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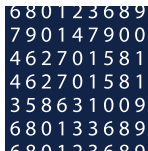**Innovative sessions focus on the following six tracks:**

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MARCH 2022 • ISSUE #537

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

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

features

columns

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

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

Sir David Cox, Prominent British Statistician and Inaugural Recipient of the International Prize in Statistics, Has Died

We were saddened to hear the news of the passing of Sir David Cox on January 18, 2022. He will be remembered for his towering intellectual contributions that have benefitted many fields of research. Read about his work: *https://bit.ly/3oDGEmk*.

IN MEMORIAM Sadly, **L. Adrienne Cupples, Kooros Mahjoob-Behrooz,** and **Peter "Tony" Lachenbruch** also passed away recently. To read these members' obituaries, visit *http://magazine.amstat.org*.

Virtually Teach Kids About Data Science

Teachers, do you teach data and data visualization to kids? The Data4Kids project provides five "data stories" teachers can share with their students. Each story is a starter kit for educators who teach in different grades. For information, check out the Urban Institute's Data4Kids website at *https://urbn.is/3gTQvjV.*

ASA Data Visualization Poster Competition

Winners of the competition will have the best poster containing two or more related graphics that summarize a set of data, look at the data from different points of view, and answer specific questions about the data. This competition is divided into separate competitions for grades K–3, 4–6, 7–9, and 10–12. Deadline is April 1. *https://bit.ly/34VmGNg*

Correction

In the January issue of *Amstat News*, Pat Doyle was incorrectly referred to as Pat Dixon in "My ASA Story: Jana Asher, Assistant Professor and Director of Statistics Education." We regret the error.

member news

As a statistician, what is your favorite app to help you do your work?

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Prizes Recognize and Celebrate Our Innovators

A decade ago, our community recognized the need for the International Prize in Statistics (*https://statprize.org*). Absent a Nobel prize or Fields medal, there were limited ways to feature the best among us and the innovation they bring to our field.

The founding societies—namely the ASA, Royal Statistical Society, International Statistical Institute, Institute of Mathematical Statistics, and International Biometric Society—established the International Prize in Statistics Foundation to separate the awardee and process from the day-to-day activities of the associations. Guy Nason of Imperial College London currently chairs the foundation.

In addition to international recognition, the awardee is provided a sum of $80,000 directly from the societies.

The International Prize is awarded every other year, with awardees to date including the late Sir David R. Cox (2017), Brad Efron (2019), and Nan Laird (2021). Although I was unable to travel to the World Statistics Conference (WSC) in 2017 to hear Cox, I have fond memories of sitting in the amphitheater in Malaysia at the WSC as Efron gave his prize remarks remote from Palo Alto to a mesmerized audience.

He spoke about the next frontier of deep learning, reminding us that deep learning models are recognizable regression functions, and the AI field moving past prediction and possibly back to inference and causality. Efron also pointed to others who might have won in the past if such an award existed, calling out my academic grandfather Emanuel Parzen and academic great aunt Grace Wahba, among others, and reminding me of my accomplished lineage!

I also watched as the presidents of the statistical associations celebrated the event together, never imagining I would one day be one of them.

For many of us, this was also the last in-person conference, as the pandemic soon became reality. Indeed Laird's remarks were presented virtually, but quite compellingly, as she addressed the importance of longitudinal studies with direct links to survival analysis and the bootstrap, the foci of the first two prizes, respectively.

New to the statistics prize landscape is the Rousseeuw Prize in Statistics (*www.rousseeuwprize.org*), which will be awarded for the first time this year and every other year thereafter. **Nominations are due March 31.** Peter Rousseeuw speaks to his reasons for establishing this prestigious $1 million prize below. Together, the two prizes constitute an opportunity to truly recognize and celebrate our innovators.

I reached out to Rousseeuw **(PR)** and Nason **(GN)** to get their thoughts about our field and capture their unique perspectives on each prize.

What advice would you give to students and early-career statisticians who want to make an impact through the field of statistics?

PR: A crucial element is choosing the problem you will work on. If at all possible, try to work on a topic that people care about, whether they realize what they need or not.

GN: I think a key thing to remember is that there are many routes to follow to make an impact in statistics; there isn't just one. People can progress ideas in theoretical, methodological, computational, and application areas, as well as many cross-areas such as medical statistics, economic statistics, and environmental statistics.

What areas of research are you most excited about? This could be your own research or other areas of research in statistics that you find particularly interesting at this time.

PR: My own research nowadays centers on cellwise outliers. That is, cases (rows of the data matrix) may contain a few entries that have been recorded wrongly, but the remaining entries still contain useful information you want to preserve. I'm also interested in visualizing classification results and in fast algorithms for a variety of methods. To avoid the appearance of a conflict of interest, I cannot comment on work by other people here.

GN: Many areas and too many to mention here. I find work in causal inference very exciting, but also the interface between statistics and machine learning. I am also excited by the increasing profile of graphs (networks) in different statistical applications.

What do you see on the horizon for the field of statistics, say 5, 10, 20 years out?

PR: That we, as statisticians, will continue to tackle difficult problems whose solution is directly or indirectly beneficial to society. And that we will get better at communicating statistical results to the public.

Katherine Ensor

Peter Rousseeuw

Guy Nason

Peter, I have to say this is exactly my perspective, and what I see in action every day!

GN: It's been going on for a while, but I see an increasing coalescence between statistics, probability, and parts of computer science and electrical engineering. This might mean the birth of new structures that include these disciplines in new units and, perhaps, even splitting from their existing homes. Some organizations in the world have done this, or are in the process of doing so, and it will be interesting to see how they develop.

For those who are just learning about the [Rousseeuw] prize, what are the goals, and how will the entries be judged?

PR: The goal is to award pioneering work in statistical methodology—an outstanding contribution that has had significant impact and found wide application in statistical practice—with relevance to society. The focus is on the innovation, rather than a single individual. This allows recognition of several individuals who made important contributions to the innovation. In the long run, it is hoped that the prize promotes awareness of the important role and intellectual content of statistics and its profound impact on human endeavors—and to make statisticians proud.

Nominations should be submitted to the website *rousseeuwprize.org* by March 31, after which they will be evaluated by an international selection committee consisting of 10 reputed statisticians. The identities of the committee members will be communicated when the prize is announced. The award ceremony is planned for 2022, and the prize will continue in even years.

What motivated you to give so generously to recognize the contributions of statisticians? Why is this the right time for another grand prize in statistics?

PR: Like many colleagues, I'm a big fan of all sciences, and I used to read most of *Scientific American*. But already as a graduate student, I was disappointed with the lack of recognition for statistical research. Part of this is due to the typical modesty among statisticians, and our field is wedged between more abstract disciplines and more lucrative ones. But the existence of prestigious awards also has an effect. The fact that some disciplines have Nobel prizes has certainly helped them, as the visibility of such awards sparks the imagination, which attracts students, good researchers, funding, and so on. For some disciplines without a Nobel prize, the gap has been filled by other initiatives, like the Abel, Shaw, and Breakthrough prizes for great achievements in mathematics.

For about 40 years, I was hoping a Nobel-sized prize would be created for statistics, but it never happened. So, I decided to take the initiative myself by giving part of my earnings as a statistician back to the field.

It would have been preferable had such a prize started a century ago, but 2022 is also an interesting point in time. Statistical work on the pandemic has been covered extensively in the media. Also, a lot of statistical research is being done by people who do not necessarily identify as statisticians and under different flags such as data science, big data, and so on. Creating a large prize for statistics, defined broadly to encompass all those endeavors, will hopefully encourage a more unified view of the various strands.

What is the purpose of the International Prize in Statistics, and how are the recipients selected?

GN: I would direct you to the prize's website (*statprize.org*). The prize "recognizes an individual statistician or team of statisticians for a single work or body of work" and "powerful and original ideas will be the focus of the award, but a practical and positive effect on the world's population will be factored into the selection criteria."

The prize is awarded biennially at the World Statistics Congress of the International Statistical Institute. The prize foundation appoints members of the organizing committee, who then appoint the selection committee. The selection committee is responsible for selecting the recipient(s) of the prize.

We go to great lengths to ensure the selection process is fair, free from external influence, and as transparent as possible. The foundation members are nominated by the five founding societies, and the two-layer structure is intended to give some separation between the prize and any potential influence from the founding societies.

How does having a second grand prize in statistics help promote the value and impact of statistics?

GN: The foundation warmly welcomes having a second grand prize in statistics. It's wonderful, and its establishment can only further recognise the value and impact of statistics. Most people reading this understand the immense value statistics brings to the world, but both prizes do (and will) convey that value to a worldwide audience.

As always, take care, and I send well wishes for a fantastic March. And for those of you traveling to Houston for ENAR at the end of March, welcome to our wonderful city!

Kathy B. Ensor

Significance Editorial Board in Need of ASA Member

Significance magazine publishes stories about statistics and data science that are written by experts for everyone. Currently needed is an ASA member who is an expert statistician or data scientist to join the magazine's editorial board.

Editorial board members are volunteers who help shape and steer the content of *Significance.* They develop article ideas, identify potential contributors, review submissions prior to publication, and write articles of their own. They support the editor of the magazine in ensuring published articles are engaging and accessible to a broad audience of readers, including nonexperts, and that statistical/data analytic methods and concepts are used and discussed appropriately.

As a joint publication of the Royal Statistical Society, American Statistical Association, and Statistical Society of Australia, *Significance* board members are appointed from among the memberships of the three societies.

The ideal candidate is an ASA member available to serve a three-year term who has the following:

- Expertise and experience working in an area of statistics/data science

- Experience explaining statistical/data analytic methods, concepts, and applications to diverse, nonexpert audiences

- Commitment to the goal of publishing accessible and engaging articles about statistics and data science

If you are interested in finding out more about this role, email *significance@rss.org.uk.* To apply, send a cover letter containing a brief biographic sketch and up to two examples of nonacademic writing to *significance@rss.org.uk.*

The closing date for applications is March 31. ∎

Competition Open for Statistical Excellence Award for Early-Career Writing

In 2022, the editor of *Significance* magazine, Brian Tarran, is inviting early-career statisticians and data scientists to use data and statistics to tell the stories that matter most to them—whether those stories are about politics, health, crime, education, industry, environment, or entertainment.

Tarran is looking for writers who can explain to readers how statistics and data science help us understand the issues we face, how they shine new light on old problems, and how they help us make better decisions in the face of uncertainty.

If you have such a story to share, submit it to the Statistical Excellence Award for Early-Career Writing competition, organized by *Significance* and the Young Statisticians Section of the Royal Statistical Society. This international award celebrates career-young statisticians, data scientists, and researchers who can demonstrate the skills necessary for effective communication and who recognize the importance of explaining statistics to nonexperts.

Submissions are welcome from the following:

- Students studying for a first degree, master's, or PhD in statistics, data science, or related subjects

- Graduates whose first degree, master's or PhD in statistics, data science, or related subjects was not more than five years ago

Competition entrants will submit their best statistical writing in the form of a magazine article (1,500 to 2,500 words) on any subject they like. Articles will be reviewed by a judging panel, and the winning entry (and up to two runners-up) will be published by *Significance* later this year.

The deadline to enter is May 31.

Visit the *Significance* magazine website at *www.significancemagazine.com/640* for competition details and an entry form.

2✔23
ASA BOARD OF DIRECTORS
CANDIDATES

The ASA announces the candidates for the 2022 election. Voting begins April 11 and runs through May 2. Make sure to look for your ballots in your email inbox.

Running for President-Elect 2023–2024

BONNIE GHOSH-DASTIDAR
RAND CORPORATION

I am humbled and honored to be a candidate for ASA president. To this position, I bring a passion for service, unwavering optimism, and a deep commitment to the well-being of our ASA community. I hope to strengthen the ASA by focusing on the principles of community, collaboration, and opportunity.

Community: My first experience in community building grew out of a need for camaraderie in a small college town 8,000 miles from home. As the current head of the RAND Statistics group, I am committed to growing a small yet strong community of statisticians and data scientists. I have found that a critical part of being an effective leader is to ensure everyone has a voice in decision-making. I strongly believe in the collective strength of diverse people and perspectives.

Collaboration: Collaborating across communities is both an important skill and a great joy for statisticians. In the words of John Tukey, "The best thing about statistics is that you get to play in everyone's backyard." Working as a statistician in a think tank with broad scope has required me to find a common language in interdisciplinary teams. I believe we need to work together across disciplines and silos to tackle the biggest challenges of the day.

Opportunity: I was raised in Kolkata in a family that encouraged boys and girls to dream. Being of service to humanity was inspired by my parents' commitment to helping the disadvantaged. As a first-generation immigrant working in statistics and data science, I know opportunity can change your life and career path. The support I received has made me passionate about paying it forward by creating opportunity for early-career colleagues and students. My experiences have taught me how to advocate for statisticians to take on roles not just as skilled technicians, but as thought leaders on teams and in organizations.

