ALSO:
Everything You
Need to Know
About ASA Ethical
Guidelines for
Statistical Practice

ICHPS 2023
Offers Opportunity
for Professional
Growth, Innovative
Thinking

INTERNATIONAL PRIZE *in*
STATISTICS
Awarded to C.R. Rao

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PARTICIPATE

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March 1–May 15, 2023

Topic-Contributed Proposal Submission
July 10–August 31, 2023

Contributed Abstract & Software Demo Proposal Submission
October 16, 2023–January 15, 2024

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ATTEND

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ICES values its truly international character—plan to gather in Glasgow in 2024.

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ASA

AMSTATNEWS

APRIL 2023 • ISSUE #550

ASA

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

features

columns

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

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

VOTE

2023 ASA Elections

Voting Reminder

Did you read about the ASA candidates for the 2023 election in the March issue? Voting begins April 3 and runs through May 1. Make sure to look for your ballots in your email inbox. View the candidate's statements at *bit.ly/3LCBN1c*.

STAT*tr@k*: Helping you find your way in a data-centric world

New to the profession and looking for a guide? STAT*tr@k* is not only a column in *Amstat News*, but a website for students and early-career statisticians and data scientists. If you are looking for career advice or want to apply for the latest internships and scholarships, visit the website at *https://stattrak.amstat.org*. To receive a monthly email with the latest STAT*tr@k* news, join the ASA's Young Professionals Group on the ASA Community at *http://bit.ly/3ksJmws*.

April Is Mathematics and Statistics Awareness Month

Visit the centerfold and pull out your 11 x 17 math and stats poster!

departments
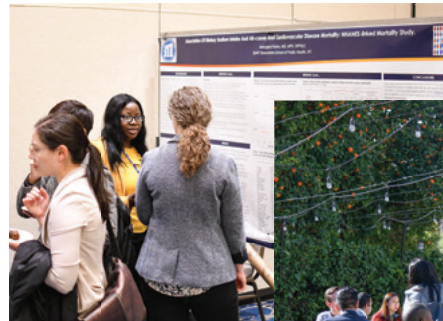
ICHPS 2023 Recap, Page 34

member news

Follow us on Twitter
www.twitter.com/AmstatNews

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www.facebook.com/AmstatNews

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Dionne Price

A pril is Mathematics and Statistics Awareness Month. It began in 1986 as Mathematics Awareness Week with a proclamation by President Ronald Reagan, who said in part:

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

In 1999, Mathematics Awareness Week became Mathematics Awareness Month and, in 2017, the theme was extended to include statistics. The goal, according to the Joint Policy Board for Mathematics, is to celebrate mathematics and statistics and those who are contributing to "furthering discoveries, solving problems, and finding beauty in the world." Thus, it seems fitting that we celebrate and highlight the amazing contributions of our community to science, policy, and the public good. It is impossible for me to include a comprehensive list of noteworthy work in this column, so I encourage you to join me in celebrating by sharing on LinkedIn using #MathStatMonth and tagging the American Statistical Association.

I will begin by recognizing the outstanding slate of ASA candidates for our 2023 election. Reading the candidate statements, I am truly inspired. Their records of scholarship and service exemplify the impact of our profession. Voting begins on April 3 and continues through May 1. I encourage you to read their statements at *bit.ly/3LCBN1c* and participate in the election process.

The *Journal of the American Statistical Association* was established in 1888 and is considered the premier journal of statistical science. The breadth of our impact is highlighted by the most-read articles within the last 12 months. The research presented

includes a machine learning approach to measuring housing vitality (*bit.ly/3Z6JGio*), an exploration of A/B testing and causal effects evaluation (*bit.ly/3LCVYw5*), and an investigation of causal inference for social network data (*bit.ly/3yYESRy*).

There are many more examples of our community driving discovery. For example, you can explore the most-cited *Technometrics* articles published in the last three years (*bit.ly/42neuyi*). You can also delve into the latest open-access articles. I am partial to *Statistics in Biopharmaceutical Research* (*bit.ly/3JY8Kno*), but there is something for everyone. I encourage all to take advantage of this membership benefit and explore the articles in *JASA* and the other ASA publications, as well as the statistics and mathematics journals from Taylor & Francis for which ASA members have complimentary access.
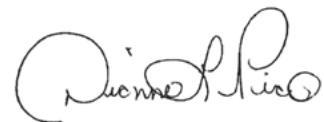
In February, I was honored to give the opening keynote for the 2023 Conference on Statistical Practice. The many excellent presentations at CSP and all our conferences truly support this statement from the original proclamation: "It is appropriate that all Americans be reminded of the importance of this basic branch of science to our daily lives." The names of our conferences (e.g., Symposium on Data Science and Statistics, International Conference on Health Policy Statistics, Women in Statistics and Data Science, and the International Conference on Establishment Statistics) demonstrate the breadth of our influence.

In this month focusing on awareness, it seems appropriate to highlight some of our trailblazers. Annie T. Randall was the first professional African American in several government agencies in which she worked. In the 1960s, while working as a mathematical statistician at the National Institutes of Mental Health in the Theoretical Statistics and Mathematics Branch, she contributed to the book *Human Aging*, which is still used today for behavioral and biological studies.

In 2022, the David R. Cox Foundations of Statistics Award was established to recognize another trailblazer and acknowledge Cox's contributions to the foundations of statistical inference, experimental design, and data analysis. Cox was the inaugural recipient of the International Prize in Statistics. The 2023 prize will be awarded to C.R. Rao at the International Statistical Institute World Statistics Congress in July. The description of the International Prize includes the statement, "Statistics is the soul of scientific enquiry." The contributions of those who have been honored so far—David Cox, Brad Efron, Nan Laird, and C.R. Rao—exemplify this statement.

Prizes and awards are one form of recognition. Another is to receive funding from the National Science Foundation or National Institutes of Health. The competitive and prestigious Faculty Early Career Development (CAREER) program recognizes outstanding research. Exciting projects in statistics include "Detecting Structured Anomalies in Large-Scale Sequential Decision Problems and Latent Variable Models" by Xiaoou Li of the University of Minnesota-Twin Cities and "New Challenges in Statistical Genetics: Mendelian Randomization, Integrated Omics, and General Methodology" by Jingshu Wang of The University of Chicago.

I have only touched the surface of our many contributions. We have much to celebrate in April and beyond as we continue to inform decisions and drive discoveries.

My ASA Story
Theresa Utlaut, Applied Statistician

Theresa Utlaut

My career path has been straight, without many deviations. That might sound boring, but I have loved my adventures as an applied statistician. Before starting graduate school, I knew I wanted to be an applied statistician. It was part of my application essay.

It is rather odd I knew that, given I really did not know much about statistics. I had taken two engineering statistics classes and did not like them. However, I thought there was much more to the field than what I had been taught in those classes. I had always loved mathematics and was passionate about art. Statistics seemed to be a nice merger of the two. So, off I went to graduate school to learn about this field I didn't like but was fairly confident I would learn to like.

During my second year at Oregon State University, I decided to apply for a summer internship. I was fortunate to get an offer from Intel Corporation in the technology development group. That internship ended up lasting for three summers, and then I was offered a permanent position once I graduated with my PhD.

I have worked with the technology development group at Intel for more than 25 years now as an applied statistician. I find it rewarding, since I am working on new and interesting problems all the time. It has been especially challenging and fun in the last decade, with the explosion of data and the different data types—never a dull moment! I am also the director of a wonderful and talented group of statisticians and data scientists, which allows me to define a strategy for the technology development group and how we keep pushing analytics forward.

When a professor went around the department trying to get students to sign up, I joined the ASA without knowing anything about it. I believe it was free for my first year, and I loved free stuff when I was in graduate school. (I'm sure many can relate.) I remained a student member, and I happened to be in Chicago on vacation one summer when JSM was in progress. There was one talk I really wanted to attend, so I went for just a day. It was overwhelming! There were so many people, and they were all excited about statistics. I don't know if I felt joy or fear, but I stayed away from JSM for a few years.

My engagement with the ASA really started with the Oregon Chapter. My department encouraged students to attend the evening meetings, which included a seminar and dinner (the department paid for the dinner, so more free stuff), and I met a lot of great people. The networking kept me engaged after I finished my degree. I became an active member of the Oregon Chapter and served as the treasurer/ secretary, vice president, and president. I also helped coordinate the regional science fair, which I still do today. My involvement in the chapter led me to learn more about the ASA's national activities.

The most-wanted prize at the Q&P/ SPES sections' mixer is a General Mills Dough Boy.

I started to attend JSM regularly. I got hooked on attending JSM when Don McCormack asked if I wanted to go to the joint Q&P/ SPES sections mixer. I wasn't that interested, but he convinced me it was a lot of fun and I might win a "dough boy." If you haven't been to this mixer, they have drawings for amazing prizes with the most sought-after prize being a Fred Hulting–supplied General Mills Dough Boy. I thought they were all a bit on the strange side until I won the dough boy, which turned me into a celebrity for the night. I had a great time and was delighted to be around such amazingly smart and fun people. It is the networking and opportunities to learn from top experts that keep me engaged with the ASA today. ∎

April Issue Focuses on Causal Inference, Computing, Technology

Nicholas Horton
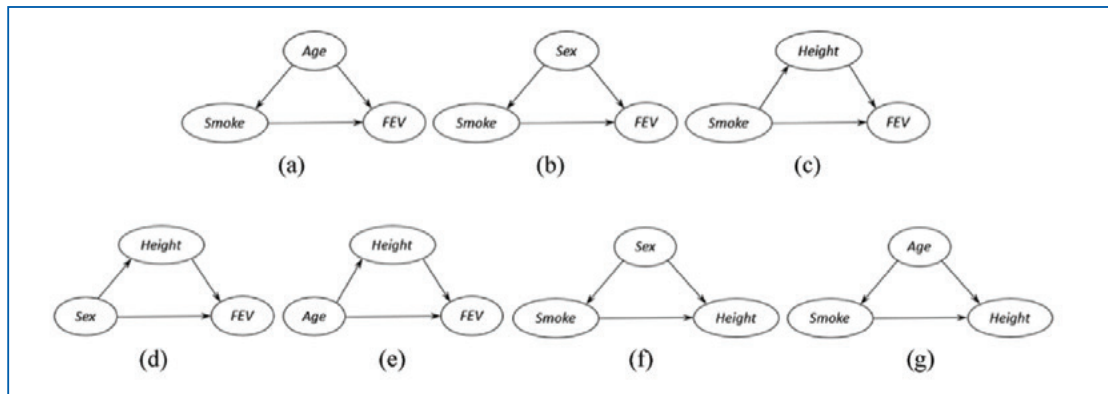
A variety of causal DAGs, as seen in "Introducing Causal Inference Using Bayesian Networks and *do*-Calculus"

The April issue of the *Journal of Statistics and Data Science Education* is freely available online. The issue includes an editorial, plus 10 articles on a variety of topics and projects. The editorial focuses on teaching causal inference, which is also the subject of the first paper in the issue. Yonggang Lu, Qiujie Zheng, and Daniel Quinn introduce causal inference using Bayesian networks and *do*-Calculus.

