10 years ago, Nolan and Temple Lang's paper, "Computing in the Statistics Curriculum," was published in *The American Statistician*. In that influential paper, Deborah Nolan and Duncan Temple Lang wrote the following:

- The nature of statistics is changing significantly, with many opportunities to broaden the discipline and its impact on science and policy.

- To realize this potential, our curricula and educational culture must change. While there are opportunities for significant change in many dimensions, we focus more narrowly on computing and call for computing concepts to be integrated into the statistics curricula at all levels.

- Computational literacy and programming are as fundamental to statistical practice and research as mathematics.

- Our field needs to define statistical computing more broadly to include advancements in modern computing, beyond traditional numerical algorithms.

- Information technologies are increasingly important and should be added to the curriculum, as should the ability to reason about computational resources, work with large data sets, and perform computationally intensive tasks.

We need to teach these topics in combination with scientific problems and modern statistical methods that focus on ideas and skills for statistical inquiry and working with data.

They outlined the broad set of computational topics we might want students to encounter, offered ideas about how to teach them, and discussed ways to share pedagogical resources to help faculty teach this modern material.

The Nolan and Temple Lang paper has been highly cited and prodded the statistics community to embrace computation as a foundation as important as mathematics. What has changed in the intervening years? What still needs to change? What's needed to implement curricular shifts?

To further the discussion, the *Journal of Statistics and Data Science Education* (formerly *Journal of Statistics Education*) put out a call for papers that addressed these questions.

The response was great, with 14 papers and a commentary from Nolan and Temple Lang making up the January 2021 special issue.

Nicholas Horton and Johanna Hardin provide an introduction to the special issue in "Integrating Computing in the Statistics and Data Science Curriculum: Creative Structures, Novel Skills and Habits, and Ways to Teach Computational Thinking" (*https://bit.ly/3c7V7ld*).

Deborah Nolan and Duncan Temple Lang reflect on their original paper and guidance for the future in "Computing in the Statistics Curricula: A 10-Year Retrospective" (*https://bit.ly/2MMa021*).

Alex Reinhart and Christopher Genovese provide students with practice (through code review and revision) with necessary skills to understand how statistical methods are themselves products and part of the statistical pipeline in "Expanding the Scope of Statistical Computing:

on Computing in Statistics Education

Training Statisticians to Be Software Engineers" (*https://bit.ly/3oF1nnK*).

Mine Çetinkaya-Rundel and Victoria Ellison describe the structure for a comprehensive data science course taught with no prerequisites that helps students "plan, acquire, manage, analyze, and communicate the findings" of large data sets in "A Fresh Look at Introductory Data Science" (*https://bit.ly/3ouaqb9*).

Thomas Donoghue, Bradley Voytek, and Shannon Ellis present their approach to data science as creative problem solving with a particular focus on practice and structures to have students work through repeated complete data analyses in "Teaching Creative and Practical Data Science at Scale" (*https://bit.ly/3s6wv1D*).

Aimee Schwab-McCoy, Catherine Baker, and Rebecca Gasper interpret a survey of the statistics and data science community to identify consensus curricular goals and challenges, including how difficult and important it is to effectively teach computational thinking, in "Data Science in 2020: Computing, Curricula, and Challenges for the Next 10 Years" (*https://bit.ly/3s9HG9M*).

Brian Kim and Graham Henke motivate and contextualize the need for providing a day-one programming platform using Jupyter Notebooks, GitHub, and Binder so students can immediately start analysis in "Easy-to-Use Cloud Computing for Teaching Data Science" (*https://bit.ly/2LxVf26*).

Philipp Burckhardt, Rebecca Nugent, and Christopher Genovese describe ISLE—a web-based e-learning comprehensive platform for data analysis, collaboration, and reproducible work—in "Teaching Statistical Concepts and Modern Data Analysis with a Computing-Integrated Learning Environment" (*https://bit.ly/3q3nWms*).

Ellen Gundlach and Mark Ward highlight a large-scale living learning community focused on data science but available to students from any major or background in "The Data Mine: Enabling Data Science Across the Curriculum" (*https://bit.ly/3saS4OW*).

Allison Theobold, Stacey Hancock, and Sara Mannheimer describe—as an alternative to full courses—workshops designed to provide both practical skills and computational thinking perspective to environmental science researchers who regularly work at the interface of data science in "Designing Data Science Workshops for Data-Intensive Environmental Science Research" (*https://bit.ly/3pZzyXG*).

Frederick Boehm and Bret Hanlon detail a research project that gives students practice working with real social media data in "What Is Happening on Twitter? A Framework for Student Research Projects with Tweets" (*https://bit.ly/38pMmAz*).

Albert Kim and Johanna Hardin showcase a class project whose focus expands beyond the data analysis cycle into an iteration of the data analysis cycle where students reflect on an initial analysis and then repeat the process in " 'Playing the Whole Game': A Data Collection and Analysis Exercise with Google Calendar" (*https://bit.ly/3ou8a3R*).

Mine Dogucu and Mine Çetinkaya-Rundel outline the basics of web scraping and suggest classroom activities for students to practice in "Web Scraping in the Statistics and Data Science Curriculum: Challenges and Opportunities" (*https://bit.ly/3bl8s9j*).

Bryan Adams, Daniel Baller, Bryan Jonas, Anny-Claude Joseph, and Kevin Cummiskey express the importance of multivariable thinking and describe structures for implementing it early and often into the curriculum through the use of computational tools in "Computational Skills for Multivariable Thinking in Introductory Statistics" (*https://bit.ly/3nm0YW4*).

Matthew Beckman, Mine Çetinkaya-Rundel, Nicholas Horton, Colin Rundel, Adam Sullivan, and Maria Tackett motivate the importance of version control tools in multiple courses as a component of reproducible analysis and data acumen in "Implementing Version Control with Git and GitHub as a Learning Objective in Statistics and Data Science Courses" (*https://bit.ly/2LdXPKV*).

Victoria Woodard and Hollylynne Lee describe the thought process of students working through data analysis procedures in an intensive qualitative study in "How Students Use Statistical Computing in Problem Solving" (*https://bit.ly/39fe4zh*). ∎

Nicholas Horton

Johanna Hardin

Issue Looks at Black History Month, Slot Machines, and Crowd Funding

Amanda Plunkett, *CHANCE* Executive Editor

This month, we celebrate Black History Month, and this issue of *CHANCE* includes a couple articles in honor of the celebrated month in addition to articles on other topics. We also have a special interview to share with you.

Rob Kass and *CHANCE* advisory editor **Sam Behseta** interview **Emery Brown**, professor of medical engineering and computational neuroscience at Massachusetts Institute of Technology, professor of anesthesia at Harvard Medical School, and anesthesiologist at Massachusetts General Hospital. Brown is a renowned anesthesiologist statistician recognized for developing signal processing algorithms for neuroscience data analysis and defining the neurophysiology mechanisms of general anesthesia. He was recently awarded the Swartz Prize for Theoretical and Computational Neuroscience. Kass and Behseta talk with Brown about his extraordinary career and the path he took to get there.

James Dickens details a diversity and inclusion initiative through a data science education partnership between American University and DC Public Schools. He provides insight into the successes, challenges, and future directions of the program, which could serve as a model for outreach programs at other universities.

The recent rise in internet-based crowdfunding poses interesting questions about successful fundraising strategies, as well as a wealth of data to analyze. Projects raising funds through these campaigns seek donors, attaining differing outcomes through a potpourri of project designs. In "Dynamics of Reward-Based Crowd-Funding: Kickstarter Rock Music Projects," **Moinak Bhaduri**, **Joe Dery**, **Dominique Haughton**, **Tao**

CHANCE features an interview with MIT and Harvard professor and anesthesiologist Emery Brown.

Li, **Piaomu Liu**, and **Wenxiu (Vince) Nan** analyze rock music projects on the popular crowdfunding website *Kickstarter.com.*

Ernie Walker derives the probabilities of winning various slot machine jackpots in "Monty Python and the Probability of Winning the Holy Grail." Find out if these slot machines are worth playing and whether Walker won the jackpot in a recent visit to the casino.

In "Early Statistical Findings and Authorship Misattribution: An Unsystematic Review of the Literature," **Nigel Smeeton** highlights the challenges of correctly attributing original statistics research. He presents examples of work incorrectly attributed to the wrong author and calls for further investigation and documentation via an accessible misattribution database.

Does driving to and from familiar destinations without full attention, or colloquially "on autopilot," put drivers at risk for traffic accidents? Or, are accidents more likely to happen on unfamiliar roads? **Johnathon Ehsani** and **Brian Tefft** investigate these questions in "Crash Risk and Roadway Familiarity."

In "Odds of Justice," **Mary Gray** discusses programs to engage underrepresented groups in the statistics field. She also tackles racial discrimination and how statisticians may be able to offer solutions.

In "Book Reviews," **John Wiorkowski** reviews the fictional book, *Data Games*. **Christian Robert** reviews three additional books: *Understanding Elections Through Statistics: Polling, Prediction, and Testing*; *Principles of Uncertainty (Second Edition)*; and *Statistics and Analysis of Scientific Data (Second Edition)*.

Learn more about *CHANCE* at *https://chance.amstat.org/about*. ∎

ASA Launches Podcast, *Practical Significance*

Kim Gilliam, ASA Marketing and Communications Coordinator and *Practical Significance* Producer

PRACTICAL SIGNIFICANCE
AMERICAN STATISTICAL ASSOCIATION

Big news, podcast listeners: *Practical Significance*, the ASA's new monthly podcast, can join *Stats + Stories* on your playlist. Released on January 6, *Practical Significance* endeavors to inspire listeners with compelling stories from statistics and data science. We'll feature a diverse and engaging lineup of ASA members who will share their passions, professional initiatives, and aspirations—a deep dive into the work they love and where it's taken them.

The show is hosted by ASA executive director, Ron Wasserstein, and director of strategic initiatives and outreach, Donna LaLonde. The hosts are excited to sit behind the mic, ask the big questions, and communicate our member stories.

"Podcasts are an extraordinarily popular and effective means for communicating. They provide the opportunity to eavesdrop, as it were, on conversations about important topics with experts in those fields," says Wasserstein. "We'll be engaging with people whose careers and actions shed light on why statistics has great practical significance—and anyone who knows me, knows I love to talk. And I really love to talk with interesting people about things they care about."

Regarding the platform, LaLonde shares, "I'm curious and want to learn about a lot of different subjects and podcasts help satisfy my curiosity and desire to learn. Some are serious and very structured, others are informal and much more conversational, but all provide insights into topics and often inspire me to dig deeper into a subject." She adds, "*Practical Significance* is our opportunity, and we hope yours, to learn more about our amazing community. We plan to talk about work and accomplishments but also about pastimes and pursuits outside of work."

The inaugural episode, *Practical Significance*—Episode 1 | Making Meaningful Statistics: An Interview with ASA President Rob Santos, was released in January. Santos shares compelling details about his work at the Urban Institute, outlines several goals and initiatives he plans to tackle during his tenure as association president, and offers an intriguing story about his passion outside the profession. We invite you to listen on Spotify: *https://spoti.fi/2Xkk4RM* and, if you like what you hear, share the podcast with a colleague.