Read more about my specific goals and ASA experience at *www.rand.org/bonnieforASApresident.* ◼

Running for President-Elect 2023–2024

AMARJOT KAUR
MERCK

I am inspired by the contributions statistics has made to public health during this COVID-19 crisis. From disease modeling to development of vaccines to informing sound policy, our collective impact is felt throughout business and industry, government, and academe. I have felt pride working on clinical trials that may lead to better outcomes for patients. It is with great hope and sense of service that I am excited to be a candidate for ASA president.

Among many important areas for promoting our profession of statistics like diversity and equity, I would like to work with you on three focused areas:

Agile Statistical Connections Across Nations are needed to understand, interpret, and report on global challenges. Statisticians around the world have been sharing information for making pandemic assessments and informing sound policy. We can help build even stronger networks for statisticians around the world through ASA educational ambassadors, committees, student chapters, and sections to better prepare for future challenges and advance our profession.

Collaboration and Communication Across Industry, Government, and Academia are essential to solve real-world problems and foster innovation, as we have seen with partnerships to address the COVID challenge. I have worked with nonstatisticians and seen the impact of harnessing diverse ideas and communicating effectively. We need to continue to bring statistical thinking to other disciplines and invite them to our backyard.

Engaging and Mentoring Our Younger Generation will prepare our leaders of tomorrow. Let us expand the engagement of students and counselors to showcase statistics, a pillar of data science and machine learning, as a versatile and rewarding career. The future of our profession depends heavily on our success here.

I offer more details at *https://amarjotkaur.wixsite. com/akaurforasapresident* and welcome your suggestions. It would be my honor to serve you if given the opportunity. ■

Running for Vice President 2023–2024

KATHERINE (JENNY) THOMPSON
US CENSUS BUREAU

I have been a 'news junkie' since my undergraduate days at Oberlin College. The past 30+(!) years as a statistician in the federal statistics services have intensified this addiction, given the daily presence of our statistics in the national news.

How does this relate to my candidacy for vice president of the ASA? Access to timely, relevant, and accurate statistics affects all areas of our lives, from personal decisions about health and lifestyle choices to wide-ranging policy decisions. Statistical models underlie common daily predictions. Yet even a casual news reader can see the field of statistics is under assault. Values and methods are publicly challenged, as is the data. Attempted political interference tests agency leaders. Data science has become a sexy alternative for students and practitioners.

The ASA has a historic role in expanding statistical methods, promoting programs, facilitating networks, and enhancing education. As vice president, I would like to work on the following:

- Actively promoting the Ethical Guidelines for Statistical Practice in a variety of accessible forums

- Developing a plain language industry standard on the role of statistical methods in data science and collaborating with educators (all levels) to implement this standard

- Encouraging publication of statistical methods and applications in peer-reviewed journals

- Expanding diversity in the field through educational initiatives, scholarships, and increased opportunities for conference attendance and participation—in person or remotely

I joined the ASA in 1994 for the discounted JSM registration rate, but quickly recognized the—tangible and intangible—membership benefits. I am coeditor of the *Journal of Survey Statistics and Methodology* and a member of several sections. I also recently completed overlapping tenures on the GSS [Government Statistics Section] executive board (six years) and ICES-VI Program Committee (cochair, four years). I am honored by the nomination and excited about contributing to the ASA's future. ■

Running for Vice President 2023–2024

LILLY YUE
US FOOD AND DRUG ADMINISTRATION

The American Statistical Association (ASA) has been my professional home and provided me with the opportunity to learn, grow, and serve. I am honored to be nominated for vice president of the ASA, a privilege and new opportunity to serve all fellow ASA members.

My professional goals are aligned with the ASA's vision to promote "a world that relies on data and statistical thinking to drive discovery and decisions." As a statistician at the US Food and Drug Administration (FDA), I have witnessed the powerful and influential role statistics and data science play in regulatory decision-making for public health (e.g., in the responses to emergencies such as the COVID-19 pandemic). A continued focus on the following aspects is essential to achieving the ASA's vision:

- Enhance our commitment to JEDI (justice, equity, diversity, and inclusion) and increase our efforts to foster and recognize the successes of those who have been historically underrepresented and underappreciated

- Increase the visibility of and ensure the future of our profession and nurture a new generation of statisticians and data scientists through engagement, training, and mentoring

- Broaden our statistical impact through effective collaboration and communication with professionals in other disciplines and deploying our strategic and scientific leadership skills in diverse fields

If elected, I would work to promote these efforts.

We are skilled at transforming data into scientific evidence and presenting that evidence so others can understand it, thereby making significant contributions to the advancement of science. From my experience at the FDA in leading the development and application of cutting-edge innovative statistical methods, and in helping reshape the course of medical product evaluation, I have learned that we statisticians can have a profound impact on the public good.

If elected, it [would be] my honor to serve you! ■

Running for Council of Sections Representative 2023–2025

JANA ASHER
SLIPPERY ROCK UNIVERSITY

The Council of Sections representatives to the Board of Directors serve a dual role: They report to the Council of Sections on what the board is doing and represent the interests of the sections on the board. In this statement, I am supposed to explain my priorities and why you should elect me. However, my priorities will depend on those of the membership. I am eager and willing to listen to and observe what this vibrant community of statisticians wants and needs.

Recently, I have been privileged to work with the Justice, Equity, Diversity, and Inclusion (JEDI) Outreach Group as a member of the communications committee. ASA members are interested in promoting a JEDI statistics community but often do not know how they can contribute. The ASA Board should help find ways to engage members as it leads our field into a more just, equitable, diverse, and inclusive future.

The ASA is desperately needed to help our country cope with the current challenges of an ongoing pandemic and climate crisis. Too many Americans are wary of science and lack skills in quantitative reasoning, resulting in resistance to vaccinations and climate change denial. Our experience with scientific advocacy makes the ASA a leader in the effort to educate the public and inform policymaking to move us toward a sustainable, healthy future.

Finally, the role of statisticians in the growing field of data science is still developing, and the ASA plays a critical role in defining our niche in the data science community. The ASA must advocate for statistics and statisticians to be at the core of data science research and education.

I have had a varied career in government, as a consultant, and as a faculty member. I have also held many positions within the ASA and am active in the International Statistical Institute community. If elected, I hope to leverage this experience to represent the ASA community well and help the ASA Board and Council of Sections best serve our profession. ∎

Running for Council of Sections Representative 2023–2025

SUJATA PATIL
CLEVELAND CLINIC

I am grateful to be a candidate for the Council of Sections board representative. The ASA has been a powerful source of professional support for me over the past two decades. It has helped me as a collaborative biostatistician to identify innovative ways to think about studies, analysis, and interpretation. The ASA has helped in my role as educator, guiding me on best practices for creating a statistics curriculum for biomedical researchers. Most recently, I drew from the useful resources curated by ASA members to introduce statistics to middle- and high-school students. I am excited by the opportunity to support the mission of the ASA and its sections.

I have served the ASA and its larger community in various capacities. I especially enjoy being involved in activities that support the careers and well-being of students and newly minted statisticians. This service has given me an understanding of the ASA, its mission and initiatives, and the opportunities and challenges it faces. If elected, my main objective will be to propose and support ideas that help the ASA grow into a more inclusive and more visible organization. This means developing innovative strategies to grow and maintain a diverse membership and to increase engagement during conferences. I will also bring unique perspectives to ongoing, timely discussions about how the ASA can advocate on issues in science policy and advocacy.

The biggest strength of the ASA is its people: its members—over a thousand of whom serve as ASA volunteers each year—its staff, and its board. As part of the Council of Sections, I look forward to working with this strong team to address important issues of inclusion and growth. The ASA has been striving to address these issues and, as your representative, it would be an honor [to] continue these discussions and make changes that will grow the ASA into an organization that continues to serve as a hub of innovation and inspiration for current and future statisticians across the world. Thank you. ■

Running for Council of Chapters Representative 2023–2025

MELINDA HOLT
SAM HOUSTON STATE UNIVERSITY

I am honored to be a candidate for the ASA Board of Directors. If elected, I will fully support the ASA's mission to promote the practice and profession of statistics. I have spent my career teaching in regional universities with diverse student populations, recruiting and mentoring those underserved in STEM disciplines. I welcome the chance to bring this perspective to the board as the ASA seeks to meet the needs of an everchanging statistical community, strives to enhance its diversity, and works to increase the visibility of our profession.

My interest in ASA chapters and building community date back to 1991, when my mentor Tom Bratcher suggested I join. He truly valued a sense of professional community and passed his passion on to me. Tom was a founder of the Council of Texas Statisticians and the associated Conference of Texas Statisticians (COTS). COTS is designed to bring together Texas ASA chapters for both professional and social interaction. I have always been a remote member of my ASA chapters because I have lived and worked at least 30 miles away from host organizations, so COTS has offered me an important chance to build relationships with other statisticians. It has also been a way to introduce my own students to our professional community. As COTS president, I organized and hosted the 2009 annual meeting and traveling course. As secretary, I worked to facilitate communication across all Texas chapters, staying especially mindful of smaller chapters, students, and isolated statisticians. I served District 5 as COCGB vice chair from 2017 through 2019 and helped to build support networks between the chapters of District 5 and the COCGB. I now look forward to expanding my contribution to the ASA as COCGB representative to the Board of Directors. This is a natural extension of the service roles I have always valued—a way to nurture, promote, and grow our community of professionals. ■

Running for Council of Chapters Representative 2023–2025

RUIXIAO LU
QUANTUM LEAP HEALTHCARE

It is an honor to [be] a candidate for the Council of Chapters Governing Board (COCGB) representative to the board. I have served at both the local and national levels at ASA, most recently as the COCGB vice chair of District 6 in Region 3 (since mid-2018) and treasurer of the ASA (2020–2022).

Throughout these roles, I reflect on the wins and successes, as well as the lessons learned. I am deeply proud of our profession and am encouraged by our commitment to building a brighter future. If elected, I will work with other board members to support and implement the mission and strategic plans of the ASA.

Community and Outreach: Through my role at COCGB, I see the importance of a diverse and inclusive community and the power of people supporting each other through challenging times. I am committed to a community-centric culture. I am dedicated to fostering the connection between the COCGB and ASA Board and being an advocate for chapters.

Impact and Leadership: Trained with logic and critical thinking, our members hold leadership positions in many disciplines. In the era of big data, we must continue to support our members and students to expand our impact, equipping them with leadership skills and providing opportunities for personal and professional growth. The ASA's initiatives in data science and science policy lay a nice foundation. We should build on them.

Building for Future: The rapid growth of statistics and data science will have [a] significant impact on the future of the ASA. We must adapt. We must promote the role of statistics and statisticians and the ASA in fast-growing related fields. I will work with the ASA for opportunities to strategically retain and expand ASA membership for long-term success. It is also important and effective to attract and engage [the] next generation in statistics and data science through ASA volunteer and mentorship programs.

I appreciate the opportunity to serve and look forward to joining you on this exciting journey. ∎

Running for International Representative 2023–2025

DIMITRIS RIZOPOULOS
ERASMUS UNIVERSITY

I am honored to be considered for the position of international representative on the ASA Board. The pandemic has changed the way we work and communicate as professionals. This is especially the case for international members of the ASA who wish to become or remain involved with the largest society of our profession. As an international representative, I aim to assist the ASA in engaging international statisticians under the new status quo and to facilitating the active involvement of the international members in the society.

At the same time, I am looking forward to actively engaging with the other board members on the challenges our profession and the ASA face in the coming years. In particular, I am interested in making the ASA membership more exciting for existing and new members, trying to satisfy their needs. Also, motivated by my journey in machine learning and related techniques in the last years, I want to help the ASA to embrace the best of the two worlds—statistics and data science. ■

INGRID VAN KEILEGOM
KU LEUVEN

I am honored to be a candidate for international representative to the ASA Board of Directors. If elected, I would work hard to help the ASA with the development, application, and dissemination of statistics around the world. I would also use my broad international network to increase the visibility and enhance the activities of the ASA outside the North American continent, and I would strive for initiatives that would lead to a better research environment for statistics in developing countries.

My interest in developing, applying, and disseminating statistics is based on my research life. Through my research, through editorial service, and through volunteer service with multiple statistical societies, I am connected with statisticians around the world. I'm a frequent traveler (at least pre-corona) to conferences or for visiting my coauthors. I hence have developed an important network over the years, which will allow me to get a good feeling of the needs and concerns of the international members of the ASA.

The international representative to the ASA Board of Directors helps ensure the association considers the needs and interests of its many international members. I would be delighted to have the opportunity to serve the ASA and our profession in this role. ■

State of the Nation's Health Data Infrastructure: Experts Weigh in Two Years into Pandemic

To mark two years since the start of the pandemic, Count on Stats spoke with experts on the National Center for Health Statistics (NCHS) for our series, State of the Data Infrastructure.

The State of the Data Infrastructure Series frames the federal statistical agencies as the backbone of the US data infrastructure. Just as our transportation infrastructure supports the US economy, governance, and society, so too do the federal statistical agencies.