A cluster of papers about computing and technology also feature in this issue, including the following:

- "Teaching Statistics and Data Analysis with R" by Mary C. Tucker, Stacy T. Shaw, Ji Y. Son, and James W. Stigler

- "Teaching Monte Carlo Simulation with Python" by Justin O. Holman and Allie Hacherl

- "SCRATCH to R: Toward an Inclusive Pedagogy in Teaching Coding" by Shu-Min Liao

- "Open-Source Tools for Training Resources" by Candace Savonen, Carrie Wright, Ava M. Hoffman, John Muschelli, Katherine Cox, Frederick J. Tan, and Jeffrey T. Leek.

The issue rounds out with papers about medical statistics (Benjamin Mayer, Anja Kuemmel, Marianne Meule, and Rainer Muche), a learning intervention to promote self-efficacy (D. Jake Follmer), results from converting a biostatistics course to flipped and online formats (Brandon J. George and Juan Leon), and a study of the effects of anxiety and attitudes on exam scores (Kelly Rhea MacArthur and Jonathan B. Santo).

These papers and more can be found at *www.tandfonline.com/toc/ujse21/current*. ∎

BASS XXX on Tap for October

Registration opens May 1 for the 30th Biopharmaceutical Applied Statistics Symposium (BASS XXX), which will be held in person October 23–25 at the Holiday Inn Savannah Historic District in Savannah, Georgia.

Speakers from academia, the pharmaceutical industry, and the US Food and Drug Administration will give one-hour tutorials on diverse topics pertinent to the research, clinical development, and regulation of pharmaceuticals. There will also be a poster session.

Visit *www.bassconference.org* for more information. To stay up to date on BASS XXX developments, sign up for the mailing list at *www.bassconference.org/about/bass-mailing-list*.

Significance Writing Competition Open for Entries

Are you an early-career statistician or data scientist with a talent for telling data-driven stories in an entertaining and thought-provoking way? If so, we invite you to enter the 2023 Statistical Excellence Award for Early Career Writing.

Jointly organized by *Significance* and the Young Statisticians Section of the Royal Statistical Society, the competition forms part of the RSS Statistical Excellence Awards program.

Early career means students or anyone within the first 10 years of their statistical career. Whether studying, recently graduated, or already working, this competition is open to you.

No topic is out of bounds. Last year's winning article, by Lee Kennedy-Shaffer, explained how statistics can help us evaluate rule changes in baseball. The previous year, Conner Jackson wrote about his investigation into whether a colleague's pet tortoise really could predict the weather. Over the years, we've honored articles about the role of statistics in organ transplant medicine, World War II bombing raids, the reduction of food waste, and millennials' political views. Your article could be based on your work or that of others.

To stand the best chance of winning, your article must demonstrate the power statistics has to challenge myths, shape decisions, and explain the world around us.

To stand the best chance of winning, your article must demonstrate the power statistics has to challenge myths, shape decisions, and explain the world around us.

Significance is published for a broad audience of readers, with varying levels of statistical expertise. This means technical terms and mathematics should be kept to a minimum and explained clearly when used. The tone should be engaging and easy to read—think magazine, rather than academic journal.

Rules of Entry

- Entrants must be either students studying for a first degree, master's, or PhD in statistics, data science, or related subjects or graduates whose last qualification in statistics, data science, or related subjects (whether first degree, master's, or PhD) was not more than five years ago.

- Articles must be between 1,500 and 2,500 words in length.

- Articles can include tables and figures, though—for space reasons—there should be no more than five tables/figures in total.

- Writing style must be accessible and engaging.

- Technical terms and mathematics must be used sparingly and suitably explained when used.

- End references should be limited to 10.

- Footnotes must not be used.

- Only submissions in English will be considered.

- Manuscripts must be original and not under consideration for publication elsewhere. You may submit articles based on work in theses or papers that have been submitted to, or accepted by, academic journals, provided the competition submission is sufficiently different in style and structure.

- All entries must be accompanied by an entry form.

- Email submissions as a text/Word or PDF file.

- Up to three finalists will win a full registration to the 2023 Royal Statistical Society International Conference in Harrogate, UK. Travel and accommodation costs will not be covered.

- Closing date is May 31.

Entries are judged by a panel made up of the *Significance* editorial team and editorial board members. Winners, finalists, and entrants from previous years of the competition are not excluded from participating in this year's competition.

Winners and runners-up will be announced at the RSS Statistical Excellence Awards in the summer and invited to present their articles at the 2023 RSS Conference in Harrogate, Yorkshire, UK (September 4–7). The winning article will be published in *Significance*. Runner-up articles may be published on the *Significance* website or in *Significance* magazine at the editor's discretion. ■

Everything You Need to Know About
ASA Ethical Guidelines for Statistical Practice

The American Statistical Association is the largest community of statisticians in the world. Members use, develop, and share statistical practices from their roles in industry, business, government, and academia. Recognizing *statistical practice* includes activities such as designing the collection of, summarizing, processing, analyzing, interpreting, or presenting data and model or algorithm development and deployment, the ASA Ethical Guidelines for Statistical Practice aim to promote accountability by informing those who rely on any aspects of the statistical practice of the standards they should expect.

Given the critical role of statistics across many diverse disciplines and professions, the ASA's mission—Promoting the Practice and Profession of Statistics—has an important advocacy element in the ASA Ethical Guidelines for Statistical Practice. These guidelines "are intended to help statistical practitioners make decisions ethically."

The first-ever revision of the original 1994 guidelines took place in 2014–2015, with the ASA Board approving the new version in 2016. The board also requested the guidelines be updated every five years. In 2018, the ASA Board requested an interim review to add language that sexual harassment, bullying, and other forms of intimidation are prohibited. In 2021, the Committee on Professional Ethics developed a working group and process to update the guidelines for release in 2022. The ASA Board approved the revised version in February 2022.

The 2016 version broadly defined a statistician as anyone who uses statistics, irrespective of job title and training, but retained the title statistician. The 2021 revisions went further, replacing the title statistician with the more general term statistical practitioner. This change broadened the reach of the guidelines to all who use statistical practices in any domain or role, including data science and analytics. The 2022 version also specifies how the guidelines are relevant to organizations that engage in statistical practice.

2022 Revision Process

The Committee on Professional Ethics consists of nine members, serving (at most two) three-year terms. The ASA seeks to balance membership among industry, government, and academia. In 2018, the committee instituted an online input collection mechanism so all ASA Community members could comment on and make suggestions for changes to the Ethical Guidelines for Statistical Practice. The committee members reached out to sections, committees, and others to encourage engagement with the guidelines revision process.

A working group of four committee members, plus the committee chair, was formed in 2020 in preparation for the work of review and revision to come in 2021. Additionally, Rochelle Tractenberg, the former committee chair and friend of the committee after serving two terms, who had led the previous two revision efforts, co-chaired the working group, which included the following:

- Jing Cao (co-chair)
- Rochelle Tractenberg (co-chair)
- Matthew Rotelli (vice chair)
- Jason Gillikin
- Marcia Levenstein
- Donna LaLonde (ASA liaison)

During 2021, the working group met weekly, moving from the title of the document (determining if the title should change from "statistical practice" to "the practice of statistics and data science"), to the preamble and through each principle in the order of the 2018 document. The member responsible for each principle under discussion made a preliminary pass through the relevant text, led that discussion, and maintained notes on suggested changes and discussions. All working group members contributed to all changes, and the co-chairs maintained one running document with all final changes tracked.

2022 Guidelines

A. Professional Integrity and Accountability (7->12)

B. Integrity of Data and Methods (11->7)

C. Responsibilities to Stakeholders (5->8)

D. Responsibilities to Research Subjects, Data Subjects, and those directly affected by statistical practices (7->11)

E. Responsibilities to Multidisciplinary Team Colleagues (4->4)

F. Responsibilities to Fellow Statistical Practitioners and the Profession (4->5)

New!
G. Responsibilities of Leaders, Supervisors, Mentors in Statistical Practice (5)

New place!
H. Responsibilities Regarding Potential Misconduct (6->8)

New!
+APPENDIX. Responsibilities of Organizations/Institutions (7 + 5)

ASA Ethical Guidelines
8 principles
61 elements

Structure of the revised version compared to the earlier guidelines, with the revised parts highlighted in red

The working group's progress was presented to the Committee on Professional Ethics at its monthly meetings. Other committee members and friends of the committee could comment on changes, make suggestions for revisions, and participate in the working group meetings. These committee members and friends included Harold Gomes, Nilupa Gunaratna, Andrew Hartley, Stephanie Shipp, Millennia Young, and Michael Hawes. The committee unanimously approved changes as the working group completed its work throughout 2021.

