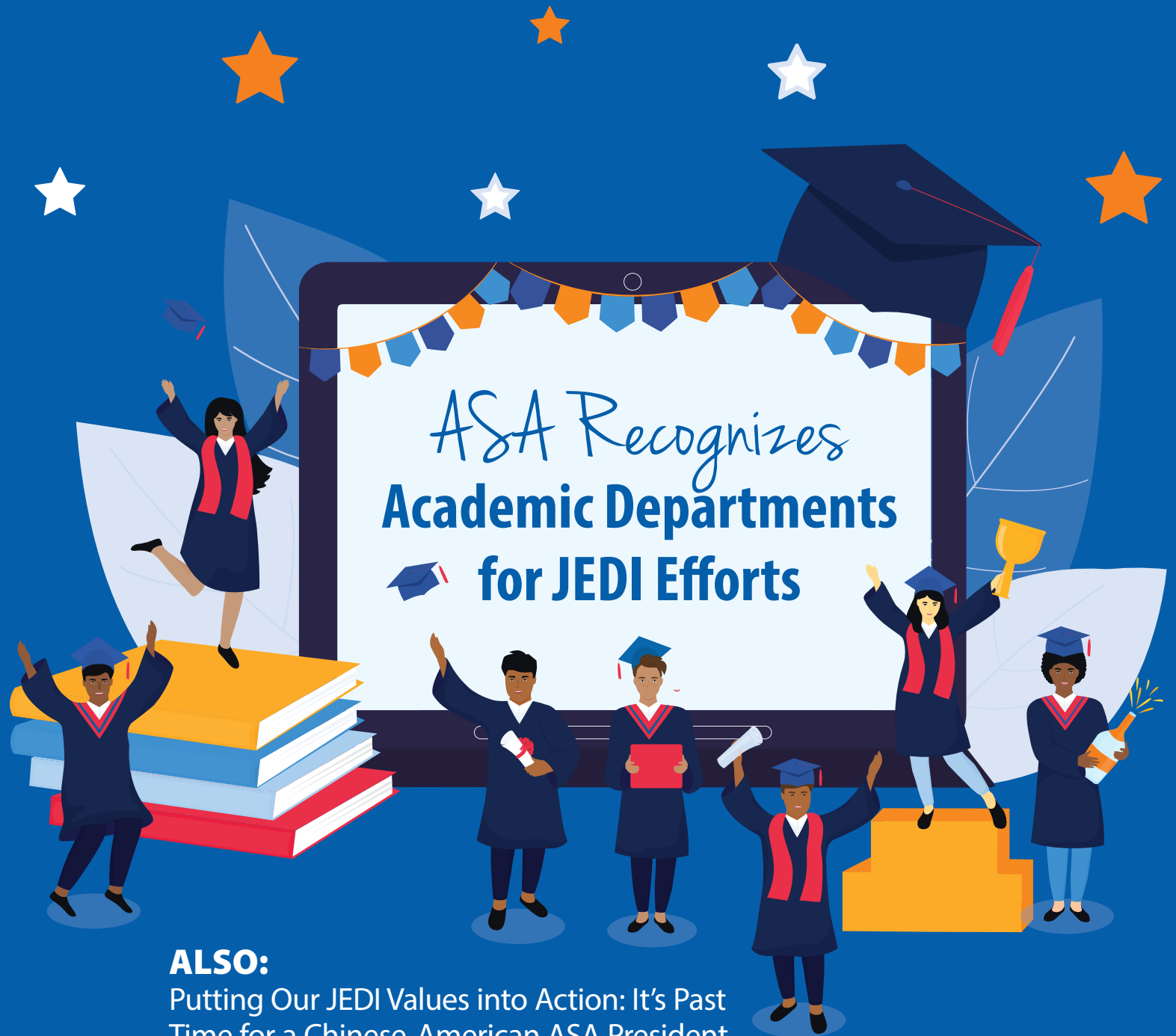


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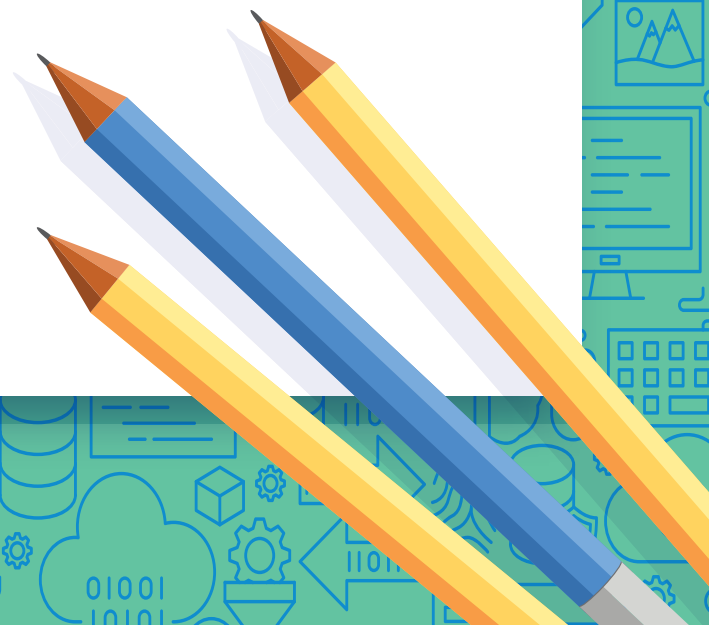
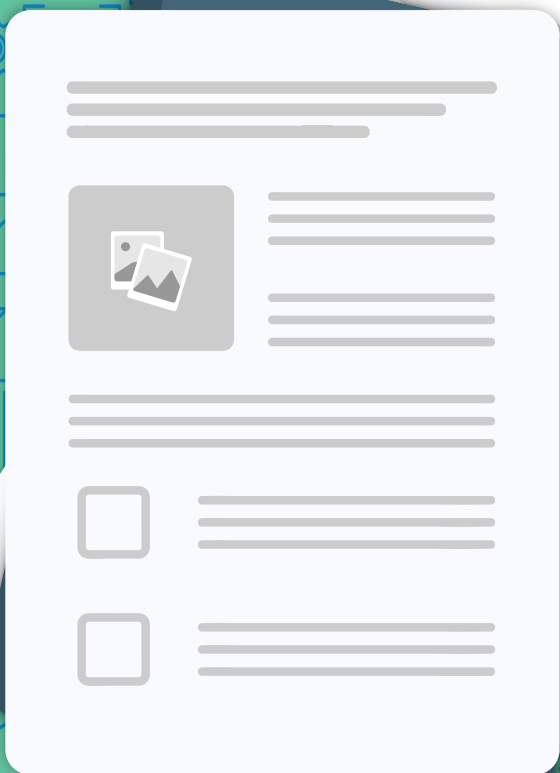
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Amstat News welcomes news items and letters from readers on matters of interest to the association and the profession. Address correspondence to Managing Editor, *Amstat News*, American Statistical Association, 732 North Washington Street, Alexandria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

Amstat News (ISSN 0163-9617) is published monthly by the American Statistical Association, 732 North Washington Street, Alexandria VA 22314-1943 USA. **Periodicals postage paid** at Alexandria, Virginia, and additional mailing offices. POSTMASTER: Send address changes to *Amstat News*, 732 North Washington Street, Alexandria VA 22314-1943 USA. Send Canadian address changes to APC, PO Box 503, RPO West Beaver Creek, Rich Hill, ON L4B 4R6. *Amstat News* is the member publication of the ASA. For annual membership rates, see www.amstat.org/join or contact ASA Member Services at (888) 231-3473.

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ADVERTISING: advertise@amstat.org

WEBSITE: <http://magazine.amstat.org>

Printed in USA © 2022
American Statistical Association



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

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Guiding Internal Collaborators Through Statistical Training

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

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Statistics Without Borders: Outstanding Leadership and Projects in Data for Good

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 davidcorliss@peace-work.org.



FOLLOW US

In Social News ...

The current and future presidents of the ASA have an official Twitter handle, @AmstatPresident. Follow the account on the social network to read current messages from the ASA president.

Attention Students!

If you are interested in improving your programming techniques, making connections, or honing your data analysis skills, make sure to visit STATtr@k next month. We will feature a list of companies looking for interns in 2023. <https://stattrak.amstat.org>



Visit Stunning San Francisco While Learning New Statistical Methodologies

Registration is open for the Conference on Statistical Practice, which will take place February 2-4 in San Francisco, California. The goal of the conference is to provide participants with opportunities to learn new statistical methodologies and best practices in statistical analysis, design, consulting, and statistical programming. Don't miss the keynote by ASA President-Elect Dionne Price: "Our Impact in the Evolving Data Landscape." ww2.amstat.org/csp

CORRECTION

We spelled Daniela Witten's name incorrectly in her photo caption last month. We apologize for the error.

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Photo by Olivia Brown/ASA

ASA President Katherine Ensor gives the keynote address at the 2022 Women in Statistics and Data Science Conference in St. Louis, Missouri.

November Is for Thankfulness

November is one of my favorite months. The weather is cooler, and I am reminded of a childhood fall when the oranges and reds were on full display. In my next to last column of my presidential year, I am taking the time for personal reflection and a heavy dose of gratitude. My close friends know Thanksgiving is my absolute favorite holiday simply for its name—a formal day of giving thanks—and I for one have much for which to be grateful.

Last month was packed full with ASA activities. A highlight for me was giving the keynote at the 2022 Women in Statistics and Data Science Conference in Saint Louis, Missouri. This was quickly followed by opening remarks at the inaugural International Day of Women in Statistics and Data Science, a 24-hour virtual conference featuring women from across the globe. It was a late night because I was also the keynote speaker for the virtual Sri Lanka Information Institute of Technology Conference on Advancements in Sciences and Humanities. I ended the month by sharing remarks at the ASQ/ASA Fall Technical Conference in Salt Lake City. It was a wonderful few weeks to be ASA president and witness all the many global contributions from our field.

For the talk at the Women in Statistics and Data Science Conference, I was asked to share a bit of my

journey. Conversations after my talk made me want to explore in this column how we can encourage and support each other as we journey together.

I won't embarrass my very close friends in the profession by calling them out by name, but I hold them in my heart and am thankful each day for their friendship. Without them, my journey would have been next to impossible and most certainly lonelier.

Daily, I am grateful to my Rice family; thank you for your support, friendship, and leadership in our profession.

I am also blessed with an incredible family—one that supports and cherishes the contributions we all bring to society and recognizes that the journey is as important as the destination.

In my Women in Statistics and Data Science Conference talk, I included a slide titled, "I Was Young Once..." The purpose was to remind all that, yes, life is a journey. I will share some key takeaways with you. In 1982, I began my doctoral studies 10 years after Title IX legislation went into effect. Title IX brought critical improvements to the fabric of US society, creating opportunities for women across the board. I was one of few women pursuing a PhD across our nation. I am happy to say this is not the case today!



Katherine Ensor

Although ecstatic about the many opportunities our young people have, I am concerned about the resurgence of overt attacks on women's rights and the slow erosion of significant advances made over the past 50 years.

In 1981 and 1982, I earned bachelor's and master's degrees, respectively, in mathematics from Arkansas State University. Leaving ASU, I was exceptionally well prepared in mathematics, the foundations of statistics, and computing. There have been multiple highly successful PhD statisticians from ASU, including one of my own superstar students. Why is this important? So many of us focus on graduate student recruitment from elite universities and pass on exceptional students from state or smaller schools across our nation.

I know many leaders and scholars whose early training was similar to mine. I was guided to Texas A&M by its exceptional statistics program, but also strongly recruited and welcomed by the chair and faculty. This support and encouragement made a difference. The willingness to support and encourage is a value shared across our profession and one we should always hold close.

I was well-educated in statistics as a student at Texas A&M, but I also learned the importance of community. I knew I was entering a profession and building a career. The support from the faculty was amazing, especially from department chair Bill Smith, who went on to serve the ASA as its executive director; Joe Newton, who became my adviser; and Manny Parzen. Manny would regularly catch me in the hall just to check on how I was doing and engage me in fascinating conversations about statistics, its importance, and its impact.

I was fortunate to work with Joe as my dissertation adviser, and, wow, what a fantastic decision on my part. I could not have found a better intellectual match in terms of interests and perspectives. Joe and his wife, Linda, are two of my closest friends. When I was honored with the Texas A&M College of Science Distinguished Alumni Award recently, there was secret coordination with my mother and sister, who surprised me at the ceremony. Imagine that moment and you understand how truly blessed I am.

As statistics departments around the US are celebrating anniversaries, I note this is the 35th year of Rice statistics, and I have been there from the beginning. I showed up for work at Rice on a balmy August day in 1987. My new colleagues James R. Thompson and David W. Scott were attending JSM, and I was a bit unsure of what I was supposed to do. Not knowing where to go, I lingered in the women's restroom trying to figure out my

next step. Had I simply dreamed I had a job? That is where Diane Brown, our department's founding office manager, found me and introduced herself. She had set up a table in the hallway because our new department office was under renovation. This is how the incredible journey began!

Those first few years were intense. Jim, David, and I were soon joined by Marek Kimmel and Dennis Cox. The department was supported by exceptionally strong joint faculty, as well as our statistics colleagues at The University of Texas School of Public Health. In 1999, I became the fourth chair of the department and worked for the next 14 years to foster significant growth in all the dimensions strong departments require.

I am so proud of our department and what we have collectively achieved over these 35 years. Our graduates hold leadership positions across our profession and contribute substantially to society through their strong training in statistics and commitment to community.

I have had the opportunity to directly supervise 24 doctoral dissertations. Each of these successful and amazing individuals has gone on to make incredible contributions to our profession and society. As they know, our journey together goes beyond research and includes a strong dose of mutual friendship and mentoring.

Last month, I was invited to the Rice George R. Brown School of Engineering awards banquet as the plus-one of host Talithia Williams, Harvey Mudd professor and PBS NOVA host, to see Kristian Lum receive the school's young engineering award for her work on algorithmic fairness and human rights. The list of previous Rice statistics alumni recognitions is long and includes Garrett Grolemond of RStudio and Meg Ehm of GSK. The following day, I represented the ASA at the inauguration of Rice University's eighth president, Reginald DesRoches. You may recall DesRoches was my invited speaker for JSM 2022. I am grateful for the opportunity to celebrate statistics at my home!

Throughout my journey as a professional statistician, contributing to the community through service to the ASA has been important to me. I am grateful for these many opportunities to learn about our society and science. I share these sentiments in hopes they also resonate with you wherever you find yourself on your journey. Happy Thanksgiving!





MY ASA STORY

Robert Tumasian III, Biostatistics PhD Candidate

Throughout my undergraduate studies, I knew I wanted to pursue a graduate education at the intersection of mathematics and biomedical science but had trouble pinpointing an area that combined them. Luckily, during a conference at Harvard, I discovered the perfect harmonizer: biostatistics!

At Columbia, my dissertation is comprised of two efforts. The first is geared toward creating a novel seamless trial design to accelerate drug evaluation and expedite the delivery of safe and effective treatments to the community, while the second focuses on investigating the performance of group sequential and adaptive designs in various settings.

My first experience with the ASA was winning the Lester R. Curtin Award (<https://bit.ly/3SGvMRH>), which provided essential funding for me to participate in the 2021 Conference on Statistical Practice (<https://bit.ly/3ed4of6>). This exciting event equipped me with fundamental knowledge that has fostered my research aims and career objectives. Engaging in short courses and tutorials allowed me to improve my coding and technical skills, strengthen my foundation in statistics, and continue evolving as a quantitative thinker. The conference also introduced me to different methods of successfully conveying statistical findings to scientific and nonscientific audiences.

After learning more about the ASA's mission and all the personal and professional development opportunities the association offers, I joined in October of

2021. The ASA has helped me expand my network of government and industry statisticians, stay up-to-date on important advances in the field, and obtain many employment prospects. Through talking with other ASA affiliates in the Biopharmaceutical Section (<https://bit.ly/3CelPUF>) and Government Statistics Section (<https://bit.ly/3eauyzj>), I have gained a stronger understanding of the multifaceted responsibilities of statisticians in the pharmaceutical arena and government health agencies.

This year, I was grateful to receive a student travel award (<https://bit.ly/3T3tbcc>) to attend and present at the Joint Statistical Meetings and was really glad to connect with people in person (including one of my role models, Dionne Price) and absorb lots of information regarding recent innovations in the clinical trial world. I am also happy to be presiding over my school's ASA Student Chapter and co-chairing the Student and Young Professionals Committee of the ASA's Justice, Equity, Diversity, and Inclusion Outreach Group with Lydia Gibson.

Members of the Student and Young Professionals Committee collaborate with interdisciplinary statisticians and students to mitigate inequities and increase diversity in the statistical fields, gather and advertise funding mechanisms for individuals from underserved groups in data science and statistics, and encourage students and early-career professionals to advocate for their needs on campus and in the workplace. Navigating academia or starting a new job can



Photo Courtesy of Robert Tumasian III

One of Tumasian's favorite hobbies is going to the driving range.

come with unique obstacles, and it has been rewarding to provide a platform for members to voice their concerns and ask difficult questions, as well as to assist them with these challenges to drive their aspirations forward.