While praising the work and advances of NCHS since the start of the pandemic, Jennifer Madans, Ninez Ponce, and Charles Rothwell discuss how the pandemic also exposed the agency's challenges with budget, stature, and profile.

NCHS's loss of purchasing power, as illustrated in Figure 1, is the greatest challenge, keeping NCHS from maintaining its four main data programs—vital statistics, interview surveys, examination surveys, and provider surveys (see Figure 2 on Page 17)—while also meeting data-user demand for more granular and timely data and integrating data from multiple sources.

The experts also discuss NCHS's relatively low profile within its parent agency, the Department of Health and Human Services (HHS). See Figure 3 on Page 17. As a subunit of one of the components of the US Centers for Disease Control and Prevention (CDC), NCHS is several administrative layers from the HHS secretary. This is notable given that the Evidence Act designates the NCHS director as the HHS statistical official "to advise on statistical policy, techniques, and procedures" and stipulate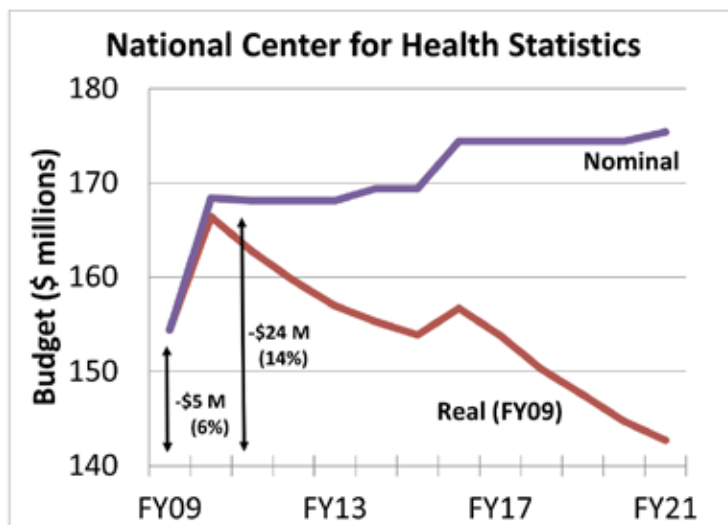s, "Agency officials engaged in statistical activities may consult with any such statistical official as necessary." NCHS's organizational position makes it difficult for the agency to fully meet the data needs of HHS or the requirements of a federal statistical agency.

Finally, Madans, Ponce, and Rothwell share their vision for the NCHS's role in the public health data landscape, which is being transformed by more demands for data, more suppliers of data, and therefore more sources of data.

~ Steve Pierson, ASA Director of Science Policy

Figure 1: The NCHS budget since 2009 in nominal and real (adjusted for inflation) dollars

JENNIFER MADANS
served as the NCHS associate director for science, acting deputy director, and acting director, retiring from federal service in December 2020.

NINEZ PONCE is a professor of health policy and management in the University of California at Los Angeles Fielding School of Public Health and the principal investigator of the California Health Interview Survey, the largest state health survey in the United States. She was a member of the NCHS Board of Scientific Counselors from 2017–2020.

CHARLES ROTHWELL was director of NCHS from 2013–2018, capping a career in federal service that started in 1987.

Please describe what you see as NCHS's most important role in US public health and its greatest strengths.

NINEZ PONCE: First, let me comment that I love that you call this the State of the Data Infrastructure Series. For me, data—particularly public health data—is infrastructure, a public good for which NCHS is known as the gold standard.

As an administrator of a survey here in California, NCHS surveys are important as a benchmark of how we are doing compared to others nationally. For example, how do California diabetes rates compare to the national rates? This is an important way NCHS is making an impact on the lives of Californians.

As far as NCHS and the pandemic, I think NCHS's vital statistics system has been functioning very well and, in some ways, was my go-to for COVID data. This is not to say, as I'll discuss later, there wasn't more I would have liked it to provide. Nonetheless, I believed in the information from that system more than what was being put out from other federal sources, which also, of course, speaks to the coordination of COVID data.

JENNIFER MADANS: The vitals program is indeed important and likely the most well-known of the NCHS data collection programs, but the three other survey programs—the interview surveys, examination surveys, and family of provider surveys—are just as critical. All four major systems and their associated enhancements, such as linkages to other sources, are needed to obtain core data on the multiple aspects of health and health care required to develop and monitor initiatives to improve the health of the population.

Building on Ninez's point about the role of NCHS's vital statistics program during the pandemic, it is important to acknowledge the data was trusted because of the system's long history of providing high-quality, unbiased data with extensive documentation on how the data is obtained, processed, and coded. The program's transparency and adherence to standardized rules that data users know and understand are what makes it a useful and trusted data source.

Unfortunately, the pandemic also exposed NCHS's weaknesses, which are direct results of a history of stagnant funding, particularly over the last decade or so. I know we'll discuss the impact of lack of funding in more depth later, but we also

need to highlight how much NCHS has been able to accomplish with such a strained budget. This is a testament to the commitment, expertise, and resourcefulness of the staff and gives assurance that even a modest increase would allow the agency to do so much more to advance the core database. A more substantial increase to support greater innovation and expanded breadth of information collected would be well worth the investment.

CHARLES ROTHWELL: I wholeheartedly agree that what the NCHS staff has been able to accomplish with diminishing resources is astounding. Through adversity, the staff has become more creative and willing to try new approaches to providing the health status information this country needs. It is definitely time to invest in an improved and trusted health statistics infrastructure for all levels of government to fill the data gaps exposed by the pandemic and the demand for more timely, frequent, and granular data. NCHS has shown time and time again that it can make the most of the funding it receives. Let's put our bet on a sure thing!

To build on Jennifer's point about what could be done with a little more funding, consider the implementation of the Affordable Care Act (ACA) when NCHS was quickly able to use newly available funding to expand data collection in the National Health Interview Survey, providing quarterly estimates and monitoring outcomes in more than 20 states. With little funding, NCHS was able to test and add questions, go from late annual national reporting to quarterly reporting of the impact of the ACA on health insurance coverage nationally and for many states, and deliver quality health status data, including on the most vulnerable population groups. Similar gains in timeliness and dissemination were made as a result of limited funding targeted to monitoring the opioid epidemic.

Elaborate on the challenges from the underinvestment in NCHS.

JENNIFER MADANS: NCHS has become severely compromised due to lack of funding. As a result, the organization has had a hard time providing the data needed to monitor the pandemic. As there was no funding to proactively
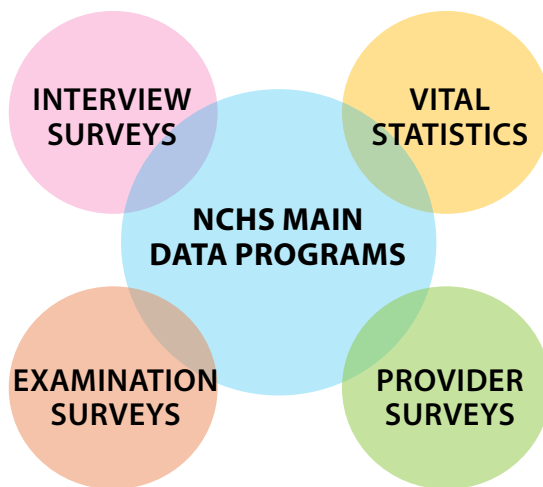

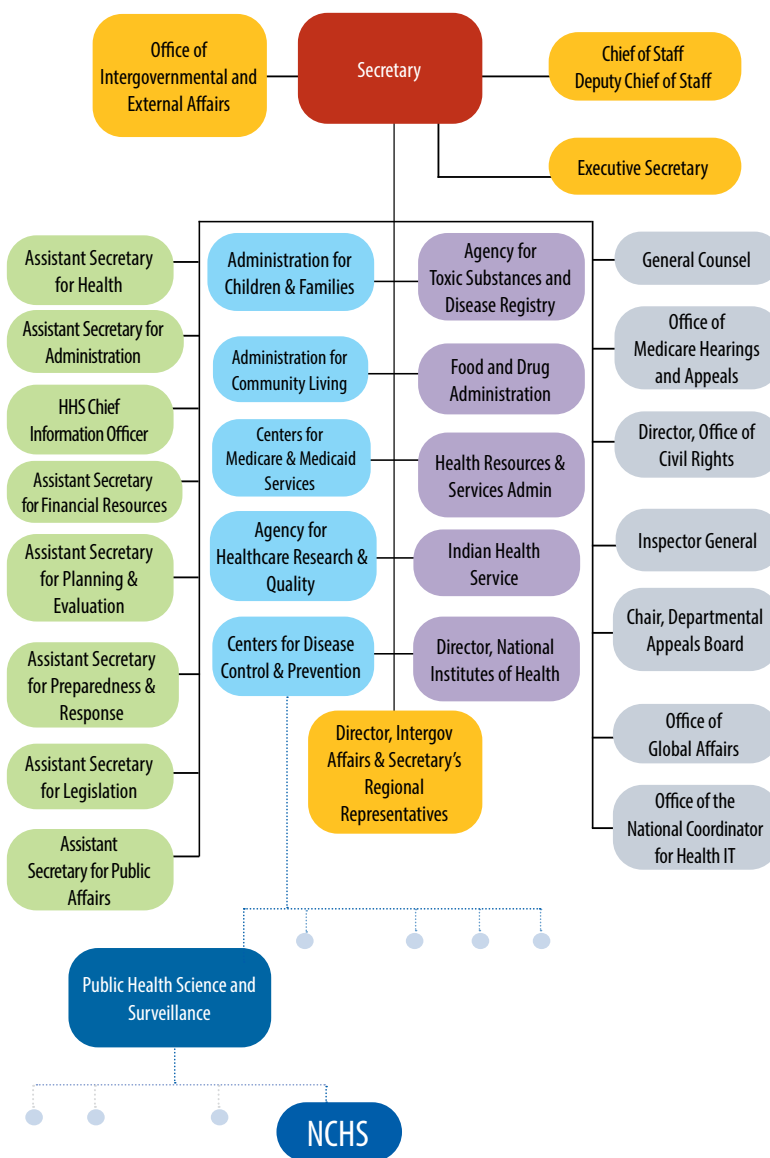**Figure 2:** NCHS's four main programs

Figure 3: Organization chart for HHS, including NCHS

invest in expanding and modernizing core data collections, the agency instead had to react to changing data needs as best it could while maintaining ongoing collections.

Perhaps the largest and most damaging data gap involves the health care surveys, where the need for data was greatest but where there was no infrastructure to provide data to monitor the impacts of COVID-19. A close second is the reduction in sample sizes for the survey programs, resulting in the lack of data of population subgroups needed to address equity issues related to the pandemic but which are also critical for all aspects of health and health care.

The reduction in sample sizes reflects not only reduced purchasing power but also the added costs of addressing diminishing response rates, something all surveys have experienced. Declining response rates impact multiple aspects of data quality and need to be addressed through expanded and modernized collections practices, as well as methodological advancements in how to evaluate and address any remaining bias.

Another casualty of lack of funding has been the loss of analytic capability. As a result, the agency has been challenged to produce more in-depth analyses that would inform policy. To address these gaps, the base budget must be increased to ensure NCHS fulfills its mission to collect, analyze, and disseminate trusted data in a way that is useful for a wide range of constituencies.

Trusted data available when needed and with sufficient specificity is what is required of an infrastructure that can inform decision-making at all levels of government. This infrastructure needs to not only be built back, but built back better.

CHARLES ROTHWELL: NCHS has not been able to keep up with the latest advances in technology. When the pandemic began and NCHS's data collections could not be conducted in person, the agency didn't have fallback mechanisms in place to adapt to the new conditions quickly and seamlessly. There had been experimentation using web panel surveys and electronic health records, but because of the overall lack of funding for NCHS, these innovations—which could have helped considerably—had not progressed far enough to meet needs.

There was and remains a paucity of information available about nursing homes, assisted living, and extended care facilities. We didn't know the staffing issues in these facilities, and we knew little about the health status of residents in these facilities who, as it turned out, are at highest risk. The health care information collected by NCHS and elsewhere in HHS needs to be brought together and made more available. This should be done by NCHS because of the many statistical issues involved and the unique perspective of a statistical agency.

Furthermore, we need to look at COVID from more than a national public health perspective. COVID has shown us we are a connected society that differs from community to community and state to state. Public health actions affect not just our physical health but also mental health, education, work life, and the economy for all of us. We need to collect and provide timely data for states and communities to make appropriate and timely decisions to meet their needs. This should have been an effort NCHS and the other statistical agencies could have led at the outset. I will say though that the pulse survey led by the Census Bureau and other statistical agencies—although late in the game, not as extensive as needed, and limited in terms of representativeness—is an example of what could have been done if we bring together our survey capacity using the latest technologies.