Overview of the Revisions

The guidelines have historically been based on transparency, fairness, accountability, and respect, and the 2021 revisions maintained this emphasis. The committee's goal was to update, clarify, and make the guidelines inclusive, relating them to all statistical practices in all disciplines, jobs, and roles. Given the core roles of statistics in a wide range of fields, the working group agreed the guidelines would be recognizable and applicable to anyone practicing statistics, including statisticians, data scientists, and those without these job titles but who engaged in any and all aspects of statistical practice in government, academia (including students), industry, and consulting. The guidelines defined statistical practices in the preamble to include "activities such as designing the collection of, summarizing, processing, analyzing, interpreting,

or presenting data and model or algorithm development and deployment."

This definition was part of the inclusivity aimed at ensuring individuals—irrespective of their workplace, job title, and level of training—recognize the relevance of the guidelines and ethical statistical practice.

To clarify the 2018 guidelines, the 2022 version clearly separated the obligations of employers and organizations/institutions from those of supervisors, which were made more explicit. The principle relating to allegations of misconduct was moved to Principle H and made less specific to "scientific misconduct," which is a construct most specific to federally (US) funded research. Now Principle H relates to scientific, statistical, *and* professional misconduct (as part of the inclusivity and clarification aims).

Describing the Revisions

The preamble was revised to state the following purpose of the guidelines more clearly:

> The Ethical Guidelines aim to promote accountability by informing those who rely on any aspects of statistical practice of the standards they should expect. Society benefits from informed judgments supported by ethical statistical practice. All statistical practitioners are expected to follow these guidelines and encourage others to do the same.

The preamble was also clarified in terms of the need to balance competing interests and the role of the guidelines in that balance:

> In some situations, Guideline Principles may require balancing competing interests. If an unexpected ethical challenge arises, the ethical practitioner seeks guidance, not exceptions, in the Guidelines. To justify unethical behaviors, or to exploit gaps in the Guidelines, is unprofessional and inconsistent with these Guidelines.

The 2022 guidelines retain eight principles and an appendix, comprising 72 elements.

Changes in Guidelines

1. Principle A, Professional Integrity and Accountability, expanded from 7 to 11 elements. The principle was revised to be more general so its elements would more clearly instantiate how to exhibit or conform with the high-level principle. Given the increasing importance of data science and prevalence of statistical practice by data scientists, the elements were revised to be more inclusive of nonexperimental data and a wider diversity of roles of the individual who seeks to use statistical methods/practice in an ethical manner.

2. Principle B, Integrity of Data and Methods, decreased from 11 to 7 elements by refining existing elements and ensuring they were relevant for experimental/survey/designed and not-experimental/not-survey/not-designed data collection efforts.

3. Principle C was clarified to Responsibilities to Stakeholders, with the role of stakeholder, rather than a few specific stakeholders, being the focus of articulated responsibilities.

4. Principle D, Responsibilities to Research Subjects, Data Subjects, and Those Directly Affected by Statistical Practices, was expanded to include more than human subjects in designed experiments.

5. Principle E, Responsibilities to Multidisciplinary Team Colleagues, was clarified to highlight multidisciplinary team colleagues, not just single-discipline colleagues,

and updated to reflect colleagues in projects including research.

6. Principle F, Responsibilities to Fellow Statistical Practitioners and the Profession, was expanded to include responsibilities for promoting integrity in "the practice and profession."

7. One original principle was divided for clarity and inclusiveness, but also to update the guidelines, reflecting the critical role of statistical practices in many diverse workplace environments. The original became:

   • Principle G, Responsibilities of Leaders, Supervisors, and Mentors in Statistical Practice, clarifies the specific responsibilities to promote ethical statistical practice that accrues as the practitioner's role incorporates leadership, instruction, and mentorship. This principle was formulated with a new focus on specific responsibilities for leadership roles. It was created by revising a previous principle relating to employers.

   • An appendix with two parts. Part 1 defines the responsibilities of organizations/institutions employing statistical practice. Part 2 describes the responsibilities of those in leadership, supervisory, or managerial positions who oversee statistical practitioners but may not be practitioners themselves.

8. Principle H, Responsibilities Regarding Potential Misconduct, was moved to the final position, and the applicability beyond scientific misconduct was expanded, updated, and clarified.

The Committee on Professional Ethics forwarded the recommended revisions to the ASA Board in November 2021 for discussion and comment, and the ASA Board approved the final version in February 2022. Also in 2022, the committee developed and implemented an education program to use statistics to socialize the Ethical Guidelines for Statistical Practice across disciplines.

Committee Outreach: Webinars, Podcasts, and Conference Sessions

To introduce the new guidelines, the Committee on Professional Ethics held two webinars in May and June of 2022. Each webinar covered about half the guidelines. A representative from academia, government, and industry presented the application to specific guideline principles and elements to vignettes from their career experiences. Both webinars covered issues around handling disagreements about methods, analysis, results, and interpretation and authorship and co-authorship.

To view the ASA Ethical Guidelines for Statistical Practice in their entirety, visit *www.amstat.org/your-career/ethical-guidelines-for-statistical-practice*.

Selected Vignettes from the May and June 2022 Webinars

During the May webinar, Nancy Potok—former chief statistician of the United States, CEO of NAPx Consulting, and senior fellow at The George Washington University—described the ethical challenges raised when preparing sensitive questions asked of minors in the screener for the National Crime Victimization Survey. She noted Principle D provided the needed guidance to handle this issue.

> **D. Responsibilities to Research Subjects, Data Subjects, or Those Directly Affected by Statistical Practices**
>
> **D2.** Makes informed recommendations for sample size and statistical practice methodology to avoid the use of excessive or inadequate numbers of subjects and excessive risk to subjects.
>
> **D4.** Protects people's privacy and the confidentiality of data concerning them, whether obtained from individuals directly, other persons, or existing records. Knows and adheres to applicable rules, consents, and guidelines to protect private information.
>
> **D6.** Considers the impact of statistical practice on society, groups, and individuals. Recognizes that statistical practice could adversely affect groups or the public perception of groups, including marginalized groups. Considers approaches to minimize negative impacts in applications or in framing results in reporting.

At the June webinar, Jennifer Ortman—principal demographer in the U.S. Census Bureau

Population Division—described her experiences transitioning from peer to supervisor. She connected the relevant principles and elements that guided her:

> **E. Responsibilities to Members of Multidisciplinary Teams**
>
> **E.** It is essential to have a respectful exchange of views.
>
> **F. Responsibilities to Fellow Statistical Practitioners and the Profession**
>
> **F1.** Constructive discourse with mutual respect focuses on scientific principles and methodology and not personal attributes.
>
> **F2.** Help strengthen, and do not undermine, the work of others through appropriate peer review or consultation.
>
> **H. Responsibilities Regarding Potential Misconduct**
>
> **H1.** Seek to clarify facts and intent before alleging misconduct by others.

We encourage you to review the guidelines, webinars, and other materials (see Want to Know More?) to learn more about how to use the ASA Ethical Guidelines in your work. Questions can be sent to Committee on Professional Ethics co-chair, Jing Cao, at *jcao@smu.edu* or committee vice chair, Matthew Rotelli, at *rotelli_matthew_d@lilly.com*. ∎

Recognizing the ASA's
Longtime Members

Each year, the ASA recognizes all members reaching a milestone of 35, 40, 45, or 50 years of membership. All members who joined 35 years or more ago are also extended an invitation to a reception at the annual JSM. If you think your name should appear in the list below and you do not see it, send an email to asainfo@amstat.org or call (703) 684-1221 to correct your record.

50+ Years

Judith Abrams	Abdolrahman Azari	Brent A. Blumenstein	John R. Collins	W. Erwin Diewert	Alan C. Fisher	Dennis C. Gilliland
Lee R. Abramson	Barbara A. Bailar	Thomas J. Boardman	Theodore Colton	Dennis O. Dixon	Nicholas I. Fisher	Phil D. Gilliland
Abdelmonem A. Afifi	R. Clifton Bailey	Robert J. Boik	William Jay Conover	Thomas E. Doerfler	Andrew J. Flatt	Edward J. Gilroy
Robert A. Agnew	Vincent P. Barabba	Gordon J. Brackstone	R. Dennis Cook	Norman R. Draper	Jairus D. Flora Jr.	Phyllis A. Gimotty
Alan Agresti	William A. Barnett	Gary L. Brager	Lewis Coopersmith	Satya D. Dubey	Nancy Flournoy	Howard Seth Gitlow
Dennis J. Aigner	John L. Barone	William M. Brelsford	Margaret D. Copenhaver	Dennis A. DuBose	Richard L. Forstall	John R. Gleason
Per-Anders T. Akersten	John J. Bartko	Ellen F. Brewer	Robert J. Costello	George T. Duncan	Alan B. Forsythe	Leon J. Gleser
Jack Alanen	Noel S. Bartlett	Lyle D. Broemeling	Brenda G. Cox	Joseph W. Duncan	Mary A. Foulkes	Prem K. Goel
Arthur E. Albert	David L. Bayless	Donna J. Brogan	Giles L. Crane	Douglas M. Dunn	James W. Frane	Judith D. Goldberg
Mir Masoom Ali	Charles K. Bayne	Maurice C. Bryson	J. R. Crespo	Francois A. Dupuis	Martin R. Frankel	Robert N. Goldman
Mukhtar M. Ali	Gerald J. Beck	Charles R. Buncher	Larry H. Crow	Benjamin S. Duran	Edward L. Frome	Charles H. Goldsmith
Francis B. Alt	Richard A. Becker	Richard K. Burdick	Jonathan D. Cryer	Robert G. Easterling	Carol Holly E. Fuchs	Louis Gordon
Stan Altan	Laurel A. Beckett	Kenneth P. Burnham	Gerard E. Dallal	Brenda Kay Edwards	Mark C. Fulcomer	Joseph A. Guarnieri
Philip J. Ambrosini	Richard J. Beckman	Norman Bush	Martin H. David	Bradley Efron	Wayne A. Fuller	Donald Guthrie
Sigmund J. Amster	Mary S. Beersman	Patricia L. Busk	Herbert T. Davis III	Janet D. Elashoff	Mitchell H. Gail	Irwin Guttman
Dallas W. Anderson	Donald L. Bentley	Lawrence S. Cahoon	Robert L. Davis	Jonas H. Ellenberg	Edward J. Gainer	Shelby J. Haberman
Gary M. Andrew	Rudolf J. Beran	William L. Carlson	Chauncey Mitchell Dayton	Eugene P. Ericksen	A. Ronald Gallant	Hermann Habermann
Lawrence Annable	Alan P. Berens	Margaret D. Carroll	Enrique de Alba	William B. Fairley	Stephen J. Ganocy	Gerald J. Hahn
W. Tad Archambault Jr.	Timothy M. Bergquist	Raymond J. Carroll	John J. Deely	William R. Fairweather	Fernando L. Garagorry	Timothy O. Haifley
Barry C. Arnold	Kenneth N. Berk	Walter H. Carter Jr.	David L. DeMets	Thomas B. Farver	Turkan K. Gardenier	James L. Hall
Ersen Arseven	Donald A. Berry	John M. Chambers	Arthur P. Dempster	Alan Fask	Joseph L. Gastwirth	Nancy R. Hall
James N. Arvesen	U. Narayan Bhat	Raj S. Chhikara	Frank T. Denton	Robert E. Fay	David W. Gaylor	Silas Halperin
Taka Ashikaga	Wayne F. Bialas	Joan Sander Chmiel	Timothy A. DeRouen	Paul I. Feder	Jane F. Gentleman	Martin A. Hamilton
Joseph R. Assenzo	Peter J. Bickel	Joseph J. Chmiel	Thomas F. Devlin	Walter Feibes	Stephen L. George	J. Wayne Hamman
Corwin L. Atwood	Lynne Billard	William S. Cleveland	Jay L. Devore	Alan H. Feiveson	Jean D. Gibbons	Chien-Pai Han
Agustin F. Ayuso	Christopher Bingham	Robert P. Clickner	Thomas F. Devlin	Ivan P. Fellegi	Rudy A. Gideon	R. Choudary Hanumara
	William C. Blackwelder	Stanley H. Cohen		Martin Feuerman	David E. Giles	
		James J. Colaianne	Paula H. Diehr			