Follow *Practical Significance* on Twitter @TheASAPodcast. ∎

Pfizer/ASA/UConn Distinguished Statistician Colloquium Returns

The 26th Distinguished Statistician Colloquium webinar will take place April 21 from 3–5 p.m.

The speaker will be Peter Bickel of the University of California, Berkeley Department of Statistics. The title of his presentation is "Four Excursions in Genomics."

The colloquium will be followed by a discussion with Liza Levina from the University of Michigan and Purnamrita Sarkar from The University of Texas at Austin. For more information, visit *https://bit.ly/35nLURC*.

Questions can be directed to Dipak Dey at *dipak.dey@uconn.edu*.

Skills and Strategies for Successful Negotiation

"Skills and Strategies for Successful Negotiation," a panel session at the 2020 Women in Statistics and Data Science Conference, featured Kelly H. Zou (top middle), Shanthi Sethuraman (top right), Lori Evarts (bottom left), and Emma Benn (bottom right) and was moderated by Jessica Lavery (top left).

Jessica Lavery is a research biostatistician at Memorial Sloan Kettering Cancer Center. She is also a part-time student in the Columbia University Doctor of Public Health program.

Emma Benn is an associate professor in the Center for Biostatistics and department of population health science and policy and the founding director of the Center for Scientific Diversity at the Icahn School of Medicine at Mount Sinai.

Lori Evarts is an assistant professor and the director of graduate studies of the Public Health Leadership Program at the UNC Gillings School of Global Public Health.

Shanthi Sethuraman is a senior director of global statistical sciences at Eli Lilly and Company.

Kelly Zou is PStat accredited and the head of medical analytics and real-world evidence at Viatris.

A panel session titled "Skills and Strategies for Successful Negotiation," moderated by Jessica Lavery at the 2020 Women in Statistics and Data Science Conference, featured Kelly H. Zou, Shanthi Sethuraman, Lori Evarts, and Emma Benn. The panelists shared their negotiation experiences from academia and industry and discussed strategies for navigating negotiation.

To start the session, the panelists polled the audience members to find out how they would characterize negotiation. Sixty percent viewed negotiation as an opportunity to reach an agreement, 36 percent as a potentially uncomfortable discussion, and 4 percent as an interaction for a transaction (e.g., buying a car or house). The panelists then asked what (if anything) audience members thought was their biggest barrier to engaging in negotiation. Results were split across lacking the tools, skills, or confidence to negotiate successfully (40 percent); not being sure

Figure 1: Live polling results: characterization of negotiation

Figure 2: Live polling results: barriers to negotiation

when is an appropriate time to negotiate/which things are negotiable (33 percent); and being afraid of how they may be perceived (20 percent), with only a small percentage of attendees

responding that they don't feel they have barriers to engaging in negotiation (7 percent).

Opportunities for Negotiation

A core theme of the session was that negotiation is not a one-off event that is finished once you accept a job. Across academia and industry, the panelists highlighted the need to be able to negotiate for resources, including salary support, flexible working arrangements, and promotions for students and full-time employees in addition to themselves on an ongoing basis. These negotiations regularly occur with other individuals and units of your organization or with external parties.

Statisticians and data scientists often need to negotiate with nonstatisticians to implement a particular study design or statistical methodology that is acceptable to both the analyst and the other party. Additionally, when working to write scientific publications with others, authorship is something that can and should be negotiated at the onset.

Skills and Strategies for Navigating a Negotiation

As opposed to being a competition, negotiations can be approached as opportunities to reach an agreement. Kelly Zou made an analogy for negotiations as optimization problems, in which there are limited resources and negotiations are necessary to allocate those resources in a way that is optimal for both sides.

Preparing for a Negotiation

Step one for any negotiation is to do your homework. Lori Evarts noted, "If it's important enough to negotiate on, then it's important enough to go prepared." For example, there are important questions to be answered based on the goals of the negotiation. What do you need to get out of the interaction? What is the

Further Reading

Golbeck, Amanda L., Ingram Olkin, and Yulia R. Gel (Editors). 2015. *Leadership and women in statistics*. New York, NY: Chapman and Hall. *https://bit.ly/39u7x47*

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Hughes, Jonathan, and Danny Ertel. 2020. What's your negotiation strategy? *Harvard Business Review. https://bit.ly/3nsJDuC*

minimum you are willing to walk away with? This will help guide where to compromise and where to stand firm. It's also important to understand *what* is important to the other party and *why*, and then figure out *how* to work with that person so you both gain something, even if it's not everything you want. Think about how what you want will help (or at least not get in the way of) what the other party is seeking.

The importance of interpersonal relationships cannot be overstated. Identify the key stakeholders in the other party and work to build a relationship with them before and during the negotiation. Emma Benn referenced a recent negotiation in which she needed to know sports history to make a personal connection and develop a rapport with the person she was negotiating with. Don't be afraid to go outside the box to make a personal connection.

It's important to know yourself and how you might react when under pressure. Resources for finding this out include Meyer's-Briggs Type Inventory (MBTI) and CliftonStrengths (formerly StrengthsFinder). Knowing your preferences and skills along with your potential weak spots ahead of time will help you prepare.

Practice, practice, practice! Evarts suggested rehearsing the conversation with another person, particularly a person who knows who you will be negotiating with so they can get into character and provide a realistic sounding board.

Presenting Your Argument

Going into a negotiation, it's important to prioritize your ask. Zou referenced the pyramid principle (see *www.barbara-minto.com*), in which the top of the pyramid represents what you are trying to achieve. Below the top triangle, the remaining

three pieces of the pyramid are the supporting arguments, or the reasons you are trying to achieve that goal, listed in order of importance. For example, if you are negotiating for increased computing resources, the top of the pyramid would be the goal: increased computing resources. The bottom portions of the pyramid could be: (1) data sets are becoming increasingly large; (2) parallel computing will speed up analyses; and (3) multiple users need to access the data at the same time. The point is to start with what you want to ask for, and then transition to the supporting evidence and reiterate the ask at the end.

Communication can shape the negotiation experience. With the pyramid principle, it is important to frame the supporting arguments in terms of how your goal helps the other party, using language such as, "If we have multiple users accessing the parallel computing systems to analyze large and complex data sets, your team will have results quicker and be able to publish more manuscripts this year."

Shanthi Sethuraman referenced Jerry McGuire's well-known quote, "Help me help

you," where the emphasis is on framing the negotiation as a team effort. "We" are engaging in a negotiation, rather than "I" am trying to get what I want out of this situation. To use welcoming and inclusive language, try to avoid saying, "My team needs …" or "I need … ." Instead, say, "What can *we* do here …" Your ask should be framed in a way that allows the other party to think they are getting what they want, too.

When thinking about how to frame your case, keep in mind the end user and what they need. For example, this could mean patients need a drug to get on the market sooner to improve their health. Acknowledging that you are potentially negotiating on behalf of a larger community can inform how you frame your position.

Closing the Deal

Be persistent. Not all negotiations will be solved in a single sitting. Make use of emails, calls, and video conferencing to ensure the other party is engaged and on board.

Last, Sethuraman emphasized not being afraid to ask to continue the conversation at

a later date so you can further consider the other party's perspective and needs. When both parties have had a chance to take some time away from the negotiation, it can be easier to be objective and work through the negotiation more smoothly.

Beyond Skills and Strategies: Contending with Barriers to Negotiation

Despite being trained in strategies for mastering negotiation, there are frequently systemic barriers that preclude people from successfully negotiating in the workplace. Such barriers often disproportionately affect people from underrepresented groups, including women; those classified as Black, indigenous, and people of color (BIPOC); people who identify as gender nonconforming and/or LGBTQ+; and non-US citizens whose visas are tied to their employment.

While there is no single way to universally overcome these systemic issues, Benn suggested pointing out biases directly. Given the current climate of racial injustices among other inequities, there is heightened awareness of how to be inclusive, providing an opportunity to speak up when this is occurring. This may be something you feel comfortable doing, or it may be a situation in which you ask for support from a colleague.

Support from colleagues and mentors can also come in the form of bringing someone into the negotiation for you. This uses the power and privilege another person may have that you do not, whether it's based on their position, gender, race, or other characteristic. Importantly, there is a role and responsibility for people who are being heard in negotiations to pull up a metaphorical chair that their colleagues also have a seat at the table. ∎

Podcast Series Tackles Getting a Job

Richard Franzese of Certara and Glen Wright Colopy of *Pod of Asclepius* will host a three-part career Q&A with an episode each dedicated to undergraduate, master's, and doctoral students.

Questions will range from technical requirements to desirable soft skills and domain knowledge. How can I get a job/internship if they require prior experience? This highly practical question will be asked and answered, as well.

Franzese and Colopy will follow up the series with three episodes that focus on critical and scientific thinking in data science.

Katherine Monti

This is a new 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.

Katherine Monti is retired and lives in Elgin, Illinois. She was most recently chief statistical scientist at Rho, Inc.

I first joined the ASA in 1973, when I was a graduate student in the department of biostatistics at The University of North Carolina. I was basically told that if I was going to be a professional statistician, then I should join the largest organization of professional statisticians in the world. (If you want to be a grown-up statistician, then … .) So, I joined.

Although I attended JSM most years and had been slightly involved through grad school and the next 16 years in St. Louis, my ASA involvement level ratcheted up when I moved to Boston in 1991. I joined the chapter's planning committee and later was elected secretary, then president. By 1995, my career had drifted into the pharma world and I was appointed to the executive committee of the Biopharmaceutical Section, later becoming a section representative to the Council of Sections and eventually section chair.

Next came ASA committees. My major efforts there involved a five-year stint as a member (and chair one year) of the Advisory Committee on Continuing Education (the ACCE selects the short courses) and a term on the Fellows Committee, also with a one-year chair position. Snuck in between some of those appointments, I was elected as the Council of Chapters representative to the board. Most recently, I was elected as an ASA vice president.

The more involved you get, the more effective your networking . . .

How did I get so involved? I showed up, did what needed to be done, and—the next thing I knew—I was appointed or elected to something else. I said "yes."

You might wonder if all this volunteer work has taken time. Yes, indeed, but, overall, it has been exceedingly worthwhile. The more involved you get, the more effective your networking is, the more you learn, the more friends you make, and the more you are invited to do. I very strongly suspect my election as ASA Fellow was supported by my ASA involvement. And it is extremely satisfying to know that, in my own way, I have been of service to my professional organization.

Katherine Monti attends an ASA board meeting as a vice president. She served from 2018–2020, and David Williamson served as vice president from 2017–2019.

What's been most rewarding about my involvement? So many stories! So little space! I'll pick three.

One of my greatest honors was being appointed to the Fellows Committee. What an amazing experience it turned out to be. Over my three years on the committee, we reviewed a total of 299 nomination packets. It just blew me away to see how many statisticians have made so many astounding contributions to statistics, to the great human endeavor, and to the ASA. Wow!