Following my graduate studies, I am eager to join the US Food and Drug Administration as a mathematical statistician so I can continue exploring strategies to enhance drug assessment procedures and ensure the safety and efficacy of experimental interventions are measured appropriately and efficiently.

In the future, I would like to fortify the partnership between the FDA and ASA and forge new alliances with other organizations. I also hope to become an ASA Fellow and serve as ASA president one day. ■

MORE ONLINE

If you are interested in collaborating on research activities with Tumasian, contact him at ratumasian@gmail.com or connect with him on LinkedIn at <https://bit.ly/3fMAEpU>.

Learn about the Student and Young Professionals Committee and its goals at <https://bit.ly/3SLtK2Q>.

A Statistician's Life: Bob Riffenburgh

Kim Gilliam, ASA Marketing and Communications Coordinator

For more than 65 years, Bob Riffenburgh practiced and taught statistics in multiple fields—fisheries, oceanography, education, psychology, sociology, economics, agriculture, space exploration, business, military simulations, and, for the last three decades of his career, medicine. Today, retirement has allowed him to pursue a childhood passion—fiction writing.

Riffenburgh grew up in depression-era Appalachia in Blacksburg, Virginia, on the Virginia Polytechnic Institute campus, where his father was a chemistry professor. “I was raised in the world of scientific inquiry,” he says. “Our house sat next to a crop field used for agricultural experiments. And I remember vividly time spent with my dad in his research lab.”

“Education was important in my family,” says Riffenburgh. My parents listened and took me seriously, so I grew up feeling confident in my abilities,” says Riffenburgh. “However, social relationships were another matter—they were not scientific.” He confides, “I didn’t do so well in that realm.”

In high school, he enjoyed every subject—math, science, history, literature—and had an insatiable curiosity about everything. He was lead in the senior play, was on the tennis team, and played saxophone.

In his youth, he also had a head for numbers. He says, “I counted everything from childhood, tallying data, tabulating distributions, and making decisions on subjective probability estimates. I had no idea that I was edging on statistics.”

The Making of a Statistician

Riffenburgh’s father passed during his last year of high school, and he was sent to Colorado to live with an uncle. In 1948, he enrolled at Colorado University on a state scholarship. He says he received bad academic counseling advice from a volunteer faculty adviser, who placed him in algebra 3 before algebra 2 and suddenly the “A” student failed his first course. He lost his scholarship, became terrified of anything mathematical, and gravitated toward psychology as a major.

Riffenburgh returned to Virginia to attend the College of William & Mary. He put himself through school on a shoestring budget, eventually earning an MS in industrial psychology. “In time, however, I became disenchanted with the poor science that permeated psychology then,” he says. “VPI had started



After the ASA San Diego Chapter became official, Riffenburgh served as liaison to the ASA for several years. He was named an ASA Fellow in 2000.

one of the earliest statistics departments and, in my hometown, they would accept me despite my unpreparedness in math. I realized why I had failed the math course at CU, and that I could be successful if I applied myself.” He did and earned a PhD in statistics with a minor in mathematics in 1957.

From Academia to Undersea Diving to NATO Officer

Riffenburgh taught elementary mathematics as an assistant professor at Virginia Polytechnic Institute during his last two years of doctoral study. He then accepted the same rank at the University of Hawaii, which he says, “sounded so romantic with the promise of adventure.” By then, he was married to a former classmate, Gerrye Harlow, with their first two children (of five) in tow. He worked a side job for the US Bureau of Commercial Fisheries to buy a house and sloop and became an “ocean sailor.”

However, the isolation of the Hawaiian Islands became an issue and prompted a return to the mainland. In Monterey, California, he did a stint outside academia as a systems analyst at the Lab for Electronics, estimating probabilities of collision between rockets and satellites.

But then he received an offer he could not refuse—a full professorship and the opportunity to establish a statistics department at the University of Connecticut. He planned course offerings, hired

MORE ONLINE
Read about Riffenburgh’s short stories and novels at <https://robertriffenburgh.com>.



Bob Riffenburgh with his family. He has five children with his wife, Gerrye.

faculty, recruited students, developed a graduate program to offer MS and PhD degrees, taught classes, published papers, and performed other duties required of a department head.

He also received requests from industries for advice on data analysis and decisions, so he formed a consulting firm, the General Systems Analysis Company, and ran it simultaneously for years. His clients included IBM, Olivetti, New York Life, and Emhart Manufacturing.

“After nearly a decade, I was getting burned out and returned to the West Coast for an oceanometrics position at the Naval Ocean Systems Center in San Diego. As part of my job, the Navy sent me through undersea diving school, and I dove to plant measuring gear and monitor undersea data. Eventually, the Navy sent us to Wales for three years to help found a surveillance system for Soviet ballistic missile submarines.

“Back in San Diego, I was sent to the Naval Hospital in Balboa Park for a couple of years to advise on the design and analysis of medical studies. Then, the Navy deployed me to Holland and then Italy for eight years, where I headed naval operations



Riffenburgh as a youngster. He grew up in Blacksburg, Virginia, on the campus of Virginia Polytechnic Institute, where his father was a chemistry professor.

research as an officer in NATO. My team did military simulations and recommended the optimum mix of support to be provided by the respective NATO navies should the Soviets start World War III. The Soviet empire collapsed, and I returned to San Diego and retired from the government.”

After retiring, the naval hospital asked him to return as their biostatistician under contract, which he did for the next 28 years, designing and analyzing more than 3,000 studies across all fields of medicine. He wrote his biostatistics book, *Statistics in Medicine*, and shepherded it through four editions. In 2019, he left the hospital, returning to San Diego State University (where he had been teaching part-time) for a few more years; in 2021, he retired for good.

ASA and the Bob Riffenburgh Award

Riffenburgh joined the American Statistical Association in 1955 as a graduate student. He was active in local chapters, serving as an officer and giving lectures in the Hawaii Chapter, Connecticut Chapter, and San Diego Section of the Southern California Chapter. He served as chair of the local affairs committee for JSM in 1979, arranging everything locally. “This took most of my time for months,” says Riffenburgh. After the San Diego Chapter became official, he served as liaison to the ASA for several years. He was named an ASA Fellow in 2000 and is a PStat.

This year, the Riffenburgh Award was established in his honor. It recognizes the transfer or extension of statistical methods developed for or used in one field of application into another where it has never or seldom been used. Its goal is to recognize that these statistical transfers broaden the range of statistical methods applied to various science fields and encourage statistics users to seek innovative methods not commonly used in their field.

Riffenburgh says some of his most satisfying contributions to statistics were introducing previously unused statistical methods to applied fields. Some examples include the following:

- A Markov-chain system analysis (*Proceed Internat Statist Inst* 1960) and system modeling of fish schooling (*J du Conseil* 1960) to marine biology
- Multiple discriminant analysis (*Sociometry* 1966) to sociology
- AI-controlled robotic data devices (*Cybernetica* 1966) to space exploration

- Analysis of variance (*Deep-Sea Research* 1970) and change point detection in time series (*Technometrics* 1971) to physical oceanography
- Greatest extreme stress prediction (*US Bureau of Reclamation Reports* 1973 and *IEEE Proceedings* 1976) to engineering construction

Then there were several transfers from one medical field to another, starting with statistical logic (*Archiv Otolaryngol* 1996) and detecting survival patterns in disease progression (*Cancer* 2001) and continuing to bias correction in medical markers (*Amer J Med Sciences* 2022).

The award is to be funded through the endowment created by a gift bestowed upon the ASA by Riffenburgh. The first award will be presented at the Joint Statistical Meetings in 2023.

Hopes for the Future of Statistics and Data Science

“Statistics and data science overlap about 90 percent. Their role is clear,” says Riffenburgh. “The combined discipline forms two bridges. One is a pre-data bridge from having a concept to developing a scientific design. The other is a post-data bridge from holding raw data in your hand to developing an understanding of what the data mean. No one knows about the future, but one certainty is that the need for currently unimagined statistical methods will arise.

To illustrate, let’s go back 65 years and ask the statisticians of that day what statistics would be like now,” says Riffenburgh.

“I think one anecdote illustrates the essence. With hand calculation of statistical methods, sample sizes were necessarily small. The problem always seemed to be how to get enough data to satisfy assumptions. In 1957, when I was finishing my doctorate, one of my professors, John Freund, was called to consult with an aircraft construction company. Aircraft were becoming jet-powered, and speeds were increasing, generating wing flutter.

The day Dr. Freund arrived back, we were all sitting around a calculation room eating our brown-bag lunches. His eyes were as big as salad plates. He said, ‘You won’t believe this. They have data as I have never seen—wing flutter data recorded by the *thousands*. It’s not a problem of how to get data; it’s a problem of how to choose what subsets of data to use for analysis.’ That evolved into the current demand for new forms

of statistical thinking demanded by vast data sets such as those in genomics.”

Advice for Tomorrow’s Statisticians and Data Scientists

Riffenburgh suggests burgeoning statisticians and data scientists develop a feel for statistical methods rather than just follow formulas. “Formulas are like road maps,” he says. “You need them to navigate, but they are not the trip. The trip is in the mind and emotions. You need a gut feeling for a method, not a stiff protocol. A statistical problem lies in a process. Data shine a light on the process. Often, there are different windows to look through at a problem and, while one might be more efficient than another, they may all show you insights into the process.”

He adds, “The whole point of statistics is understanding how the process works, not producing some optimal-but-dry statistic. This is what the younger generation should keep in mind. Don’t think of statistics as a pairing between a static problem and a static method. Think of finding the picture the data tell you.”

Looking Back and Moving Forward

Riffenburgh’s 65-year career took him around the world applying statistics to myriad disciplines. He was asked how he managed it all. “The activities kept me so busy that I never had time to think about what to do next. Everything just seemed to happen—marriage, children, jobs, moving about, fitting in, learning new stuff. I just did whatever I had to do. I felt like I was just surviving the buffeting waves of life.”

At 91, Riffenburgh has had to give up some of the joys of his younger days—sailing, ocean diving, running, and building things. Today, he enjoys listening to and making music. He loves cooking and has fun creating unique dishes. And he finally has the time to devote to a creative passion: writing fiction—novels and short stories.

“In the past, nonfiction writing taught me discipline, patience, organization, clear and simple expression, and the ways of publishers—all required in a well-written novel. A hallmark of my writing is believability—feasible events peopled by credible characters set in technical authenticity. For me, writing novels adds the thrill of creating people and events in the world of the mind,” says Riffenburgh. ■

Member Kelly Zou Dives into Real-World Evidence

In October, the IMPACCT: Real World Evidence Summit took a deep dive into the use of real-world evidence for regulatory submissions and improved clinical trial design. In preparation, conference organizer Hanson Wade interviewed speaker Kelly Zou. We share it with you here.

With draft FDA guidelines calling for more RWE to be implemented in clinical trials, what area of the trial process do you think RWE will have the biggest impact on?

Real-world evidence provides the opportunities for patient-centric innovations, patient-journey mapping, and outcome assessment. According to the US Food and Drug Administration, “Decentralized clinical trials hold promise to reduce patient and sponsor burden and increase accrual and retention of a more diverse trial population ...” Specifically, the FDA’s Project Equity “aims to ensure that FDA-approved medical products work for all,” while Project Silver aims “to increase representation of older adults (65 years and older) ...” Furthermore, “evaluating the COVID-19 experience with remote assessments is important to develop best practices when deploying [decentralized clinical trials] modifications in future prospective [decentralized clinical trials] designs.” Thus, the biggest impact of real-world evidence may result from disease burden assessment, trial design optimization, external control arm construction, and decentralized clinical trials implementation to complement clinical trials, just to name a few.

What is the biggest challenge in implementing real-world evidence for regulatory approvals?

According to the FDA’s real-world evidence framework, real-world data “are the data relating to patient health status and/or the delivery of health care routinely collected from a variety of sources. Real-world data can come from

a number of sources.” Given such a wide variety of data types, such as “electronic health records, claims and billing activities, product and disease registries, patient-generated data including in-home use settings, and data gathered from other sources that can inform on health status such as mobile devices,” regulatory-grade data that are fit for purpose are critical.

In addition, the European Commission has proposed the European Health Data Space following its General Data Protection Regulation, as well as the artificial intelligence act. The European Health Data Space “provides a specific ecosystem comprised of rules, common standards and practices, infrastructures, and a governance framework.” However, there are challenges in assessing data quality, given that data can be siloed to be interoperable. Thus, it is important to be able to develop ways to evaluate data standards before embarking on regulatory pathways to harness real-world data and real-world evidence.

What do you see as the future landscape for real-world evidence in a patient-centric digital era?

Several co-editors, coauthors, and I recently published a new book, *Real-World Evidence in a Patient-Centric Digital Era*. We focused on statistical and analytic methodologies in real-world evidence to generate insights on health care, with a special focus on the pharmaceutical industry. We examined timely topics of high relevance to industry such as bioethical considerations, regulatory standards, and compliance requirements. We highlighted emerging and current trends and provided guidelines for best practices. We illustrated methods through examples and use-case studies to demonstrate impact. Finally, we provided guidance on software choices and digital applications for successful analytics. Here, it is worth emphasizing the patient perspectives, along with multiple stakeholders, when harnessing real-world, big data, digital innovation, and artificial intelligence. ■



Kelly Zou

EDITOR’S NOTE

Zou is an employee of Viatris. The views expressed here are her own.

MORE ONLINE

Learn about the Real World Evidence Summit at <https://real-world-evidence-pharma.com>.

Passion for Data Literacy Puts Member on Capitol Hill

This year at the Joint Statistical Meetings, I participated in the ASA's JSM Congressional Visits Day. It was an incredible experience that forced me outside of my comfort zone and allowed me to advocate for something I feel passionately about: data literacy.

Leslie McClure is chair of the department of epidemiology and biostatistics and associate dean for faculty affairs at Drexel University.

It all started in May, with the call to participate in the ASA's congressional advocacy day slotted for the last day of JSM. The ASA is hoping to introduce the Data Science and Literacy Act, a bill that will provide grants for K–12 and college educators that will increase access to data science and literacy education. This is new legislation, and the goal of visiting Capitol Hill was to “shop” the legislation around to various senators and congresspeople who might be interested in introducing or cosponsoring the bill.

When I saw the opportunity, I signed up right away. I had never done anything like this before, so I saw it as an opportunity to learn. It also aligned with my desire to use my background in public health to do more good.

To prepare, ASA Director of Science Policy Steve Pierson and ASA Science Policy Fellow Ed Wu held two virtual meetings. They provided a brief introduction to the legislative process (think *How a Bill Becomes a Law* for statisticians) and described the legislation we would be promoting.

We were charged with reaching out to the legislative aides in the offices of our respective senators and congresspeople to set up appointments to discuss the legislation, holding the meetings, and then following up to thank the aides and keep the Data Science and Literacy Act on their radar.

Pierson and Wu provided training on the whos, whats, wheres, and whys of the meetings. They indicated we would be meeting with congressional staffers, likely young adults who do their job enthusiastically; provided us with the bill, a summary of the bill, and talking points; gave us pointers about structuring the meetings; and provided maps/directions to the locations of our meetings. They suggested we research the legislators we were to meet with so we understood what their priorities are and what legislation they have supported that might be relevant. I learned a tremendous amount just from preparing.

I was scheduled to meet in person with three staffers from Pennsylvania—aides for Sen. Bob



Photo Courtesy of Leslie McClure

Emma—a staffer from the office of Rep. Chrissy Houlahan (D-PA)—Leslie McClure, and Edward Wu talked about the importance of data literacy for all.

Casey, Rep. Madeleine Dean, and Rep. Chrissy Houlahan. I had a partner, also from Pennsylvania, who would attend the meetings with me. In addition, we had a Zoom meeting scheduled for the following week with Rep. Dwight Evans.

At JSM, we had one last session to prepare on Wednesday, the afternoon before most of the team was to conduct their visits. Two experts joined us and made recommendations for managing the meetings. We also had a chance to practice our pitches.

I was nervous. What if I said the wrong things? How would I connect with the legislative aides, many of whom were half my age? What if I got lost on my way to Capitol Hill? I knew I would be representing the ASA and didn't want to let anyone down. Also, just before our Wednesday meeting, I learned my Pennsylvania partner had to cancel for personal reasons and was more than a little apprehensive about holding the meetings alone. Fortunately, Wu joined me instead.



Photo by Ed Wu/ASA

Edward Wu, Leslie McClure, and Sydney Brooks, a staffer from the office of Sen. Bob Casey (D-PA), take time out from discussing science policy for a quick picture.

Thursday morning came and I was excited. I took the Metro to Union Station and walked the few blocks to Capitol Hill. I arrived 45 minutes earlier than I needed to. I had never been to this part of DC and was inspired by the beauty of the Capitol.

Our first meeting was with an aide from Casey's office, who we were to meet on the steps of the Capitol—what a place to have a meeting! Wu and I ran through our plan and were ready. Well, I was nervous, but ready. Because I was talking about something I care deeply about, the words came easily. I came up with creative ways to explain the importance of data literacy to a millennial. I incorporated the priorities of the legislators into my comments. I was surprised by how much fun I had and was energized and ready to tackle the next two meetings.