Longtime Members

George W. Williams
John Williams
William H. Williams
Othmar W. Winkler

Robert L. Winkler
John J. Wiorkowski
John E. Witcher
Janet Wittes

John Harmon Wolfe
Robert F. Woolson
Gooloo S. Wunderlich

Marvin Yablon
Morty Yalovsky
Donald E. Young
Douglas A. Zahn

Ann Graham Zauber
Eric R. Ziegel
Calvin Zippin

45–49 Years

Robert D. Abbott
Sandra C. Abbott
John M. Abowd
Bovas Abraham
Mohammad Ahsanullah
James H. Albert
Robert W. Aldred
Steve Ascher
Arlene S. Ash
Anthony C. Atkinson
Steven P. Bailey
Stephen P. Baker
Saad T. Bakir
Jim Baldwin
Eileen J. Beachell
Jay H. Beder
Steven H. Belle
James O. Berger
Roger L. Berger
James S. Bergum
Jose Miguel Bernardo
David J. Bernklau
Charles C. Berry
Paul P. Biemer
Robert H. Bigelow
Richard A. Bilonick
Herbert L. Bishop Jr.
Richard M. Bittman
Jan F. Bjornstad
Peter Bloomfield
Harvey Blumberg
Dan C. Boger
James A. Bolognese
Dennis Boos
David E. Booth, PSTAT
Richard C. Borden
Michael N. Boyd

John E. Boyer
Norman M. Bradburn
Mary-Lynn Brecht
James E. Breneman
J. Michael Brick
David R. Bristol
Ron Brookmeyer
Edward C. Bryant
Thomas J. Bzik
Patrick J. Cantwell
Lynda T. Carlson
Daniel B. Carr
Frank C. Castronova
Aki N. Caszatt
Promod K. Chandhok
John P. Chandler
Judith-Anne W. Chapman
Yogendra P. Chaubey
Richard A. Chechile
Gina G. Chen
William W. S. Chen
Vernon M. Chinchilli
Peter D. Christenson
B. Christine Clark
Cynthia Z. F. Clark
Daren B. H. Cline
Timothy C. Coburn
Michael P. Cohen
Michael L. Cohen
Stephen H. Cohen
Steven B. Cohen
Richard S. Conway Jr.
Bruce K. Cooil
Charles D. Cowan
James A. Creiman
Andrew J. Cucchiara
William G. Cumberland

Leonard A. Cupingood
Robin A. Darton
Bruce M. Davis
Thomas M. Davis
Virginia A. de Wolf
Angela M. Dean
Pierre C. Delfiner
Lorraine Denby
Wayne S. Desarbo
David A. Dickey
E. Jacquelin Dietz
Ralph Digaetano
David P. Doane
Joseph R. Donovan
Bonnie P. Dumas
William D. Dupont
Harold Dyck
Jean L. Dyer
Marlene J. Egger
Kathleen Louise Emery
Wil B. Emmert
Samuel M. Epstein
Neil R. Ericsson
Sylvia R. Esterby
Michael J. Evans
David Fairley
John P. Fazio
Ronald S. Fecso
Christopher A. Field
David F. Findley
Hans-Theo Forst
Peter E. Fortini
Janet F. Fowler
John D. Fox
Leroy A. Franklin
Larry D. Freese
Stephen A. Freitas

Arthur Fries
Paul Gallo
Edward E. Gbur Jr.
Malay Ghosh
John A. Gillespie
Michael E. Ginevan
Beth C. Gladen
Marcia A. Glauberman
William J. Glynn
A. Blanton Godfrey
Avni Goeksel
Richard F. Goldstein
James H. Goodnight
Robert D. Gordon
Barry I. Graubard
Spencer B. Graves
Stephanie J. Green
Timothy A. Green
Joel B. Greenhouse
John Vic Grice
Susan Groshen
Marvin H. J. Gruber
Leslie S. Grunes
Berton H. Gunter
Perry D. Haaland
Katherine T. Halvorsen
Michael S. Hamada
David C. Hamilton
David Hardison
William V. Harper
Stephen P. Harris
Kenneth R. Hartmann
Gary D. Hatfield
Maurine A. Haver
William D. Heavlin
Ellen Hertzmark

Thomas Herzog
Jerry L. Hintze
Chihiro Hirotsu
Doug A. Hlavacek
Lorrie L. Hoffman
Thomas P. Hogan
Alan Hopkins
Carol C. House
Berne Martin Howard III
Mohammad F. Huque
David N. Ikle
John M. Irvine
Alan J. Izenman
Kirk A. Jackson
Jean G. Jenkins
Gary R. Johnson
Gerald A. Joireman
Ian T. Jolliffe
Michael P. Jones
Harmon S. Jordan
David R. Judkins
Karen Kafadar
Lee D. Kaiser
Bruce A. Kaplan
John M. Karon
Richard W. Katz
Jerome P. Keating
James L. Kepner
Meena Khare
Syed N. U. A. Kirmani
George J. Knafl
Kenneth J. Koehler
Abba M. Krieger
Jeffrey P. Krischer
Pieter M. Kroonenberg
Katherine B. Krystinik

Alan H. Kvanli
James R. Lackritz
Nan Laird
Edward Lakatos
Kuang-Kuo Gordon Lan
Philip T. Lavin
Johannes Ledolter
Kelvin K. Lee
Kerry L. Lee
Martin L. Lee
Greg M. Lepak
James M. Lepkowski
Martin L. Lesser
Marcia J. Levenstein
Bruce Levin
Richard A. Lewis
Lawrence I-Kuei Lin
Carol L. Link
George A. Livingston
Stephen W. Looney
Milton W. Loyer
Jay H. Lubin
John MacIntyre
Jay Magidson
Linda C. Malone
Charles F. Manski
Kanti V. Mardia
LeRoy T. Mattson
Scott E. Maxwell
Fred M. Mayes Jr.
Michael J. Mazu
Donna K. McClish
Joseph P. McCloskey
Peter McCullagh
Philip G. McGuire
Stephen A. McGuire
Geoffrey J. McLachlan
Christine E. McLaren

Don L. McLeish
William Q. Meeker Jr.
Cyrus R. Mehta
Kathleen A. Mellars
Michael Meredith
Michael M. Meyer
Terry G. Meyer
Joel E. Michalek
George E. Morgan
June Morita
Max D. Morris
Barbara G. Mroczkowski
Lawrence H. Muhlbaier
Bengt Muthen
Haikady N. Nagaraja
Reinhard Neck
Margaret A. Nemeth
David Butcher Nolle
Michael A. Nolte
Robert M. Norton
El-Sayed E. Nour
Tom S. Nunnikhoven
Barry D. Nussbaum
Kevin F. O'Brien
Ralph G. O'Brien
Judith Rich O'Fallon
Thomas W. O'Gorman
Patrick D. O'Meara
Terence John O'Neill
David Oakes
Michael W. O'Donnell Jr.
Walter W. Offen
Thomas H. Oliphant
John A. Ondrasik
William J. Owen
Albert Palachek

Alberto Palloni

Mari Palta

William S. Pan

Robert A. Parker

Van L. Parsons

Sharon M. Passe

Jeffrey S. Passel

Kevin Pate

Karl E. Peace

N. Shirlene Pearson

Jane F. Pendergast

David W. Peterson

John J. Peterson

Daniel Pfeffermann

Linda Williams Pickle

Gregory F. Piepel

Joseph G. Pigeon

William E. Pollard

Chester H. Ponikowski

Darwin H. Poritz

Manfred Precht

Dale L. Preston

Louis H. Primavera

Howard M. Proskin

Lloyd P. Provost

Clifford R. Qualls

John N. Quiring

Volker W. Rahlfs

Gopa Ray

Domenic J. Reda

William K. Rice Jr.

Paula K. Roberson

Rosemary A. Roberts

Edwin L. Robison

David M. Rocke

Frank W. Rockhold

Anthony M. Roman

Robin L. Rose

Paul R. Rosenbaum

Gary L. Rosner

Lawrence V. Rubinstein

Andrew L. Rukhin

David Ruppert

Estelle Russek-Cohen

Carl T. Russell

Jim Rutherford

Michael S. Saccucci

William H. Sachs

Jerome Sacks

John P. Sall

William M. Sallas

Robert L. Santos

Rama Sastry

Miles M. Sato

Nathan E. Savin

John W. Sawyer Jr.