NINEZ PONCE: Before COVID began spreading, there was a demand for more granular data on race, ethnicity, gender, gender identity, sexual orientation, etc. With the data collection challenges that occurred during the pandemic, identity data became even more sparse, leading to more inequities. In addition to needing more resources to collect that kind of information, I also think there needs to be investment in NCHS surveys, because they are a portal into what pains Americans are experiencing.

You've mentioned the burgeoning demand for more granular data in terms of demographics, geography, and frequency. What is driving the demand, and how would you justify the costs for providing such granularity to the American people?

CHARLES ROTHWELL: As COVID spread in the US, not all areas of the country experienced surges at the same time. They were hit in waves. Governors and localities didn't have specific enough data to make nimble and focused decisions. Unfortunately, because of the diminished sample size for NCHS

> ## Data linkage is an outstanding example of what underfunding will do, even if one tries to be creative.

surveys Jennifer mentioned, the surveys were unable to provide granular information on the pandemic that could have informed those decisions. This is something we really need to address.

Furthermore, if granular information is collected, that data needs to be provided to those who are going to use the data in close to real time, rather than just producing a late and not very usable report.

When I was on the National Academies committee looking at improving morbidity and mortality reporting during and after disasters, including pandemics, we learned that even when localities were getting federal and NCHS data, many times they didn't have the staff to examine it closely and the data was not in a usable format for quick action. NCHS doesn't have the staff and systems to provide such support, including how best to use the data, but it should.

NINEZ PONCE: In California, there was an equity metric included when determining reopening businesses and schools. There were additional requirements to make sure the case positivity rates for the areas that posted the poorest social determinants of health or high poverty rates of a county also met a certain criterion for the county to reopen.

The local area-based metric helped to assure economic recovery was happening across all communities in each county. But, like all metrics, they may have blind spots for smaller, more geographically dispersed communities like American Indians, Alaska Natives, Native Hawaiians, and Pacific Islanders.

Decision-makers need to understand how to use and augment these area-based metrics to better target resources, recovery funds, and community organizations in need of support so they can close the equity gaps and accelerate recovery rates. Expanded partnerships between NCHS and state-based data collections would facilitate the development, use, and interpretation of area-based indicators such as the equity metric.

JENNIFER MADANS: Data linkages—the linking of NCHS data to other data sources—has a role here. For example, linkage could be done with data from other sources that address social determinants of health and health care. Like politics, health and health care are local. Data granularity is essential to make the most use of information on social determinants, as the pandemic made clear.

CHARLES ROTHWELL: Data linkage is an outstanding example of what underfunding will do, even if one tries to be creative. NCHS has one of the most useful data files in government that, when linked to other data sources, can be used to examine the impact of government programs and actions on mortality, especially regarding the most vulnerable. It is called the National Death Index and has data on every death in the United States, including the information needed for linking.

The index remains unfunded in appropriations and so, to reimburse the state systems for providing the data and supporting the linkage service, NCHS must charge for these data linkage services. These charges have made it cost prohibitive for linking to large databases or for agencies serving vulnerable populations to use. If NCHS were able to freely provide the linkages, we would see an expansion of valuable insights into social health determinants and other public health policymaking discussions for HHS, other agencies, and the research community.

The need for more health data has been a prominent lesson from the pandemic. Many private entities helped to meet the need. Going forward, how do you see NCHS's role in the broadened health data landscape?

CHARLES ROTHWELL: I'd like NCHS to produce more regularly updated 'living' publications like they are now doing on excess mortality, COVID, and drug overdose deaths. Rather than only offering annual reports, let's have monthly—if not weekly—data releases where appropriate. Those reports need

to be 'friendly' enough that an uninitiated user can easily look at the data and obtain community-specific information. We should also provide support to the data users, teaching them how to use the data appropriately.

JENNIFER MADANS: The plethora of other data sources underscores the vital role of NCHS as a trusted source and the need for a mechanism to evaluate the quality of data from other sources. With volumes of data being released, how do data consumers know which to believe or how to combine them to paint a comprehensive picture? NCHS could make a major contribution by providing standardized definitions and methods for use by other data producers, along with quality metrics for data users. Most importantly, NCHS should provide the basic infrastructure that can be built upon by other data providers. As has been done in the California Health Interview Survey, geographically focused data collections can build on the national collections. The result would be a stronger national infrastructure and a trusted data infrastructure for all levels of government.

We also mentioned that NCHS's vital statistics data was trusted and considered the gold standard. The other data systems need to be revitalized so they can support the broader health data landscape. This will take funding and leadership.

Regarding dissemination, NCHS has been catching up in making interactive data more readily available. But to publish data with maximum frequency, NCHS must have the resources to collect the data needed to provide reliable estimates. This requires an expansion on sample sizes for all surveys, which also allows for greater granularity for population subgroups, even if data releases cannot be made on as frequent a basis.

In addition to disseminating data more frequently and with greater granularity, NCHS should produce more methodological publications that explain how data is collected, processed, and analyzed. Included in this is the minimum set of data elements that should be available for all population subgroups defined by sociodemographic characteristics or by geography. As new data needs emerge, the core systems can be modified to collect the new elements. Without that underlying data infrastructure, it is not possible to address emerging needs. A statistical agency needs to do more than post some interesting graphs on the web.

NINEZ PONCE: In my perspective, to produce more frequent and granular data requires representation and democratization to ensure NCHS's gold standard of data production is maintained. The data produced by the federal data system that monitors health represents the health of the nation. I agree there should be more partnerships with other data sources. It should be the government's role to track COVID-19 deaths and cases by race and ethnicity. There's also a federal role to listen to what data social movements are looking for to make a better system of reporting.

What are NCHS's other primary challenges?

JENNIFER MADANS: While politicizing at NCHS has never been at the same level as found at some other statistical agencies, interference does occur and had been increasing during my last several years of service. This is to be expected as the data collected became timelier and policy-relevant.

Interference tended to occur regarding the timing of releases. Guidance on the practices a statistical agency should follow regarding the release of data or reports is provided by the Office of Management and Budget (OMB) and is critical to maintaining the independence of statistical agencies. There have been times when NCHS would announce a planned release of a report for a specific day, as required by OMB guidance, and there would be suggestions to either speed up the release or postpone it. Following OMB guidance, release dates were never changed but it would be ideal to have a stronger OMB and a stronger statistical system that can provide the needed protection and institutionalize this protection.

The deeper a statistical agency is buried in an organization, as is the case with NCHS, the harder it is to protect the agency's independence and for the agency to contribute to a robust data infrastructure. It is key that the statistical agency be included when structuring the data collection systems of both the department where it is located and the entire federal system. While this can be done even if the agency must report through multiple organizational levels, the ability to do so is dependent on the priorities of those controlling those reporting levels, and the

> While we do want to prepare for the next pandemic, we're not even measuring current data on a quick enough basis.

viewpoints of those controlling the interactions can change often and in negative ways. It is far better to support the statistical agency with proper organizational placement, which in turn will better serve the host department's evidence-based policymaking.

Let's go back to the COVID-19 example in which the credibility of the data became hugely important. If users don't believe the data and those responsible for providing the data infrastructure are not able to prepare for future data needs, then the whole society is in the dark. It doesn't matter how granular the data is or how fast it is released; if the data doesn't have credibility or reflect data needs, it will not be used to inform policy.

CHARLES ROTHWELL: I agree with Jennifer. NCHS needs improved visibility within HHS and with the public. I used to be proud to say we are the best government agency you have never heard of. That statement, although still true, is now nothing to be proud of. NCHS is not seen by many in HHS as the federal statistical agency for the department. Most see it as a data arm for CDC-centric activities. As important as CDC is, NCHS's statistical role encompasses HHS-wide activities, as indicated by its data leadership in the Healthy People Objectives for the department and its leadership in the HHS annual report to the nation on its health status—Health US.

Also, for NCHS to be known to the public as a credible source of information, it must be given credit for the data in the media instead of giving the credit to a parent agency. What we are suggesting cannot happen without funding and legislation aimed at strengthening the role of NCHS.

On a hopeful note, Congress has recognized these issues. The Health Statistics Act of 2021 recognizes NCHS as the focal point for expanding data sharing and data linkage throughout HHS, explicitly incorporates the National Death Index in the effort, and creates data standards to make the analysis of combined data files more useful.

How could proper funding and support better position the country to recover from COVID-19 and be ready for the next pandemic?

JENNIFER MADANS: With adequate funding, it will be possible to build an infrastructure that rapidly releases relevant and reliable information, including for subpopulations of interest. Additionally, funding would allow stronger connections with state health departments, the academic community, and foundations collecting information on the same issues. Investments in NCHS would put the agency in a better position for not only the next pandemic, but for everyday data collection and analysis activities.

CHARLES ROTHWELL: While we do want to prepare for the next pandemic, we're not even measuring current data on a quick enough basis. We need to be assessing the major causes of death, current major illnesses, and the health disparities taking place in our country from a granular perspective. That can be done by improving the individual survey components and building new ones. With the health care surveys, data is released much too slowly. The reports say little about the current status of the nation and little about states or communities.

One of the biggest challenges we have at the moment is the use of electronic health records. If NCHS was more involved, statistics would be based on tens of millions—if not hundreds of millions—of health records, instead of thousands. Doing this will take a huge amount of work from a quality and standardization perspective, but it is necessary to make data more granular and timelier. To accomplish this, it will take money, staff, and technology.

NINEZ PONCE: The collection of race and ethnicity on electronic health records is terrible. Approximately 70 percent of the fields for race and ethnicity are missing. I do think there is room for additional questions on race and ethnicity in surveys, which is why we still need surveys. Previous investments were how we were able to redesign and continue collecting data a few years before the onset

of the pandemic. If NCHS had more money to conduct experiments, pull ideas, and have linkages, then they could be ready for what is next.

JENNIFER MADANS: That also goes back to NCHS needing to have big enough survey samples to provide granular data and have a basis on which to address emerging data needs. There is a lot of talk about the need for more granular data but there has not been a commitment to pay for it. What it comes down to is, if you want the data, you need to pay for it.

To meet these challenges and demands, besides additional funding, what does NCHS need from Congress and the administration?

NINEZ PONCE: Local data is critical, and I'm not sure if NCHS can get at local data outside of vital statistics. Perhaps investing more in small area estimation estimates of the surveys for subnational localities—such as states—would be valuable data to spur local action. The federal surveys need to be better supported to have a large enough representative sample of the US, to include relevant content, and to disseminate quickly. The federal surveys are important, again, as a benchmark of how states and possibly large counties are doing compared to others nationally.

CHARLES ROTHWELL: I agree with Ninez on the problem for NCHS with local data, and it reminds me of a huge missed opportunity many years ago and one that should be reconsidered. When I came into government in the 1970s in a state health department, there was a federal program called the Cooperative Health Statistics System. The intent was to improve health statistics at the state and local levels, thereby expanding trusted data available for improved policy decisions at the national, state, and local levels. State-based interviews surveys and health care surveys were initiated in several states, as well as the creation of state centers for health statistics. This program was funded by NCHS, but the funds quickly disappeared and the program died an untimely death. Just think of where we would be now if that program would have survived and thrived in all states. I think it is time to, once again, build strong statistical partnerships in public health at the state and federal levels beyond vital statistics and reconsider the Cooperative Health Statistics System.

Additionally, I think surveys are vital and need to be maintained as the gold standard of the federal statistical system. We do need to make better use of administrative data both within government and the private sector, as these are important and growing sources that can expand our survey capacity. As data comes available from a variety of sources, we must use it to improve the depth of the information we are providing, but we will need surveys to ensure we are not missing people who are not using the services generating these large data sets and who may be the most vulnerable.

At the national level, I know this sounds avant-garde for federal statistical agencies, but I think that with the technologies currently existing, we can remain decentralized at our various departments and be virtually centralized, reporting to the chief statistician of the United States in OMB. All statistical agency directors would report to both the appropriate senior official in their department and the chief statistician. This would allow the statistical agencies to remain within their respective departments, meeting the needs of the agencies within their department but also having the support of a virtual government-wide organization with similar roles and needs and with direction and coordination from a centralized person at OMB. For this to happen, the Office of the Chief Statistician needs to be strengthened both from staffing and visibility perspectives. What better time to consider this as a new chief statistician is about to be selected?

JENNIFER MADANS: I think NCHS needs ongoing budget support and the mandate to move forward in developing a high-quality health data infrastructure. The current budget and organizational placement have not been supportive of these goals. HHS and the federal statistical system would benefit from a stronger and expanded NCHS and more engagement with the agency, particularly in regard to strengthening the role of the statistical official. Past lack of engagement resulted in loss of purchasing power, the inability to expand data collections as needed—especially in regard to timeliness and granularity—and the failure to adopt innovative data collections platforms. To "Build Back Better" needs to include a transparent, credible health and health-care statistical infrastructure. ■

ASA Members Show Up Despite Challenges

ASA Director of Development Amanda Malloy

Although much has changed since the pandemic began two years ago and challenges continue, the ASA community remains committed to working toward our common goal of ensuring the future of statistics and data science. Throughout 2021, we demonstrated support for community, advocacy, and education.