The meetings with the aides from Dean and Houlahan's offices took place in two of the office buildings the representatives work in. I had never really thought about where our senators and representatives work and felt a little silly for not realizing there are congressional office buildings. These

meetings went similarly well. The words again came easily, and the conversations flowed naturally.

The most surprising part of the visits was when one of the aides mentioned we were making statistics sound fun. In general, the aides spoke positively about the bill and promised to discuss it with their respective bosses.

JSM is generally a long, busy meeting. This year was no exception. As the meeting wore on, I started to wonder if it had been a good idea to sign up for the congressional visits. I had been away from home for several days; I was tired and ready to go home. But I am glad I stuck it out. In a low-stakes situation, I learned so much about the legislative process and how the US system of government works.

I would encourage everyone who has the opportunity to take part in advocacy for our field. It is so important to get the message out, whether it is to K–12 students, college students, local communities, or our legislators. I am grateful the ASA provided this opportunity and look forward to the Data Science and Literacy Act becoming a law. ■

JOIN THE EFFORT
To advocate for the Data Science and Literacy Act, contact ASA Director of Science Policy Steve Pierson at spierson@amstat.org.



How the University of Iowa, New York University, and Indiana University are prioritizing justice, equity, diversity, and inclusion

Biostatistics and statistics departments are part of a broader academic effort to embed justice, equity, diversity, and inclusion (JEDI) into their development and growth. *Amstat News* asked faculty and deans from both biostatistics and statistics departments to describe their work, along with their challenges and successes.

DEPARTMENT OF BIOSTATISTICS College of Public Health | University of Iowa



Joseph E. Cavanaugh is a professor of biostatistics and head of the department of biostatistics at the University of Iowa. He has been on the faculty since 2003 and served as department head since 2015.



Jacob J. Oleson is a professor of biostatistics and the director of graduate studies for the department of biostatistics at the University of Iowa. He also serves as the director of the University of Iowa Center for Public Health Statistics. He has been on the faculty since 2004.



Gideon K.D. Zamba is a professor of biostatistics at the University of Iowa. He is the cofounder and director of the Iowa Summer Institute in Biostatistics, which was initiated in 2009. He has been on the faculty since 2003.

Describe your department's mission in implementing justice, equity, diversity, and inclusion. What steps have you taken to achieve this mission?

The college of public health at the University of Iowa was founded in 1999. In 2002, Kathryn Chaloner was hired to serve as the department head of the newly formed department of biostatistics. As one of the few prominent female statisticians of her generation, Kathryn had spent much of her

early career striving to improve the representation of women in the discipline.

In 2009, Kathryn cofounded with Gideon Zamba the Iowa Summer Institute in Biostatistics, one of several educational and research programs funded by the National Heart, Lung, and Blood Institute “to address a growing imbalance between the demand and supply for biostatisticians.” The University of Iowa program was established with a focus on recruiting women and underrepresented minorities.

As of the summer of 2022, nearly 230 students have been trained through the Iowa Summer Institute in Biostatistics. About half of these students have been underrepresented minorities and about two-thirds have been female. More than half of our institute alums have joined a graduate program in biostatistics, statistics, or data science; of these, about two out of five have attended the University of Iowa to pursue a degree in our department.

In general, the National Heart, Lung, and Blood Institute's Summer Institutes in Biostatistics have been extremely successful at drawing quantitatively gifted students to the discipline. Our summer institute has also had a profound impact on our own graduate student recruitment efforts and has allowed our department to make substantive strides in its goal of having a more diverse and inclusive graduate student body.

What have been the biggest challenges in implementing justice, equity, diversity, and inclusion in your department?

Iowa is a state with a fairly homogeneous population. Many students who have never visited Iowa City have preconceptions of the community, as well as the state of Iowa and the Midwest. Through the summer institute, we have the opportunity to bring students to Iowa City for a seven-week, immersive educational and research experience. These students hopefully see that some of their preconceptions are wrong and that, as a department, we've

Other departments can hopefully learn that it is entirely possible to develop a more diverse and inclusive student body, one that is capable of achieving the highest levels of excellence.

endeavored to build an extended academic family in which all students feel welcome and valued.

What can other departments learn from your JEDI work?

Other departments can hopefully learn that it is entirely possible to develop a more diverse and inclusive student body, one that is capable of achieving the highest levels of excellence, provided the faculty and staff are fully committed to this objective. An important aspect of this commitment involves the development of teaching and mentoring strategies that will facilitate the success of students from a variety of educational and cultural backgrounds.

What have been the benefits and results of your JEDI undertakings?

As a department, we firmly believe a diversity of backgrounds and experiences enhances the overall academic environment by cultivating a wide variety of perspectives and viewpoints and

facilitating the type of nonconventional thinking that leads to scientific advancement. As statisticians, biostatisticians, and data scientists, we should all strive to fulfill a vision for the discipline that embraces diversity and all it entails: fair and equitable treatment; mutual respect and trust; equal access to opportunity; and the pervasive understanding that inclusion fosters innovation.

Is there anything you would do differently if you could go back to the formation of your department?

Our department was fortunate to have hired a visionary leader, the late Kathryn Chaloner, when it was still in the formative stage. We have Kathryn and Gideon to thank for recognizing the importance of promoting diversity, equity, and inclusion in the profession and for striving to embed these values in our departmental culture.

Throughout this journey, there have understandably been occasional missteps and subsequent

course corrections. In pursuing JEDI initiatives, good intentions are necessary but not sufficient to achieve success. Creating a more positive, supportive, inclusive culture is an ongoing process that necessitates continual attention, refinement, and engagement.

If time and resources were not an issue, what one thing would you immediately do to bolster your JEDI efforts?

More lucrative fellowship and scholarship programs would facilitate our recruitment efforts. Developing a summer ‘boot camp’ for incoming students to better prepare them for their first year of graduate school would also be beneficial, since the students who join our department come from a variety of educational backgrounds.

How does your university support your efforts?

The University of Iowa College of Public Health has been extremely supportive in facilitating, promoting, and publicizing our summer institute and, more broadly, our JEDI initiatives. Our dean, Edith Parker, is one of our most ardent and vocal advocates. Despite her many other obligations, Edith spends time with the students who attend our institute and even hosts a picnic for them at her home. With those students who eventually join our department, she remains engaged and involved. We are fortunate to be in a college that shares our values and is so supportive of our efforts.

DEPARTMENT OF BIostatISTICS New York University



Rebecca Betensky is professor and chair of biostatistics at the NYU School of Global Public Health. She is passionate about diversity in biostatistics and has directed summer pipeline programs for undergraduates for more than 20 years at both Harvard and NYU.



Rumi Chunara is an associate professor of biostatistics and computer science and director of the Center for Health Data Science. Her research promotes the value of pluralism of people and types of knowledge in advancing biostatistics.



Stephanie H. Cook is an assistant professor. Her work is in the development and application of longitudinal study designs for determining the ways in which dynamic changes in features of minority stress are associated with changes in risk behaviors and physical health.



Melody S. Goodman is a professor of biostatistics; associate dean for research; and director of the Center for Anti-Racism, Social Justice, and Public Health at the NYU School of Global Public Health. She has published on diversity in academic public health.

Describe your department's mission in implementing justice, equity, diversity, and inclusion. What steps have you taken to achieve this mission?

We are a young department (approximately five years old), which gives us the opportunity to build JEDI principles into

every program and policy of our department and to embed it in our culture. The initial diverse composition of our small faculty helped infuse the department with JEDI aspirations and commitment from the start. We realize these principles need to be in our lines of sight at every moment, as they require active and proactive effort always.

We include a page on JEDI-related activities on our websites, and we include a full description of our JEDI activities in our annual reports. We also highlight our publications and programs on the landing page of our website and often through Twitter postings. These avenues allow us to showcase our values and efforts and keep us accountable. Examples of what we have done fall into the following categories:

- **Who we are.** We are a diverse faculty of eight permanent faculty and three visiting faculty, and we work hard to maintain our diversity in faculty searches through targeted outreach.
- **Scholarly, educational, and policy writings.** We address issues related to JEDI in our research, educational writings, and commentary:
 - Health disparities research topics
 - Curricula of public health schools
 - Data literacy as a tool for social justice
 - Examination of diversity in our field

Visit the NYU website at <https://bit.ly/3Tc5y9G> and read about how our programs and recruitment, education, and training of students reflect JEDI values and support NYU educational and research missions in biostatistics.

What have been the biggest challenges in implementing justice, equity, diversity, and inclusion in your department?

The two biggest challenges we face in implementing JEDI

in our department are limited funds and a limited student and faculty applicant pool. NYU's tuition is high, which is prohibitive for some students from underrepresented backgrounds. While we do provide some tuition funding for most MS and MPH students, it is insufficient for many. If we had more scholarship funds available, we could increase the diversity of our master's students.

Faculty searches are challenging due to the limited number of candidates from underrepresented backgrounds applying for academic positions and the competition we face from comparable departments in getting them to apply to our positions and in hiring them. This problem requires concerted and personalized efforts to identify candidates, convince them to apply to our positions, and then recruit them.

What can other departments learn from your JEDI work? Do you have a toolkit or resources you can share?

Our approach is multi-pronged and can be categorized as the following:

- **We participate and are present:** We think it is crucial to make our efforts known in our department and in the larger communities. We do this by being present at conferences; publicizing our research and educational efforts through our websites and emails; and communicating with our ever-growing network of faculty, former students, and colleagues.

- **We are constantly learning and teaching:** We have met with other departments in our school to let them know about what we have done. We always ask many questions of visitors to learn about what they do at their institutions. We collaborate actively and rely on advisory boards to guide us in our formal programs and centers.
- **We are vigilant:** We understand achieving JEDI is difficult and requires constant work and self-reflection. We are undertaking a review of our curriculum, and we will certainly be taking a fresh look at how JEDI principles can be better incorporated into our courses.

What have been the benefits and results of your JEDI undertakings?

We have already seen the following tangible results from our JEDI efforts:

- We have an NIH-funded summer program and training program.
- We have published on related topics.
- We are building new pathways: students from our quantitative public health data literacy program have entered our master's and summer programs.
- We have supported training in and have faculty visiting from Kenya through an NIH-funded data science training program with a focus on data science for social determinants.

Is there anything you would do differently if you could go back to the formation of your department?

We have a limited number of domestic students in our program, very few from NYC and very few underrepresented minority students. When the department was formed, there was little focus on recruiting biostatistics students; recruitment was for public health in general. If we could go back to the formation of our department, we would form partnerships with the City University of New York, State University of New York, historically Black colleges and universities, and MSI that would help us recruit these students. We are still lacking in this area.

If time and resources were not an issue, what one thing would you immediately do to bolster your JEDI efforts?

We have a long list of items! Some of these are the following:

- Establish named, need-based scholarships for master's students
- Increase the size of our PhD cohort, which is currently limited because we fully fund the students.
- Fund the development of strong JEDI components in biostatistics curricula.
- Establish meaningful bidirectional relationships with minority-serving institutions by co-teaching courses and having shared training programs at both sites.
- Convene a working group to think about concrete efforts that would make

biostatistics a more welcoming place for underrepresented minority students and faculty and implement them.

How does your university support your efforts?

NYU and the School of Global Public Health have been very supportive of our efforts. They supported the establishment of a new center for anti-racism and social justice, including three faculty hires and postdoctoral fellows, as well as the Center for Health Data Science, with a holistic view of health and well-being.

NYU supports a six-year College & Career Lab Program for underrepresented and disadvantaged students from NYC, which now has a public health component. They provide support every year for our Pipelines summer program for costs that are not covered by our National Institutes of Health grant. Given the cosmopolitan nature of the city, they host and support numerous summer programs for high-school students and undergraduates from New York City, which we also participate in. These include the Applied Research Innovations in Science and Engineering program that targets 10th- and 11th-grade students with little or no access to high-quality STEM education experiences: women, students of color, and those from low-income backgrounds.

The school has instituted numerous policies to highlight the importance of diversity, including reporting requirements and procedures for job searches, and is currently searching for an associate dean for diversity, equality, and inclusion.

INDIANA UNIVERSITY School of Public Health



David B. Allison earned his PhD from Hofstra University in 1990. He then completed a postdoctoral fellowship at the Johns Hopkins University School of Medicine and a second postdoctoral fellowship at the New York Obesity Research Center at St. Luke's/Roosevelt Hospital Center. He became dean and provost professor at the Indiana University School of Public Health-Bloomington in 2017.

Describe your mission in implementing justice, equity, diversity, and inclusion. What steps have you taken to achieve this mission?

As dean of the IU School of Public Health, my mission is to advance knowledge about health in a way that helps our fellow citizens. Yet we also have the mission of creating equity in science careers and education, which is the opportunity to discover things and experience the wonder and joy of science. These are things everybody should have a right to partake of, so we are trying to open the door wider than it's been opened in the past.

We want to do the best science, and it has been shown empirically that the best science is done by diverse groups. Such scholars tend to ask different questions and, in doing so, open up new vistas of thinking.

Last, we want to do things in ways that are fun and joyous, and I personally find working and interacting with a diverse community of people to be enriching and rewarding.

What have been the biggest challenges in implementing justice, equity, diversity, and inclusion in the IU School of Public Health?

I think most organizations resist change. Sometimes it's just inertia—people are busy and tired, they have other things to do, and it's hard to get them motivated and on board. That's the biggest challenge, but we've met it. Indiana University's leadership has given us the backing both financially and administratively to help move forward, and our faculty and staff have embraced this and worked their tails off to implement JEDI initiatives in our school. The result is an extraordinary pool of diverse and stellar scholars and faculty who are notable for their academic excellence in addition to their diversity.

What can other schools or departments learn from your JEDI work? Do you have resources you can share?

The most important resources are the ones that virtually every

academic leader has but does not always bring to bear—the resources we have at hand. Too often in academia, people check the box on diversity recruiting. They sincerely want to promote diversity, but they haven't put their full effort into it in the same way they would their own scientific research. When we do our scientific research, we plan, hire consultants, study, and study again. And when things don't work, we go back to the drawing board and try another way to get at the problem.

Whereas my experience with many administrative tasks is that administrators check the box and say, "I put a JEDI statement at the bottom of the advertisement, we're an equal opportunity employer, and persons of all backgrounds are welcome and encouraged to apply. Yet we didn't get a lot of diversity, so what can I do? I did the best practices and that's it." But if it was your research study, you wouldn't just give up—you'd go back, hire a consultant, do something different, and keep trying.

If you decide something is so important that the only option is success, then you find a way to get it done. It's the decision to say, "I will accept nothing but success."

What have been the benefits and results of your JEDI undertakings?

The results have been extraordinary. While we are not absolutely certain, we may have the most diverse tenure-track faculty of any school of public health in the country. Our numbers (34 percent) are based on the 2022–2023 academic year in terms of the percentage

of our tenure-track faculty who are from traditionally underrepresented minority groups in science (as defined by the National Science Foundation). Having 34 percent of total tenure-track faculty be from minority groups exceeds any other school of public health in the US, according to the 2021 data from the Association of Schools and Programs of Public Health. We haven't seen the 2022 data yet, but we think we could arguably be number one in the nation, and the enthusiasm within our school is incredible. People are talking with each other and learning about each other's culture and research. It's very exciting.

Is there anything you would do differently if you could go back to the formation of your school?

It's hard to know, but sometimes I think I would have spent a little more money on staff support earlier on and seen it as a business investment. We're always trying to be careful and frugal, and that creates a strain when doing an enormous recruitment initiative. So, the recruiting might have been less effortful and a little faster if we had more staff devoted to it.

If time and resources were not an issue, what one thing would you immediately do to bolster your JEDI efforts?

I think that with respect to recruitment, I would spend enormous resources bringing potential doctoral students, in particular, and more people—potential staff, faculty, postdocs, and undergraduate students—to our campus

and school to see what a wonderful place it is. We are actually going to start doing some of that, but I would do it on a mega scale if money were infinite.

This coming year, for example, we want to focus on more PhD student recruitment and keep pulling from that pipeline. We hope and believe that with a diverse faculty and PhD student population, others will look at our school and say, "That's where I want to be, that's a place that respects diversity, that's a place where there are people who look like me where I can see it and I can be it. There are role models and diversity is valued."

We have hired a new associate dean for organizational climate, inclusion, and belonging, and I would put more resources under her disposal for more assessment to figure out what really works, to help create those greatest benefits for all of us involved, regardless of race, age, ability, status, gender, sexual orientation, sexual identity, etc.

How does your university support your efforts?

Our university leadership has for years been enormously supportive, which is very much why our school has been so successful. Indeed, we have had tremendous financial backing from the provost and president. Both the current and prior provosts and presidents were all committed and strongly supportive. But at least equally important is the moral, social, administrative, and political support. It is the encouragement to move forward, understanding that when I prioritize this, I may not prioritize something else. ■

DON'T MISS OUT!