William G. Saylor

Patricia A. Scanlan

Stephen Schacht

David J. Schaeffer

Mark J. Schervish

Brian R. Schlain

Mark D. Schluchter

David A. Schoenfeld

Timothy L. Schofield

Charles B. Schriver

John H. Schuenemeyer

Donald J. Schuirmann

Steven J. Schwager

David W. Scott

William L. Seaver

Arvind K. Shah

Mohammed A. Shayib

Gary L. Shoop

Patrick E. Shrout

Stanley A. Shulman

Andrew F. Siegel

Richard S. Sigman

Jeffrey S. Simonoff

Terry L. Sincich

Judith D. Singer

Joan H. Skurnick

Richard J. Smith

Richard L. Smith

Tom A. B. Snijders

Francisco P. Soler

Dan J. Sommers

Terence P. Speed

Bruce D. Spencer

Nancy L. Spruill

Donald M. Stablein

Richard M. Stanley

Joel H. Steckel

David W. Stewart

John A. Stewart

Robert A. Stine

Sandra S. Stinnett

Michael A. Stoto

Miron L. Straf

Robert D. Sutherland

David A. Swanson

Robert L. Taylor

Marcia A. Testa

John H. Thompson

Mary E. Thompson

Theodore J. Thompson

Anthony D. Thrall

Luke-Jon Tierney

Richard B. Tiller

Naitee Ting

Jerome D. Toporek

David C. Trindade

Claire Tsao

Kam-Wah Tsui

Gregory W. Ulferts

Thomas J. Uryniak

Jessica M. Utts

Esa Ilkka Uusipaikka

Pamela M. Vacek

Richard Craig Van Nostrand

Stephen B. Vardeman

Joseph S. Verducci

Joseph G. Voelkel

Joachim Vollmar

Grace Wahba

Joel A. Waksman

Katherine K. Wallman

Lars Walloe

Sophronia W. Ward

Herbert W. Ware

Thomas E. Wehrly

David L. Weimer

Clarice R. Weinberg

Daniel L. Weiner

Robert M. Wharton

Andrew A. White

David C. Whitford

Dexter C. Whittinghill III

Leland Wilkinson

Jean F. Williams

Michael A. Wincek

Lawrence C. Wolfe

Kirk M. Wolter

Farroll T. Wright

Tommy Wright

Elizabeth R. Zell

40–44 Years

Michael A. Adena

Joseph Adwere-Boamah

Sung K. Ahn

Christian M. Alaouze

Adelin I. Albert

Jeanne M. Aldred

Melvin T. Alexander

Paul D. Allison

Yasuo Amemiya

Kathryn H. Anderson

John Angle

John E. Angus

Thomas Arbutiski

Stephan Arndt

Jenny A. Baglivo

John Bailer

David L. Banks

Chris M. Barker

Anna E. Baron

Moraye B. Bear

Edward J. Bedrick

Alexander E. Belinfante

Stephen S. Bell

Michael E. Bellow

James Calvin Berry

Jonas V. Bilenas

Bruce Steven Binkowitz

Thomas R. Birkett

David K. Blough

Carol Joyce Blumberg

Mary Ellen Bock

Robert D. Bowser

Pamela W. Broene

Thomas W. Broene

Roger L. Brown

William J. Browning

Judith A. Buchino

Shelley B. Bull

Christine M. Bunck

Thomas E. Burk

Carolee Bush

Carol Veum Caldwell

Charles A. Calhoun

Richard J. Caplan

Michael L. Carniello

John V. Castellana

Deborah A. Cernauskas

N. Rao Chaganty

Subhabrata Chakraborti

Raymond L. Chambers

Charles W. Champ

Douglass S. Chapman

Ching-Shui Cheng

Richard P. Chiacchierini

Yu-Kun Chiang

Christy Chuang-Stein

Constance F. Citro

Murray K. Clayton

Paul E. Coffman Jr.

Richard D. Cohn

Michael Christopher Conlon

Margaret Conomos

Nancy R. Cook

Peyton J. Cook

Stephen R. Cosslett

Noel A. Cressie

Douglas E. Critchlow

Marie Davidian

Barry R. Davis

Richard A. Davis

Richard D. De Veaux

Roger L. Deaton

Michael R. Delozier

Dipak K. Dey

Marie Diener-West

Thomas W. Dobbins

Ken Grant Dodds

Jeff F. Doerzbacher

Gaylen W. Drape

Kevin Ward Drummey

Kirk A. Easley

Robert G. Edson

Don Edwards

Bruce P. Ekholm

Ronald K. Elswick Jr.

Patricia A. English

Eugene A. Enneking

A. Richard Entsuah

Mark A. Espeland

Frederick W. Faltin

Dean H. Fearn

Michael B. Feil

Luisa T. Fernholz

Eric Jeffrey Feuer

Denzil G. Fiebig

Dianne M. Finkelstein

Patrick E. Flanagan

Dean A. Follmann

T. A. Foster

Floyd J. Fowler Jr.

Jerome Frieman

Peter P. Gaccione

Shayne C. Gad

Lionel A. Galway

Michael A. Gates

Constantine Gatsonis

Jeffrey J. Gaynor

Joseph C. Gfroerer

Subir Ghosh

Alfred D. Godfrey

Carl V. Gogolak

Miguel A. Gomez-Villegas

Nancy M. Gordon

Janis G. Grechko

John W. Green

Michael A. Greene

Daniel A. Greer

Timothy G. Gregoire

Yves Grize

Miriam S. Grosof

Antonio F. Gualtierotti

Olivier J. M. Guilbaud

Yesvy Gustasp

Sam Gutterman

Marc Hallin

J. Michael Hardin

Rachel M. Harter

Nathanael Alan Heckert

Charles E. Heckler

Donald R. Hedeker

Daniel F. Heitjan

Victoria Black Hench

David H. Henry

Keith Heyen

Susan G. Hilsenbeck

Joseph G. Hirschberg

Edward C. Hirschland

Longtime Members

Myron Hlynka
James S. Hodges
Paul S. Horn
Welling C. Howell Jr.
Norma Faris Hubele
Esther Sid Hudes
Clive A. Hunt
Gerardo I. Hurtado
Shelley Hurwitz
Linda S. Hynan
Patricia A. Jacobs
Debra J. Jacobson
Denis George Janky
Guillermina Jasso
B. Alan Johnson
Robert E. Johnson
Wesley Orin Johnson
Albyn C. Jones
Bradley A. Jones
Robert I. Kabacoff
Tzu-Cheg Kao
Alan F. Karr
Richard L. Kasul
Charles R. Katholi
Darryl Katz
Sallie Keller
Elizabeth J. Kelly
Arthur J. Kendall
Harry J. Khamis
Ravindra Khattree
KyungMann Kim
Robin Laurence Kirby
Genshiro Kitagawa
John C. Klensin
John Miller Koester
Sarah Hurwicz Kogut
Henryka K. Komanska
Kallappa M. Koti

Ken G. Kowalski
Bertram Krumm
Lynn Kuo
Jurate M. Landwehr
Thomas Lane
Linda B. Lannom
Purushottam W. Laud
Lisa M. LaVange
Brian T. Leahy
David J. LeBlond
Lawrence M. Leemis
John J. Lefante Jr.
Hans Levenbach
Wai K. Li
Lillian S. Lin
Ernst Linder
Bo Henry Lindqvist
Barbara A. Lingg
Charles L. Liss
Regina Y. Liu
Joseph J. Locascio
Wei-Yin Loh
Jeffrey A. Longmate
James T. Love
Joseph F. Lucke
Helmut Luetkepohl
Esfandiar Maasoumi
Donald Macnaughton
Greg Maislin
James C. March
David A. Marker
Paul J. Marovich
James Stephen Marron
Adam T. Martinsek
Carl A. Mauro
Charles Maynard
Allen A. McIntosh

Raymond E. McIntyre
Gerald W. McLaughlin
Gregory C. McLaughlin
Kenneth B. McRae
Robert W. Mee
Shailendra S. Menjoge
R. Daniel Meyer
Ruth M. Mickey
Steven P. Millard
Eva R. Miller
Michael F. Miller
Renee H. Miller
Margaret A. Minkwitz
David H. Moen
Leyla K. Mohadjer
Brian C. Monsell
Leslie M. (Lisa) Moore
Christopher H. Morrell
Linda L. C. Moss
Ronald P. Mowers
Daniel H. Mowrey
Robert A. Muenchen
Nitis Mukhopadhyay
Jurgen Muller
Keith E. Muller
Jeri Metzger Mulrow
Jay Munson
Jayalakshmi Natarajan
William Navidi
Barry L. Nelson
Larry Alan Nelson
Phillip N. Norton
William I. Notz
Douglas W. Nychka
William P. O'Hare
Yoshimichi Ochi

Akinori Ohashi
Ann W. Olmsted
George Ostrouchov
Mark C. Otto
Soo Peter Ouyang
Franz Christian Palm
J. Lynn Palmer
Sastry G. Pantula
Robert J. Pavur
Roxy L. Peck
Elgin S. Perry
Kimberly T. Perry
John D. Pesek Jr.
Gerald L. Phillips
Walter W. Piegorsch
Michael J. Pomerantz
Dudley L. Poston
Paul N. Powell III
Stanley Presser
J. Michael Price
Jamie K. Pugh
William M. Pugh
Trivellore E. Raghunathan
James O. Ramsay
David C. Randall
Richard F. Raubertas
Howard L. Rauch
Nancy Reid
Wasima N. Rida
William J. Riley
James S. Roberts
Richard A. Rode
Ward Rodriguez
Javier Rojo
Jorge Luis Romeu
Elvezio Ronchetti
Robert J. Rosati
Mitchell J. Rosen