Next up: my trail of documentation. Trail of what, you ask? Documentation. My contributions to the ASA include some sort of improved documentation for just about every corner of the ASA in which I've been active. Maybe I have a fear of failing to do what I am supposed to do, but whenever I had a "job" to do, I wanted to know what I was supposed to do. When there was nothing that approached a

"job description," I made one. If there was a need for updating an operations manual or other document and I was there? You guessed it. My finger prints are on, to a greater or lesser extent, the assignment of chapters to districts and regions (*https://bit.ly/3nwWKee*), the tips sheet and FAQ sheet (*https://bit.ly/2XoEhWG*) for fellows nominations, the Biopharmaceutical Section operations manual (*https://bit.ly/3q4lxIo*), and the recently updated ASA constitution and bylaws, to name a few.

Last but by no means least, one of the greatest pleasures has been working with the amazing crew who inhabit—or at least used to inhabit—ASA headquarters in Alexandria. Ron Wasserstein inherited some very talented folks when he became executive director about 13 years ago and has brought in some other top-notch professionals, creating a highly effective team. The support that crew offers is amazing. Just today, I asked for some information, needing it quickly, assuming it even still existed. I had the answer in under 10 minutes! They always pull off JSM, but JSM 2020? That worked amazingly well. We are all so very fortunate as a profession to have such able leadership and assistance. ∎

FY21 Federal Budget Finalized

Steve Pierson, ASA Director of Science Policy

Congress and the Trump administration finalized the federal government's fiscal year 2021 (FY21) budgets in the waning days of 2020, nearly three months after the start of the fiscal year. The National Institutes of Health (NIH), National Science Foundation (NSF), and several federal statistical agencies received increases of a few percent, which is encouraging support in the current fiscal environment (see Table 1).

Many of the statistical agencies are nonetheless facing fiscal challenges after years of purchasing power loss as they seek to address ever-present difficulties, including measuring a dynamic economy, population, or societal conditions; declining response rates; and modernizing to take advantage of technological, methodological, and other advances (e.g., increasing data availability and data-linking opportunities).

The increase of $1.25 billion for NIH sustains a remarkable bicameral, bipartisan run of six straight years of at least such increases, resulting in 42 percent growth in the NIH budget since FY15. Congress also supported the administration's requested increases for the economic statistical agencies, which the administration proposed in recognition of the importance of "economic statistics for businesses and everyday citizens to make informed decisions and confidently invest in America's future." Specifically, the budget for the Bureau of Economic Analysis (BEA) increased $3.9 million (3.6 percent) to $111.9 million and the budget for the Bureau of Labor Statistics (BLS) increased $14

Table 1: FY16–FY21 Budgets for NIH, NSF, AHRQ, and the 13 Principal Federal Statistical Agencies

	FY16	FY17	FY18	FY19	FY20	FY21	% Change from FY20
Research Agency (amounts in millions of dollars)							
NIH	32311	34229	37084	39084	41684	42934	3.0%
NSF	7463	7472	7767	8075	8278	8487	2.5%
AHRQ	334	324	334	338	338	338	0.0%
Statistical Agency (amounts in millions of dollars)							
BEA	105.1	103.8	99.0	101.0	108.0	111.9	3.6%
BJS	41.0	45.5	48.0	43.0	43.0	45.0	4.7%
BLS	609.0	609.0	612.0	615.0	628.0	642.0	2.2%
BTS	26.0	26.0	26.0	26.0	26.0	26.0	0.0%
Census	1370.0	1457.0	2814.0	3821.4	7558.0	1103.6	-85.4%
EIA	122.0	122.0	125.0	125.0	126.8	126.8	0.0%
ERS	85.4	86.8	86.8	86.8	84.8	85.5	0.8%
NASS	168.4	171.2	191.7	174.5	180.3	183.9	2.0%
NCES	261.0	258.5	258.5	260.5	263.5	276.5	4.9%
NCHS	174.4	174.4	174.4	174.4	174.4	175.4	0.6%
NCSES	58.3	59.7	62.4	64.0	65.0		
ORES	25.9	24.0	27.0	35.4	36.08	37.0	2.8%
SOI	37.8	34.3	33.7	35.9	35.6	37.4	4.3%

The FY16–FY21 budgets for NIH, NSF, AHRQ, and the 13 principal federal statistical agencies, including percentage increases over prior year for finalized FY21 budgets. The NCHS budget was restructured in FY21 to include $14 million that had been regularly provided through a public fund. The FY16–FY20 budgets were adjusted to make the levels comparable of the years. Relocation costs for BLS in FY20 and FY21 are not included above. FY21 figures are estimates.

million (2.2 percent) to $642 million. An additional $13 million was provided for the BLS to relocate from its current location in Washington, DC, to Suitland, Maryland, where it will be co-housed with the US Census Bureau and BEA.

Congress also included in the report language accompanying the appropriations bills guidance regarding agencies that have been a focus of ASA advocacy: National Center for Education Statistics (NCES); Bureau of Justice Statistics (BJS); and USDA Economic Research

Service (ERS). Specifically, lawmakers stated they are "deeply concerned about the ongoing staffing crisis at NCES" and requested "a report outlining how the department will increase staffing at NCES" and an analysis exploring ways to give NCES more control over its allocated budget. They also directed the BJS "to release data in a timely manner and in accordance with its publication calendar." Regarding the ERS and sister USDA agency National Institute for Food and Agriculture (NIFA), lawmakers requested
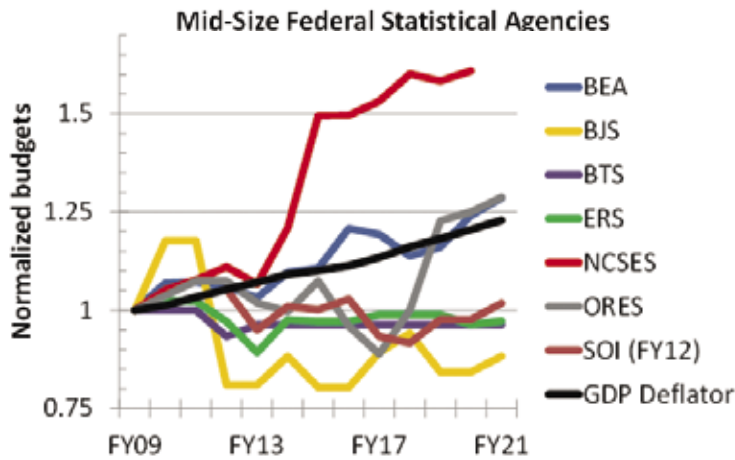
Mid-Size Federal Statistical Agencies

Figure 1: The budgets of the seven mid-sized statistical agencies normalized to their FY09 levels, along with the GDP deflator to account for inflation. Budget restructuring for ERS in FY15 and ORES in FY19 are accounted for in the graph to allow for comparison over this time period. One-time moving costs in FY16 for BEA are also omitted. [Key: BEA, Bureau of Economic Analysis; BJS, Bureau of Justice Statistics; BTS, Bureau of Transportation Statistics; ERS, USDA Economic Research Service; NCSES, NSF National Center for Science and Engineering Statistics; ORES, Social Security Administration Office of Research, Evaluation, and Statistics; SOI, IRS Statistics of Income Division]
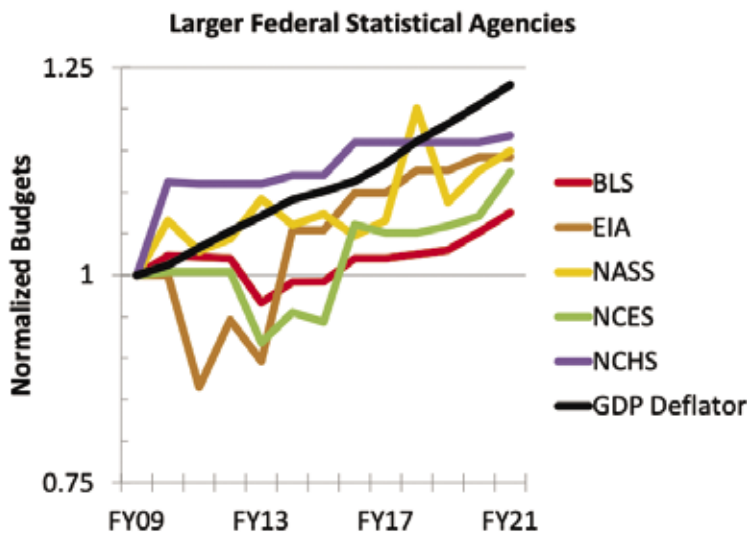
Larger Federal Statistical Agencies

Figure 2: The budgets of five larger statistical agencies normalized to their FY09 levels, along with the GDP deflator to account for inflation. Census is omitted because of the large changes in the decennial census cycle. Budget restructuring for NASS in FY15 and NCHS in FY15 and FY21 are accounted for in the graph to allow for comparison over this time period. Relocation funding for BLS is omitted. [Key: BLS, Bureau of Labor Statistics; EIA, Energy Information Administration; NASS, National Agricultural Statistics Service; NCES, National Center for Education Statistics; NCHS, National Center for Health Statistics]

the National Academies "conduct symposia to elucidate the effects of the relocation of each agency." This refers to the 2019 relocation of the ERS and NIFA from Washington, DC, to Kansas City, Missouri. The House report language stated, "The loss of institutional knowledge [ERS] has suffered will take years to overcome."

Also newsworthy is what is not in the final budget. For the NCES, Congress did not agree

to the administration's request to transfer NCES' assessment responsibilities—which has a $165 million budget in FY21—to a new center and transfer the appointment of the commissioner from the president to the director of the Department of Education's Institute of Education Sciences. Congress also maintained the budget for the ERS and Agency for Healthcare Research and Quality (AHRQ), rejecting the administration proposals to cut their respective budgets by 27 percent and 25 percent.

While most statistics agencies received modest increases for FY21, the story is concerning when one considers their budgets over the last dozen years. As shown in Figures 1 and 2, all but three of the 12 agencies have lost purchasing power since FY09.

For four of the agencies, the loss of purchasing power is greater than 12 percent. The loss of purchasing power due to inflation is further illustrated in Figure 3, where the loss is even larger for the BJS and National Center for Health Statistics (NCHS) when compared to FY10. In the case of BJS, the larger funding in FY10 and FY11 is likely due to short-term investments to improve the National Crime Victimization Survey, which may at least partially explain the steep drop in FY12.