Be sure to check back next month, when more universities share their JEDI efforts.

Annual JSM Statistical Significance Competition Sees Many Winners

The ASA Scientific and Public Affairs Advisory Committee recently announced the winners of its annual JSM Statistical Significance competition, its first in-person competition since 2019.

The first-place winner and recipient of \$300, Eric Hixson of Cleveland Clinic, applied machine-learning techniques to successfully improve the complex task of scheduling surgeries across its large hospital system. In his entry, he estimates “a 1% improvement in adding cases to the surgical schedule would equate to approximately 8,000 additional patients in a year.”

Second-place finisher Xiyuan Gao of the University of Missouri entered her clinical trial work evaluating treatment effectiveness at different stages and comparing treatments at the same stage.

Federico Veneri Guarch of the Center for Statistics and Applications in Forensic Evidence at Iowa State University, also a second-place winner, showed how ensemble score likelihood ratios provide stronger, more stable forensic evidence.

A JSM Statistical Significance entry is a one-page illustration of the value of statistics to society whose objective is to illustrate to a lay person how the statistical solution to the problem presented in the JSM poster would help inform decisions that improve society in specific areas such as health, agriculture, economy, education, manufacturing, and medicine.

Competition Winners

FIRST PLACE:

Eric D. Hixson, Zachary Yachanin, Joseph Dorocak, and Michael Lewis, *Cleveland Clinic: A Machine Learning Solution to Predict Surgical Case Duration in a Multi-Hospital Health System*

SECOND PLACE:

Xiyuan Gao and Jianguo J. Sun, *University of Missouri, Columbia: Regression Analysis of Doubly Censored Failure Time Data with Ancillary Information*

Federico Veneri Guarch and Danica Ommen, *Center for Statistics and Applications in Forensic Evidence, Iowa State University: Ensemble of SLR Systems for Forensic Evidence*

HONORABLE MENTIONS:

Eric Gerber and Nelson Guirado, *California State University Bakersfield: Competing Risks Analysis of MLB Draft Data*

Menglu Liang, *Penn State College of Medicine*; **Zheng Li**, *Novartis Pharmaceuticals*; **Liang Li**, *The University of Texas MD Anderson Cancer Center*; **Ming Wang**, *Penn State College of Medicine*; and **Vernon M. Chinchilli**, *Penn State College of Medicine: Tackling Dynamic Prediction of Death in Patients with Recurrent Cardiovascular Events*

Maisha Maliha, Andrii Zaiats, Payton Lyons, and Trevor Caughlin, *Boise State University: Quantifying Post-Wildfire Revegetation Using Satellite Data and Statistical Models: Challenges and Opportunities*

Junhui Mi, *Cleveland Clinic: The Effect of a Rapid Response Team on the Incidence of In-Hospital Mortality*

Started in 2009, the competition is designed to complement the ASA Statistical Significance documents, a series highlighting the contributions statisticians make to society, from health care

and economy to national security and the environment. See <https://bit.ly/3RNRtOz> for details.

Learn about submitting an entry for next year's competition at <https://bit.ly/3rJhOCN>. ■

Diversifying Academia Through ADJOINT

The Mathematical Sciences Research Institute hosts the hands-on research experience

Jacqueline Hughes-Oliver and Rebecca Hubbard

ADJOINT is a research program focused on advancing and strengthening the careers of Black statistical (and mathematical) scientists and deepening their engagement with the broader research community.

Only one (three) percent of full- (part-) time faculty in statistics and biostatistics departments are “Black, not Hispanic,” according to the 2015 report of the Conference Board of Mathematical Sciences (see <https://bit.ly/3RZponm>, Tables F.5 and F.6). This lack of representation is unhealthy, both for individual Black statistical scientists and for the discipline as a whole.

The long-term goal of ADJOINT is to serve as a sustaining force that enables Black academics in statistical (and mathematical) programs to flourish. More specifically, ADJOINT addresses three of the four primary needs for facilitating faculty research productivity put forth in “A Theoretical, Practical, Predictive Model of Faculty and Department Research Productivity,” published in *Academic Medicine*: providing formal mentoring programs; facilitating networks; and providing time for conducting research.

ADJOINT is a year-long hands-on research experience hosted by the Mathematical Sciences Research Institute. The first full year for ADJOINT was 2020–2021. Researchers spend two weeks in residence (all expenses paid) at the research institute in Berkeley, California, to initiate their projects. Teams continue working for at least a full academic year and are offered funding and other resources to help facilitate their work. For example, researchers may travel to another site during the year to intensify engagement.

Jacqueline Hughes-Oliver is a statistics professor at North Carolina State University. She works in prediction and classification, variable and model selection with dimension reduction, design of experiments, and spatial modeling. She is a fellow of the ASA and was awarded the 2014 Blackwell-Tapia Prize for research excellence and mentoring activities.



Rebecca Hubbard is a biostatistics professor at the University of Pennsylvania Perelman School of Medicine. Her research focuses on improving the quality and validity of medical research using electronic health records data. She is passionate about improving the pipeline of talented individuals from diverse backgrounds pursuing careers in the statistical sciences.



Commonly, researchers meet at a national or international conference to both present their findings and continue their research collaboration.

Research teams are led by research leaders, who are carefully selected by the ADJOINT directorate. They are highly respected Black statistical and mathematical scientists with well-established research programs. Each research leader heads up a group of up to five researchers by framing the

research questions to be addressed and leading the team to complete the research.

In 2021–2022, Emma Benn of the Icahn School of Medicine at Mount Sinai served as research leader for the project “Racial/Ethnic Disparities in Health: Applying a More Nuanced Inferential Framework.” Rebecca Hubbard of the University of Pennsylvania Perelman School of Medicine is serving as research leader for 2022–2023 and working on a project called “Improving Validity and Fairness of EHR Research for Medically Underserved Populations.” For 2023–2024, Donald Martin of North Carolina State University will serve as research leader for the project “Inference and Applications of Sparse Markov Models.”

Researchers are paired with research leaders based on an application process. Participants must be US citizens or permanent residents, possess a PhD in the statistical or mathematical sciences, and be employed at a US institution. Applicants are asked to submit the following:

- A cover letter specifying which of the offered research projects the applicant wishes to be part of
- A curriculum vitae
- A personal statement, no longer than one page, addressing how participation will contribute to the goals of the program
- A research statement, no longer than two pages, describing current research interests, relevant past research activities, and how they relate to the project of greatest interest

While participants are not required to identify as Black, their potential positive impact on the careers of Black statistical and mathematical scientists is an important factor in the final selection.

ADJOINT alumni have positive things to say about their experiences. A perfect 100 percent of alumni report they are extremely likely to recommend ADJOINT to a friend!

Applications are being considered for 2023–2024. Visit <https://bit.ly/3Se1zbX> to start the process.

The long-term goal of ADJOINT is to serve as a sustaining force that enables Black academics in statistical (and mathematical) programs to flourish.

The deadline is January 13, 2023, and participants will be announced in early February 1.

ADJOINT targets the broader statistical and mathematical sciences, so the full list of research leaders includes the following:

- Donald Martin, North Carolina State University, “Inference and Applications of Sparse Markov Models”
- Folashade Agosto, University of Kansas, “Ticks, Fire, and Control: Implementing Prescribed Fire and Control Measures at Ticks Invasion Front”
- Mboyo Esole, Northeastern University, “Algebra/Algebraic Geometry”
- Nsoki Mavinga, Swarthmore College, “Nonlinear Elliptic Partial Differential Equations with Nonlinear Boundary Conditions”

For more information about ADJOINT, visit <https://bit.ly/3TnGJaZ> or read “MSRI’s ADJOINT: African Diaspora Joint Mathematics Workshop” at <https://bit.ly/3CvfmVx>. Additionally, Jacqueline Hughes-Oliver serves on the ADJOINT directorate and can be reached at hughesol@ncsu.edu. Rebecca Hubbard can be reached, as well, at rhubb@pennmedicine.upenn.edu. ■

New Report on US Data Infrastructure: An Interview with Robert Groves

MORE ONLINE
Read about the European Commission's call for evidence and feedback regarding a proposal to make new data sources available for official statistics and statistical purposes at <https://bit.ly/3CLI0Tw>.

A new report from a National Academies Committee on National Statistics panel, “Toward a Vision for a New Data Infrastructure for Federal Statistics and Social and Economic Research in the 21st Century: Mobilizing Information for the Common Good,” deems the “US statistical agencies’ reliance on sample-survey data and census data is unsustainable” and presents an expansive vision for a new data infrastructure to produce “more timely, better quality, and more granular statistics that could answer questions of national interest, support more rigorous research, and facilitate evidence-based policymaking.” Blending data from a variety of sources—federal statistical, program, and administrative agencies; state, tribal, territory, and local governments; private sector enterprises; nonprofits and academic institutions; and crowdsourced or citizen-science data holders—is the central mechanism for the new infrastructure.

In its first of three reports, the panel explains why the US needs a revamped infrastructure and describes its output, needs, attributes, and challenges, as well as how it might be organized. The second and third reports, respectively, will assess the “implications of using multiple data sources for survey programs” and explore the “technology, tools, and capabilities needed for data sharing, use, and analysis.”

To learn more about the panel’s vision, ASA Director of Science Policy Steve Pierson posed the following questions to panel chair Robert M. Groves on behalf of *Amstat News*.

Please describe what the panel means by “data infrastructure.” What is the relationship of the federal statistical system, including the chief statistician, to it?

First, Steve, thank you for setting up this interview; I hope it will be interesting to *Amstat News* readers.

The panel chose the word “infrastructure” because the data resources of a country resemble its highways, bridges, and internet backbone. They are absolutely necessary for a functioning,

modern society. Inattention to them often produces disasters. These disasters can be avoided through intentional modernization.

The panel envisions a multi-faceted data infrastructure. The key components include the following:

- Data assets
- Technologies used to discover, access, share, use, manage, and secure those assets
- Expertise needed to use the data
- Rules that govern data access, use, and protection
- Organizations that manage the data infrastructure
- Communities whose data is shared and used for statistical purposes

The panel’s vision assumes statistical agencies and other approved users will use data assets for the common good. It viewed the collective data of the country as a national resource, not unlike other infrastructure. Relevant data from federal, state, tribal, territorial, and local governments; private sector enterprises; nonprofits and academic institutions; and crowdsourced and citizen-science data holders would be available only for statistical purposes. The blending of cross-sector data can improve the quality, timeliness, and granularity of statistics, promote research, and support evidence-based policymaking.

The federal statistical system will play a critical role in the envisioned new data infrastructure. Federal statistical agencies will be important data holders, supplying data for approved statistical uses and important data users. The federal statistical system also plays an important role in supporting the research infrastructure for empirical social and economic sciences through the Federal Statistical Research Data Center network. We expect the federal statistical system and chief statistician to be important leaders in a new data infrastructure, but specific roles and responsibilities await further evolution of the vision and the existing federal data ecosystem.



Robert Groves is chair of the Committee on National Statistics and served as director of the US Census Bureau from 2009–2012.

The panel makes a compelling, rigorous case for why the US needs a new data infrastructure in Chapter 2. How would you summarize the need to a member of Congress?

In the panel's judgment, the current national data infrastructure is ill-equipped to meet the data needs of the 21st century. Today, paradoxically, national statistics face both grave threats but also a historic opportunity.

Throughout our lives, the federal statistical system relied on statistical surveys, but declining survey participation poses a severe threat to national statistics. Yet, at the same time, the country produces unprecedented amounts of digital data about the activities of individuals and businesses.

To meet the demands for credible and timely statistical information, the US needs to mobilize the nation's ever-expanding data assets. It needs to facilitate statistics that blend data from multiple sources. This can improve the nation's information resources on which Congress, the executive branch, and thousands of state and local officials make decisions. With modern computational techniques, this can be accomplished without new threats to privacy.

Currently, data acquisition, access, and use are siloed, inefficient, and largely uncoordinated. Data are being collected that cannot be effectively used to inform policymakers. Laws and regulations remain major obstacles to accessing and

using federal statistical, program, and administrative data, as well as state, local, territorial, and tribal government data. Private-sector data use is bespoke and often costly, with no inherent sustainability. Most data holders have no incentives to contribute or share their data for the common good. Privacy-protecting behaviors of data holders are highly variable and largely unregulated; there is little transparency and accountability regarding data use, and data subjects, data holders, and data users are rarely engaged in data use and data governance decisions.

Is it accurate to describe the envisioned data infrastructure as one that produces the blended data from a variety of sources for enhanced statistical information and evidence-building using new statistical methods and designs, new partnerships, state-of-the-art data management capabilities, and a new entity?

Yes, that's how the panel sees it. The vision is a necessary first step, but a vision alone is insufficient. The panel recognizes the daunting challenges and obstacles we face and understands implementing the vision will take time and resources. But engaging key stakeholders, forging new partnerships, working toward a shared vision, and reaching consensus on short- and medium-term activities that move us toward the vision is crucial.

Expanding available data assets beyond the federal government raises new challenges, and the panel suggests consideration of different organizational options to facilitate cross-sector blending and identifies unanswered questions related to data governance and data entity roles and responsibilities. These and other components require further study. We expect additional workshops and reports beyond the first three will be needed to fully implement the vision.

How does this report build on important work of the Commission on Evidence-Based Policymaking, Advisory Committee on Data for Evidence Building, 2017 CNSTAT reports, Evidence Act, National Secure Data Service, and other reports or activities?

The panel saw a remarkable synergy among these various developments. These initiatives provided the initial building blocks for a new

A new data infrastructure supports statistical agencies blending data from multiple sources to improve existing statistical products and create new ones.

data infrastructure. The panel's aim was to complement, build on, and extend their work to inform a vision for a new national data infrastructure for national statistics and social and economic research in the 21st century.

The Evidence Act provided federal statistical agencies with a statutory basis for accessing and using data assets of federal nonstatistical agencies, as well as expanding secure access to statistical agency data assets, unless prohibited by law. The panel supports these provisions and, like the Advisory Committee on Data for Evidence Building, calls for the Office of Management and Budget to implement needed Evidence Act regulations and rulemaking.

The Commission on Evidence-Based Policymaking recommended that state earnings data and state-collected data acquired by federal departments be shared for evidence-building purposes, but the Evidence Act did not address these recommendations. The panel, like the Advisory Committee on Data for Evidence Building, supports these recommendations. But the panel concludes that expanding access beyond just state data to include also tribal, territory, and local government data for statistical purposes can benefit the nation and government entities. All the logic that supports blending of administrative data with statistical survey data to construct better statistical information applies to state and local government data, as well.

Supplementing the Commission on Evidence-Based Policymaking and Evidence Act, the panel sees the merit of blending federal statistical and administrative data with private-sector data. The blending of statistical agency data with private-sector data sources, as well as state and local government, nonprofit and academic institutions, and crowdsourced or citizen-science data, can produce more granular, timely, and relevant statistical information and enhance social and economic research.

The Commission on Evidence-Based Policymaking recommended establishing the National Secure Data

Service to facilitate access to and use of information for evidence-building. The Evidence Act was silent regarding the National Secure Data Service. The Advisory Committee on Data for Evidence Building year one report presented a vision for the National Secure Data Service, but in January 2022, OMB suggested a demonstration project be established.

President Biden recently signed the CHIPS and Science Act of 2022, which authorized a National Secure Data Service demonstration project at the National Science Foundation. The demonstration project represents progress, but the panel sees a further value of the service beyond evidence-building for facilitating the blending of diverse data sources, including data from private enterprises. Broadening the scope of data assets complicates decisions related to organizational structures and governance. The panel concludes there are multiple structures that can support a new data infrastructure and different options should be considered.

The development of a consensus vision for a new data infrastructure requires that the country leverages all the expertise and learnings we have accumulated over the past six years. These reports have much in common. Building on, learning from, and extending these initiatives to mobilize information for the common good will be critical in achieving a shared vision and building a new national data infrastructure.

The panel heard reports of work underway by the statistical agencies toward the new data infrastructure, including record linkage and use of private and administrative data sources. What most impressed or encouraged you?

This was one of the great joys of the panel—to see how much energy exists within the agencies to build this new infrastructure!

The panel had two important takeaways. First, the US is not unique. The 2021 December workshop described current efforts by Statistics Canada, the UK Office for National Statistics, and Statistics Netherlands to leverage private-sector and other data assets to improve national statistics. The European Commission recently issued a call for evidence and feedback regarding a proposal to make new data sources available for official statistics and statistical purposes consistent with the panel's conclusions.

Second, federal statistical agencies already are actively engaged in using private-sector data. At the

December 2021 workshops, we learned all but one of the 13 designated statistical agencies are using private-sector data assets.

Workshop participants noted that private-sector data utilization for national purposes might greatly improve the quality, timeliness, and granularity of national statistics, as well as improve knowledge of groups that are not well represented in existing surveys. Private-sector data, of course, has limitations, and workshop participants discussed the challenges and limitations of blending private-sector data with administrative and survey data. But to meet these challenges, statistical agencies are actively sharing best practices and lessons learned.