Peter J. Rousseeuw
Keith F. Rust
Roland T. Rust
Pedro J. Saavedra
Ulderico Santarelli
Michael J. Santulli
Sanat K. Sarkar
Adriano L. Sarmiento
Stephen M. Scariano
Daniel J. Schaid
Nathaniel Schenker
Mark F. Schilling
David C. Schlotzhauer
Paul R. Schneeman
John R. Schoenfelder
Loren T. Schoof
John D. Schoolfield
Donald E. Schreiner Jr.
Sidney H. Schwartz
Gilg U. H. Seeber
Bahman Shafii
Steven J. Shapiro
Simon J. Sheather
Mack C. Shelley II
Mark R. Shenkman
Irwin J. Shiffer
Weichung J. Shih
Holly B. Shulman
Arthur R. Silverberg
Stephen D. Simon
Richard A. Smiley
Charles Eugene Smith
Elizabeth C. Smith
Eric P. Smith
Steven M. Snapinn
Karen L. Snowdon-Way

Eric R. Sowey
Refik Soyer
James C. Spall
Andrew W. Spisak
Gene D. Sprechini
Kadaba P. Srinath
Cidambi Srinivasan
Paul G. Staneski
Leonard A. Stefanski
David M. Steinberg
Seth M. Steinberg
Lorraine C. Steiner
Barbara Stevens
Maura E. Stokes
Therese A. Stukel
Mark Lionel Suda
Shumei Sun
James J. Swain
Winson Taam
Yoshio Takane
Roy Noriki Tamura
Deborah L. Tasky
Jeremy M. G. Taylor
Timo L. Terasvirta
Jeffrey D. Tew
Brian J. Thelen
Neal Thomas
Lori A. Thombs
David J. Thomson
Michael W. Trosset
Ruey-Shiong Tsay
Clyde Tucker
Thomas P. Turiel
David M. Umbach
Leo T. Upchurch
Leslie A. Van Alstine
Robert L. Vogel
Stanley Von Hagen
Edward F. Vonesh

William Dennis Wacker
Paul G. Wakim
Chih-Ming Wang
Ronald L. Wasserstein
Ann E. Watkins
Carol Weideman
William J. Welch
Stefan Wellek
Alan H. Welsh
James G. Wendelberger
Joanne R. Wendelberger
Glenn Dean White Jr.
David A. Whitney
Alice S. Whittemore
John L. Wieting
William E. Wilkinson
Thomas Reed Willemain
Christopher J. Williams
Rupert R. Wilson
Jeffrey A. Witmer
Marty J. Witt
Luke G. Wolfe
F. Lennie Wong
John R. Woods
Lap-Ming Wun
Emmanuel Yashchin
K. F. Yee
Linda J. Young
Cun-Hui Zhang
Georgia Ziemba Morgan
Dale L. Zimmerman
David M. Zucker

35–39 Years

Robert B. Abel
S. Ejaz Ahmed
Chul W. Ahn
I. Elaine Allen
Terry D. Allen
Stewart J. Anderson

Charles Annis
Gerhard Arminger
Gerald K. Arnold
Thangam Arumugham
Anthony J. Babinec

Donald E. Bamber
Alfred M. Barron
Indrani Basak
Gilbert W. Bassett
Mary K. Batcher
David F. Bauer

Robert J. Belloto Jr.
Teresa Tykodi Berliner
Bhaskar Bhattacharya
Julia L. Bienias

Luigi Biggeri
Paul K. Black
Steven D. Blotner
Barry A. Bodt
Jane M. Booker
David Michael Borth

James E. Bost
Marc L. Bourdeau
Craig C. Brandt
Kenneth M. Brown
Lawrence D. Brown
Nancy E. Brucken

Janet P. Buckingham
John P. Burkett
Beatrice Calvert
Bruce W. Carlson
Joseph E. Cavanaugh
Ngai-Hang Chan

Theodore C. Chang

Yuchiao Chang

Robert L. Chastain

Jiahua Chen

Miriam C. Chernoff

Jean Chesson

Siddhartha Chib

Dongseok Choi

Marcia A. Ciol

Sandra Pryor Clarkson

Anne Clough

James J. Cochran

Michele J. Connolly

Germaine Cornelissen-Guillaume

David A. Crabtree

William S. Croson

John L. Czajka

Steven J. Czarniak

Mark Y. Czarnolewski

Karen Dalton

C. V. Damaraju

Karen Dassel Cook

Jeffrey A. Davidson

Anthony C. Davison

Jeffrey D. Dawson

Mariza de Andrade

Charmaine B. Dean

Paul N. DeLand

Thomas A. Delehanty

Kevin L. Delucchi

Kimberly L. DeWoody

Sherry L. Dixon

Lori Dockter

Curt D. Doetkott

Naihua Duan

Yi-Jing Duh

Susan L. Durham

Jonathan R. Edwards

Lisa D. Edwards

Jimmy Thomas Efird

Susan S. Ellenberg

Scott S. Emerson

James T. Fagan

Kiya Famoye

Charles M. Farmer

Ladislav Z. Ferenczi

James Allen Fill

Charles J. Fisk

Duncan K. H. Fong

Ben F. Fort Jr.

Jean-Louis Felix Foulley

Christine A. Franklin

Spencer M. Free III

Stephen H. Friedberg

Robert C. Gagnon

Joseph A. Galanko

Jack G. Gambino

Joseph C. Gardiner

Richard B. Gates

Steven K. Gelb

Nancy L. Geller

James E. Gentle

Edward I. George

Gregory E. Gilbert, PSTAT

Zvi Gilula

Terry C. Gleason

Graciela M. Gonzalez-Farias

Gerry W. Gray

Mary W. Gray

Robert J. Gray

Sat N. Gupta

Wilbur C. Hadden

Cecilia A. Hale

Alastair Hall

Harold S. Haller

Dan J. Harvey

Stephen J. Haslett

Dennis R. Helsel

James E. Herndon II

Tim Hesterberg

Stephen L. Hillis

Hideo Hirose

Brian Hochrein

Robert Michael Hoekstra

Frederick W. Hollmann

Masaru Honda

Pao-sheng Hsu

Mei Ling Huang

Catherine B. Hurley

Clifford M. Hurvich

Jimmy Hwang

Michael M. Ikeda

Telba Z. Irony

Satish Iyengar

Laura E. James

J. Rodney Jee

George R. Jerdack

Christopher H. Johnson

Roger W. Johnson

Ross J. Johnson

John J. Judge

Stephen D. Kachman

Edmund J. Kademan

Michael A. Karls

Sune Karlsson

Laurent M. Kassalow

Terry L. Katz

Arthur B. Kennickell

John T. Kent

Kurt T. Kessler

Thian S. Kheoh

Kathy Kiesling

Choongrak Kim

Hyune-Ju Kim

Seock-Ho Kim

Dennis W. King

Ingo Klein

James R. Knaub Jr.

Mark D. Knowles

G. Paul Kolm

Mitchell C. Krask

Edward F. Krieg Jr.