The large increase in the budget for the National Center for Science and Engineering Statistics (NCSES) in FY14 and FY15, as observed in Figure 1, is almost—if not entirely—due to enhancements to the Survey of Doctorate Recipients that increased the sample size from 47,000 to 120,000. In fact, as explained in a June 2020 *Amstat News* article (see *https://bit.ly/3blgsHk*), the NCSES still faces many of the budget challenges as the other agencies despite the increase. To that point, an ASA analysis found NCSES has a budget to staff ratio of $1.1 million
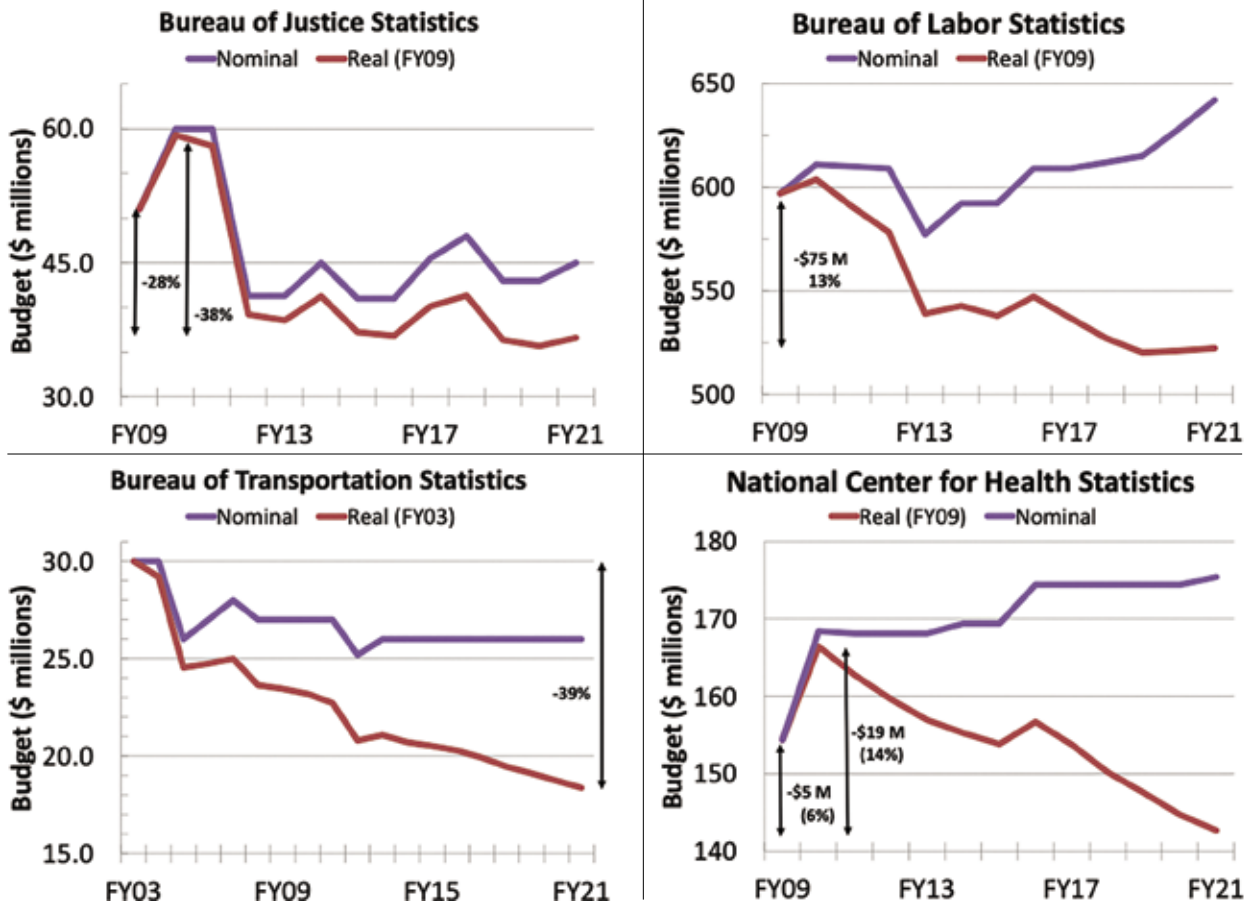
Figure 3: The budgets for the BJS, BLS, BTS, and NCHS in nominal and inflation-adjusted dollars

per full-time staff member, which is more than three and a half times the median of the 13 principal federal statistical agencies—second only to NCES.

A closer inspection of the NCES budget manifests a 20 percent loss in purchasing power in the statistics budget since FY09—25 percent since FY10—as seen in Figure 4. Its tight budget and staffing crisis have led NCES to cut or cut back on programs, as described in another June 2020 *Amstat News* piece (see *https://bit.ly/35oKgPF*).

As a result of the purchasing power loss, many of these agencies are struggling to track emerging trends and take advantage of methodological and technological advances that would help the agencies improve data and reduce costs and respondent burden.

An administration's budget request for the coming fiscal
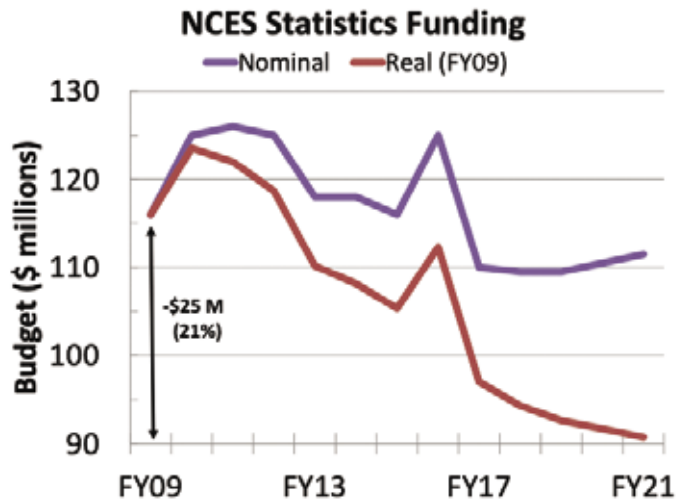
Figure 4: The budget for the statistics line of the NCES in nominal and inflation-adjusted dollars

year is usually released the first Monday of February. With a change in administration underway, the first budget request of the Biden-Harris administration is not expected until at least

April. The ASA will summarize the FY22 requests for NIH, NSF, AHRQ, and the statistical agencies in an *Amstat News* article and track FY22 appropriations developments in blog posts. ∎

CELEBRATING
BLACK
HISTORY MONTH

In celebration of Black History Month, we recognize the following 10 individuals from the Black/African-American collective who have made tremendous contributions to the field of statistics. Learn about how they entered the discipline of statistics, what they've accomplished, and the role of mentoring in helping build their professional careers.

Scarlett Bellamy grew up on her grandparent's tobacco farm, learning how to drive a tractor when she was just five years old. This experience shaped her work ethic. Moreover, when her grandmother was diagnosed with breast cancer, Bellamy promised she would become a doctor so she could "fix" her. Ultimately, Bellamy earned her PhD in biostatistics from Harvard and, although it wasn't the type of doctor who could fix her grandmother, she did fulfill her promise of becoming a doctor. Today, Bellamy is a professor of biostatistics and associate dean for diversity, inclusion, and faculty development at Drexel University.

Emma Benn has collaborated on a variety of health disparities–related research projects and teaches a graduate-level course, "Race and Causal Inference," aimed at increasing the methodologic rigor by which health disparities are investigated and finding effective causal targets for intervention. Benn's contributions to diversity and inclusion in statistics and STEM have been celebrated by various organizations, including Mathematically Gifted and Black.

After graduating with an undergraduate degree in plant science, **Jesse Chittams** worked as a laboratory technician at the US Department of Agriculture. One of his first tasks was to perform a data analysis using SAS, and it was then he fell in love with statistics and immediately pursued an advanced degree in mathematics and statistics. In 2000, Chittams established and directed the Biostatistical Analysis Center at the University of Pennsylvania and has trained and mentored more than 100 young professionals throughout his 30-year career.

Born in Cameroon, West Africa, **Abie Ekangaki** moved to London, England, in the early 1970s with his family, where he spent his childhood shuttling between the continents. His interest in statistics spurs from a personal work experience, when he was exposed to the concept of converting data into information. Since then, he has worked across the globe for the World Health Organization and in academia and the pharmaceutical industry.

After graduating from the University of Miami, **Simone Gray** became aware of the critical shortage of math and science teachers in high schools across the United States and began as a tutor and mentor before going on to become a full-time mathematics teacher at a low-performing high school in southwest Florida. Gray wanted to continue learning about both math and science, however, and decided to leave teaching to pursue a PhD in statistical science at Duke University. Today, she is a senior statistician in the Epidemiology and Applied Research Branch of the Centers for Disease Control and Prevention's Division of Cancer Prevention and Control.

Rebecca Hubbard always excelled at science and math and considered becoming a science fiction writer but chose pre-med instead. However, not a "people person," she discovered she had no interest in the clinical side of medicine. While looking for summer research opportunities, she learned about the Harvard Summer Program in Biostatistics—a field she had never heard of before—and decided to give it a try. This literally changed her life. Today, a professor at the University of Pennsylvania, she writes papers instead of poetry and science instead of fiction and helps her talented students decode the academic maze.

Math was always **Donald Martin's** favorite subject in school. In fact, while in elementary school, his father taught him math he didn't see in school until a few years later and that built his confidence. While at the University of Maryland, Martin's graduate adviser, Benjamin Kedem, convinced Martin to quit his full-time job on campus and become his research assistant, which helped Martin focus on his studies. Subsequently, he became one of four African Americans in the US to earn a PhD in mathematics in 1990. Since then, Martin, an associate professor at North Carolina State University, has received several research grants and the College of Sciences Faculty Diversity Professional Development Award.

Since middle school, **Dionne Swift** knew she would pursue a math- or science-related occupation because those were her favorite subjects. Fortunately, her math and science teachers looked like her in both middle and high school and, as relatable role models, they sparked her interest in math and science. Because of the mentors in her life, Swift strives to inspire others to achieve their educational and professional dreams and is active in the initiatives of the ASA Committee on Minorities in Statistics, including serving as a mentor since 2012.

Michael Thomas noticed at a young age he excelled in his math courses. He remembers while in high school picking from sheets with example exam questions the one with equations on it, because it seemed the shortest. This year, he helped plan and host StatFest 2020. He has been involved in mentorship, tutoring, and career-development conferences for students since he was an undergraduate and is currently pursuing a PhD in computational science and engineering focused on civil and environmental engineering at the Georgia Institute of Technology.

Machell Town's introduction to statistics was as a statistician for the Boys and Girls Club varsity basketball team and, even though she started out at the University of Georgia majoring in computer science, she eventually changed her major to statistics. Town earned her PhD in public health with a concentration in epidemiology from Walden University. Currently, she is the branch chief for the Population Health Surveillance Branch at the Centers for Disease Control and Prevention (CDC). She mentors young professionals and students inside and outside the CDC and was appointed to the statistics advisory committee of Preventing Chronic Disease.

Read the full bios online at *www.amstat.org/black-history-month-2021.*

STATS4GOOD

Data for Good Can Drive
COVID VACCINE CONFIDENCE

David Corliss leads a data science team at Fiat Chrysler. 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.

As the COVID-19 pandemic has unfolded, we have seen a series of challenges. One many statisticians can help address, even without any particular medical expertise, is the distrust of vaccines.

Many Americans are reluctant to receive an inoculation when a new vaccine arrives on the scene. Years of deliberate destruction of public trust in science and data, coupled with very real incidents of abuse and neglect, have reduced confidence in clearly life-saving vaccines to a dangerously low level. As a result, a substantial portion of people have adopted a "wait and see" attitude or even refuse to be inoculated. While few of us have been involved with vaccine trials, all of us as statisticians can work to address and reduce the instances of vaccine hesitancy.