The panel’s vision emphasizes the broadening role of the statistical system beyond enhanced statistical information to also support research and evidence-building. Do you put these latter roles on equal footing as production of statistical information?

No, not given the focus of the panel. The panel’s charge was to produce three reports “that will help guide the development of a vision for a new data infrastructure for federal statistics and social and economic research in the 21st century.” While the panel acknowledges a new data infrastructure will enhance evidence-building, the primary focus was on improving national statistics and enhanced research. The panel intentionally did not duplicate the Advisory Committee on Data for Evidence Building’s excellent work on evidence-building.

Federal statistical agencies’ primary responsibility will remain unchanged: “to produce and disseminate relevant and timely information; conduct credible, accurate, and objective statistical activities; and protect the trust of information providers by ensuring confidentiality and exclusive statistical use of their responses.” A new data infrastructure supports statistical agencies blending data from multiple sources to improve existing statistical products and create new ones. But the federal statistical system also contributes to a large research infrastructure that provides access to restricted statistical agency and other data assets for approved social and economic research. The Federal Statistical Research Data Center network—an established and sustained model of collaboration between statistical agencies, the Federal Reserve System, and universities—has facilitated research that has illuminated issues of national interest.

Statistical agencies’ data assets can be used for approved evidence-building purposes, when permitted by law. The National Secure Data Service will likely have responsibility for services and capabilities facilitating evidence-building.

The panel provides short- and medium-term activities for achieving the seven attributes of the envisioned data infrastructure and the options for supporting a data infrastructure.

Who will carry out the activities, and is there a lead entity in driving or coordinating the activities?

The panel was a creation of the Committee on National Statistics of the National Academies. It sought to paint a vision of a better world, with full knowledge that building this new world has challenges. It took this step to prompt a wider discussion and deliberation.

Our immediate goal is to share the report with interested stakeholders in the statistical system, Congress, research communities, state and local governments, and the private sector. The report suggests 25 short-term and 40 medium-term activities that could help achieve the full vision, but no entity or organization is currently charged with carrying out these activities. Our goal is to start a discussion about the vision, build support, and identify important next steps to move ahead.

The statistical community served by *Amstat News* will be key stakeholders in shaping future data infrastructure. The panel encourages independent actions to bring the vision into reality. How can readers contribute to fulfilling the panel’s vision for a new infrastructure?

First, we encourage folks to read the report and view the recording of our October 13 public seminar at <https://bit.ly/3EvJpyV>. That session highlighted key takeaways from the report and plans for future data infrastructure-related activities. The full report, as well as report highlights and a brief for policymakers, can be found at <https://bit.ly/3V9evlQ>. This page also links to the project’s interactive website, which provides report content in an easily digestible and accessible format and offers an opportunity for feedback and suggestions. ■

JEDI CORNER

Putting Our JEDI Values into Action: It's Past Time for a Chinese-American ASA President

The Justice, Equality, Diversity, and Inclusion (JEDI) Outreach Group Corner is a regular component of Amstat News in which statisticians write and educate our community about JEDI-related matters. If you have an idea or article for the column, email the JEDI Corner manager at jedicorner@datascijedi.org.



David Banks is a professor in the department of statistical science at Duke University who is deeply grateful for his longstanding engagement with the ASA.

I am very proud of the ASA for its recent JEDI initiative and the Anti-Racism Task Force. Both make the association better and fairer, but they also introduce complexity. It is easy to say we oppose racism and inequity, but operationalizing such principles is not straightforward. As a specific example, I point to the fact that the ASA has never elected a statistician of Chinese descent as its president.

When I raise this point with friends, some point out that two have been nominated but lost the election (Xiao-Li Meng and Christy Chuang-Stein). As a democratic organization, we have to respect the process, but that position leaves the door open to the ASA Committee on Nominations inadvertently nominating pairs of candidates in which the outcome is possibly determined by implicit biases.

The existence of such biases has been widely documented. When a white person runs against a Black person, or a male against a female, or one ethnicity against another, or a cis-gendered person against a trans-gendered person, or a young person against an old person, such biases are almost inevitable. The ASA membership probably wants to figure out a fair way to minimize the impact of such implicit bias

Dig Deeper

*"The Existence of Implicit Bias Is Beyond Reasonable Doubt: A Refutation of Ideological and Methodological Objections and Executive Summary of Ten Studies That No Manager Should Ignore" is an article in *Research in Organizational Behavior* in which authors John Jost, Laurie Rudman, Irene Blair, Dana Carney, Nilanjana Dasgupta, Jack Glaser, and Curtis Hardin respond to critiques of research on implicit bias, especially studies using the Implicit Association Test. Find the article at <https://bit.ly/3RJKQgc>.*

on its election processes. This will be difficult to do.

In the past, the ASA seems to have taken deliberate steps to eliminate one potential source of bias. We made the decision that the office of the president should rotate among the academic, industry, and government sectors. That plan ensured different kinds of stakeholders were regularly represented at the highest executive levels and that a populous sector did not dominate statisticians in smaller sectors. Nothing is perfect, but I think that system has served the ASA well on the whole.

The naïve approach is to nominate opponents who have the same race, gender, ethnicity, age, and so forth. But as we know from the design of experiments, that much balance is hard to achieve. Since a potential candidate may

decline the nomination, it will be completely impracticable to seek such a solution.

Alternatively, one might hypothetically try to estimate the magnitude of the implicit biases the ASA membership collectively feels for or against different races, genders, ethnicities, etc., and then seek a pair of nominees such that the net implicit bias between the two is nearly zero. That poses an interesting statistical challenge and seems like an interesting research topic that is amusingly self-referential to statistical inference. Of course, this idea is still absurdly impractical.

According to the ASA website, the Anti-Racism Task Force is charged with the following:

- Developing recommendations that ensure the communications and activities

of the association's groups align with its position on justice, equity, diversity and inclusion

- Proposing mechanisms for the association to inform the public about how statistics and data science can contribute to—or, if used responsibly, help fight against—racial and ethnic bias in society
- Developing recommendations for ASA infrastructure and policy that will help drive positive cultural change within the ASA and remove structural barriers to justice, equity, diversity, and inclusion

Nearly all of us want to achieve these goals. Members of the JEDI group and Anti-Racism Task Force have shown a strong beginning, and their existence is a necessary and laudable first step. The follow-through, however, is technically difficult and poses complex ethical challenges I don't think anyone really knows how to address.

The good news is the world is changing, and implicit biases may now sometimes advantage the previously disadvantaged, which brings me back to the Chinese statisticians. By almost any standard one can imagine, Chinese statisticians have been regularly passed by for leadership in the ASA, despite their prominence in our profession and their long history of outstanding contribution. Of course, we absolutely need to support underrepresented minorities, ethnicities, and genders, but when an overrepresented group is consistently overlooked, it should be no surprise that some Chinese statisticians might begin to perceive it as prejudice. ■

Webinar Series Builds Momentum

Carolina Franco, Committee on International Relations in Statistics Chair, and Sloka Iyengar, Statistics Without Borders Director of Marketing and Communications

A new initiative by the ASA's Committee on International Relations in Statistics and Statistics Without Borders has been uniting statisticians from around the world with a common interest in learning about popular and emerging statistics topics. The Committee on International Relations in Statistics/Statistics Without Borders webinar series is a bimonthly event during which experts introduce areas of statistics of wide interest.

The first webinar took place in May and covered the topic of small area estimation. It drew more than 150 participants. The second webinar was held in July and introduced Bayesian inference, drawing 160 participants. The third webinar, "An Introduction to Spatial Statistics with Applications to Disease Mapping," occurred in September and drew a record audience of 170.

The latest webinar was held by Alex Schmidt from McGill University and focused on conditional auto-regressive spatial models with inference following the Bayesian paradigm. Apart from being the third speaker, Schmidt is a member of the Committee on International Relations in Statistics as an international representative to the ASA Board and has been instrumental in the creation of the webinar series, leading the program development. The webinar drew participants from countries including Brazil and Bangladesh. In a survey sent after the webinar, participants commented on the excellent presentation and clarity of the delivery by Schmidt.

Another webinar was presented by Shirin Golchi, also from McGill University. Like in the previous webinars, participants asked several questions relating to Bayesian statistics, including practical and philosophical questions about improper priors, the meaning of the "true value" of a parameter under the Bayesian paradigm, and Markov chain Monte Carlo convergence diagnostic tools. Besides introducing the main concepts in Bayesian inference, Golchi illustrated how to use the R package *brms*, which allows for easy application of the STAN software via R. She also provided information about additional resources. Participants praised Golchi for the clarity of her presentation, her in-depth knowledge of the subject, and her excellent examples.

The recording and slides for all the webinars are available at <https://bit.ly/3SUTud0>.

The next webinar, "Machine Learning: Opening the Black Box," will be taught by Jennifer Hoeting, professor emeritus at Colorado State University, on December 8 from 12:00 p.m. to 1:30 p.m. EST. Though the webinars are free, registration is required at <https://bit.ly/3C9gNZG>.

Topic suggestions for future webinars can be sent to Schmidt at alexandra.schmidt@mcgill.ca, Committee on International Relations in Statistics chair Carolina Franco at franco-carolina@norc.org, or Statistics Without Borders representative Sloka Iyengar at slokaiyengar1@gmail.com. ■

MORE ONLINE

Become a friend of the ASA Committee on International Relations in Statistics at <https://bit.ly/3CCaDBm>. Friends receive occasional emails about topics of international interest such as webinars, job opportunities, volunteer opportunities, and news.

Become part of Statistics Without Borders for free by filling out the form at <https://bit.ly/3CXHGRO> or request pro bono statistical assistance at <https://bit.ly/3Cz8UwL>.

STATtr@k

Guiding Internal Collaborators Through Statistical Training



George Rodriguez is a chief scientist, who earned his master's in statistics after completing a doctorate in chemistry.



Min Chen is a lead statistician. She earned a PhD in statistics after completing her master's in oceanography at Texas A&M University.

Statistical consulting is a major path of employment for ASA members, so considering improvements in the way we engage others should be an ongoing process. This approach is particularly useful when the statistician is part of a disproportionately small cohort of data professionals within an institution.

An argument against encouraging collaborators to develop their statistical knowledge is that we could minimize our future impact (i.e., working ourselves out of a job). A second concern is the empowerment from learning 'some' statistics leads to incorrect usage, which leaves the data professionals with the responsibility of cleaning up a mess in postmortem analyses. Although the frequency one encounters these two arguments may assuage our inclination to encourage others to develop statistical literacy, a slight shift in vantage point affords a fresh perspective.

Continuously encouraging others to expand their statistical skills leads them to think of you as a technical leader and increases your influence throughout the organization, since most colleagues will ask for your guidance in this endeavor. Don't send them to sort through endless resources. **Embrace the spotlight** and steer colleagues through the overwhelming statistical training landscape.

In addition to developing your leadership brand, getting collaborators trained in statistical methods has other benefits. As collaborators and internal customers grow their expertise to address simple and standard statistical applications, you will have more time to explore novel areas of applications throughout your institution and continue developing your own skills. These additional competencies can be marketed as organically gained capabilities.

Your long-term relevance to the organization comes from highlighting how markets change rapidly, there is a need to keep up with new methods, and the evolution of adjuvant technologies will require highly trained data professionals.

Although you are not responsible for the entire learning journey, you should certainly recommend the first three steps: (1) know where to begin; (2)

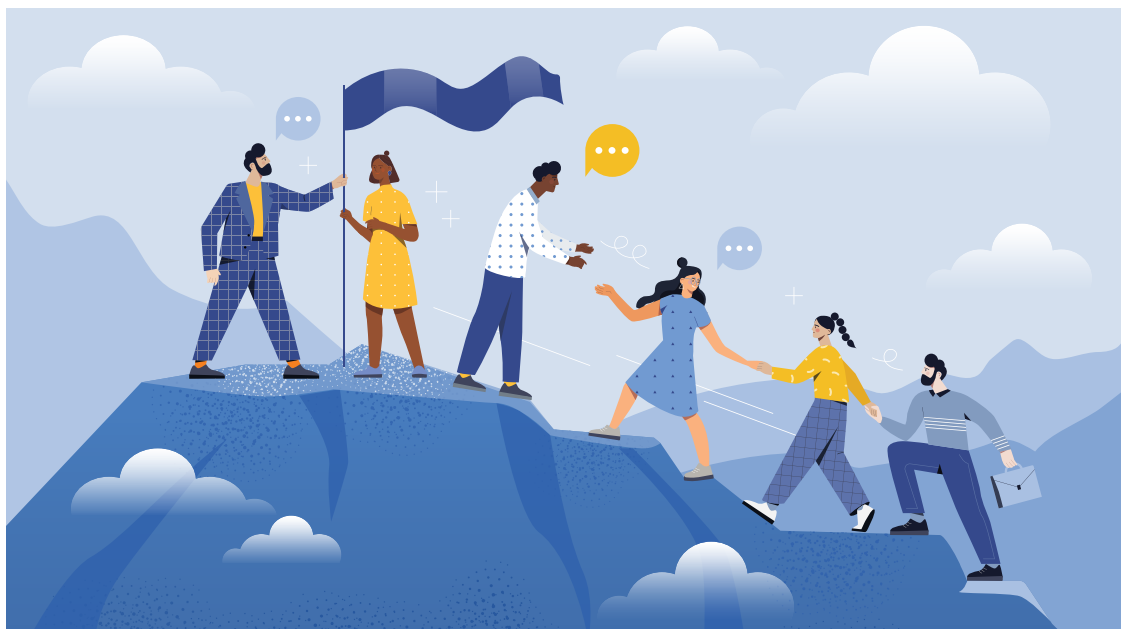
identify the most useful advanced topics; and (3) develop statistical thought processes.

Being specific is extremely helpful when guiding nonspecialists with the first step toward basic statistical literacy. It's ineffective to suggest relearning the basics, and then picking up advanced methods as needed. **Understand individual backgrounds and needs** so you can recommend the best options to facilitate every unique journey and **help colleagues see connections to their work**. High specificity regarding what to learn and good alignment with concurrent work is particularly important to adult learners who believe their training time should be highly focused on the most relevant topics.

As you engage individuals, assess where each person is on their learning path. For example, our organization consists of PhD engineers and scientists with good quantitative backgrounds that typically include courses in basic statistics. This type of technical foundation suggests a little review is sufficient for our colleagues to jump into deeper waters. Yet, we are prepared with a few options for those lacking even the most basic exposition to the field. Recommendations for this group include short courses from vendors or professional societies (American Statistical Association, Royal Statistical Society), MOOCs, or *bone fide* introductory online university courses. Be careful with terminology when assessing an individual's background as some colleagues may claim they understand linear models because they know how to fit a straight line to a scatter plot.

Remember that a little thoughtfulness goes a long way when engaging collaborators who come from a variety of backgrounds. Suggestions can be found in the *Amstat News* article titled "The Right Tone Sustains Productive Dialogue" at <https://bit.ly/3EvMbUN>.

Assist your colleagues as they progress to the second stage of their statistical training journey. Creating a standard curriculum everybody follows is the easiest approach, yet it leads down the wrong path, where learners spend time on methods not relevant to their work, become frustrated, and likely disengage entirely.



Accordingly, selecting the correct methods also requires you to **understand organizational needs**. We recommend design of experiments to deal with high-throughput experimentation to maximize the utility of complex experiments. Mixture designs to optimize formulations are recommended for those developing lubricants and polymer products. This community also benefits significantly from DOE to compare product performance and make marketing claims.

Our process engineers rarely have the luxury of using DOE in expensive manufacturing environments. However, they are flooded with time-stamped data, which naturally elicits the need for time series methods. They also need to improve process performance and determine if products meet specifications. This scenario calls for process capability analysis and statistical quality control.

Analytical chemists characterizing materials find multivariate analysis most useful. They appreciate MVA to such an extent that they have developed the moniker chemometrics to describe the application of statistics in their analytical work. In fact, our analytical chemists are excellent allies, who help proselytize the value of learning statistics for industrial applications.

Advances in user-friendly software greatly facilitate statistical analyses. However, these advances make it easy to misuse methods due to not understanding the fundamentals, including variation,

randomness, and sampling bias. These concepts are critical components of statistical thinking and must be developed.

It is necessary to define research objectives, understand processes to design meaningful data-collection schemes, critically select statistical methodology, assess whether the underlying assumptions are valid, and make inferences from data relative to the objectives. Finally, it is important to communicate results in a way that highlights the central role statistical thinking plays in the entire process.

Missteps should be expected as proper statistical thinking and usage becomes well established. It is therefore important to nurture a culture in which learners are comfortable discussing their work in a judgement-free environment. Initiate study groups in which everyone agrees to behavior and communication norms.

Give participants ownership of their learning. For example, offer a short list of common statistical mistakes and ask them to grow the list. Recommend appropriately accessible books and papers describing these mistakes so learning becomes self-paced. Organize a statistical advisory board consisting of those who are further in their training journey to provide objective advice.