Thomas A. Krizanosky

Michael Lavine

William M. Lebow

Peter E. Leone

Emmanuel M. E. H. Lesaffre

Virginia M. Lesser

Russell R. Library

Burton B. Lieberman

Charles A. Liedtke

Amanda F. Linnell Nemec

Yuhlong Lio

Roderick Joseph Little

Lily Llorens

Andrew W. Lo

A. Russell Localio

Robin H. Lock

Richard A. Lockhart

Sharon L. Lohr

Anthony J. Lonardo

Cynthia R. Long

Nicholas T. Longford

Robert Lontka

Louis G. Luempert III

Dibyen Majumdar

Lukas Makris

Dalisay S. Maligalig

Lloyd A. Mancl

Edward J. Mansfield

Guy Manuel

Jack Mardekian

David D. Marshall

Morteza Marzjarani

Thomas Mathew

Susan M. Mayo

Daniel F. McCaffrey

Pamela McGhee

James Anthony McGuire

Mark S. McNulty

David W. Meek

Xiao-Li Meng

Cynthia Meyer

Diane M. Miller

Reza Modarres

Ronald D. Moen

Clinton T. Moore

Lawrence H. Moulton

Hans-Georg Mueller

Edward J. Mulrow

Jeri Mulrow

Tsuyoshi Nakamura

Arline M. Nakanishi

Kannan Natarajan

Tapan K. Nayak

James D. Neaton

Fassil Nebebe, PSTAT

John M. Neuhaus

Xufeng Niu

Sharon-Lise Normand

Vicente A. Nunez-Anton

Sarah M. Nusser

Timothy E. O'Brien

Steve J. Oakley

Alan D. Olinsky

Robert Alan Oster

Dennis K. Pearl

Edsel A. Pena

Darryl Neil Penenberg

Gene Anthony Pennello

Richard N. Penny

Richard K. Perline

Pierre Perron

Barbara H. Perry Cooper

Rebecca L. Pierce

Barbara Alison Prillaman

Victor R. Prybutok

Joseph A. Pultz

Shankang Qu

Charles P. Quesenberry

Nalini Ravishanker

Ray Redd

Arlene L. Reisman

John Reynolds

Robert J. Reynolds

Martin G. Ribe

Andre Rogatko

Harry M. Rosenberg

Marjorie A. Rosenberg

Francis J. Rossi

Charles M. Rowland

Jon Todd Sahlroot

V. A. Samaranayake

Thomas D. Sandry

Todd Sanger

Abdul J. Sankoh

Albert Satorra

Michael J. Schell

Allen L. Schirm

Christopher H. Schmid

Paul L. Schmidbauer

Helmut Schneider

David S. Schwarz

Francoise M. Seillier-Moiseiwitsch

Pali Sen

Terry L. Settje

Stephanie S. Shipp

Thomas S. Shively

Tamara Siegel

Samuel Simmens

Douglas G. Simpson

Karan P. Singh

Elizabeth H. Slate

Eric V. Slud

Jennifer Smith

Jonathan R. Smith

Marjolein V. Smith

Stephanie A. Smullen

Victor Solo

Andrew R. Solow

Patrick D. Spagon

Nancy Stambler

Michael L. Stein

Stefan H. Steiner

Meghan Steinhaus

Hal S. Stern

Susan LeRoy Stewart

John M. Stickler

Marilyn J. Stolar

John Stufken

Agus Sukmana

Brajendra C. Sutradhar

Tim B. Swartz

Kathryn A. Szabat

Enoch C. Temple

Patrick H. Tendick

Fisseha Tesfaye

Terry M. Therneau

Kanapathi Thiru

James C. Thompson

Michael H. Thomson

Dana L. Tilghman

Barbara C. Tilley

Ram C. Tiwari

Walter S. Tletski

Margot H. Tollefson

Mark A. Traccarella

Rebecca E. Trempel

Mario F. Triola

Chih-Ling Tsai

Kao-Tai Tsai

Granville Tunnicliffe-Wilson

Peter Van Der Heijden

Scott A. Vander Wiel

Raja P. Velu

Paul W. Vos

Kimberly Vukovinsky

Karen L. Walton-Bowen

Naisyin Wang

Suojin Wang

Michael T. Weaver

Peter H. Westfall

Charles E. White

Mary M. Whiteside

Scott B. Whitwer

Douglas P. Wiens

G. David Williamson

Diane K. Willimack

Michael G. Wilson

Michael E. Wisniewski

Michael B. Witt

Peter C. Wollan

Jonah Wong

William H. Woodall

Brian W. Woodruff

George G. Woodworth

Samuel W. Woolford

Werner Wothke

Elizabeth C. Wright

S. Paul Wright

Jeremy Wu

William J. Wunderlin

Theodore R. Yachik

Robert A. Yaffee

Sergio Yanez-Canal

Joanna Y. Yang

Hossein N. Yarandi

Zhiliang Ying

Donald Ylvisaker

Marian Y. Y. Yong

Russell S. Yost

Sidney Stanley Young

Walter R. Young

Sandy L. Zabell

Paul L. Zador

Jerrold H. Zar

Judith E. Zeh

Longtime Members

ASA, GMU Team on Project to Assess Health of Federal Statistical Agencies

Jonathan Auerbach, Claire McKay Bowen, Constance Citro, Steve Pierson, and Nancy Potok

Federal statistics support our democracy in crucial and often overlooked ways. They ensure the fair allocation of political representation and government funding; support public and private programs in agriculture, science, health, education, criminal justice, and other areas; advance research that drives innovation and guides policymaking; and improve public understanding of social and economic trends. But the federal agencies that produce statistical data face a growing number of threats (see *bit.ly/3LJTMmD*).

Events like those surrounding the 2020 Census (*bit.ly/42hlEUD*) reveal the integrity of key data sets is at risk. So is the ability of statistical agencies to control basic administrative decisions (e.g., the abrupt relocation of USDA's Economic Research Service and subsequent loss of staff, *bit.ly/3TneaM8*). Yet due to the political nature of these events, reactions are easily dismissed as partisan. A proactive approach is necessary to address the vulnerabilities of our statistical infrastructure before they become politicized.

Recently, a grant from the Alfred P. Sloan Foundation funded a collaboration between the American Statistical Association and George Mason University to assess the health of the federal statistical agencies.

A team made up of ASA members Jonathan Auerbach, Claire Bowen, Constance Citro, Steve Pierson, and Nancy Potok will begin reporting their assessment on the health of the federal statistical agencies in the first quarter of 2024, with updates annually thereafter.

The work will build on the many guidelines the statistics community has established to protect federal statistical systems. These guidelines include the US Office of Management and Budget Statistical Policy Directives, the National Academies Principles and Practices for a Federal Statistical Agency, and the United Nations Fundamental Principles of Official Statistics.

The assessment will measure the extent to which these guidelines are met in practice, and thereby evaluate the health of the federal statistical system. The goal is to devise a set of simple and transparent indicators, or "vital signs." Candidate indicators include measures of the following:

- Resources (e.g., budget levels, staffing, contracting, unfunded mandates)

- Professional autonomy (see *bit.ly/3yHMkk1* for preliminary work)

- Innovation/modernization capabilities (e.g., new products, pilot projects, staff exchanges with other agencies and academia, timeliness of data releases)

- Workforce (e.g., employee satisfaction, professional development, recruitment and retention, diversity)

- Host agency support for statistical agency (e.g., layers between statistical and host agency heads, initiatives in president's budget request)

- Data use and user engagement (e.g., transparency, dedicated advisory committee, customer satisfaction, data access modes and their timeliness and usability)

The team will rely primarily on publicly available information, supplemented by information provided by the statistical agencies from structured inquiries. They will identify data sources, consult widely with the agencies and others about suitable metrics, develop a first suite of metrics, review them in a public workshop in the fall, and publish the first annual report on the health of federal statistics in early 2024.

Send any comments or suggestions to ASA Director of Science Policy Steve Pierson at *spierson@amstat.org*. Students who wish to get involved should also reach out to Pierson.

Follow the team's progress at *bit.ly/3Tt5J1K*. ■

Biostatistics Exposure Program Seeks Partners, Speakers

The Memorial Sloan Kettering Cancer Center Bridge to Biostats Committee seeks to share their Biostats Day program with organizations that work with students from historically underrepresented backgrounds in the biostatistics field, are STEM-inclined, and may benefit from exposure to biostatistics.

Also wanted are practicing (bio)statisticians across different industries who want to share information about their path to biostatistics and what they are currently working on in a 10–20-minute presentation.

The Bridge to Biostats Committee formed in 2020 with the goal of increasing the number of underrepresented students who go on to pursue statistics in higher education. To that end, the committee developed the Virtual Biostats Day program, which includes a presentation featuring an overview of the biostatistics field, interactive statistical activities with real-time data collection and visualization, a short presentation by a working biostatistician about their path to biostatistics, and suggested next steps if students are interested in learning more about the field. The aim is to host four Biostats Days per year.

Over its first two years, the committee presented the program to more than 100 high-school students through collaborations with four partner organizations: Bridge to Enter Advanced Mathematics (BEAM), Einstein Enrichment Program at Albert Einstein College of Medicine, City University of New York's STEM Research Academy, and Memorial Sloan Kettering's Summer Exposure Program. While these programs were held virtually due to the pandemic, students participated actively, and feedback was enthusiastic: More than 80 percent of students across the multiple presentations expressed interest in learning more about biostatistics in post-program polls.

In November 2022, the committee adapted the virtual presentation for its first in-person event in

Bridge to Biostats

On the Horizon

The committee has a forthcoming manuscript describing Biostats Day in greater detail, including a slide deck that can be adapted for any individuals or groups interested in implementing a similar exposure program.

MORE ONLINE
To know what the Bridge to Biostats Committee is up to, follow them on Twitter *@Bridge2Biostats*.

partnership with Baruch College STEP (Science Technology Entry Program) Academy. The program was received well, with 100 percent of the 36 participants reporting they found the presentation interesting/useful and 86 percent expressing further interest in biostatistics in the post-program survey.

Partner staff members were also enthusiastic. Simone Webb, assistant director at Baruch College STEP Academy, wrote, "Your committee's presentation was 'the talk of the town.' Students were truly engaged, as was … our assistant. She mentioned how she did not have these opportunities as a high-school student, perhaps her path would have been different with exposure to fields such as biostatistics."

To become a partner organization, send an email to *bridgetobst@mskcc.org*. To serve as a short presentation speaker, fill out the form at *bit.ly/3FnKgBx*. This form will remain open throughout the year and reviewed on an ongoing basis. ∎

UMN Committee, Local Schools Create Mutually Beneficial Collaboration

Marta Shore and Sarah Samorodnitsky, University of Minnesota

As new Minnesota high-school science standards encouraged having students discover phenomena for themselves through data, teachers at Coon Rapids High School and Saint Paul Public Schools reached out to Marta Shore and Sarah Samorodnitsky at the University of Minnesota for help creating lessons in interpreting data. Shore and Samorodnitsky saw an opportunity to help students see statistical analysis as relevant to their lives, which would better promote statistics as a future career, and jumped on it.

They spearheaded the University of Minnesota's Biostatistics Community Outreach and Engagement Committee and created the following two collaborations that illustrate the symbiotic relationship between the committee and local schools.

Coon Rapids High School, Coon Rapids, Minnesota

During the early days of COVID, Coon Rapids High School teachers Ann and Luke Gliddon were pondering ways for students to learn about biomedical research remotely. They came up with the idea of having students use The Islands, a virtual online world, to conduct simulated clinical research and asked Shore and Samorodnitsky to help with study design. Shore and Samorodnitsky then recruited biostatistics graduate students from the Biostatistics Community Outreach and Engagement Committee to serve as statistical consultants.

The consultants were asked to meet with students to discuss their ideas, answer their questions, and review their proposals. After the high-school students collected data via The Islands and performed the analysis, the consultants were invited to give feedback on the students' final presentations.

Ann and Luke were not only interested in the technical knowledge the graduate students had, but hoped the partnership would provide an opportunity for their students to see themselves as future graduate students pursuing a career in biomedical and public health research.

Shore and Samorodnitsky have now collaborated with Ann and Luke's class for three years, and Ann and Luke have consistently shared the importance of having outside professionals take an interest in their students' work. "I can't overstate the impact of having an adult expert and role model interested in these students and their projects," said Ann. "Many of our students will be first-generation college students, and they may not have met a graduate student before. They were so fascinated by the idea that you were volunteering to work with them and not being paid—or getting extra credit!"