In a matter of months, we exceeded the $30,000 funding goal for the new ASA Pride Scholarship. And more than $26,000 was raised for the newly established Black, Indigenous, and People of Color (BIPOC) Fund, which helps ensure programs like ASA StatFest and the Diversity Mentoring Program continue and grow.

In all, *1,019 donors contributed more than $280,000 to the ASA in 2021.* That's a 26 percent increase in donations over the previous year. Thank you to everyone who helped make 2021 an extraordinary year, despite the continuing uncertainty surrounding us.

Your generous dollars and volunteer time help show that, in *any* environment, we will continue to cultivate the next generation of leaders in statistics and data science, advocate for the profession and sound policymaking, strengthen statistics education, and advance statistical literacy.

Keep your eyes out for the 2022 Stewardship Report, which will highlight more examples of the successes achieved last year. ■

Helen Walker Society

Thank you to Helen Walker Society members, who have demonstrated their commitment to the practice and profession of statistics through annual donations of $1,000 and more.

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Celebrating
WOMEN
IN STATISTICS AND DATA SCIENCE
Women's History Month

In honor Women's History Month, we are once again celebrating ASA women who work in statistics and data science. These accomplished women were chosen because they are leaders, mentors, and influencers. Read their complete stories online at *https://magazine.amstat.org* and find out why they chose statistics, who influenced them, and what they have accomplished.

JONAKI BOSE has been a federal statistician for 27 years. Now, as a senior adviser, she works on interesting production challenges, mentors, and performs methodological work with like-minded colleagues interested in furthering the production and use of health statistics. Read about Bose's early years working on a survey that focused on methodology and quality at *https://magazine.amstat. org/blog/tag/jonaki-bose.*

ALYSSA FRAZEE became interested in statistics during her AP Statistics class in high school, because stats, she discovered, was the tool that helps us cope with uncertainty. Eventually, she earned her PhD in biostatistics and fell in love with programming. She has since dabbled in security, political forecasting, and fraud prevention, but is now a software engineer when she isn't doing improv or playing the piano.

It wasn't until the economist Kathy Anderson told **SNEHALATA HUZURBAZAR** a degree in statistics would be useful for employment that she discovered she passionately enjoyed the discipline and eventually earned a PhD in the field. Her proudest achievement occurred when, after some campus sexual assault incidents, she initiated and obtained funding to create the Combat Violence Against Women program. This created the University of Wyoming's STOP Violence Program, which has since been institutionalized.

STACY R. LINDBORG'S interest in statistics came from a strength in mathematics, a by-product of having an engineer as a father who thought studying math in the summer was cool. As she began working on data, she learned one of the greatest strengths as a statistician lies in the depth of knowledge of the data. Since then, Stacy has worked on drugs targeting serious neurological and neurodegenerative diseases in addition to cancer, cardiovascular disease, diabetes, immunology, and pain.


When **ANNA NEVIUS** took a statistics course her senior year in college, she knew it was the field she wanted to study. After earning her PhD in applied statistics, she landed a job at the US Food and Drug Administration Center for Veterinary Medicine in their biostatistics group. Having found her dream job, she spent the rest of her career there designing studies and improving the ways data is gathered for animals who cannot verbally respond. She has since retired but continues to mentor colleagues as a member of the ASA and Caucus for Women in Statistics.

TAMARA G. KOLDA'S career began at the dawn of the internet, in the pre-Google era. Since then, she has worked at the intersection of mathematics, computing, and data. She has benefitted from the advice and guidance of many statisticians along the way and finds the community to be highly collegial. She helped launch and serves as founding editor-in-chief of the *SIAM Journal on Mathematics of Data Science,* an academic journal focused on the mathematical and statistical foundations of data science methods.

Born and raised in Lebanon, **AMAL MOUSSA** holds a PhD in statistics, earned with distinction from Columbia University. Her thesis, "Contagion and Systemic Risk in Financial Networks," shed light on the importance of the network structure in identifying systemic financial institutions and formulating regulatory policies and has been cited as a reference by former Federal Reserve president Janet Yellen. Moussa was also awarded the Minghui Yu Teaching Award at Columbia University.
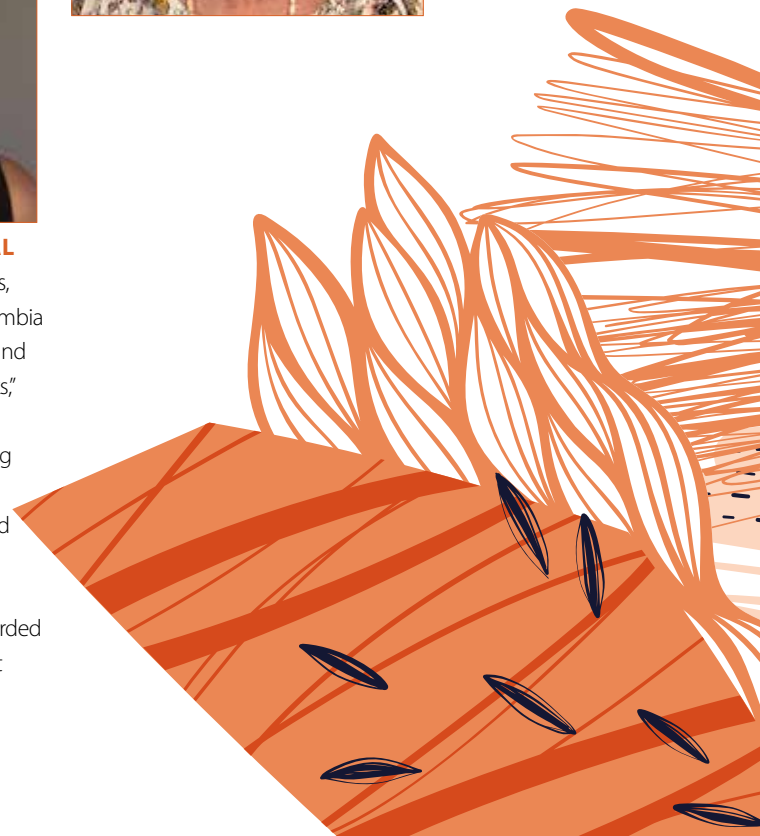
What appealed to **HOLLY SHULMAN** most about statistics was how it applied a mathematical approach to real-world problems. Consequently, her greatest passion has been developing the Pregnancy Risk Assessment Monitoring System (PRAMS), a state-population-based surveillance system of maternal behaviors and attitudes before, during, and shortly after pregnancy. PRAMS data has led to improved health through programmatic and legislative efforts.

SUSAN VANDERPLAS became interested in statistical graphics because it reminded her of her first love: psychology and how the brain works. Because she is red-green colorblind, she began investigating how perception differed from the raw data presented in charts and what people took from the visualizations. Today, she is an assistant professor in statistics at the University of Nebraska and involved in the ASA Section on Statistical Graphics.

MORE ONLINE
Read these women's full stories at *www.amstat.org.*

During college, **ANDREA RAU** worked with data from the National Bone Marrow Donor Program and found it so rewarding she filled the remainder of her bachelor's degree with statistics courses, eventually earning her master's and PhD in applied statistics. Rau accepted a permanent researcher position near Paris at the French National Research Institute for Agriculture, Food, and the Environment after graduating and made France her permanent home. There, she enjoys being at the interface of statistics and biology, working with R packages, and mentoring students.

The ink was barely dry on **NELL SEDRANSK'S** PhD when she joined the department of surgery at the University of Wisconsin and assembled a clinical trials statistical center for cancer research. Later, she took research leadership appointments at the National Institute of Science and Technology (NIST) and National Institute of Statistical Sciences. At NIST, she became part of the multidisciplinary team overseeing modeling to determine the cause and process of the World Trade Center collapse.

NI ZHAO'S career as a biostatistician followed a convoluted path. When she was a kid, her parents dreamed she would become a medical doctor. She partly had the same wish—she wanted to work toward improving human health and well-being. Yet, she was also fascinated by the beauty of mathematics and didn't think there was a way to combine math and medicine until she discovered biostatistics. Now, as an assistant professor of biostatistics at The Johns Hopkins University, she collaborates with top-notch researchers and participates in frontline research.

Jing Cao, Professor

The ASA has got your back!

When I was asked to contribute to the My ASA Story series, I was flattered. The first thing I did was read the previously published stories. Even as a veteran statistician, I was inspired. Compared to those wonderful journeys filled with memorable and hard-to-choose events to share, mine was a single-lane road.

I joined the ASA in the middle of my graduate program in 2003. I started my career as an assistant professor at Southern Methodist University in 2005. As an international researcher who was heavily influenced by a culture that promotes qualities such as being reflective, reserved, and unassertive, I was a good citizen but not longing to take on a more active role. (I did serve as chair of the ASA's North Texas Chapter in 2010.)

The turning point was triggered by an accidental event in 2013, when my former colleague Alan Elliot, who was a member of the ASA Committee on Professional Ethics (COPE), asked me to help him make connections between the principles in the ASA Ethical Guidelines for Statistical Practice (ASA-EGSP) with those embedded in Confucianism. The goal was to make it more accessible to Asian students taking the consulting course. It was fun, and we collaborated on studying cross-cultural issues in teaching ethics in a statistics curriculum. He also asked me on behalf of COPE to translate ASA-EGSP into Chinese. I did, and by doing so, I built my connection to COPE and later became a member.

When I was asked to be the chair of COPE, I learned the committee was to undertake an important task—the first revision of ASA-EGSP, which takes place every five years. I was concerned about whether I was up to the task, and I had a good reason: English is not my native language. Rochelle Tractenberg, the chair at that time, convinced me I could lead the project and I would have plenty of help. I am glad I accepted the challenge, which turned out to be one of the best experiences of my career.

We had a work group of five people who met every Tuesday for two hours from January to October in 2021, each spending more than 100 hours on the project. Other COPE members also attended the meeting regularly. We had three goals: update; clarify; and make ASA-EGSP as inclusive as possible. During this process, we discussed, we argued, we fought (good fights). It was all worth it! We finished the revision, which we are all proud to share with the ASA community. After getting approval from the ASA Board, the revised ASA-EGSP will be available on the ASA website this year.

Through this journey, I discovered something about myself, which is that I enjoy being a leader who can coordinate a collective effort to accomplish something. By stepping out of my comfort zone, I had the opportunity to work with enthusiastic and talented people from different backgrounds. Being an ASA member and participating in this committee work has nurtured me and allowed me to give back. Without being too modest, I think I have made my own contribution to the ASA community, to COPE, and to this meaningful project. It was a rewarding and fulfilling experience. My advice is to follow your own pace while being open to new things. The ASA has got your back! ∎

Increasing JEDI in Clinical Trials

Godwin Yung, Genentech/Roche, and Dooti Roy, Boehringer Ingelheim

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

Godwin Yung is a statistical methodologist at Genentech/Roche. As such, he conducts research in survival analysis, adaptive designs, and causal inference; provides consultation for colleagues on the use of appropriate statistical methodology; and contributes to external networks (including ASA JEDI) to further the practice and profession of statistics.

Dooti Roy is a global product owner and senior principal methodology statistician at Boehringer Ingelheim. She enjoys developing/deploying innovative clinical research and statistical visualization tools and has expertise in creating dynamic cross-functional collaborations to efficiently solve complex problems. She leads two global, cross-functional product teams.

Statistical practitioners in the biopharmaceutical area gather at the ASA Biopharmaceutical Section Regulatory-Industry Statistics Workshop (BIOP) every September to engage in conversations about contemporary topics of importance. Having heard the health disparities taking place in the ongoing COVID-19 pandemic and being industry statisticians ourselves, we decided to host a roundtable at this year's conference on increasing JEDI in clinical trials—a related but wider topic. We even had two experienced US Food and Drug Administration (FDA) members join us: Rear Adm. Richardae Araojo, associate commissioner for minority health and director of the Office of Minority Health and Health Equity, and Mark Rothman, director in the FDA's Division of Biometrics II. Here are three key takeaways from our conversation.

First, from drug discovery to reimbursement, JEDI is a critical problem at every step of the drug development process. For instance, 8 percent of the global population represents more than 90 percent of genomic databases and 80 percent of clinical research participants (*www.nature.com/*

articles/s41588-020-0580-y). This pulls into question whether the drugs discovered, developed, and approved benefit the general population of patients similarly. In addition, psychosocial distress, difficult therapeutic regimens, lack of time, residence instability, and lower socioeconomic status can be barriers for retention (*https://pubmed.ncbi.nlm.nih.gov/16533107*). And while spending on medicine is a concern across all countries, it is a particularly challenging issue in low- and middle-income countries where it accounts for more than 70 percent of total health care expenditure (*https://pubmed.ncbi.nlm.nih.gov/30568938*).