Once again, understanding the organization allows you to recommend the best guardrails to keep collaborators on the right path and keeps you from reworking incorrect analyses. ■

STATS4GOOD

Statistics Without Borders:

Outstanding Leadership and Projects in Data for Good



Matt Brems (he/him) is director of global product and technical excellence at DataRobot. He also founded BetaVector, a data science consultancy. Brems volunteers with Statistics Without Borders, serving on its executive committee as chair.



David Corliss is lead, Industrial Business Analytics, and manager, Data Science Center of Excellence, Stellantis. He serves on the steering committee for the Conference on Statistical Practice and is the founder of Peace-Work.

High-impact projects, volunteer recruiting, development, support, expertly managed projects, and excellent data for good resources freely available to all. By any standard, Statistics Without Borders—an ASA outreach group—is one of the most important Data for Good organizations anywhere.

The idea for Statistics Without Borders grew out of a 2008 JSM panel on activism in global health. That panel—presented by Steve Pierson, Gary Shapiro, Jim Cochran, and Fritz Scheuren—started a conversation that became a project that became a movement.

SWB's list of important projects touches on an array of needs, all with a common goal: enlisting volunteers to use statistics and data science to make a real difference in the world around us.

In their largest project to date, SWB is working with the African Institute for Professional Development, a nongovernmental organization based in Rwanda. The institute aims to close the gap between the skills an individual possesses upon completing their training and the skills an employer expects a newly hired employee

MORE ONLINE

Statistics Without Borders: www.statisticswithoutborders.org

Volunteer sign-up form: <https://bit.ly/3CLMDwW>

New client questionnaire: <https://bit.ly/3MmvL2Z>

Sierra Leone project: <https://bit.ly/3g0M6hX>

Asante Africa: <https://bit.ly/3yww8hC>

Faunalytics: <https://bit.ly/3ywhr2u>

HelpAge International: <https://bit.ly/3VCEVwP>

to have. More than 75 SWB volunteers across six continents have built educational content in statistics/biostatistics, monitoring and evaluation, econometrics, and R programming.

Educational projects are some of the most important D4G activities, making fundamental changes that result in an enduring legacy. SWB has made this content publicly available on their YouTube channel so many can benefit from this knowledge.

This isn't SWB's first educational project in the region. They also worked with the Asante Africa Foundation in Kenya and Tanzania.

Another recent SWB partnership is with HelpAge

International, a network of 158 organizations driven to “promote the well-being and inclusion of older women and men and reduce poverty and discrimination in later life.” HelpAge sought to better understand sustainable development goals indicators as applied to older individuals in India, Sudan, Tanzania, The Gambia, and Ukraine.

Statistics Without Borders provided expertise in data disaggregation to develop a clearer picture of these indicators applied to older individuals. SWB also made recommendations for making this work easier in the future, including minimizing the amount of missing data, providing specific



In 2023, Statistics Without Borders will celebrate 15 years of statistical research, educational programs, and ground-breaking projects that make a real difference for the greater good.

guidance for using multiple imputation in the presence of missing data, and increasing coverage of older individuals in future surveys.

Statistics Without Borders is currently recruiting volunteers. The African Institute for Professional Development project is ongoing. Additionally, SWB plans to add more networking events, publish case studies about their work, build partnerships, and complete more projects in the coming year. You do not need to be an ASA member to participate.

SWB is also eager to accept new project ideas and proposals. Organizations interested in seeking statistical support can contact them by filling out the new client questionnaire.

In 2023, Statistics Without Borders will celebrate 15 years of statistical research, educational programs, and ground-breaking projects that make a real difference for the greater good. Watch this space and their website to learn about how the ASA will honor their work during their anniversary year. Most importantly, check

Getting Involved

The ASA Social Statistics, Government Statistics, and Survey Research Methods sections are holding a competition for student and post-graduate papers. Winners will present their papers at a topic-contributed session at JSM 2023 in Toronto. Submissions are due December 15. For details, visit <https://bit.ly/2rmOdjl>.

out their projects and give some thought to how you can become a part of making a difference for the greater good. ■



ICHPS will take place in Scottsdale, Arizona, January 9–11, 2023.

ICHPS 2023 Offers Opportunities for Professional Growth, Innovative Thinking

ICHPS Outreach Committee Members

The International Conference on Health Policy Statistics will take place in Scottsdale, Arizona, January 9–11, 2023. After a delay due to COVID-19, the meeting will bring practitioners, methodologists, health service researchers, health economists, and policy analysts together to exchange and build on ideas about improving the pipeline of health policy research.

Keynote Speakers

Sherry Glied will share insights on how to connect the dots and turn research evidence into evidence policymakers can use. She will focus on why many efforts to draw policy inferences about best population approaches to mitigate the COVID-19 pandemic failed. She will also argue that, in contrast to the progress made in collecting and analyzing data, the methods we use to organize, aggregate, synthesize, and make sense of those varied observations have hardly changed.

Elizabeth Stuart of the Johns Hopkins Bloomberg School of Public Health will serve as a discussant.

Glied serves as dean of New York University's Robert F. Wagner Graduate School of Public Service. Previously, she held positions at Columbia University's Mailman School of Public Health, the Department of Health and Human Services, and the President's Council of Economic Advisers.

The second keynote will be given by Ziad Obermeyer from the University of California, Berkeley. He will discuss innovative ways we can use machine learning to better understand the

quality of health care being received on a daily basis. In particular, he will show how machine learning may be used to identify over- and under-testing for heart attacks in the emergency room and trace the behavioral underpinning of errors in such decisions to both bounded rationality and systematic biases, suggesting a central role for physician error in generating low-value health care for patients.

A Q&A with Casey Ross, a national technology correspondent at *STAT*, will follow Obermeyer's talk. Ross's reporting examines the use of artificial intelligence in medicine and its underlying questions of safety, fairness, and privacy.

Obermeyer is associate professor and Blue Cross of California Distinguished Professor at the Berkeley School of Public Health. His research and teaching focus on the intersection of machine learning and health. He is a cofounder of Nightingale Open Science, a nonprofit that makes massive new medical imaging data sets available for research, and Dandelion, a platform for artificial intelligence innovation in health. He also continues to practice emergency medicine in underserved communities.

Workshops

The conference will contain 14 training workshops on topics relevant to contemporary health policy research, including the following:

- Causal inference
- Analysis of complex longitudinal data

MORE ONLINE
For more information about the conference and to register, visit <https://bit.ly/3yHOccN>.

- Statistical methods for electronic health record data
- National Center for Health Statistics data linkages and applications
- Navigating US federal health agencies' structure and data
- Structural equation modeling
- Meta-analysis
- Social network analyses
- Observational Health Data Sciences and Informatics collaborative and OMOP Common Data model

These workshops present opportunities for attendees at all levels to obtain new training in areas of interest or improve their current skills in these areas. Topics address all parts of the research pipeline, allowing attendees to upgrade their skills in multiple areas over the course of the first day.

Special Events

On the evening of January 10, there will be a plenary session titled “Reproductive Health Policy IS Public Health Policy.” This session will address the adverse consequences of the Supreme Court’s ruling in *Dobbs v. Jackson Women’s Health Organization* on health care across the US. As such, this session will tackle the pressing public health problem of abortion policy and access post-Dobbs.

Speakers are J. Chris Carey, a retired obstetrician/gynecologist who has worked to ensure access to and education about abortion and contraception, and Amanda Jean Stevenson, a demographer who measures the effects of abortion policy on population health.

This session will address both the clinical and public health aspects of this acute and growing public health crisis, and discussion will center on what we as health policy statisticians can do to help.

On the afternoon of January 10, there will be an anti-racism town hall devoted to understanding what is needed for the ASA to become an anti-racist association and how specific methodological choices affect health policy research in this domain. Attendees will identify opportunities for health policy and health services researchers to advance anti-racist research areas. Most importantly, this session will allow for a robust, honest, and respectful question-and-answer session with a



International Conference on Health Policy Statistics

Upgrading the Pipeline from Health Data to Health Policy

January 9–11, 2023 • Scottsdale, Arizona

panel comprised of ASA Anti-Racism Task Force members. Those in the audience will be encouraged to ask questions about the task force’s activities and recommendations.

On the morning of January 10, our “Meet the Editor” session will bring together editors from top medical and health policy journals to share their experiences, discuss the characteristics of successful submissions, and define what health policy statistics researchers should take care to do (and not do) as they seek to disseminate their work in high-impact publications. The editors include Johan Ayanian, editor in chief of *JAMA Health Forum*; Sharon-Lise Normand, statistics editor at the *New England Journal of Medicine* and *NEJM Evidence*; and John Wong, statistics and modeling editor at the *Annals of Internal Medicine*.

Finally, on the morning of January 11, we will offer a session titled “Unintended Consequences of High-Impact Health Policy Research.” Speakers are Arlene S. Ash and David Etzioni, chair of the department of surgery at the Mayo Clinic, Arizona. They will discuss what happens when novel methods for guiding health policy become adopted in unintended ways, with a particular focus on hospital risk adjustment and surgical quality assessment.

Student Events

In addition to honoring several students with travel awards, the conference committee members are devoted to ensuring students feel welcome. The meeting provides an opportunity for students and other developing scholars to network and engage with leading methodologists in the field via our poster sessions, student luncheon, and roundtables.

Students will receive reduced conference registration, and all workshops will be free for them. In addition, a student luncheon with a career development panel will take place January 10. People working in both academia and industry will be invited to share their experiences and thoughts about career development and answer questions from students. ■

Conference on Teaching Statistics Planned for June; Proposals Wanted

The US Conference on Teaching Statistics will be held at the Penn State in State College, Pennsylvania, June 1–3, 2023, with pre-conference workshops starting on May 30. This conference provides a welcoming and engaging (perhaps even fun) environment in which teachers can exchange ideas and motivate each other to improve their teaching of statistics.

The conference features thought-provoking plenary sessions, interactive breakout sessions, informative posters-and-beyond sessions, and opening and closing sessions with inspiring and

lively five-minute presentations. Other highlights include birds-of-a-feather discussions, a speed mentoring session, an awards ceremony, extensive pre-conference workshops, and exhibitor technology demonstrations.

The conference theme for 2023 is “Communicating With/About Data.” Sessions will explore many aspects of this theme, including teaching students to present data-driven arguments through words, visualizations, and code and helping teachers effectively communicate with their students as they develop their understanding of key statistical ideas.

The US Conference on Teaching Statistics has been held in odd-numbered years since 2005. While the 2021 conference was held virtually due to COVID-19, all sessions in 2023 will be held in person. Consider submitting a proposal for an interactive breakout session, pre-conference workshop, posters-and-beyond contribution, or birds-of-a-feather discussion topic. Deadlines are the following:

- **November 30** for proposing a pre-conference workshop
- **November 30** for proposing an interactive breakout session
- **January 29, 2023**, for proposing a posters-and-beyond contribution if you would like to receive formative feedback before your final submission
- **March 5, 2023**, for final submission of proposals for a posters-and-beyond contribution
- **May 6, 2023**, for proposing a birds-of-a-feather discussion

The conference will also feature a research satellite on May 31 and June 1 that brings together researchers in statistics and data science education to promote and support projects of common interest.

For more information about the conference, visit www.causeweb.org/cause/uscots/uscots23.

Questions may be sent to co-chairs Allan Rossman at arossman@calpoly.edu or Kelly McConville at kmconville@fas.harvard.edu or CAUSE director Dennis Pearl at dkp13@psu.edu. ■



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* Free trial membership is valid for new ASA members only.

COPSS Honors 11 at JSM 2022

Maya Sternberg, COPSS Secretary/Treasurer



The 2022 winners of the COPSS Leadership Academy Award are Xi Chen, Natalie Dean, Davina Durgana, Philip Ernst, Kristian Lum, Lester Mackey, Betsy Ogburn, and Pierre Jacob (not pictured).

Members of the Committee of Presidents of Statistical Societies presented a number of awards at the Joint Statistical Meetings in Washington, DC, on August 10. These awards are jointly sponsored by COPSS founding partner members: the American Statistical Association; Institute of Mathematical Statistics; Eastern and Western regions of the International Biometric Society; and Statistical Society of Canada.

Nancy Reid from University of Toronto was honored with the 2022 COPSS Distinguished Achievement Award and Lectureship. This award recognizes meritorious achievement and scholarship that has a significant impact on the field of statistical science. The award citation recognized Reid for “pioneering contributions to statistical theory and, in particular, to likelihood inference; strong commitment to the promotion of statistical thinking across a range of applications; outstanding service to the statistical profession; and for being a role model, advocate, and mentor to young statisticians.”

Daniela M. Witten of the University of Washington is the winner of the 2022 Presidents’ Award. This award is presented annually to a young member of one of the COPSS participating societies in recognition of outstanding contributions to the profession. The award citation recognized Witten for “bridging the gap between the questions that scientists are asking about their data and

the statistical methods that are available to provide insightful answers, especially in the context of biomedical research; for developing flexible and interpretable approaches for modeling large-scale and high-dimensional data; and for the significant elevation of statistical science via successful translation of statistical ideas to a broad audience.”

The winner of the 2022 Elizabeth L. Scott Award and Lectureship is **Madhu Mazumdar** of Mount Sinai. This award is presented biennially (even years) to recognize an individual who exemplifies the contributions of Elizabeth L. Scott’s lifelong efforts to foster opportunities for women in statistics. The award citation recognized Mazumdar for “serving as an outstanding role model of leadership and creating new leadership opportunities for statisticians; fostering opportunities in statistics and promoting statistical careers for diverse trainees; dedication to training and mentoring the next generation of statistical leaders; and excellence in team science research.”

There were eight winners of the COPSS Leadership Academy Award, which recognizes early-career statistical scientists who show evidence of and potential for leadership in shaping and strengthening the future of the statistics field. The 2022 winners are **Xi Chen, Natalie Dean, Davina Durgana, Philip Ernst, Pierre Jacob, Kristian Lum, Lester Mackey, and Betsy Ogburn.**

For more information about these awards, visit the COPSS website at <https://bit.ly/3T44O6G>. ■

MORE ONLINE

Read the citations for the COPSS Leadership Academy Award winners at <https://bit.ly/3T3Qaws>.

Learn about COPSS Presidents’ Award winner Daniela Witten by reading an interview at <https://bit.ly/3rXefZM>.

Jordan Ellenberg and **Grant Sanderson** will receive the 2023 Joint Policy Board for Mathematics Communications Award during a prize reception at the Joint Mathematics Meetings in Boston, Massachusetts, January 4, 2023.

Sanderson will deliver his award lecture on January 5 at 3:50 p.m., while Ellenberg will deliver his lecture, “Outward-Facing Mathematics,” on January 7 at 10:05 a.m. Additionally, 2022 JPBM Communications Award winner Talithia Williams of Harvey Mudd College will deliver her lecture, “The Power of Talk: Engaging the Public in Mathematics,” January 7 at 1 p.m.

The prize reception and three lectures will be held in Ballroom AB of the Hynes Convention Center.

Ellenberg received the award for his clear and entertaining prose that brings the power and beauty of mathematics to general audiences. In addition to authoring two best-selling books—*How Not to Be Wrong: The Power of Mathematical Thinking* and *Shape: The Hidden Geometry of Information, Biology, Strategy, Democracy, and Everything Else*—he contributes numerous articles to newspapers and magazines in print and online.

Sanderson received the award for 3Blue1Brown, his YouTube channel about discovery and creativity

in mathematics that has more than 4 million subscribers. Topics range from neural networks to information theory to unexpected appearances of pi in analysis and number theory. Through 3Blue1Brown videos and animations, Sanderson presents mathematics as practically valuable and as an art form, rich with inviting stories and arresting images.

Read Ellenberg and Sanderson’s responses to winning the JPBM Communications Award at <https://bit.ly/3S4wbMC>. ■

Trevor Hastie, John A. Overdeck Professor of Mathematical Sciences, professor of statistics, and professor of biomedical data science in the school of humanities and sciences at Stanford University, was recently named the 2022 Myles Hollander Distinguished Lecturer.

Hastie will present “Cross-Validation in Model Selection and Assessment,” on November 9 at 11:00 a.m. at Florida State University. The live talk will also be accessible via Zoom. To register for the virtual talk, visit stat.fsu.edu/HollanderLecture.

Hastie earned his bachelor’s degree from Rhodes University in South Africa in 1976, his master’s degree from the University of Cape Town in 1979, and his PhD from Stanford University in 1984. His research focuses on applied statistics, specifically in the fields of statistical modeling, bioinformatics, and machine learning.

Before becoming a Stanford professor in 1994, Hastie worked at AT&T Bell Laboratories for almost a decade, where he contributed to the development of the statistical modeling environment popular in the R computing system.

Hastie has published six books and more than 200 articles and co-edited a large software library on modeling tools for statistical computing. Recent awards include the Breiman Award from the American Statistical Association in 2020 and the University of Bologna Sigillum Magnum in 2019. Hastie is an elected member of the Royal Netherlands Academy of Arts and Science and the US National Academy of Sciences. He is a fellow of the American Statistical Association, Institute of Mathematical Statistics, and Royal Statistical Society.

The Myles Hollander Distinguished Lectureship was established by Robert O. Lawton, distinguished professor and statistics professor emeritus at Florida State University. The annual lectureship recognizes an internationally renowned leader and pioneering researcher in statistics who has made a sustained impact on the field. The lectures feature topics spanning the breadth of statistics.