Not all root causes of vaccine hesitancy are based on falsehoods. The infamous Tuskegee Syphilis Experiment from 1932–1972 is an important cause of vaccine distrust among often underserved and highly vulnerable populations such as people of color. As a result, this 20th-century crime against humanity is still killing people today by leading many to avoid COVID-19 vaccines.

As advocates and practitioners in Data for Good, it is important for us to be aware of problems both historical and present so we can respond to concerns and help drive vaccine adoption. One often-stated concern is that the vaccine has been rushed and the medical establishment is, in effect, experimenting on early adopters.

Another important factor is widely circulated reports of medical staff disregarding symptoms of patients who are often women and persons of color such as Dr. Susan Moore. Knowing the primary reasons for this deep-seeded distrust allows us to address the questions driving vaccine hesitancy.

Data for Good advocates need to be aware that statistics alone rarely convince nonstatisticians of anything. Telling human stories and conveying experiences to which people can relate *before* presenting supporting statistics is much more effective. To address vaccine hesitancy, we must first listen to and fully acknowledge people's concerns, both historical and ongoing. Once a relationship of trust is established, we can offer answers to their questions.

The vaccines were not rushed. In the crisis of the pandemic, many teams collaborated (*https://bit.ly/3bmjye9*) as never before, working long hours to complete the standard approval process without omitting any steps (*https://bit.ly/2XrfFMR*). The vaccines aren't just being tested on a few people in a few places. The trials are worldwide, with testing and approval in many countries. People who don't trust US trials or approvals can be referred to statistical studies in other countries. For example, the BBC reported the Pfizer / BioNTech vaccine "has been tested on 43,500 people in six countries and no safety concerns have been raised" (*https://bbc.in/3blrsoj*).

We need to listen and patiently respond to "yes, but…" statements. Always keep in mind the barrier to acceptance is emotion, not information. Be sure to include examples of real people with good reason to have the same concerns who are choosing to take the vaccine (*https://abcn.ws/3noGpIp*).

One phrase I've heard statisticians, epidemiologists, and other experts use over and over is "public health moves at the speed of trust." It's a powerful message, underscoring the critical importance of developing relationships of trust in the public

> ## Science alone simply isn't enough to fight this pandemic and, to this virus, irrational fears are just as deadly as rational ones.

health space. But the concept was already familiar to me, a message I first heard while working at a large manufacturing company where Simon Bailey taught business analytics moves at the speed of trust. It's a principle that can be applied across all areas of Data for Good: We can build the models, but using them to make a difference requires building relationships, as well.

I certainly don't mean to suggest a false equivalence between myth, pseudoscience, and deliberate deception on one hand and scientific fact on the other. I am saying the science alone simply isn't enough to fight this pandemic and, to this virus, irrational fears are just as deadly as rational ones. This is an all-hands-on-deck event in the D4G community. While we don't all work in medicine, pharma, or public health, we have our own circle of connections in which we can build trust to help save lives. It's a principle to remember, whatever the particular subject area and methods applied: Data for Good always moves at the speed of trust.

Getting Involved

Coming up February 17–19 is the ASA's Conference on Statistical Practice (CSP). It's a virtual conference this year, making it easier for many to attend. CSP includes a wealth of excellent D4G content. Analysis of the COVID-19 pandemic includes the keynote by R. David Parker, several papers, and the annual ethics panel.

Another opportunity I would like to mention is an interesting data set on animals in shelters. The Basic Animal Data Matrix (*https://bit.ly/2LeNRsI*) incorporates selected shelter data from several leading organizations. For those interested in statistical analysis of the drivers of more positive outcomes, this can be a great resource. ∎

STAT*tr@k*

Students Uncertain but Hopeful About Future

Pandemic Can't Dim Optimism About Next Steps

Megan Ruyle, ASA Graphic Designer/Production Coordinator

Matthew Dunham

Nicholas Vasquez

Jessica Gilbert

College students face an uncertain future as 2021 begins and much remains unknown about how COVID-19 will continue to affect the economy and education. Whether they're applying for jobs or to graduate school, questions and fears abound, yet so does hope.

"My biggest concern is just finding a job that I'm happy with," said Purdue University senior Jessica Gilbert. She said she has considered graduate school, but she's focusing on finding a job that's a good fit for now. "Right now, especially with everything going on, I think I'd be a lot happier just taking a break and venturing into industry."

Nicholas Vasquez, a senior statistics major at California State University, Monterey Bay, said he knows the job market is competitive. "When COVID-19 started, I saw friends and family members get furloughed and then eventually let go completely from their jobs," he said. "It just makes me even more scared that I won't be able to find employment in my field of study."

Gilbert says she's also concerned about interviewing for jobs, since most interviews are being conducted virtually. "An important part of the interview process is going to that company physically to see where you would potentially be working, maybe meet some of the people, have some conversations, and get a feel for that office culture," she said. But with virtual interviews, she continued, "it's a little harder to see if a company would meet your needs or not."

Vasquez said he's concerned that having a bachelor's isn't enough to land him a job. "I hear a lot that to become a statistician or a data scientist, you should get your master's degree. I feel like one of my only options is to go to grad school." He said he hopes to get some work experience before graduate school, however.

Matthew Dunham, a statistics major at California State University, Monterey Bay, said he plans to start applying to graduate school in the fall. "It's a little difficult to kind of get any serious, detailed conversation going," Dunham said. "Eventually, application season's going to start coming around and people are going to have to start talking."

The upheaval of 2020 hasn't necessarily changed these students' plans, but it has sharpened their focus. Gilbert said her job search has more of a humanitarian focus than it might have otherwise had. "I still want to work in data science. I love writing code and doing statistics, but I want to find an organization … that has a focus on helping underprivileged groups."

Dunham said his passion for statistics education has only grown during the pandemic. "A big reason I'm into statistics education is to try and boost statistical literacy amongst the population, because it's something that is really important." he said. "Especially with the pandemic, there's lots of modeling, and many people don't even understand really what a model is. There's a lot of different statistical terms that aren't really known by the general public."

Looking forward, even with all the challenges thrown at them, the students are looking forward to graduation and beyond.

Vasquez said he's proud to be a first-generation college graduate, especially with a degree in something he loves as much as statistics. "It just makes me really happy that I know I'm getting closer and closer to that graduation date."

Dunham said his passion for statistics and looking ahead to graduate school are really helping him get through this tough time. "I found a large passion in education, especially primarily in statistics education," he said. "I feel like finding that passion has made this time online really manageable."

The next step, Dunham added, is looking into funding for his post-baccalaureate studies. "My biggest thing is trying to identify some bigger fellowships that I need to apply to before graduate school," he said.

Gilbert said college has left her prepared and ready for a career in data science and statistics. "I am really looking forward to the next chapter of my life, where I get to apply the skills that I've learned and to start building life skills." ∎

Call for Proposals: JSM 2021 Late-Breaking Sessions

Nicole Lazar, JSM 2021 Program Chair

A new year has arrived and already JSM 2021 is around the corner. Since last summer, a lot of work has been taking place behind the scenes to put together the scientific program for the 2021 conference. Although some changes in the timeline of the scheduling have been necessary due to the ongoing uncertainty surrounding travel and our ability to meet in Seattle in person, many aspects of the program are now settled and others will soon be.

Preparing such a big program requires much advanced planning, which is why the invited session proposal deadline is in early September. As we are all aware, however—and never more so than these days—a lot can happen in 11 months, which is why we now have a call for proposals for late-breaking sessions.

Typically, there are two slots allocated to such sessions, subject to approval by the JSM Policy Committee (formerly known as the Committee on Meetings). A late-breaking session must cover one or more technical, scientific, or policy-related topics that have arisen during the one-year period prior to JSM. These are emerging statistical issues of the day—pressing questions of contemporary statistics and their impact.

The competition is open to any member or organization of a member society. Proposals will be judged on statistical and scientific quality, timeliness, significance and impact, potential audience appeal, and completeness.

Submitting a Proposal

Proposals are accepted by Nicole Lazar, JSM 2021 program chair, via email at *nfl5182@psu.edu* with a copy to the ASA meetings department at *meetings@amstat.org* from mid-February to April 15 and should include the following:

- Session description, including title, summary of statistical and scientific content, explanation of timeliness, and comments about the specific audiences for which the session will be of principal interest

- Format of the session

- Names, complete affiliation, and complete contact information (mailing address, phone, email address) of the session organizer; chair; and all speakers, panelists, and discussants as appropriate

- Title for each presentation

- Web links to relevant technical reports or news reports, if applicable

If you organize a proposal for a late-breaking session, be sure prospective session participants have agreed to participate in the session before submitting your proposal. Note that participation in a late-breaking session does not count against the JSM "one main participation rule." We look forward to receiving your ideas for late-breaking sessions as we continue to talk about *Statistics, Data, and the Stories They Tell.* ∎

Recent Late-Breaking Sessions

For session details, view the programs still posted on the JSM websites.

2020

A Conversation About COVID-19 with Statistical Epidemiologists

Highlights from the National Academies of Sciences, Engineering, and Medicine's Roundtable on Data Science Postsecondary Education Roundtable on Data Science Postsecondary Education

The Statistics of Human Trafficking and Modern Slavery

2019

Statistics at a Crossroads: Who Is for the Challenge?

2018

Addressing Sexual Misconduct in the Statistics Community

Statistical Issues in Application of Machine Learning to High-Stakes Decisions

2017

National Governments, Coerced Narratives, Creative Language, and Alternative Facts

Hindsight Is 20/20 and for 2020: Lessons from 2016 Elections

The Steven Miller Controversy: A Personal Perspective

Richard De Veaux, C.Carlisle and Margaret Tippit Professor of Statistics, Department of Mathematics and Statistics, Williams College

Now that Trump's last challenge to the election results has been summarily dismissed by the Supreme Court, I can recount the controversy involving my colleague Steven J. Miller that exploded on the Isostats email list and the right-wing media a few weeks ago.

To recap, in mid-November, Matt Braynard, former Trump campaign staffer, contacted Steve (professor of mathematics in my department at Williams—not the *other* Steven Miller) to help him with Trump's legal challenges in the Pennsylvania election of November 3. Braynard claimed the data he had obtained showed rampant fraud and wanted Steve to verify that. After analyzing the data, Steve signed an affidavit alleging that "I estimate that almost surely (based on the data I received) that the number of ballots requested by someone other than the registered Republican is between 37,001 and 58,914, and almost surely the number of ballots requested by registered Republicans and returned but not counted is in the range from 38,910 to 56,483."

Not surprisingly, this made headlines in the right-wing media (see *https://bit.ly/38xJWA0*), and Trump allegedly retweeted the story to about 70,000,000 followers. One headline read, "In sworn statement, prominent mathematician flags up to 100,000 Pennsylvania ballots." This was followed by "Federal Elections Commission Chairman Trey Trainor says new analysis by professor Steven Miller 'adds to the conclusions that some level of voter fraud took place in this year's election.'" The affidavit became part of the materials used in the case alleging fraud in the Pennsylvania election.