Second, sustainable solutions begin with a deeper understanding of diverse patient perspectives and experiences. Araojo highlighted efforts at the FDA Office of Minority Health and Health Equity, including the Enhance EQUITY Initiative that seeks to increase equitable data efforts and amplify FDA's communication with diverse groups. He also mentioned challenges to JEDI are multifactorial, including lack of minority investigators, language barriers, transportation, lack of access, not knowing what trials are out there or awareness about clinical trials, and inability to take time away from jobs or caregiver responsibilities. Consequently, cross-functional collaboration is critical. Only by

Further Reading

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working with our colleagues from clinical operations, sourcing, and staffing; site selectors; site monitors; and investigators can we influence and make change.

Third, as stewards of data and key contributors to drug development, statisticians can play a major role in the understanding and proposal of solutions to JEDI. Perhaps a first step for all of us could be to look at our own work with "JEDI goggles" and ask the question, "How might my activities, interests, and spheres of influence be related to JEDI?"

FDA publishes drug trials snapshots on their website, which satisfies a congressional mandate and provides consumers and health care professionals with concise information about who participated in clinical trials that supported the FDA approval for new molecular entities and original biologics. Drug trials snapshots make demographic data available and transparent, as well as highlight whether there were differences in the benefits and side effects among demographic groups or any other important factor.

The FDA has also cosponsored symposia and workshops on heterogeneous treatment effects, considering solutions to new questions about providing the best information to consumers and patients about what benefits and side effects they may expect for a product. Addressing such questions provides opportunities for statisticians to have a larger impact on public health.

We are now onto next steps, trying to learn more while identifying concrete ways in which we, as industry statisticians, can contribute. We invite others across all sectors to do the same. ■

Russell Sage Foundation
Fellowships Offered

Visiting Scholars Fellowship for Academic Year 2023–2024

Application Deadline: June 28 (11:59 p.m. EST)

The Russell Sage Foundation (RSF) Visiting Scholars Program provides a unique opportunity for select scholars in the social, economic, political, and behavioral sciences to pursue their research and writing while in residence at the foundation in New York City. The fellowship period is September 1 through June 30.

The foundation awards up to 17 residential fellowships. Visiting scholars must be at least two years beyond their PhD at the time of application and, once selected, typically work on projects related to the foundation's core programs and special initiatives.

Scholars are provided with an office at the foundation, computers and software, library access, and supplemental salary support. Scholars from outside NYC are provided with a partially subsidized apartment near the foundation.

For details, visit *https://bit.ly/3HRjPmI*. Questions should be directed to James Wilson, program director, at *programs@rsage.org*.

Visiting Researcher and Visiting Journalist Fellowships: September 2022 – June 2023 *(up to a five-month visit)*

Application Deadline: May 3

On an occasional basis, RSF has office space for short-term visiting researchers (*https://bit.ly/3gBAI96*) conducting research relevant to RSF's core programs and special initiatives. These positions do not come with financial support and are available for visits up to five months between September 1 and June 30, as space permits.

Visiting researchers are provided with an office at the foundation, computers and software, and library access. Applicants from outside the greater NYC area may be provided with a partially subsidized apartment near RSF, if available.

Visiting researchers must be several years beyond their PhD and have a project relevant to the foundation's program areas.

Also, because journalists report on issues of relevance to RSF, the foundation has established a visiting journalist fellowship (*https://bit.ly/35R3dgS*).

More information about both programs can be found at *www.russellsage.org/how-to-apply*. Questions should be sent to *programs@rsage.org*.

RSF Programs and Initiatives Accepting Letters of Inquiry

Deadline: May 4 (2 p.m. EST)

- Behavioral Science and Decision-Making in Context, *https://bit.ly/3rBOMWq*
- Race, Ethnicity, and Immigration, *https://bit.ly/3oAH0u2*
- Immigration and Immigrant Integration, *https://bit.ly/3BdBySX*
- Social, Political, and Economic Inequality, *https://bit.ly/3Jhn3AA*

The Russell Sage Foundation was established by Margaret Olivia Sage in 1907 for "the improvement of social and living conditions in the United States." The foundation now focuses on supporting social science research in its core programs as a means of examining social issues and improving policies. Grants are available for research assistance, data acquisition, data analysis, and investigator time for conducting research and writing results.

A detailed letter of inquiry must precede a full proposal. About 15 percent of investigators who submit letters are invited based on external reviews to submit proposals.

See *www.russellsage.org/how-to-apply*. Questions should be sent to *programs@rsage.org*. ■

Climbing the Tower: Developing Your First Promotion Packet as an Academic Collaborative Statistician

Christina Mehta, Emily Leary, Charlotte Bolch, Xiaoming Sheng, and Margaret Stedman

In October of 2021, the ASA Pathways to Promotion Committee brought together Walter Ambrosius and Leslie McClure for a webinar in their Establishing a Collaborative Career in Academia series. The topic of the free webinar, which drew more than 105 attendees, was "Developing Your Promotion Packet as an Academic Collaborative Statistician."

Challenges

Feedback from the first webinar in the series, "Advice for the Promotion of Collaborative Statisticians in Research and Teaching Institutions," inspired the current topic and helped identify the following three main challenges the junior academic collaborative statistician has when preparing and being considered for promotion:

1. A lack of mentorship and strategic planning toward promotion

2. Competing demands on time

3. A poor perception/ misunderstanding of the role of collaborative statisticians in academia

These challenges stem from the traditional approach of many academic departments in which collaborative team research is limited. It is often difficult for an academic collaborative statistician to clearly showcase their individual contribution to a project. More specifically, junior academic collaborative statisticians reported challenges in classifying their contributions, including collaborative research and multidisciplinary teaching, as they do not easily fall into the standard teaching, research, and service evaluation categories.

In addition, planning for promotion is complicated by a lack of universal consensus on evaluation criteria for team scientists, combined with fewer senior collaborative statistics faculty to provide advice and mentorship.

This is further exacerbated by the perception that collaborative statisticians are simply technicians, versus experts who can identify opportunities to improve research through innovation and application of new techniques.

Many comments indicated difficulty in adjusting effort levels, such as increasing teaching or independent research contributions, while balancing strong demand from collaborative partnerships. A related concern was for the isolated statistician without a clear path and in a unique role as the first or only collaborative statistician in an academic department.

Walter Ambrosius is professor and chair of the department of biostatistics and data science at Wake Forest School of Medicine.

Leslie McClure is professor and chair of the department of epidemiology and biostatistics and associate dean for faculty affairs in the Dornsife School of Public Health at Drexel University.

Advice

Ambrosius and McClure advised the audience to learn the detailed promotion process within their home institutions, understand what is valued at the departmental and institutional levels, and consider the politics and priorities of the promotion and tenure committee. They also emphasized the importance of pursuing all opportunities to learn more about the promotion process, including annual workshops; informal promotion reviews; and resources and advice from mentors, department chairs/heads, and other colleagues who have been successfully promoted.

Most importantly, they urged the audience to recognize they are their own best advocate. Ambrosius and McClure told audience members to highlight their accomplishments and "sell" themselves—being explicit and not humble—so their contributions are understood and contextualized for all who may review their promotion packets. This includes understanding their strengths and weaknesses so strengths can be highlighted and weaknesses can be addressed.

Both Ambrosius and McClure also discussed letters of evaluation from external reviewers. They recommended using service opportunities such as grant review panels, professional committees, and conference panels to identify potential letter writers. When choosing reviewers to provide external letters of evaluation, they suggested selecting reviewers who, collectively, can assess all aspects of a promotion packet because it is unlikely to find writers with matching expertise.

In addition, if allowed by the institution, they suggest contacting potential reviewers ahead of time to gauge their willingness and ability to provide an evaluation and (also if allowed) suggest topics to the reviewers. They also encouraged audience members to ensure their packets are well organized and easy for reviewers to navigate and to include thoughtful, well-written, personal narrative statements.

Last, the panelists acknowledged the importance of having a supportive chair and institution when it comes to promoting collaborative statisticians. ∎

STAT*tr@k*

Advice for Tackling Lightning Talks

George Rodriguez
is a senior principal
materials data
scientist. He earned
his MS in statistics
after earning his
PhD in chemistry
at the University of
Rochester.

Interdisciplinary work leads to the exchange of ideas, methodologies, and practices between diverse fields. An example of such practices is the lightning talk. This format lasts 3–5 minutes, rather than the usual 30–50 minutes.

Despite their brevity, these micro presentations may be more challenging to deliver. However, a little thought and specialized preparation should allow you to strike lightning during these quick speaking opportunities.

The suggestions below are based on collective guidelines described in the June and December 2021 editions of *Nature's* Career Guide, Patrick Winston's *Make It Clear: Speak and Write to Persuade and Inform,* and the author's experience with the format.

BEFORE THE TALK

CONCLUSION AS TITLE: Most symposium organizers circulate titles as part of the conference program. Providing the audience with the *main point* of your talk will initiate the information exchange even before the timer begins. If appropriate, drive excitement by suggesting the status quo may need re-assessing—controversy is good.

BE DIRECT: Don't assume the audience will know the importance of your work; clearly state why it matters to them. This aspect is always important, but it's even more critical for lightning talks since you do not have enough time to provide extensive background information.

REDESIGN YOUR TALK: Don't just remove slides from a larger presentation until you think you have five minutes of material to present. Design the content with the condensed format in mind. It may help to think of a lightning talk as a brochure in presentation form. There should only be enough information to entice the audience to engage with you further. Focus on the following four pillars:

- Minimum background justifying the work presented

- Main point describing what was done—a few details are sufficient

- Methods outlining how the work was done—optional in the three-minute format

- Conclusion summarizing what was learnt and next steps, if any

SIMPLIFY: I could make this point by saying *the nature and number of images in the appropriately redesigned deck should be as economical as the words and language used to describe them,* or I could just say *keep it simple.* Use visuals and language to make your points without overloading the audience. Concision makes a big difference in these short presentations. The objective is to inform, not to impress. Brevity and discipline are paramount. (Juxtaposing long and short equivalent sentences in this section was intentional).

PRACTICE: Rehearsing is critical to ensure you succinctly make your points. Minimize message drift often encountered (even welcomed) during full-length presentations. Practice with a stopwatch to develop a tight sense of time.

DURING THE TALK

START STRONG: Begin with your commitment to describe what your audience will learn.

STAY FOCUSED: Opening jokes and tangential anecdotes bring character to longer presentations but are a distraction in the shorter format.

SET THE SCOPE: Create and maintain a clear boundary around the idea being discussed. This approach supports the necessary focus and discipline.

DELIVER A STORY: The talk as a short narrative helps avoid the mechanistic feel of the highly structured delivery required in lightning talks.

PACE YOURSELF: Do not give a full presentation in five minutes by flipping slides rapidly and talking even faster. It's normal to speak quickly when the clock is ticking, but that isn't the best way to convey complicated concepts of importance to you and your audience. Practice will help you maintain an appropriate pace.

AVOID POINTERS: Highlights should be incorporated directly into the slides. Edward Tufte recommends ink minimization, but use of colors will allow you to visually guide the audience through graphics or specific features for easier reference during the talk without the need for a laser pointer.

CYCLE BACK: Return to the promise made in your opening sentences as you close the talk. It seals the deal with the audience and helps cement the most salient point.

SUM UP: Finish by stating the take-away message—no need for the audience to infer.

FOLLOW UP: Lightning talk sessions limit the interaction with the audience. Provide a mechanism for them to follow up (e.g., email address, website).

A successful lightning talk is easily achieved if you reset your thinking when preparing and delivering these shorter presentations. Even if you have described the material previously in a longer format, this is an opportunity to challenge your presentation skills and enjoy a fresh perspective of your work. ∎

STATS4GOOD

ASA Support for Women in Statistics: A Critical Data for Good Mission

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

This month, Stats4Good's 2022 guided tour of the many ways the ASA fosters Data for Good activities continues with support for women in statistics and data science. This includes a wide range of activities, including committees, a conference, outreach groups, and resources.

The ASA's Committee on Women in Statistics (COWIS) plays a leading role, with its charge to "make members of ASA more aware of the common professional interests and problems of women members of ASA." This is manifested in a number of ways, including promoting the status of women in statistics and encouraging more to enter the field.

This commitment means COWIS supports Data4Good by both promoting an underserved group and supporting women's involvement in D4G activities.

The ASA president-elect appoints nine members to the committee for three-year terms. The president-elect also names the chair of the committee. You can get in touch with the committee and learn about their activities at *https://community.amstat.org/cowis/home* and by contacting committee chair Eunice Kim at *eunicejk@alumni.upenn.edu*.

COWIS's charge incudes networking with other groups and serving as the ASA's connection to the wider community engaged in the support of women in our profession and the sciences in general.

The Caucus for Women in Statistics (CWS) is a separate professional society that partners with the ASA and other statistical organizations. The president of CWS serves as an ex-officio member of COWIS, as does a representative from the Statistical Society of Canada. The ASA and CWS work together to administer the Gertrude M. Cox Scholarship, which was established in 1989 to support more women going into careers in statistics-related fields.