To learn more about the lectureship, visit stat.fsu.edu/HollanderLecture. ■

MORE ONLINE

Learn about Jordan Ellenberg at www.jordanellenberg.com and Grant Sanderson at www.3blue1brown.com/about.

Obituary

William “Bill” R. Livingston

ASA member William “Bill” R. Livingston, age 81, of Joplin, Missouri, passed away on July 20, 2022, at Joplin Gardens.

Bill was born on October 26, 1940, in Joplin and grew up in several cities, including Tulsa, Independence, and Joplin. He attended Joplin High School and then went on to earn his master’s in mathematics at the University of Illinois.

Bill taught mathematics at Arkansas State University for several years before moving to Joplin and teaching mathematics at Missouri Southern State College for 41 years, retiring in 2009. He continued for another year as a part-time professor before fully retiring in 2010.

Bill married the love of his life, Carol Swanson, on January 4, 1975, in Joplin. Even though they never had children together, they considered their pets their children. Bill was an avid reader and enjoyed yardwork, adult coloring pages, and cycling.

Read more about Bill’s life at <https://bit.ly/3rTGEjq>.

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

AWARD	DEADLINE	QUESTIONS & NOMINATIONS
David R. Cox Foundations of Statistics Award	December 1	awards@amstat.org
John J. Bartko Scholarship Award	December 2	Questions: Donna LaLonde (DonnaL@amstat.org) Nominations: awards@amstat.org
COPSS Distinguished Lectureship Award, Elizabeth L. Scott Award, and Presidents' Award	December 15	COPSS website (community.amstat.org/copss/home)
Monroe G. Sirken Award in Interdisciplinary Survey Methods Research	December 20	awards@amstat.org
Gottfried E. Noether Awards	January 15	awards@amstat.org
Bob Riffenburgh Award	January 15	awards@amstat.org
Karl E. Peace Award	February 1	awards@amstat.org
W.J. Dixon Award for Excellence in Statistical Consulting	February 15	awards@amstat.org
Harry V. Roberts Statistical Advocate of the Year Award	February 15	awards@amstat.org
Waller Awards	February 15	awards@amstat.org
Samuel S. Wilks Memorial Award	February 15	awards@amstat.org
W.J. Youden Award in Interlaboratory Testing	February 15	awards@amstat.org
Statistics in Physical Engineering Sciences Award	February 20	awards@amstat.org
Gertrude M. Cox Scholarship	February 23	awards@amstat.org
Edward C. Bryant Scholarship Trust Fund	March 1	awards@amstat.org
Excellence in Statistical Reporting Award	March 1	awards@amstat.org
ASA Fellows	March 1	awards@amstat.org
ASA Mentoring Award	March 1	awards@amstat.org
Outstanding Statistical Application Award	March 1	awards@amstat.org
Statistical Partnerships Among Academe, Industry, and Government (SPAIG) Award	March 1	awards@amstat.org
Annie T. Randall Innovator Award	March 15	Sherri Rose (sherrirose@stanford.edu)
Biopharmaceutical Section Scholarship Award	March 15	Biopharmaceutical Community Website (community.amstat.org/biop/awards/scholarship)
Founders Award	March 15	awards@amstat.org
ASA Pride Scholarship	March 31	Donna LaLonde (donnal@amstat.org)
Government Statistics Section Wray Jackson Smith Scholarship	April 1	David Banks (banks@stat.duke.edu)
Causality in Statistics Education Award	April 5	awards@amstat.org
Links Lecture Award	July 1	awards@amstat.org
Dorothy Marie Lamb and Annette Lila Ryne Memorial Scholarship	July 15	awards@amstat.org
Health Policy Statistics Section Achievement Awards	September 15	www.asahealthpolicy.org/for-students
Lester R. Curtin Award	October 15	awards@amstat.org
Deming Lecturer Award	October 15	awards@amstat.org
Lingzi Lu Memorial Award	October 15	awards@amstat.org

Waksberg Award

The journal *Survey Methodology* established an annual invited paper series in honor of the late Joseph Waksberg to recognize his outstanding contributions to survey statistics and methodology. Each year, a prominent survey statistician is chosen to write a paper that reviews the development and current state of an important topic in survey statistics and methodology. The paper reflects the mixture of theory and practice that characterized Joseph Waksberg's work.

The recipient of the Waksberg Award will receive an honorarium and give the 2024 Waksberg Invited Address at the Statistics Canada Symposium, expected to be held in the autumn of 2024. The paper will be published in an upcoming issue of *Survey Methodology* (targeted for December 2024).

The author of the 2024 Waksberg paper will be selected by a four-person committee appointed by *Survey Methodology* and the American Statistical Association. Nomination of individuals to be considered should be sent by email before February 15, 2023, to the chair of the committee, Maria Giovanna Ranalli at maria.ranalli@unipg.it. Nominations should include a CV and a nomination letter. Nominations will remain active for five years.

Previous Waksberg Award honorees and their invited papers can be found at <https://bit.ly/3VuwuDl>. ■

COPSS Awards

President's Award

The Presidents' Award (<https://bit.ly/3VvDboM>) is presented annually to a young member of one of the participating societies of the Committee of Presidents of Statistical Societies in recognition of outstanding contributions to the statistics profession. It is typically granted to an individual who either i) has not yet reached his or her 41st birthday during the calendar year of the award or ii) will be under age 46 throughout the award calendar year and will have earned a terminal statistically related degree no more than 12 years prior to that year (see the committee website at <https://bit.ly/3VxzcYP> for details about eligibility criteria). Nominations must be sent by December 15 to committee chair Michael Kosorok at kosorok@bios.unc.edu, preferably by email in PDF format.

Distinguished Achievement Award and Lectureship

The Distinguished Achievement Award and Lectureship (<https://bit.ly/3T5rN1t>) is given yearly to an individual in recognition of outstanding contributions to statistical methods that have had significant impact on scientific investigations. The 2023 award winner will deliver the lecture at JSM in Toronto, Ontario, Canada. Nominations must be sent by December 15 to committee chair Jianwen Cai at cai@bios.unc.edu, preferably by email in PDF format.

F.N. David Award and Lectureship

The F.N. David Award and Lectureship (<https://bit.ly/3Vrpqrk>) is presented biennially (odd-numbered years) to a female statistician who serves as a role model to other women through excellence in research, the leadership of multidisciplinary collaborative groups, statistics education, or service to the professional societies. The 2023 award winner will deliver the F.N. David Lecture at JSM in Toronto, Ontario, Canada. Nominations must be sent by December 15 to committee chair Kate Crespi at ccrespi@ucla.edu, preferably by email in PDF format.

George Snedecor Award

The George W. Snedecor Award (<https://bit.ly/3EEYQFf>) is presented biennially (odd-numbered years) to honor an individual who has been instrumental in the development of statistical theory in biometry and has a noteworthy publication in biometry within three years of the date of the award. Nominations must be sent by December 15 to committee chair Sebastien Haneuse at shaneuse@hsph.harvard.edu, preferably by email in PDF format.

COPSS Emerging Leader Award

The COPSS Emerging Leader Award (<https://bit.ly/3CZcbqA>) is presented to early-career statistical scientists who show evidence of and potential for leadership and who will help shape and strengthen the field. The award is designed both to call attention to the efforts of these

individuals and to provide a mechanism for them to share their vision for the field with each other and the statistical community. The award will be given each year to a maximum of eight people and will be announced at JSM in Toronto, Ontario, Canada, in 2023. This award, established in 2020, was originally known as the COPSS Leadership Academy. Nominations must be sent by December 15 to committee chair David Haziza at haziza@dms.umontreal.ca, preferably by email in PDF format. ■

Student Paper Awards

Many ASA sections sponsor student paper competitions to reward gifted students and help them mitigate the costs of attending JSM, which is an opportunity for students to get involved in the profession by presenting at the meeting.

Students can submit papers for awards from up to two sections; however, they cannot accept more than one prize.

Papers are due to the sections' award committees by December 15. Winners will be contacted by January 15, 2023. Winners must submit their abstracts via the JSM website at <https://bit.ly/3T7e2PU> by February 1. Some sections schedule their student paper award winners in one JSM session, while others match each winner's topic with a similarly themed session.

Each section's award program varies in the submission

requirements and what the winners receive. Find out which sections sponsor student paper competitions and get links for more information at <https://bit.ly/3g8pQmh>. ■

C. R. and Bhargavi Rao Prize

Members of the Rao Prize Committee are accepting nominations for the C. R. and Bhargavi Rao Prize for Outstanding Research in Statistics. The prize, awarded by the Penn State Department of Statistics, was established to recognize outstanding and influential innovations in the theory and practice of mathematical statistics, international leadership in directing statistical research, and pioneering contributions by a recognized leader in the statistics field.



C.R. Rao

The Rao Prize is awarded in odd-numbered years to an individual selected by the members of the Rao Prize Committee. The honoree receives a medal, cash prize, and invitation to visit Penn State to give a talk.

Nominations should include a letter describing the nominee's outstanding contributions to leadership and research in statistics, a current curriculum vita, and two supporting letters.

Submissions are due December 31 and should be emailed to Murali Haran, head

Recent Rao Prize Honorees

2019: Grace Wahba,
*University of Wisconsin,
Madison*

2017: Donald Rubin,
Harvard University

2015: Sir David Cox,
University of Oxford

2013: Herman Chernoff,
*Harvard University
(emeritus) and MIT*

2011: James O. Berger,
Duke University

of the department of statistics, at murali.haran@psu.edu.

C. R. Rao held the Eberly Chair in Statistics at Penn State from 1988–2001. He now serves as holder emeritus of the Eberly Chair in Statistics. He was the founding director of the Center for Multivariate Analysis. A President's National Medal of Science Laureate, Rao is recognized worldwide as a pioneer of modern statistical theory and one of the world's top five statisticians, with multifaceted distinctions as a mathematician, researcher, scientist, and teacher. His contributions to mathematics and statistical theory and applications have become part of undergraduate and graduate courses in statistics, econometrics, and electrical engineering at universities throughout the world. ■

2022 COCGB Workshop Focuses on Increasing, Diversifying Membership

Nearly 50 representatives and officers from ASA chapters attended the Council of Chapters Governing Board workshop held at the Joint Statistical Meetings in Washington, DC, August 9. This year's workshop focused on the theme *Increasing and Diversifying Chapter Membership* and included presentations from longtime ASA members, as well as break-out sessions for participants to share experiences, generate ideas, and network with others.

The first presentation was by David Marker and Adrian Coles, leaders of the ASA Anti-Racism Task Force, who discussed the committee's findings and recommendations. They advised that individual ASA chapters review their charges, mission statements, and core activities to identify opportunities to promote the development of policy that prioritizes racial-ethnic equity and the anti-racist use of statistics. They also recommended the Council of Chapters actively promote this effort and provide the necessary support for implementation. An ASA traveling course on anti-racism will be developed and proposed to the governing board's traveling course committee.

Alicia Arneson, a PhD student at Virginia Tech working under the mentorship of 2018 governing board chair and current ASA Board representative Alexandra Hanlon analyzed chapter membership trends over time and the effects of the pandemic. Arneson reported that the membership of smaller chapters tended to hold steady over the past several years, while that of larger chapters decreased by approximately 10 percent on average between 2019 and 2020.

Mike Jadoo, diversity chair of the Washington Statistical Society, spoke about successful strategies the society has used to recruit more students, minorities, and other members of the data science community into their organization. He stressed the importance of making the process for potential members to join the chapter as easy as possible and using social media, LinkedIn, meetups, and mentoring activities to diversify membership.

The fourth presenter was Teri Utlaut, chair of the ASA Committee on Membership Retention and Recruitment. She reported the main finding from the focus groups her committee held with a cross-section of ASA members was that making connections is critical for members and there

needs to be a greater focus on increasing inclusive ASA networking opportunities. The committee is in the process of creating "Networking in a Box," a resource that will include tips for pre-event outreach, icebreakers, and other activities for facilitating connections, as well as a repository for sharing successful strategies.

After the four presentations, break-out sessions were held with participants divided into five small groups to discuss the approaches used to increase and diversify membership in their chapters, the challenges they have faced, and new ways to accomplish these goals. Key take-aways and ideas generated from the break-outs were the following:

Challenges

- Retaining and motivating members (e.g., students will come to events without joining the chapter; best ways to attract undergraduates is not clear). Many students also discontinue chapter involvement after graduation
- Difficulty communicating about and increasing awareness of chapter activities.
- Increasing geographic diversity for chapters that cover a large region.
- Engaging statisticians from other sectors (i.e., beyond "ivory tower" of academia)
- Financial barriers.
- Engaging the university (i.e., many don't want to be involved in ASA chapters).
- Variability in chapter leadership affects membership; highly dependent on level of involvement, effectiveness of chapter president. Membership decreases when leadership is less active.

Successful Strategies and New Ideas for Increasing and Diversifying Membership

- Host less formal chapter events in which spouses, partners, friends, and family can join. The presentations at these events can be on a statistical topic, but content should be accessible to a diverse and nontechnical audience.
- Take advantage of opportunities the ASA offers to increase membership such as stimulus funds, traveling course, DataFest.

- Create unofficial titles for people from other sectors to feel welcome and included in the chapter (e.g., “industry representative”).
- Advertise events throughout the broader region; consider adding a hybrid option for each meeting so individuals based in more remote areas can participate.
- Lightning talks are a great way to encourage engagement from industry, government, and academia. This format can be especially useful for graduate students in the early part of their careers because only a five-minute talk is required.
- Promote diversity in leadership positions (chapter officers) and encourage participation in the JEDI outreach group.
- Have the chapter pay for some memberships. This can be done in a variety of ways; one suggestion was through a lottery system.
- Create a statistical consulting group.
- Request from the ASA a list of ASA members in your region and compare with chapter membership list to identify potential new members.
- Contact computer science and business intelligence programs about joining the ASA.
- Hold monthly luncheons on a mix of topics that would be of interest to academia, government, and industry.
- Organize presentations on diversity-focused topics.
- Attract new faculty members by inviting them to organize the spring or fall chapter meeting and select the speaker; use chapter funds for the event.
- Rotate location of meetings and events to attract people from different sectors (e.g., company, university, government office).
- Find opportunities for cross-fertilization between chapters and other ASA events, committees, and sections (e.g., have a chapter-sponsored mixer at the Women in Statistics and Data Science Conference).
- Offer more mentoring activities for students and early-career statisticians.
- More outreach to undergraduates.
- Reach out to community colleges.
- Emphasize both what the ASA can do for you and what you can do for the ASA.

Strategies for Attracting Students

- Leave copies of ASA publications (e.g., *Significance*) where students can physically access them easily.
- Offer food. Pizza is an especially effective way to attract students.
- Create more student chapters.
- Provide a tutoring service.
- Organize a student poster session and get donations to support this event.
- Promote all online presentations to statistics students. Give students extra credit in courses for turning in a summary of the presentation; provide student feedback to speakers.
- Start a Mu Sigma Rho chapter and induct students. Department automatically enrolls the student and pays their membership fee in Mu Sigma Rho, then Mu Sigma Rho will pay the one-year ASA membership as long as the student is in good standing with Mu Sigma Rho.
- Display chapter recruitment posters around campus.
- Communicate with students in classes about the ASA.

Ways ASA Leadership Can Help

- Do more to attract people beyond the statistics field to the ASA.
- Increase diversity in the types of awards given (e.g., math, other data science disciplines).
- Create a “Join an ASA Chapter” recruitment poster that chapter officers can display on their office doors or around their institutions.
- Foster more cross-fertilization between ASA events around the country (e.g., Conference on Statistical Practice, Women in Statistics and Data Science Conference) and local chapters in host cities. This can truly be a win/win. Chapters help advertise the event and encourage attendance; event increases visibility of chapter.
- Communication and awareness about chapter activities are ongoing issues the ASA should help to address.

Ideas for future governing board workshops can be sent to 2023 chair, Mimi Kim, at mimi.kim@einsteinmed.edu or 2023 chair-elect, Jo Wick, at jwicumc.edu. ■

sectionnews

Statistical Computing and Statistical Graphics

The Joint Statistical Computing and Statistical Graphics Section recently honored Douglas Bates with the 2023 ASA Statistical Computing and Graphics Award. The citation reads:

For his fundamental contributions to statistical computing infrastructure; developments of S, R, Julia, and mixed-effects models; and their applications in statistical research and practice.

Bates is an emeritus professor in the department of statistics at the University of Wisconsin-Madison. He earned his PhD in statistics from Queen's University at Kingston in 1978. After being on the mathematics faculty at the University of Alberta, he joined the University of Wisconsin-Madison in 1980 and chaired the department from 1991 to 1994.

Bates has published two books and more than 40 papers. He has served on the editorial boards of the *SIAM Journal of Scientific and Statistical Computing* (1983–1984), *The American Statistician* (1989), *Journal of Computational and Graphical Statistics* (1990–1993), and *Current Index to Statistics* (1998–2003). He

became a fellow of the American Statistical Association in 1992.