The day after the story broke, I was asked by the *Williams Record* (our student newspaper) and the *Berkshire Eagle* (our local paper) to respond. At first, I declined, citing my closeness to the story as Steve is both a colleague and a friend of mine. But after reading his affidavit, seeing the impact it was having, and seeing the problem with his analysis, I felt obliged to get involved, a fact which I immediately conveyed to Steve. One interviewer asked me whether a senior stat major should be able to see what Steve did wrong. I replied that if a student in an Intro Stats course didn't see what was wrong, they shouldn't pass the course.

Here is the story in the *Williams Record* where I was quoted as saying that Steve's analysis was "completely without merit" and "both irresponsible and unethical": *https://bit.ly/35ws0nx*. I also wrote a longer rebuttal the following day, where I pointed out that Steve had violated at least seven out of the 10 guidelines for ethical statisticians laid out by the American Statistical Association: *https://bit.ly/3nBMjWI*.

For most of that week, I attempted to educate Steve about why his analysis was so unethical and we discussed ways that Steve could amend his mistakes. At first, he insisted on simply repeating that he assumed the data were valid. I informed him that, as pointed out in the ASA guidelines on statistical ethics, that is not enough. The onus is on the statistician to either validate the data or to state the limits of their analysis. Next, he wanted to go back to Matt Braynard to find out more details about the data collection. But, after many hours of discussion and emails with Steve, he decided not to pursue this ill-advised path further and issued this apology:

> One of the lessons I try to teach my students, and I think many have learned it better than I, is to critically examine the data before doing any analysis. I did not do that when asked to make mathematical calculations based on data related to perhaps the most contentious election of our lifetime. Nor did I fully consider how my calculations, made in isolation based on numbers provided to me, would be used. Several of my colleagues have pointed out concerns both in the data and how it was used. They were right—I made a mistake by not discussing these issues. I hope others will learn from my error and learn from my example that if you make a mistake you admit it and take steps to fix it.

Here is the story as reported in the *Berkshire Eagle* on November 24: *https://bit.ly/3nzuuHS*.

Several other people also criticized Steve's analysis, including biologist Lior Pachter: *https://bit.ly/38xp8sk*. Pachter provided a fairly thorough technical response, concluding, "In summary, Steven Miller's declaration provides no evidence whatsoever of voter fraud in Pennsylvania."

At the same time that his analysis received legitimate criticism, I noticed a "piling on" of personal attacks on Steve via social media. Not only did Pachter dissect his analysis, but he attacked Steve for allegedly inflating his CV by including papers mistakenly attributed to him on Google Scholar and thereby racking up over 8,000 citations.

Pachter is an impressive scholar in his own right (to say the least), with a curated 196 papers and over 70,000 citations listed on Google Scholar. But his attacks on Steve are unfair. However, Steve does not actively curate his page. (Would he seriously try to pass off a paper in chemistry from 1955 as his own?) Nor does he need to. On his academic CV, he has over 140 papers in several areas of mathematics with over 20 papers written with undergraduates and over 2,000 legitimate citations—a number that would be the envy of many scholars. And I can attest that, even with a name as uncommon as De Veaux, I have had papers and citations mistakenly attributed to me on Google Scholar and Research Gate. I can only imagine the problem with a name like Steven Miller.

But the "cancel culture" attacks didn't stop with Google Scholar. On Facebook, people started questioning his behavior as chairman of our local Phi Beta Kappa Chapter and as a member of our school board. I tried to separate his (albeit serious) misjudgment on this issue from a wholesale character defamation and the accompanying moral signaling that has become so popular these days. I have remained active on social media to try to stop the cancel culture piling on of Steve. I have known Steve for years, and although his politics and mine don't align, I have never known him to be dishonest. In fact, he has gone out of his way to try to fix this situation and has learned a lot about the difference between statistical thinking and the blind application of math or data science formulas.

Many researchers with degrees in other fields—including data science, computer science, and mathematics—certainly have the ability to "do statistics" and apply formulas. But too often, these analyses are done without a central tenet of a statistics education—an appreciation of the necessity to question the quality of the data on which the conclusions are based.

What I am hoping from this incident is that it can serve as a lesson to the general public of at least two important points. First (as Cathy O'Neill so eloquently reminded us in *Weapons of Math Destruction*), blind application of formulas and algorithms to bad data is not only untrustworthy and wrong, but potentially dangerous. And second, that we should always be skeptical of data sources and to insist on asking questions about the data pedigree and motivations of those disseminating it. Let's hope that this episode will help the public both to value statistical thinking and to increase appreciation of those who have been educated in it. ∎

> Let's hope that this episode will help the public both to value statistical thinking and to increase appreciation of those who have been educated in it.

Photo courtesy of Virginia Tech

Ron Fricker has been appointed as the interim dean of the college of science at Virginia Tech.

Ronald D. Fricker Jr.

Virginia Tech has appointed Ron Fricker as interim dean for the college of science.

Fricker joined Virginia Tech in 2015 as head of the department of statistics and most recently served as the senior associate dean in the college of science. Before coming to Virginia Tech, he was a professor at the Naval Postgraduate School in Monterey, California.

"Ron is an outstanding academician and leader who understands the important role the college of science plays in the university achieving its strategic goals and priorities," said Executive Vice President and Provost Cyril Clarke. "He has earned the respect of faculty and staff and has the knowledge and experience to effectively lead the college during this important transition."

Fricker's research focuses on performance of various statistical models for use in disease surveillance and statistical process control methodologies in general. He is the author of *Introduction to Statistical Methods for Biosurveillance* and co-author with Steve Rigdon of *Monitoring the Health of Populations by Tracking Disease Outbreaks: Saving Humanity from the Next Plague*. The latter was published earlier in February of 2020, just as the COVID-19 pandemic hit the United States.

Fricker is a fellow of the American Association for the Advancement of Science and American Statistical Association, a former chair of the ASA Section of Statistics in Defense and National Security, and an elected member of the International Statistical Institute. Recently, he joined the National Academies' Board on Mathematical Sciences and Analytics.

For more information about Ron's new appointment, visit the *Virginia Tech Daily* website at *https://bit.ly/3qeVZbl*. ∎

Five Win CSP Student Awards

The following student winners will receive financial support to attend the 2021 Conference on Statistical Practice.

JOHN J. BARTKO AWARD

Sara Venkatraman, Cornell University

Mansi Shah, Primrose Schools Franchising Company

LESTER R. CURTIN AWARD

Melissa Jay, University of Iowa

Robert Tumasian, Columbia University

LINGZI LU MEMORIAL AWARD

Shushu Zhang, University of Wisconsin-Madison

Obituary

Jackie Dietz

Submitted by Len Stefanski, North Carolina State University Department of Statistics

Jacquelin Dietz passed away after a battle with pancreatic cancer. Jackie, as she preferred to be called, was a colleague and friend to many in the North Carolina State University Department of Statistics. After completing her PhD in 1978 at the University of Connecticut, she joined the department. She remained on the faculty until 2004, when she moved to Meredith College. During her time at Meredith, Jackie was head of the mathematics and computer science department from 2007 to 2012.

During the 1980s, Jackie worked and published in the area of multivariate nonparametric statistical methods. Her interests turned toward statistics education and, in 1993, she became the founding editor of the *Journal of Statistics Education* (*JSE*). After that time, most of her professional efforts involved editorial work for several journals, service to professional organizations, and extensive involvement in the AP Statistics program.

Jackie's efforts with *JSE* resulted in the journal becoming an official publication of the American Statistical Association in 1999. In recognition of her pioneering efforts, the Jackie Dietz Best *JSE* Paper Award was established in 2011 and is given annually to the best paper among all those appearing in the *Journal of Statistics Education* in a given year as determined by the Best *JSE* Paper Award Committee. Jackie was elected a fellow of the American Statistical Association in 1996. She also won the American Statistical Association Founder's Award in 2006. If you want to learn more about Jackie and her career, you can find "Interview with Jackie Dietz" at *https://bit.ly/2K8MgnO*.

Jackie; her spouse, Richard Morris; and sons, Adam and Evan, were regulars at the department's annual beach weekend. Many will remember the Dietz's hosted the department's spring picnic the first few years of its existence. When I arrived at NC State in 1986, Jackie and I realized we overlapped as students in the department of statistics at UConn, she as a grad student and I as an undergrad. We exchanged fond memories of Timothy Killeen, who was Jackie's PhD adviser and the instructor of the course that most fueled my interest in graduate school.

Jackie's effect on her departments (NC State and Meredith), the profession, and countless students will be felt for a very, very long time.

Obituary

M. Ataharul Islam

Submitted by Abdus S. Wahed

M. Ataharul Islam (1955–2020), Q. M. Husain Professor at the Institute of Statistical Research and Training, University of Dhaka, Bangladesh, departed this world on December 6, 2020, at the age of 65. He was a former professor of statistics at the University Sains Malaysia, King Saud University, University of Dhaka, and East West University, as well as a visiting scholar at the University of Hawaii, University of Alabama at Birmingham, and University of Pennsylvania. He was the recipient of the Pauline Stitt Award, WNAR Biometric Society Award for content and writing, University Grants Commission Award for book and research, and the Ibrahim Gold Medal for research. On November 26, 2020, Islam was awarded the highest honor by the Dhaka University Statistics Department Alumni Association (DUSDAA), the DUSDAA Outstanding Leadership Award, though he could only witness the award ceremony from his hospital bed.

An inspiring educator and researcher, Islam transformed the face of statistics education in Bangladesh from merely memorizing formulas and equations into developing and applying them to solve important problems in society. Not only did he believe research was fundamental to quality

M. Ataharul Islam was an influential educator and researcher in his native Bangladesh and helped transform the field there.

education and development, he also led the statistics community in Bangladesh to put that belief in action. He advocated for the modernization of statistics curricula in academia and statistical tools used by the government and other research entities while offering influential leadership to implement these changes. Mir Masoom Ali, George and Frances Ball Distinguished Professor Emeritus of Statistics at Ball State University said of Islam, "He was undoubtedly one of the most famous statisticians/biostatisticians of Bangladesh. His contributions to the cause of statistics in Bangladesh are deep and profound. He was a very popular figure among students and colleagues alike. In him, I have lost a great scholar, a true friend, and also a great poet."

Islam published more than 200 papers in international journals about various topics, but particularly in the areas of longitudinal and repeated measures data, including multistate and multistage hazards models, Markov models with covariate dependence, generalized linear models, and conditional and joint models for correlated outcomes. He coauthored four books: *Foundations of Biostatistics*; *Analysis of Repeated Measures Data*; *Markov Models with Covariate Dependence for Repeated Measures*; and *Reliability and Survival Analysis*. He also edited the *Collected Volume of Statistical Works of Q. M. Husain with Commentaries*.

Mushtaque Chowdhury, a professor in the Mailman School of Public Health at Columbia University and vice chair of BRAC, Bangladesh, described Islam as "a versatile genius." Chowdhury wrote, "He not only touched the various sub-specialties of statistics but has also demonstrated keen interest and expertise in the areas of human development. He will be remembered for his persistence in promoting a research culture amongst his students and colleagues. His numerous publications on different aspects of human development, program evaluations, and statistical measurements are only reminders of the quality of his scientific contributions."