As intersectionality is a central issue in diversity and inclusion, ASA members supporting women in statistics often work across committees and outreach groups such as the Committee on Minorities in Statistics and the Justice, Equality, Diversity, and Inclusion (JEDI) Outreach Group.

The ASA's Women in Statistics and Data Science Conference (WSDS) highlights achievements by women in their careers. The 2022 Conference will be in St. Louis, Missouri, October 6–8, and the call for papers opened March 1. The conference supports and shares the accomplishments of women in all areas of statistics and data science at all stages of their careers. In addition to the presentations, building community is a central purpose of the conference. This event is a great place for networking, connecting with potential collaborators and mentors, and finding resources to support career growth and development.

In addition to the annual conference, there are many ways to get involved in this area of D4G. Supporting women in statistics is the work of the entire ASA community, not just one committee or organization.

COWIS also sponsors and organizes a book club meeting

Che Smith presents her poster during a 2019 WSDS speed session.

Kayoung Park from Old Dominion University explains her speed session poster, "A Nonparametric Approach to Evaluating the Point of Treatment Time-Lag Effect," at WSDS 2019.

Getting Involved

In opportunities this month, submissions for the 2022 Women in Statistics and Data Science Conference are open through April 15. The conference will be in St. Louis, Missouri, October 6–8. You can get all the details at *ww2. amstat.org/meetings/wsds/2022.*

twice a month to discuss books such as Eugenia Cheng's *x + y: A Mathematician's Manifesto for Rethinking Gender.* In addition to WSDS, other ASA conferences feature presentations highlighting women in statistics and advocating for their work. JSM has a number of sessions sponsored by COWIS and CWS, so be sure to search the online program to find them. Consider reaching out to the authors and maybe even getting involved directly in their work.

Other ASA conferences also include sessions supporting women. For example, at the 2022 Conference on Statistical Practice, the ethics panel addressed issues of diversity and inclusion, with remarks from ASA President Kathy Ensor and other leaders in the field.

Most important to understand about the ASA's support for women in our profession is it's not for just women. Everyone needs to be involved, because these efforts are telling the world what we hold most true about ourselves: that education, fairness, advocacy, professionalism, and the health and future of our profession really matter.

The work of Data for Good is more than what we do with analytics—it's also how we do it. Sound statistical practice includes both the science and the manner in which it is conducted: equitably, justly, fairly, and with integrity. The three Ps of academic fairness—pay, publishing, and promotions—are what we practice and teach to others.

Where there are underserved or under-represented populations, we take direct action to become more diverse and inclusive. These efforts represent so much of the best of who we are and the best we can become in Data for Good. ■

Wray Jackson Smith Scholarship

Awarded jointly by the ASA's Government Statistics and Social Statistics sections, this scholarship encourages promising young statisticians to consider a career in government statistics by providing up to $1,000 for use in exploring any of a broad number of opportunities.

The scholarship is for students and others early in their careers who show an interest in government statistics. Applicants must have a bachelor's degree or equivalent level of education. Membership in the Government Statistics Section, Social Statistics Section, or ASA is not required.

Applications will be evaluated based on relevance of the proposed activity to government statistics, quality of the proposed activity, innovation/ingenuity of the proposed project, feasibility of completion of the activity, the applicant's career stage, and past performance as reflected in the letters of recommendation.

The scholarship was created to honor the memory of Wray Jackson Smith, a founding member of the Government Statistics Section and a longtime contributor to federal statistics. Smith's federal career spanned four decades and included positions in the Office of Economic Opportunity, Office of the Assistant Secretary for Planning and Evaluation, and the Energy Information Administration. After retiring from the federal government in 1983, he continued to play a role in federal statistics from the private sector.

The deadline for applications is April 1.

To apply for the scholarship, visit the ASA website at *www.amstat.org/ASA/Your-Career/Awards/Government-Statistics-Section-Wray-Jackson-Smith-Scholarship.aspx.* ∎

Mu Sigma Rho, The National Statistics Honorary Society

Ananda Jayawardhana, Mu Sigma Rho Past President

It is time to nominate eligible undergraduate and graduate students for membership in Mu Sigma Rho (MSR), The National Statistics Honorary Society. Student members will receive a certificate, MSR honorary pin, and a one-year free student membership in the American Statistical Association.

According to an October 2021 *Amstat New*s article, "The number of statistics and biostatistics bachelor's degrees have increased by 474 percent since 2010." However, the growth of statistics majors has not been reflected in MSR membership numbers. The same article listed 28 universities that granted statistics or biostatistics degrees for the first time in 2020. Anyone connected with one of those or any other university without an MSR chapter can contact the MSR secretary, Lynne Seymour, at *seymour@uga.edu* to discuss starting one.

To become a member, students must be nominated by a chapter and satisfy several academic requirements (see *www.stat.purdue.edu/msr/Membership.pdf*). Students attending a university with an existing chapter can find their chapter representative from the national MSR webpage (*www.stat.purdue.edu/msr/ChaptersandReps21.pdf*) and discuss the nomination process.

In some cases, an ASA chapter has sponsored an affiliated MSR chapter, including the Boston Chapter, Kansas-Western Missouri Chapter, and Washington Statistical Society. Chapters are usually associated with an academic institution or ASA chapter, but a group of statisticians in a nonacademic institution can also apply for an affiliated chapter.

In addition, MSR annually honors one outstanding teaching faculty member through the Mu Sigma Rho William D. Warde Statistics Education Award (deadline for nominations is in mid-April). This award is given to someone who has an excellent teaching record and a lifetime devotion to statistics education.

Recently, MSR created an award for outstanding junior faculty. This award is given to an early-career faculty member who has made significant contributions to the success of undergraduate students in statistics.

A university does not have to have an MSR chapter to nominate an outstanding statistics professor for either of these awards.

For additional information, contact MSR President Lisa Kay at *lisa.kay@eku.edu.* ∎

Rousseeuw Prize for Statistics

Mia Hubert and Stefan Van Aelst

The King Baudouin Foundation—a large public utility foundation in Belgium—recently established the Rousseeuw Prize for Statistics, which comes with a $1 million award. Nominations will be accepted until March 31.

Statistics is a cornerstone of science, health, industry, economics, and government; it benefits society as a whole. Nevertheless, research in statistics does not receive the same level of recognition as do related fields such as mathematics, physics, and computer science. The Rousseeuw Prize for Statistics, named after its sponsor—statistician Peter J. Rousseeuw—was created to remedy this gap.

The prize will award pioneering work in statistical methodology. It is for an outstanding contribution or tool that has had significant impact and found wide application in statistical practice, with relevance to society.

The prize focuses on the innovation, rather than an individual, allowing for recognition of several people who made significant contributions.

The prize of $1 million will be awarded in even years, starting in 2022, and will be split among all honorees. The first award ceremony is scheduled for November 2022 at the University of Leuven, Belgium.

For the purpose of the prize, statistics is defined as "the science and technology of obtaining useful information from data, taking its variability into account." Statistical work in the above sense can be found under a variety of flags, such as astrostatistics, big data, biometrics, chemometrics, classification, data analysis, data collection, data mining, data science, data visualization, design of experiments, econometrics, environmetrics, genomic statistics, machine learning, multivariate analysis, pattern recognition, psychometrics, quality assurance, quantitative finance, regression, sociometrics, statistical computing, statistical learning, technometrics, time series analysis, etc.

A rough subdivision of the statistics field will be considered: (1) general statistical methodology; (2) computational statistics and data science; (3) biostatistics and environmetrics; (4) statistics in the physical sciences and industry; and (5) statistics in economics and humanities.

The King Baudouin Foundation appoints an international Selection Committee (SC) consisting of 10 reputed statisticians. The SC will make a ranked shortlist of three options in case some awardees do not accept the prize or are unwilling to be present at the award ceremony. To avoid undue pressure on the SC, its members are anonymous while they do their work. When the award is announced, the identities of the SC members whose terms have ended will be communicated.

When selecting the award topic and awardees, the SC will consider important contributions and contributors irrespective of gender, race, sexual orientation, ideology, or religion.

Nominations should propose a particular innovation and a list of important contributors. When making this list, applicants should consider gender diversity when applicable. Self-nomination is not permitted. Nominations, including letters of recommendation, are to be submitted by March 31 at *www.rousseeuwprize.org*, which contains all information about the prize and nomination procedure. ∎

MORE ONLINE
To learn about the King Baudouin Foundation, visit *www.kbs-frb.be/en/about-us*.

Also, read the interview of Peter Rousseeuw by ASA President Kathy Ensor on Page 3 of this issue.

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

AWARD	DEADLINE	QUESTIONS & NOMINATIONS
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*
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*

Hollylynne Lee, distinguished professor of mathematics and statistics education in the North Carolina State College of Education, has been named the recipient of Baylor University's 2022 Robert Foster Cherry Award for Great Teaching.

The Cherry Award program is designed to honor great teachers, stimulate discussion in the academy about the value of teaching, and encourage departments and institutions to value their own great teachers.

Lee will receive a prize of $250,000 and teach in residence at Baylor University during an upcoming semester.

Read more about Lee and the award at *www.baylor.edu/cherry_award*s. ■

Leona Harris has been hired as director of equity, diversity, and inclusion (EDI) at the American Mathematical Society (AMS). She recently completed her term as executive director of the National Association of Mathematicians (NAM) and is concluding a position as a program analyst at the US Food and Drug Administration (FDA). Harris started at the AMS on January 24, 2022, in the AMS's Washington, DC, office.

In her new role, Harris will lead efforts to advance equity, diversity, and inclusion at the AMS and within mathematics. Reporting to Executive Director Catherine Roberts, Harris will oversee the design and implementation of EDI initiatives, examine historical trends and data, and cultivate relationships and trust within the mathematics community. She will also support the AMS Committee on Equity, Diversity, and Inclusion.

"Throughout my professional life, I have been an advocate for underrepresented, underserved, and marginalized populations, and I am deeply honored to have been selected to do this extremely important work with the AMS and the broader mathematics community," Harris said. "I am passionate about and fully committed to this work, and I strongly believe that, together, we can make the mathematics community more diverse, equitable, and inclusive through community engagement, collaboration, and institutional partnerships."

The creation of a high-level staff position on EDI was a recommendation of the AMS Task Force on Understanding and Documenting the Historical Role of the AMS in Racial Discrimination. "As evidenced by the task force report, racism is a concern in our mathematics community and true inclusion will strengthen the advancement of research," said Roberts. "Clearly, the AMS has a role in addressing racism in our profession."

Harris is an applied mathematician specializing in mathematical biology, with expertise in data analysis, modeling, programming, and simulation. She earned her PhD in applied mathematics from North Carolina State University in 2001 after completing undergraduate studies at Spelman College. She finished a postdoc at the National Health and Environmental Effects Research Laboratory of the US Environmental Protection Agency and went on to hold faculty positions at Bennett College, The College of New Jersey, Georgetown University, Marymount University, and the University of the District of Columbia.

Harris spent 10 years at The College of New Jersey, where she was promoted to associate professor of mathematics and held several leadership roles. From 2017 to 2020, she was an associate professor at the University of the District of Columbia, also serving as chair of the division of sciences and mathematics for two years. Since 2020, Harris has worked as a program analyst in the Office of Science at the Center for Tobacco Products of the FDA. In this role, she led the data strategy, reporting, and analysis efforts for a team that implements and supports the Office of Science's strategic planning and process improvement initiatives.

Harris is a cofounder of the Infinite Possibilities Conference, which promotes, educates, and supports minority women interested in the mathematical sciences. She also served as a member (2010–2017) and cochair (2016–2017) of the Diversity Committee for the Park City Mathematics Institute (PCMI), aiming to increase the participation of underrepresented minorities in PCMI's programs for students, college faculty, and secondary school teachers.

"I am looking forward to rolling up my sleeves and beginning the work with AMS leadership, staff, governance, membership, and community to develop and implement an agenda that focuses on breaking down barriers that hinder success in the profession, creating a more inclusive climate in the mathematics community, and moving the organization toward full participation," Harris said.

Harris served as executive director of NAM from 2019 to 2022 and was the organization's interim president from June 2020 through January 2021. A two-time instructor in the Enhancing Diversity in Graduate Education (EDGE) Summer Program, she coedited the 2019 book *A Celebration of the EDGE Program's Impact on the Mathematics Community and Beyond*.

Read about Harris and AMS at *www.ams.org/news?news_id=6918*. ■

Section on Statistics in Genomics and Genetics Works Hard to Serve Membership

Ching-Ti Liu, Boston University School of Public Health Department of Biostatistics, and Katerina Kechris, Colorado School of Public Health Department of Biostatistics and Informatics

The Section on Statistics in Genomics and Genetics is dedicated to advancing statistical and computational research, education, and practice in genetics and genomics. As a relatively new section, we have been especially active this past year hosting regular webinars, organizing career panel discussions, communicating through new social media accounts, and circulating a member survey. These activities were intended to offer opportunities to improve communication with section members, enhance outreach, and support our junior members in their professional careers.