Bates has contributed significantly to the development of S and R languages. He is a founding member of the R Development Core Team and is well known for his contribution to the development and implementation of mixed-effects models. He is one of the major developers of the three widely used packages for mixed-effects models: “nlme” (for S and R); “lme4” (for R); and “MixedModels” (for Julia).

The ASA Statistical Computing and Graphics Award is the most prestigious award bestowed by the sections. It recognizes an individual or team for innovation in computing, software, or graphics that has had a significant impact on statistical practice or research. Past award winners include Howard Wainer (2021), Luke Tierney (2019), Bill Cleveland (2016), and Robert Gentleman and Ross Ihaka (2010).

The award committee consisted of Usha Govindarajulu and Jun Yan, the past and present chairs of the Section on Statistical Computing, and Simon Urbanek and Ed Mulrow, the past and present chairs of the Section on Statistical Graphics.

The award will be presented at the 2023 Joint Statistical

Meeting. Additionally, there will be an invited session honoring Bates, organized by Yazhen Wang, at JSM 2023. ■

Biometrics

The Biometrics Section is seeking candidates for the following open positions, to be voted on during the 2023 election. In addition to elected positions, the section has appointed positions and volunteer opportunities available.

Elected Positions

- Chair-elect (terms would be chair-elect 2024/chair 2025/past chair 2026)
- Representative to the Council of Sections (2024–2026)

Appointed Positions in the Executive Committee

- Biometrics Section representative to the ENAR Program Committee (for ENAR 2024)
- Biometrics Section representative to the JSM Program Committee (for JSM 2024)

Other Opportunities

- Byar Award committee member

Contact 2023 chair-elect, Jennifer Bobb, at Jennifer.F.Bobb@kp.org for more information. ■

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>.

California

■ The department of statistics (www.stat.uci.edu) in the Donald Bren School of Information and Computer Sciences (ICS) at the University of California, Irvine (UCI) invites applications for a tenure-track/tenured faculty position at the assistant, associate, or full rank level beginning July 1, 2023. The review of applications will begin November 11, 2022, but applications will be accepted until November 30, 2022. Please visit <https://recruit.ap.uci.edu/JPF07815> to apply.

Florida

■ The department of statistics at Florida State University invites applications for two assistant professor positions in biostatistics starting August 2023. A doctoral degree from an accredited institution in statistics, biostatistics, or a related field with a demonstrated record of achievement in teaching and academic research is required. Please apply at <http://jobs.fsu.edu> (Job ID 53039). The deadline is 02/01/2023. Three letters of recommendation are required. FSU is an Equal Opportunity/Access/Affirmative Action/Pro Disabled & Veteran Employer. FSU's Equal Opportunity Statement can be viewed at: <https://tinyurl.com/ahanbe5f>.

■ The department of statistics at Florida State University invites applications for an assistant professor position in statistics starting August 2023. A doctoral degree from an accredited institution in statistics, biostatistics, or a related field with a demonstrated record of achievement in teaching and academic research is required. Please apply at <http://jobs.fsu.edu> (Job ID 53063). The deadline is 02/01/2023. Three letters of recommendation are required. FSU is an Equal Opportunity/Access/

Affirmative Action/Pro Disabled & Veteran Employer. FSU's Equal Opportunity Statement can be viewed at <https://tinyurl.com/ahanbe5f>

Pennsylvania

■ The Wharton Statistics and Data Science Department, University of Pennsylvania, seeks full-time, tenure-track or tenured faculty at any level: assistant, associate, or full professor, appointment beginning July 2023. Applicants must show outstanding capacity in research and teaching, and have a PhD (expected completion by June 30, 2024 is acceptable) from an accredited institution. Visit our website to apply: <https://whr.tn/2Nii3hH>. Questions can go to statistics.recruit@wharton.upenn.edu. The University of Pennsylvania is an EOE. Minorities / Women / Individuals with disabilities / Protected Veterans are encouraged to apply.

Texas

■ Four open-rank tenure-track (<http://apply.interfolio.com/106555>) and four instructional-track (<http://apply.interfolio.com/109514>) positions are open for applications in the Department of Epidemiology and Biostatistics, School of Public Health

(CEPH-Accredited), Texas A&M University. Texas A&M is an R1 Carnegie Classification, Association of American Universities (AAU) state-funded institution with triple designation as a land-, sea-, and space-grant university. Cluster hires are possible, and salary will be commensurate with experience. The Department of Statistics and Data Sciences at The University of Texas at Austin invites applications for a faculty position to begin in fall 2023. Qualifications include a PhD in statistics or related field with research interests in any area of statistical applications, theory, or methods. Details and application are available here: <http://apply.interfolio.com/112959>. EOE

International

■ The Department of Statistics and Actuarial Science, University of Waterloo invites applications for a tenure-track or tenured position in actuarial science or quantitative finance. Candidates must have a PhD in actuarial, statistical or mathematical sciences, finance or risk management. Apply through (www.mathjobs.org/jobs/list/20594). Include cover letter, CV, research/teaching statements, up to three reprints/preprints and three reference letters. Full advertisement

<https://bit.ly/3Tscy2t>. Closing: November 15, 2022.

The University regards equity and diversity as an integral part of academic excellence and is committed to accessibility for all employees. We encourage applications from candidates who have been historically disadvantaged and marginalized, including applicants who identify as Indigenous peoples, Black, racialized, people with disabilities, women and/or 2SLGBTQ+.

■ The Department of Statistics and Actuarial Science, University of Waterloo invites applications for 4 tenure-track or tenured positions in statistics, biostatistics or data science. Candidates must have a PhD in statistics, biostatistics or a related area. Apply through (www.mathjobs.org/jobs/list/20593). Include cover letter, CV, research/teaching statements, up to three reprints/preprints and three reference letters. Full advertisement <https://bit.ly/3CWBUjk>. Closing: November 15, 2022.

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■ The Department of Statistical and Actuarial Sciences, in the School of Mathematical and Statistical Sciences, Faculty of Science at Western University in London, Ontario, Canada is pleased to announce a search for a probationary (tenure-track) position in financial analytics at the rank of assistant or associate professor. For more details see: <https://bit.ly/3rUngCW>. ■

MSRI/SLMath: Call for Applications

ADJOINT 2023 (June 19-30, 2023)

The Mathematical Sciences Research Institute (MSRI), now becoming the Simons Laufer Mathematical Sciences Institute (SLMath), invites applications for its 2023 African Diaspora Joint Mathematics Workshop in Berkeley, California. ADJOINT is a two-week summer program designed to provide opportunities for in-person collaboration to U.S. mathematical and statistical scientists, especially those from the African Diaspora, who will work in small groups with distinguished African-American research leaders on topics at the forefront of mathematical and statistical research.

Full details of eligibility, applications, deadlines, funding, and 2023 research leaders and topics will be posted online. Applications are expected to open on MathPrograms.org by October 2022 and close in mid-December 2022. Accepted participants will receive support for one round-trip travel to Berkeley, lodging and meal expenses, as well as opportunity for future conference travel. SLMath has dedicated family support funds for participants with children age 17 and under.

msri.org/adjoint



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Institute of Statistical Science, Academia Sinica, Taiwan

Tenure-Track Faculty Positions

The Institute of Statistical Science of Academia Sinica is pleased to invite applications for our tenure-track faculty positions. Academia Sinica, the most preeminent academic research institution in Taiwan, offers a secured research environment facilitated with rich collaboration opportunities as well as the freedom of conducting independent research. With a strong tradition of theoretical and interdisciplinary research, the Institute of Statistical Science is aiming for global excellence in mathematical statistics and various statistical applications.

Applications are invited for tenure-track appointments as Full/Associate/ Assistant Research Fellows (equivalent to Full/Associate/Assistant Professors in Universities) at the Institute of Statistical Science to commence on August 1, 2023 or as soon as possible thereafter. Applicants should possess a Ph.D. degree in Statistics, Biostatistics, Computer Science, Data Science or related areas, and should submit: (1) a cover letter, (2) an up-to-date curriculum vita, (3) a detailed publication list, (4) a research proposal, (5) three letters of recommendation, (6) representative publications and/or technical reports and (7) advisers' names of master and PhD degrees. Additional supporting materials such as transcripts for new Ph.D. degree recipients may also be included. Electronic submissions are encouraged. Applications should be submitted to

Dr. Hsin-Chou Yang
Chair of the Search Committee
Institute of Statistical Science,
Academia Sinica
128 Sec. 2 Academia Road, Taipei
11529, Taiwan, R.O.C.
Fax: +886-2-27886833
E-mail: recruit@stat.sinica.edu.tw

Application materials should be received by **December 16, 2022** for consideration, but early submissions are encouraged.

The Department of Statistics at North Carolina State University in Raleigh, North Carolina seeks to hire multiple tenured/tenure-track faculty. All ranks will be considered. The start date is August 2023.

Applicants with interests and expertise in theoretical or methodological research in any area of statistics or biostatistics will be considered. Candidates with interests in data science, machine learning, and modern methods of data analysis more generally are encouraged to apply. The ability and desire to supervise graduate student research and to pursue excellence in teaching are essential. To apply, please visit: <https://jobs.ncsu.edu/postings/169840>

The Department provides a dynamic environment for teaching, research and collaborations across disciplines. This position will be expected to foster an environment that is supportive, welcoming of all groups, and abides by our cultural and behavioral aspirations.

Please visit <https://sciences.ncsu.edu/about/strategic-planning/culture-charter>. We are interested in candidates who have a demonstrated commitment to improving access to higher education for students from underrepresented groups.

The Department's location in the Research Triangle provides rich opportunities for interactions with industry; other universities, including Duke University and the University of North Carolina at Chapel Hill; and government agencies. Faculty enjoy collaborations with medical researchers at Duke, environmental scientists at the EPA research facility, pharmaceutical researchers at Glaxo-SmithKline, and software developers at SAS Institute, among many others.

All applicants must have a Ph.D. in Statistics, Biostatistics, Data Science, or a related field by the time of employment. Review of applications will begin soon and will continue until the positions are filled. Questions about the search may be directed to the Search Committee Chair: group-stats-search@ncsu.edu

NC State University promotes equal opportunity and prohibits discrimination and harassment based upon one's age, color, disability, gender identity, genetic information, national origin, race, religion, sex (including pregnancy), sexual orientation and veteran status.

UNITED STATES POSTAL SERVICE® Statement of Ownership, Management, and Circulation (All Periodicals Publications Except Requester Publications)

1. Publication Title Amstat News	2. Publication Number 0 1 6 3 - 9 6 1 7	3. Filing Date 9/27/2022
4. Issue Frequency Monthly	5. Number of Issues Published Annually 12	6. Annual Subscription Price n/a
7. Complete Mailing Address of Known Office of Publication (Not printer) (Street, city, county, state, and ZIP+4®) American Statistical Association, 732 North Washington Street, Alexandria, VA 22314-1943		8. Annual Subscription Price Telephone (include area code) 703 684-1221
8. Complete Mailing Address of Headquarters or General Business Office of Publisher (Not printer) American Statistical Association, 732 North Washington Street, Alexandria, VA 22314-1943		
9. Full Names and Complete Mailing Addresses of Publisher, Editor, and Managing Editor (Do not leave blank) Publisher (Name and complete mailing address) American Statistical Association, 732 North Washington Street, Alexandria, VA 22314-1943 Editor (Name and complete mailing address) Megan Murphy, 732 North Washington Street, Alexandria, VA 22314-1943 Managing Editor (Name and complete mailing address) Megan Murphy, 732 North Washington Street, Alexandria, VA 22314-1943		
10. Owner (Do not leave blank. If the publication is owned by a corporation, give the name and address of the corporation immediately followed by the names and addresses of all stockholders owning or holding 1 percent or more of the total amount of stock. If not owned by a corporation, give the names and addresses of the individual owners. If owned by a partnership or other unincorporated firm, give its name and address as well as those of each individual owner. If the publication is published by a nonprofit organization, give its name and address.) Full Name Complete Mailing Address American Statistical Association 732 North Washington Street, Alexandria VA, 22314-1943		
11. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages, or Other Securities. If none, check box <input checked="" type="checkbox"/> None Full Name Complete Mailing Address		
12. Tax Status (For completion by nonprofit organizations authorized to mail at nonprofit rates) (Check one) The purpose, function, and nonprofit status of this organization and the exempt status for federal income tax purposes: <input type="checkbox"/> Has Not Changed During Preceding 12 Months <input type="checkbox"/> Has Changed During Preceding 12 Months (Publisher must submit explanation of change with this statement)		

13. Publication Title Amstat News	14. Issue Date for Circulation Data Below September 2022	
15. Extent and Nature of Circulation	Average No. Copies Each Issue During Preceding 12 Months	No. Copies of Single Issue Published Nearest to Filing Date
a. Total Number of Copies (Net press run)	13480	12979
(1) Mailed Outside-County Paid Subscriptions Stated on PS Form 3541 (include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	11894	11466
b. Paid Circulation (By Mail and Outside the Mail)		
(2) Mailed In-County Paid Subscriptions Stated on PS Form 3541 (include paid distribution above nominal rate, advertiser's proof copies, and exchange copies)	0	0
(3) Paid Distribution Outside the Mails Including Sales Through Dealers and Carriers, Street Vendors, Counter Sales, and Other Paid Distribution Outside USPS®	1157	1054
(4) Paid Distribution by Other Classes of Mail Through the USPS (e.g. First-Class Mail®)	0	0
c. Total Paid Distribution (Sum of 15b (1), (2), (3), and (4))	13051	12520
d. Free or Nominal Rate Distribution (By Mail and Outside the Mail)		
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(4) Free or Nominal Rate Distribution Outside the Mail (Carriers or other means)	0	0
e. Total Free or Nominal Rate Distribution (Sum of 15d (1), (2), (3) and (4))	0	0
f. Total Distribution (Sum of 15c and 15e)	13051	12520
g. Copies not Distributed (See Instructions to Publishers #4 (page #3))	429	459
h. Total (Sum of 15f and g)	13480	12979
i. Percent Paid (15c divided by 15f times 100)	100	100
16. Publication of Statement of Ownership <input type="checkbox"/> If the publication is a general publication, publication of this statement is required. Will be printed in the November 2022 issue of this publication. <input type="checkbox"/> Publication not required.		
17. Signature and Title of Editor, Publisher, Business Manager, or Owner Megan Murphy		Date 09/27/2022
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Senior Research Fellow Program for 2023

ASA, in cooperation with the Bureau of Labor Statistics (BLS) the Bureau of Economic Analysis (BEA) and the National Center for Health Statistics (NCHS) under a grant from the National Science Foundation (NSF) is pleased to announce a Senior Research Fellow Program for 2023.

The Fellowship Program at BLS allows research fellows to work remotely and use BLS data and interact with BLS staff. More information is available on the BLS website at <https://bit.ly/3fyk3zl> or in our brochure at <https://bit.ly/3Tge2Nc>.

Application Deadline: January 9, 2023

The Fellowship Program at BEA offers a unique opportunity to perform research at the Bureau of Economic Analysis or work remotely. BEA produces key economic statistics that influence government policy, forecasting and business investment. Fellows will have access to BEA data and the expertise of BEA staff. More information is available at: <https://bit.ly/3rOOivE> or in our brochure at <https://bit.ly/3MrDY63>.

Application Deadline: January 9, 2023

The National Center for Health Statistics created the ASA & NCHS Research Fellowship Program to bridge the gap between academic scholars and government health research programs. Fellows are able to work onsite at NCHS or remotely to solve methodological problems and study analytical issues relevant to NCHS programs, data, and facilities. More information is available at <https://bit.ly/3rKgWxO> or in our brochure at: <https://bit.ly/3yxjrQV>.

Application Deadline: December 12, 2022

ELIGIBILITY

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

CONDITION OF APPOINTMENT/BENEFITS

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This month's Top 10 is the 'Top Ten **Reasons Why I, Ron Wasserstein, Should Not Be in Charge of Everything.**'



Wasserstein

Amstat News continues its hilarious offering by ASA Executive Director Ron Wasserstein. Each month, he delivers a special Top 10—one that aired during a recent edition of the *Practical Significance* podcast. This month's Top 10 is the "Top Ten Reasons Why I, Ron Wasserstein, Should Not Be in Charge of Everything."



To listen to the *Practical Significance* podcast, visit <https://magazine.amstat.org/podcast-2>.

10



Mute buttons would work on sentient beings.

09

Every time a new streaming service is created, all others have to lower prices by at least 20 percent.

08

My opinions would be considered facts. (That's very 2022, yes?)

FACT

07

No more use of statistical significance, but you knew I would say that.

06

Free tacos, and not just on Tuesdays.



05

Owners of sports franchises whose teams consistently lose more than they win either have to suit up and play or sell the franchise.



04

No new iPhones until I have had mine for two years.



03

People would be required to behave socially on social media.

02

All seats on every plane are first class, but no one who tries to carry on luggage that clearly won't fit gets to fly.

#01

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— Randy LeVeque, SIAM Member, Fellow, and Board Member

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