When looking through the lens of western statistics, Islam's works and accomplishments may seem unexceptional. Yet, as a statistician, he rose to a level envied by colleagues at home and abroad given that he

spent his three-decade career in academic environments in Bangladesh and parts of the Middle East with near nonexistent research infrastructure and limited resources. Wherever he served, he changed the landscape into one more conducive to research.

Islam's contribution to research transcended far beyond the realms of academic statistics to economic development, health care advancement, and survey sampling. Throughout his career, he collaborated on many projects sponsored by the Bangladesh government, Bangladesh Bureau of Statistics, US Agency for International Development, United Nations Population Fund, Johns Hopkins University, and other nongovernmental entities. Jane Menken, distinguished professor of sociology and faculty in the Institute of Behavioral Science at the University of Colorado – Boulder, said, "Ata, as I know him, is especially recognized for his contributions on analysis of longitudinal data and repeated data. Equally important is his work on substantive problems ranging from issues related to pregnancy to depression, diabetes, and heart problems, but also including analysis of traffic accident data and transitions in economic performance and many more. This range is a testament to Ata's willingness and even eagerness to work with others on problems of societal importance."

Islam transformed the educational environment in the departments he served,

particularly the state of student-teacher relationships. Contrary to the then prevailing impersonal culture of "students unquestionably respect their teachers," he believed education can only be successful if mutual respect is established. He treated every student and every colleague, young or old, with the utmost respect. Students would flock to his office and classroom to listen to his motivational words of wisdom, be it about statistics or career development and service. He mentored nine PhD students for their PhD thesis/dissertation and more than 100 master's students for their master's thesis, many of whom went on to earn PhD degrees in biostatistics or statistics and are serving as professors and leaders in national and international institutions. One of his mentees, Rumana Omar, a professor in the department of statistical science at the University College London, reminisced, "I first met Professor Ataharul Islam as an MSc student in the Dhaka University Statistics Department. I found Professor Islam very authentic, sincere, and honest and a visionary as a researcher and a teacher. He was ahead of his time. He inspired me to pursue an academic career in biostatistics and I really understood the concept of methodological research from him. He generously gave his time to his students. … As a mentor and a teacher, he has indeed helped to raise the

profile of Bangladeshi biostatisticians to an international level. Professor Islam is a gem for the statistical community globally and a pride of the nation for Bangladesh."

Islam was a true believer in horizontal leadership. He used to say, "Each one of you is a leader in your own position. You do not need to become a chair or director to institute positive changes." In effect, he practiced exactly what he preached. Soon after starting his term as chair of the statistics department at the University of Dhaka, he realized how administrative and bureaucratic engagements were big obstacles to establishing a world-class department in a developing nation. Nine months into his tenure, he relinquished his position and returned to his professorial responsibility.

Until his death, Islam was uniformly regarded as the most motivational leader in Bangladesh statistics. He played a key role in establishing the DUSDAA, the alumni body of the University of Dhaka's statistics graduates under which he organized two successful international conferences (2010, 2015) attended by former ASA presidents Jessica Utts and Sastry Pantula. Lutfor Rahman, chair of the statistics department at the University of Dhaka, wrote, "Ten years since the formation of DUSDAA, it is such a huge and vibrant organization—all credit goes to Professor Ataharul Islam."

John Quincy Adams once said, "If your actions inspire

others to dream more, learn more, do more, and become more, you are a leader." Islam was the definition of such an inspiring leader. He was the guiding light for many who struggled to find their path. M. Shafiqur Rahman, director of the Institute of Statistical Research and Training (ISRT) and 2015 ASA Educational Ambassador, wrote, "Professor Islam was a charismatic individual whose passion for statistics was undeniable. Professor Islam was revered by students and colleagues at the institute for his leadership, exceptional dedication to the advancement of teaching and research, selfless devotion to the progress of his students, extraordinary statistical insights, and the remarkable ability to inspire all those around him. ISRT mourns the loss of this great man whose lifelong work will have a lasting impact on statistics education in Bangladesh and the world at large."

Beyond the classroom and his academic achievements, Islam was a delightful presence. Socializing with him was such a joy. On the surface, he was shy and measured, but everyone who knew him appreciated his love for humor, music, his family, and friends. Utts, professor emerita in the department of statistics at the University of California at Irvine, reflected on her interaction with Islam: "My trip to Dhaka was one of the most pleasantly memorable experiences of my ASA presidency, in no small part due to Atahar. He filled my schedule with interesting and informational tours, meetings, and adventures. Bangladesh has lost a national treasure, and the statistics community has lost a superb colleague."

A native of Dhaka, Islam finished his secondary school certificate (10th grade) from Sunamganj High School and higher secondary certificate (12th grade) from Notre Dame College in Dhaka. He loved to travel and experience new cultures, both within and outside Bangladesh. Wherever he went, he would try the cuisine and connect the food to other cultures. He enjoyed conversing with friends, colleagues, and family. He could even rope a stranger into a long discussion. He also liked to read; even during his last days, he had books all around his bed and enjoyed falling asleep after reading. He explored every genre (in both Bangla and English) that exists. Among his favorite authors were Sunil Gangopadhyay, Samaresh Majumdar, and Buddhadeb Guha. Islam had deep love for Rabindra sangeet (Tagore's songs) and contemporary music. He also stayed up to date on current events.

On top of everything else, Islam loved his family the most. Islam's wife, Tahmina, is a professor of accounting and information systems in the faculty of business studies at the University of Dhaka. His daughter Jayati is studying for an MPH in epidemiology at George Mason, while his daughter Amiya is working as a junior executive at Protection and Indemnity Services Asia Limited.

Islam was a poet at heart. His second work (450 pages of poems) was published in November of 2020. His poems were about the complexities of life, celebrating relationships, and the virtues of human character.

Islam had unconditional love for his country. He diverged from his peers who settled in the west after their doctoral and postdoctoral training, instead choosing to return to Bangladesh and devote himself to the advancement of statistics there. One of his longtime collaborators, Shahariar Huda, a professor of statistics and operations research at Kuwait University, wrote, "Professor Islam was possibly the most influential statistics professor in Bangladesh since Qazi Motahar Husain. … Despite the constraints of being in a developing country, he remained active in research until his last days. In recent years, he provided valuable service to the statistical community by being the main force behind organization of international conferences in Dhaka. As a person, he was always friendly towards his colleagues and lived with very high moral standards. He will be badly missed by the statistical community in Bangladesh, as well as abroad."

A Bangla proverb goes, "When you were born, you cried and the world rejoiced. Live your life so that when you die, the world cries and you rejoice." Islam lived his life for the rest of us and his world. The Bangladesh statistics community is truly mourning today.

Obituary

Susan Ruth Wilson

Susan (Sue) Wilson was born in Sydney, Australia, on March 19, 1948. She was an undergraduate at the University of Sydney and completed her bachelor of science with honors. She earned her PhD from the Australian National University (ANU).

Sue took up a lectureship in the department of probability and statistics at the University of Sheffield in 1972 but returned to ANU in 1974 when she began a position as research fellow in Pat Moran's department of statistics in the ANU Institute of Advanced Studies.

Sue was an elected member of the International Statistical Institute, elected fellow of the American Statistical Association, and elected fellow of the Institute of Mathematical Statistics (IMS). She was the editor of the *Institute of Mathematical Statistics Bulletin* from 1993–1997 and president of the International Biometric Society (IBS) from 1998–1999. During her tenure, the IBS established the Sub-Saharan Network (SUSAN). Sue was awarded the inaugural E.A. (Alf) Cornish Award in 2011 by the Australasian Region of the International Biometric Society for her contributions to biometrics and honorary life membership in IBS "for outstanding contributions to the development and promotion of the discipline of biometry" in 2012. Sue was made an inaugural senior fellow of the Australian Bioinformatics and Computational Biology Society in 2017. She was also the section editor for computation for the *Encyclopedia of Biostatistics* (Wiley, 1995–2004), and editor for the theme biometrics in the *Encyclopedia of Life Support Systems* (UNESCO, 2000–2007).

For much of her career, Sue held research appointments. She was, however, always cognizant of the importance of educating younger researchers and passing on knowledge. Before the teaching of bioinformatics became established in Australia, Sue was instrumental in setting up the annual BioInfoSummer Summer Symposia in Bioinformatics in 2003. BioInfoSummer is now Australia's major annual educational meeting for graduate students and early-career researchers in bioinformatics. Sue was particularly kind to, and supportive of, early-career researchers—proofreading and assisting to the end with Discovery Early Career Research Award applications.

Sue is survived by her son, Jonathan. To learn more, visit the IMS website at *https://bit.ly/38EAtHn*.
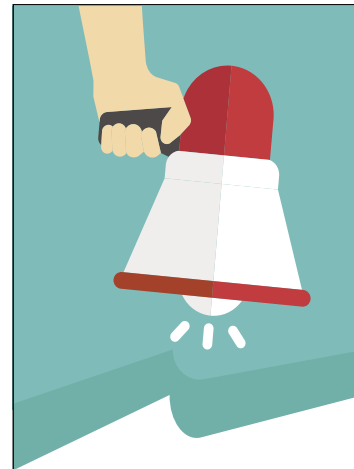
How Can We Help?

We want to help you share your own news with colleagues and showcase your latest successes.

It is important to us that everyone knows about your research, recent awards, and promotions!

If you have any news you would like to share, email *megan@amstat.org*.

Annie T. Randall Innovator Award

The Annie T. Randall Innovator Award was established to recognize early-career statistical innovators across all job sectors and with any level of educational attainment. The award was named in honor of pathbreaking Black female statistician Annie T. Randall for her pioneering career in government amid pervasive racial discrimination. Her powerful story and legacy in statistics (*https://bit.ly/38AZ2Vj*) are an inspiration to future generations of trailblazers. Established in 2020 by the Biometrics Section, the award provides a $2,000 prize each year.

Selection Criteria

Winners are selected by the Annie T. Randall Innovator Award Committee. To be eligible for the award, candidates should be in the early phase of their professional statistical careers. While no more than 10 years into their career is a guideline, career interruptions and transitions would not be included in this count. The committee appreciates that nontraditional paths are common for trailblazers, and thus there is no firm cutoff for the definition of early phase. There are also no degree requirements for this award.

A personal statement or nomination letter should discuss how the candidate has pushed boundaries in statistics toward the betterment of the field and society, as well as how they embody Annie T. Randall's tenacious and resolute commitment to excellence. How the candidate meets

Annie T. Randall

the broad definition of early career described above should also be addressed in the personal statement or nomination letter.

Award Recipient Responsibilities

The award recipient is responsible for providing a current photograph and general personal information the year the award is presented. The American Statistical Association uses this information to publicize the award and prepare the check and certificate.

Nominations

Self-nomination or nomination by someone other than the candidate is welcome. Individuals from underrepresented and historically excluded groups in statistics are encouraged to apply. Submissions are due by March 15 each year and should include the following:

- Candidate résumé or CV
- Candidate personal statement or nomination letter (1–2 pages)

Send nominations and any questions to award committee chair, Sherri Rose at *sherrirose@stanford.edu.* ∎

Nominate a Colleague for the SPAIG Award

The Statistical Partnerships Among Academe, Industry and Government (SPAIG) Award Committee is seeking nominations that recognize excellence among collaborating organizations for its 2021 award.