Our section initiated a monthly webinar series, which kicked off with a presentation by Xihong Lin of Harvard University—our section's founding chair. After that, we had nine invited speakers and three panelists for career panel discussions.

The research-oriented webinars covered a range of topics, including leveraging biobank data, performing microbiome analysis, and developing single-cell data methods. In the career-oriented webinars, panelists shared their tricks for time management, research strategies, and healthy habits for graduate students. The webinars have been recorded and are available on our section website for section members.

In addition to the webinar series, invited and topic-contributed sessions on the JSM 2021 program were sponsored by our section to exchange research ideas.

Section leaders have worked hard to identify ways to better serve our members. We revamped our newsletter (*https://community.amstat.org/sectiononstatisticsingenomicsandgenetics/newsletters1*) and added more material for our readers. For example, we showcased several successful female statistical geneticists in honor of Women's History Month,

The revamped newsletter showcases member activities.

interviewed our section's student paper awardees to promote their work, and provided resources and advice for those entering the job market.

In addition, our section extended the use of social media, including Twitter (@ASA_SSGG, *https://twitter.com/ASA_SSGG*), Instagram (ssgg. asa), Facebook (*www.facebook.com/Statistics-in-Genomics-and-Genetics-American-Statistical-Association-101428318930083*), and LinkedIn (*www.linkedin.com/groups/12501931*). We encourage you to follow our social media accounts to stay up to date with our latest events and news.

We had a busy schedule of successful events last year, and there are more to come for 2022. Keep an eye on our schedule of events at *https://community.amstat.org/sectiononstatisticsingenomicsandgenetics/meetings/upcomingevents*.

Consider joining and getting more involved in the Section on Statistics in Genomics and Genetics. ∎

Statistical Computing and Statistical Graphics Sections Announce Award Winners

The Statistical Computing and Statistical Graphics sections sponsor the John M. Chambers Statistical Software Award and Student Paper Award. The winner of the 2022 Chambers Award is **Hubert Baniecki** of Warsaw University of Technology for DALEX (*https://github.com/ModelOriented/DALEX/tree/master/python/dalex*), a Python package for machine learning with interactive explainability and fairness.

The panel also selected an honorable mention, **Vittorio Orlandi** of Duke University, for FLAME (*https://bit.ly/3Iexvsx)*, an R package for interpretable matching methods for performing causal inference on observational data with discrete covariates.

Student Paper Award winners are the following:

- **Mengyu Li** of Renmin University of China for. "Core-Elements for Least Squares Estimation"

- **Emily A. Robinson** of the University of Nebraska, Lincoln for "Eye Fitting Straight Lines in the Modern Era"

- **Abhishek Shetty** of the University of California, Berkeley for "Distribution Compression in Near-Linear Time"

- **Xinkai Zhou** of the University of California, Los Angeles for "Bag of Little Bootstraps for Massive and Distributed Longitudinal Data"

The student award winners will present their work in a topic-contributed session during the 2022 Joint Statistical Meetings (JSM) and receive their certificates and cash prizes at the section mixer, also during JSM.

Raymond Wong, award chair for the two sections, managed the review process for the awards.

The John M. Chambers Statistical Software Award review panel included Yixuan Qiu, Samantha Tyler (chair), and Philip Waggoner.

The Student Paper Award review panel included Linglong Kong, Israel Almodovar, Inyoung Kim, Kiegan Rice, and Raymond Wong (chair).

For award details, visit *https://community.amstat.org/jointscsg-section/home.*

Seeking Nominations

The Statistical Computing and Graphics Award recognizes an individual or team for innovation in computing, software, or graphics that has had an impact on statistical practice or research. Past honorees include Howard Wainer (2021), Luke Tierney (2019), Bill Cleveland (2016), and Robert Gentleman and Ross Ihaka (2010). The prize carries a cash award of $5,000, plus an allowance of up to $1,000 for travel to JSM 2023, where the award will be presented.

Qualifications

- The prize-winning contribution will have had a significant and lasting impact on statistical computing, software, or graphics.

- The nominee should be a member of the ASA.

The Statistical Computing and Graphics Award Committee will review the nominations and make the final determination of who, if anyone, should receive the award. The award may not be given to a sitting member of the awards committee or executive committee of the Section on Statistical Computing or Section on Statistical Graphics.

Nomination and Award Dates

Nominations are due by May 31. Nominations should be submitted as a complete packet, consisting of the following:

- A nomination letter, no longer than four pages, addressing points in the selection criteria

- The nominee's curriculum vita(e)

- A minimum of three (and no more than four) supporting letters, each no longer than two pages

Selection Process

The Awards Committee will consist of the chairs and past chairs of the Statistical Computing and Statistical Graphics sections. The committee will meet at JSM 2022 to select the recipient(s) of the award.

Nominations and questions should be sent to Wong at *raywong@tamu.edu.* ∎

2022-2023 Long Programs

Confronting Global Climate Change
September 19-December 9, 2022

Mathematics, Statistics, and Innovation in Medical and Health Care
March 27-June 2, 2023

The Institute for Mathematical and Statistical Innovation invites applications for Research Memberships for each of its 2022-23 long programs. Financial support is available. Research Members typically spend at least two weeks in residence during the course of a program. For more information, and to apply, see:

https://www.imsi.institute/programs

Propose an Activity

IMSI welcomes proposals for research activity involving applications of statistics and mathematics to problems of significant scientific and societal interest. Areas of specific interest are climate science, data & information, health care and medicine, materials science, quantum computing and information, and uncertainty quantification. There are two proposal cycles each year, with deadlines on March 15 and September 15. Typical frameworks for activity include:

- Long programs
- Workshops
- Interdisciplinary Research Clusters
- Research Collaboration Workshops

For more information, see **https://www.imsi.institute/proposals**. To discuss ideas before submitting a proposal, please contact the Director at **director@imsi.institute**.

Institute for Mathematical and Statistical Innovation
1155 East 60th Street
Chicago, Illinois 60637

info@imsi.institute

Biometrics

This year's David P. Byar Early Career Award goes to Andrew Ying from the University of Pennsylvania Department of Statistics and Data Science at the Wharton School.
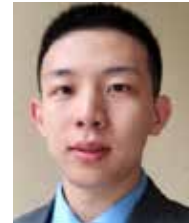
Andrew Ying
University of Pennsylvania

Paper award winners for JSM 2022 are the following:

Bryan Blette
University of Pennsylvania Perelman School of Medicine

Sunyi Chi
University of Texas MD Anderson Cancer Center

Souvik Seal
from the
University of Colorado Anschutz Medical Campus

Satwik Acharyya
University of Michigan ∎

International

■ Research Fellow in Statistics/Biostatistics at the National University of Singapore. The Biomedical Data Science division in the School of Medicine at the National University of Singapore led by Prof. Maria De Iorio invites applications for multiple research positions. The division focuses on methodological and computational contributions in Statistics, in particular within the Bayesian framework. See *https://jobs.amstat.org/jobs/16231181/postdoctoral-research-fellow.* ■

UNC | GILLINGS SCHOOL OF GLOBAL PUBLIC HEALTH

The Department of Biostatistics at the University of North Carolina at Chapel Hill invites applications for a tenure-track position at the rank of assistant professor. Applicants must have a Ph.D. degree in biostatistics, statistics, mathematics, computer science or a related discipline by the time of appointment. The department seeks any candidates with exceptional potential and emerging scholarship who can contribute to the academic and research enterprise of the department, with preference for applicants with a strong commitment to and demonstrated potential for research, application, and instruction in biomedical data science, such as modern machine learning, artificial intelligence, statistical learning, big data, and data mining. The successful applicant will be expected to develop a research program that will be competitive for external funding and to be engaged in the teaching and service activities of the department.

The department and university are committed to diversity, equity and inclusion, advancing the ideals espoused at *https://diversity.unc.edu*. We welcome applications from candidates who will add to the department's diversity.

Qualified applicants should upload a cover letter, an up-to-date curriculum vitae, research and teaching statements, and representative papers. Applicants should also arrange for four letters of recommendation to be sent to Annette Raines at *annette_raines@unc.edu.*

To apply, please go to: *https://unc.peopleadmin.com/postings/219501*

The University of North Carolina at Chapel Hill is an equal opportunity and affirmative action employer. All qualified applicants will receive consideration for employment without regard to age, color, disability, gender, gender expression, gender identity, genetic information, national origin, race, religion, sex, sexual orientation, or status as a protected veteran.

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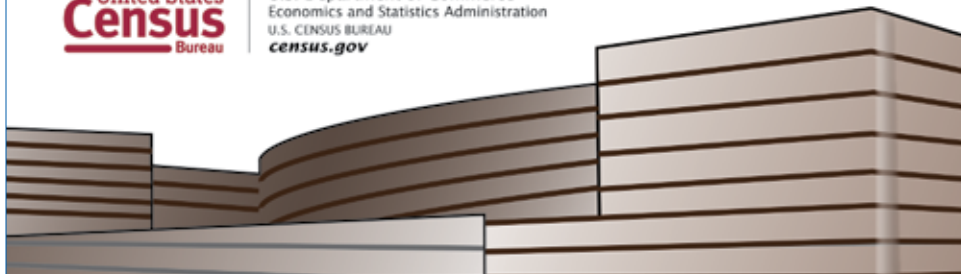
SOCIAL CHATTER

As a statistician, what is your favorite app to help you do your work?

Next month we'll ask "If you could take a year to research your favorite topic, what would it be?" Tag @AmstatNews in your response.

Do you have a creative or interesting question you would like our followers to answer? Share it with us! Email Megan Murphy at megan@amstat.org.

Mandy Mejia, PhD @mandyfmejia
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Nicholas Horton @askdrstats
I couldn't juggle all that I juggle without OmniFocus: Getting Things Done with @omnigroup

Melissa Kovacs @FirstEval
The calendar app!

Mapahla Lovemore @MapahlaLovemore
To-do-list

Alexander Ly @AlexanderLyNL
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Caleb King @ckingstats
I'd add a whiteboard to that list

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Gotta love #trello

Nianqiao Phyllis Ju
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not a favorite but a necessity these days: two-factor authentication apps.
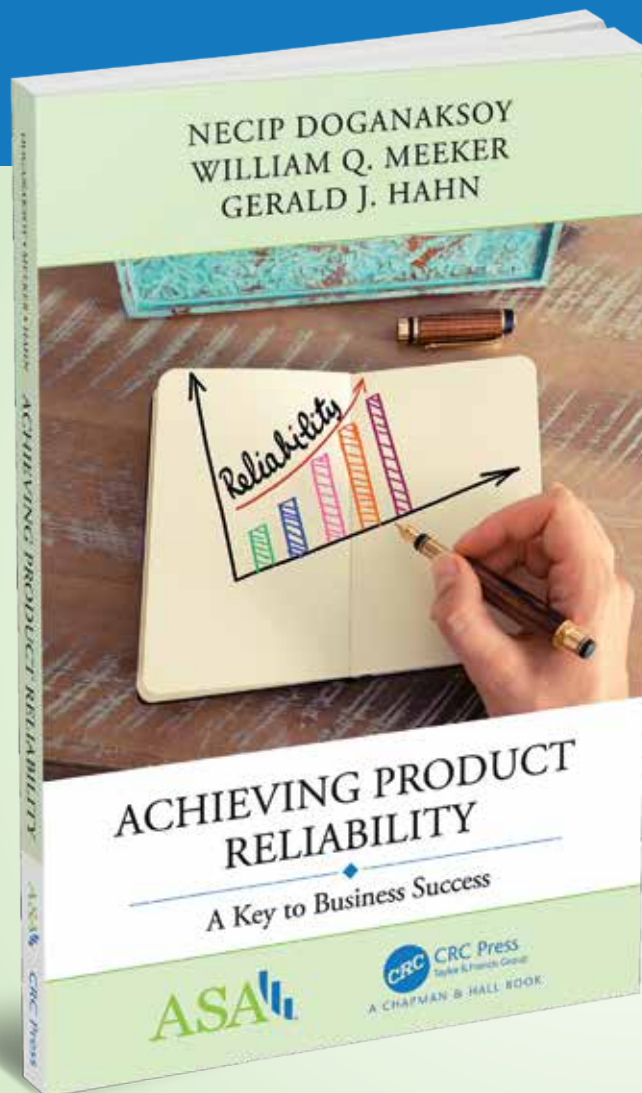
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ACHIEVING PRODUCT RELIABILITY
A KEY TO BUSINESS SUCCESS

Necip Doganaksoy, William Q. Meeker and Gerald J. Hahn

> "
> This is a well-written book which provides good insight into the statistical challenges and opportunities for successfully achieving product reliability for individuals who have completed at least the introductory course(s) in statistics. The target audience will include STEM students and academicians, business managers and professionals, engineers and others. Given the authors' goal of attracting a broad audience, they present a wide array of real-world applications related to locomotives, aircraft engines, automobiles, medicine, and household appliance, etc.
> "
>
> *— Carolyn Morgan,*
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