To qualify, the nominated partnerships must involve organizations in two of the following three sectors: academe, industry, and government. Also, their collaboration must have resulted in significant contributions to the statistical field with applications to real-world problems.

Nominations are due by March 1 each year. The winner will be recognized at the Joint Statistical Meetings the year of the award.

The SPAIG Award was established in 2002 to recognize outstanding partnerships and promote new partnerships among these organizations. The award is distinct from other ASA awards in that it recognizes outstanding collaborations between organizations, while recognizing key individual contributors.

Visit the SPAIG website at *https://bit.ly/39pxBNE* for instructions and a nomination form. Questions can be sent to *awards@amstat.org*.

chapternews

New Jersey

Last year was different and challenging for many due to COVID-19. For the New Jersey Chapter, usual activities such as the annual Spring Symposium (which has been held for more than 40 consecutive years), annual Bayer/ASA NJ Chapter workshop, and other events had to be canceled or modified.

The Spring Symposium was replaced with a series of webinars, six so far. Each webinar drew at least 75 participants, with the October 23 event with Freda Cooner from Amgen reaching 179. Dirk Moore, chapter president, managed the technical aspects of the webinars with committee members Shiling Ruan, Jing Gong, CV Damaraju, Eunhee Kim, and Steve Ascher. More webinars are planned for 2021.

Visit *http://asanjchapter.org* to view the 2020 webinars. ∎

DEPARTMENT of BIOSTATISTICS EPIDEMIOLOGY & INFORMATICS | **Perelman School of Medicine** University of Pennsylvania

13th Annual Clinical Trials Conference
VIRTUAL

REGISTRATION OPEN!
Monday, April 12, 2021 (8:30 A.M. to 4:30 PM)
Cluster Randomized Clinical Trials: Challenges and Opportunities
Registration:

https://www.cceb.med.upenn.edu/events/13th-university-pennsylvania-conference-statistical-issues-clinical-trials

SPEAKERS AND TOPICS	
DAVID M. MURRAY NIH	*Overview: Innovations in the Design and Analysis of Group - or Cluster-Randomized Trials*
VICTOR DeGRUTTOLA Harvard	*Using Network-level (and Individual-level) Information in Design and Analysis*
LUKE J. KEELE University of Pennsylvania	*Complexities Caused by Noncompliance in Cluster Randomized Trials*
JAMES P. HUGHES University of Washington	*Current Issues in the Design and Analysis of Stepped Wedge Trials*
LAWRENCE H. MOULTON Johns Hopkins University	*Randomization: Beyond the Closurization Principle*
NATALIE E. DEAN University of Florida	*The Ring Trial Design for the Estimation of Vaccine Efficacy and Effectiveness During Infectious Disease Outbreaks*
DEBORAH J. DONNELL University of Washington	*Challenges in Implementing CRTs: from Hawthorne Effect to Measurement Bias*
WEILI HE AbbVie	*Practical Considerations in Utilizing Cluster Randomization Trials in Medical Research*
PANELISTS	
Andrew Copas	**University College London**
Karla Hemming	**University of Birmingham**
David Murray	**NIH**
Michael Proschan	**NIH**
Jeffrey Roberts	**FDA CBER**
Alisa Stephens-Shields	**University of Pennsylvania**

sectionnews

Statistics and Data Science Education

The ASA Section on Statistics and Data Science Education will host free birds-of-a-feather discussions in connection with JSM for the fourth year. These discussions allow participants to connect with other statistics and data science educators and expand their teaching practice.

Topics for these discussions vary but have previously focused on data science education, simulation-based curricula, incorporating professional practice into the classroom, and teaching diverse student populations.

To allow greater participation in 2021, birds-of-a-feather discussions will be held virtually and in person. In-person attendees will meet at the Statistics and Data Science Education Section table near the registration area in the convention center Monday through Wednesday at 12:30 p.m. and 4:00 p.m. From there, discussion groups will move to a nearby location. For the lunchtime discussions, participants are encouraged to bring their lunch. Virtual sessions may be held the week prior or immediately following JSM.

A call for topic submissions will go out to section members in March. You need not be a section member or attend JSM to participate. If you're interested in leading a session or have any questions, send an email to Aimee Schwab-McCoy at *aimee schwab-mccoy@creighton.edu*. ∎

Teaching Statistics in the Health Sciences

The Teaching Statistics in the Health Sciences Section is accepting nominations for three major awards in 2021:

The Distinguished Achievement Award (*https://bit.ly/2XMfrQV*) recognizes a section member who has provided outstanding long-term service to the section and the ASA.

The Outstanding Teaching Award (*https://bit.ly/2MXySnA)* recognizes an outstanding statistics educator and mentor in the health sciences.

The Young Investigator Award (*https://bit.ly/2K8unFz*) recognizes a promising "young investigator" for their promise as a statistics educator or in conducting statistics education research in the health sciences. A young investigator is defined as (i) a current graduate student OR (ii) a recent graduate who has received their terminal degree no more than seven years ago and who is in a position with rank below associate professor and does not hold tenure (or equivalent classification).

The first two of these awards carry a $250 cash prize, while the third carries a $500 cash prize.

The deadline for nominations is May 15. Inquiries and nominations should be submitted to *tshs.asa@gmail.com*. Information will also be posted on the section blog at *https://bit.ly/2Lum7Al*. ∎

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*.

Georgia

■ Tenure-track assistant professorship in statistical data science, Department of Statistics, University of Georgia, starting August 1, 2021. Requires PhD in statistics or a related discipline by 8/1/2021. To apply, visit *https://bit.ly/2JLfzwm*. The review of applications began on January 22, 2021, and will continue until the position is filled. EOE.

■ Lecturer in statistics and data science, Department of Statistics, University of Georgia, starting August 1, 2021. Requires PhD in statistics or a related discipline by 8/1/2021. To apply, visit *https://bit.ly/3hJKLZs*. The review of applications began on January 22, 2021, and will continue until the position is filled. EOE. ■

Williams College

The Williams College Department of Mathematics and Statistics invites applications for a **one-year visiting position in statistics,** to begin fall 2021. Candidates should have earned a Ph.D. in statistics, bio-statistics, or a related field by summer, 2021, or be currently in a program to complete the Ph.D. by 2022. We will consider candidates with any area of statistical expertise.

Visiting Assistant Professors are asked to teach four courses per year on our 12-week semester schedule, advise several undergraduate student colloquia (our capstone experience for seniors), and make small contributions to service activities in the department. This set of professional duties provides a window into the experience of being a statistician in a liberal-arts setting.

Our department offers a vibrant undergraduate program with majors in mathematics (including an applied mathematics emphasis) and in statistics. For more information, see *https://math.williams.edu*. The multidisciplinary environment is a rich and collegial setting for student education and faculty research. Williams College provides the opportunity to apply for student research assistant support, a standard, annual allocation of funds to support travel and research, and a shared computer cluster for parallel computation. Visiting Assistant Professors are also eligible to participate in the college's comprehensive First Three professional development program (*https://faculty-networks.williams.edu/networking-opportunities*).

Approximately one hour from the Albany, NY airport, Williams College is located in Williamstown, a thriving destination proximate to three major art museums and access to theater, music, and dance festivals, community supported agriculture farms, a highly-rated public school system, and many other resources.

In accord with the institution's values, our department's faculty embody diversity in many key ways, and we value diversity while continually striving for greater inclusivity. We encourage applications from members of underrepresented groups with respect to gender, race and ethnicity, religion, sexual orientation, disability status, socioeconomic background, and other axes of diversity.

Applications should be submitted via Interfolio at *https://apply.interfolio.com/82160*

Your application should include the following components.

> 1) Please provide a cover letter. This letter might describe your interest in Williams and in the liberal arts, and provide a brief summary of your professional experience and future goals. We ask you to address how your teaching, scholarship, mentorship and/or community service might support Williams's commitment to diversity and inclusion.
>
> 2) Please provide a current curriculum vitae.
>
> 3) Please provide a teaching statement that addresses your teaching philosophy, experience, and other reflections or relevant information you would like to share.
>
> 4) Please have at least three recommenders submit letters of recommendation. If possible, at least one of these letters should comment on your experience as a teaching assistant or on any other instructional capacities in which you have served.

If you have questions about this position, contact search committee chair Richard De Veaux (*rdeveaux@williams.edu*). Review of applications will begin on or after January 15, 2021 and will continue until the positions are filled. All offers of employment are contingent upon completion of a background check. Further information is available at *https://faculty.williams.edu/prospective-faculty/background-check-policy*.

Williams College is a coeducational liberal arts institution located in the Berkshire Hills of western Massachusetts. The college has built its reputation on outstanding teaching and scholarship and on the academic excellence of its approximately 2,000 students. Please visit the Williams College website (*http://www.williams.edu*). Beyond meeting fully its legal obligations for non-discrimination, Williams College is committed to building a diverse and inclusive community where members from all backgrounds can live, learn, and thrive.

Possibilities and Probabilities

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

Your Work as a Mathematical Statistician at the Census Bureau

- Design sample surveys and analyze the data collected.

- Design and analyze experiments to improve survey questionnaires and interview procedures.

- Improve statistical methods for modeling and adjustment of seasonal time series.

- Perform research on statistical methodology that will improve the quality and value of the data collected.

- Publish research papers and technical documentation of your work.

Requirements

- U.S. citizenship

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

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

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

United States Census Bureau

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU
census.gov

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Listed below are our display advertisements only. If you are looking for job-placement ads, please see the professional opportunities section. For more job listings or more information about advertising, please visit *www.amstat.org*.

misc. products and services

University of Pennsylvania Perelman
School of Medicine 13th Annual
Clinical Trials Conference (Virtual) .... p. 35

professional opportunities

Westat .... p. 37

Williams College.. p. 38

US Census Bureau .... p. 39

software

JMP Software from SAS .... cover 4

STATA .... cover 3

If statisticians had a breakfast cereal, what would the name be?

Mathias Cronjäger • @mcCronjaeger
CheeriOLS Chart with upwards trend

Caleb King • @ckingstats
Exponential LIFE cereal. Now with a constant hazard rate of going soggy!

Tim Waite • @TimWaite12
CRAN flakes

Robert Langkjær-Bain
@iamrobertbain
Randomly Selected Charms

Roosevelt Economics • @RUEcon
Count Choculattice

James E. Pustejovsky • @jepusto
Cheeri-naughts.

Johan Lindbäck @iiijohan
Number crunchies

Seneca Widvey
@SenecaWidvey
Honey Bunches of Nulls

Dr. Christina Knudson
@canoodleson
Null Bran

Victoria Osborne-Leute
Chi Squares

Marc Schwartz
Lasso Loops

Elizabeth Oliver
Special K Mean

Kate Bruton
Notation Crunch, with Cohen's d's, Spearman's r's, Student's t's, and many more!

Eric J. Daza
Statistically Favorable Charms

David Stamps
Statcrunch

NEXT MONTH :
Tell us! Statisticians, what would you most like to learn that has nothing to do with statistics? Make sure to tag @AmstatNews in your response.