"Now they know a biostatistician," Ann continued. "They know what that term means. They are more data literate and hopefully are more able to sort out some truth from data."
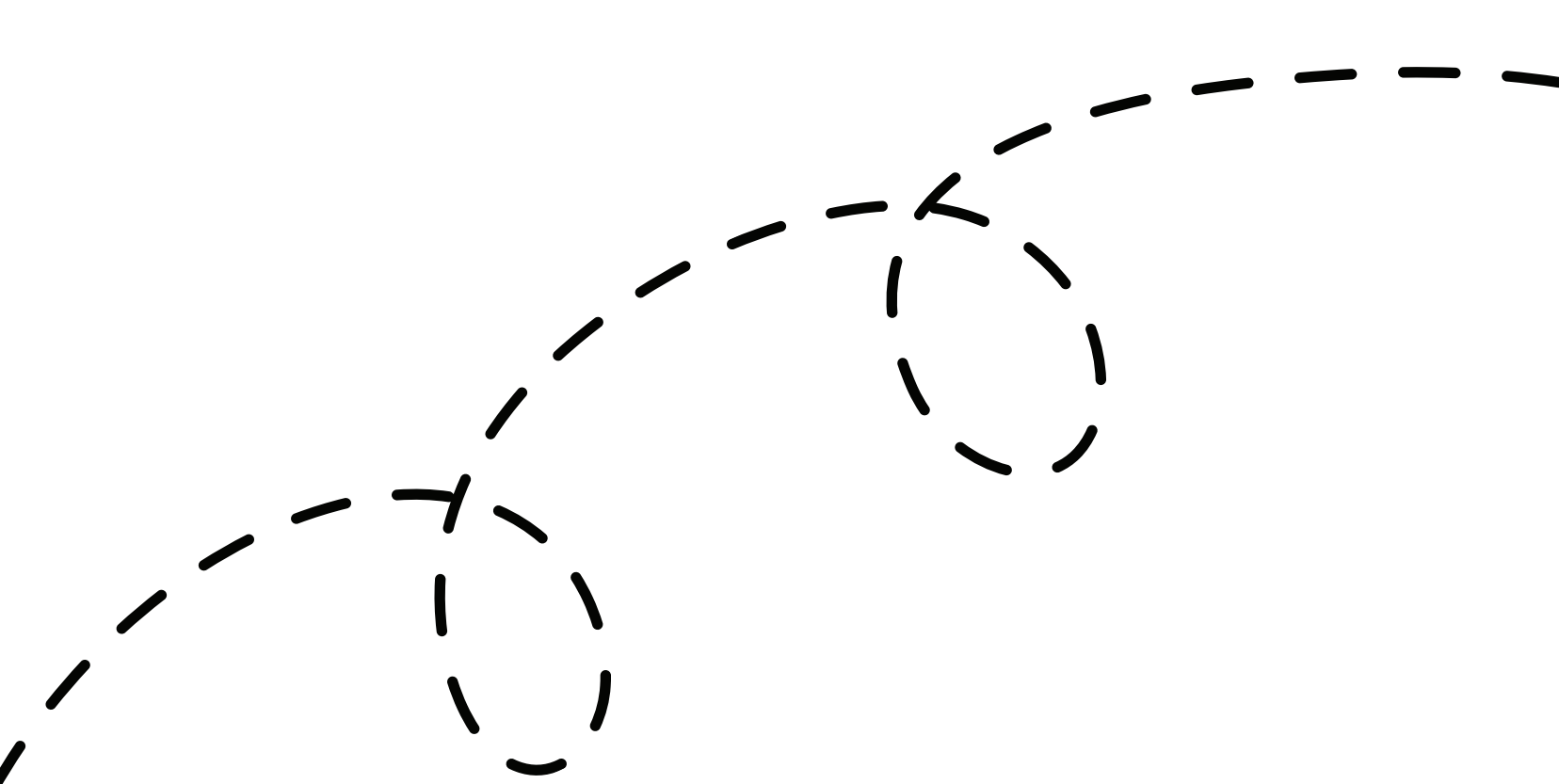
Saint Paul Public Schools

Saint Paul Public Schools became one of the Biostatistics Community Outreach and Engagement Committee's early collaborators. SPPS is one of the most diverse school districts in Minnesota in terms of race, ethnicity, languages spoken at home, and socioeconomic status. In 2020, SPPS launched an initiative that focused on incorporating career pathways into courses to make learning relevant and practical for students. SPPS was interested in educational materials that illustrate biostatistics as a future career.

The committee's first project was a collaboration with Earth science teachers who wanted to meet new state science standards on data exploration with educational materials that incorporated local data relevant to students' lives. Graduate student members of the committee developed an R Shiny app with the teachers that allowed users to explore Minnesota air quality data (*bit.ly/3yEZT3N*).

Committee members met with teachers frequently to understand their needs, receive feedback, and ask questions about the design and functionality of the app. The final product included the previous five years of air monitoring data and allowed students to explore how air quality (PM2.5, AQI) changes due to both natural and man-made phenomena. One of the local air quality monitoring stations was even located at an SPPS high school.

Since its launch, the app has been used in several SPPS classes and allowed students to ask questions and form hypotheses about what affects the air quality in their environment. Students have been able to relate national news and local events to local air quality trends. Furthermore, the app design has given students the power to choose what to analyze, and the app explains the results in plain language. Not only do students see what statisticians and data scientists can create, they can see themselves asking questions and finding answers in data.

Mission Accomplished

Shore and Samorodnitsky's goal when establishing a biostatistics outreach committee was to spread awareness of biostatistics as a career to students in and near the Twin Cities. Local public schools wanted to create long-term partnerships to improve curriculum and incorporate career pathways into learning. The relationship between the committee and schools allows for collaborations that spread biostatistics awareness and improve data science literacy among high-school students, while improving curriculum and incorporating career pathways into lessons.

To learn more about the University of Minnesota's Biostatistics Community Outreach and Engagement Committee, visit *bit.ly/3Ts62K7*. Questions can be directed to Shore at *shore007@ umn.edu*. ∎

Data Science and Literacy Education Bill Gets Bipartisan Introduction

Members Needed to Build Support

Kiana J. Moore and Steve Pierson

Rep. Haley Stevens (D-MI), Rep. Jim Baird (R-IN), Rep. Don Beyer (D-VA), and Rep. Young Kim (R-CA) introduced the Data Science and Literacy Act in the House of Representatives February 14, following advocacy by the ASA and its members that formally kicked off at the Joint Statistical Meetings. The sponsors spoke passionately about the need for great data literacy in a statement:

> "Data education is integral to bolstering our global competitiveness, unlocking good-paying jobs, and fostering a well-informed society. I am proud to introduce this legislation that helps ensure, no matter their background or ZIP code, that all students are equipped with the necessary tools and knowledge to prepare them for a career in the STEM fields."
>
> -Rep. Stevens

> "The Data Science and Literacy Act will equip educational institutions with the tools they need to teach students of all ages and across all regions of the country the skills needed to get good-paying jobs and help our nation win the future. I will always support opportunities for students to access a quality education and achieve their dream."
>
> -Rep. Kim

> "We live in a world full of data—from the logistics information collected to streamline supply chain operations, to the tracking done by the public health industry to halt the spread of diseases, to the data collected by our smartphones about our everyday lives. As the use of data to optimize operations across industries increases, so does the demand for data literacy in America's workforce."
>
> -Rep. Beyer

> "As world leaders in technological advancement, it's essential that we create programs that increase access to data science and literacy education so students from an early age can earn a well-rounded STEM education. Improved access to these tools is essential for building tomorrow's workforce …"
>
> -Rep. Baird

The ASA was one of 18 organizations endorsing the bill at its introduction, and 2022 ASA President Katherine B. Ensor was also quoted in Stevens' press release:

> Statistics and data science are fundamental to production, innovation, and discovery, so there is a high demand for a workforce with statistics and data science skills. Everyone receives data-driven information and faces data-driven decisions daily. The Stevens-Baird-Beyer-Kim Data Science and Literacy Act brings attention to the tremendous job opportunities for data-savvy students. It helps schools provide statistics and data science education that meets workforce and society demands and prepares future researchers.

The Data Science and Literacy Act of 2023, the drafting of which was led by then-ASA Science Policy Fellow Ed Wu, supports a voluntary program at the Department of Education through which educational entities (pre-K–12 and two- and four-year colleges) can apply for funding to increase access to data science and literacy education. The bill would authorize $10 million annually for this program. Eligible entities such as states, local educational agencies, tribal schools, and institutions of higher education can use grant funding to do the following:

- Ensure access to data science, data literacy, and statistics education for all students served by the eligible entity

- Promote data science, data literacy, and statistics through professional development for teachers and developing learning material

- Expand access to STEM classes, using data science and literacy as a catalyst for increased interest in STEM more broadly

- Address equity gaps in access to STEM courses

"It's essential all children leave high school able to live and work in a data-driven world," said Donna LaLonde, ASA associate executive director, in the ASA press release that also highlighted the ASA's guidance for pre-K–12 statistical education: *Guidelines for Assessment and Instruction in Statistics Education (GAISE)* and the

2022 Joint ASA-National Council of Teachers of Mathematics Position Statement on Preparing PK–12 Teachers of Statistics and Data Science.

The ASA press release also supported the case for the bill and greater data literacy. Data-driven roles such as data scientist and statistician are among the fastest-growing positions in the United States, according to the Bureau of Labor Statistics' top 10 fastest-growing occupation projections, which have included statisticians continuously since the 2014–2024 projection. The 2021–2031 projection estimates a 33 percent increase in employment for statisticians and—for the second consecutive time—includes the closely related occupation data scientist in the top 10 list.

In addition, the press release noted the ASA's documentation of the rapid growth of the number of bachelor's and master's degrees in statistics—a six-fold increase for the former and 2.5 for the latter—and related fields awarded annually and the number of universities granting those degrees.

ASA staff and collaborators are seeking bipartisan introduction in the Senate.

Further Reading

- Data Science and Literacy Act
  https://bit.ly/3YWvJ6G

- "Passion for Data Literacy Puts Member on Capitol Hill"
  https://bit.ly/3n1fKa0

- "ASA Praises Bipartisan Introduction of Data Science and Literacy Education Bill"
  http://bit.ly/3TmCxJD

- Joint ASA-NCTM Position Statement on Preparing PK–12 Teachers of Statistics and Data Science
  https://bit.ly/42eOGV9

- *Guidelines for Assessment and Instruction in Statistics Education* (*GAISE*)
  http://bit.ly/3yHfC2b

- Fastest-Growing Occupations, 2014–2024
  http://bit.ly/3YQEAa2

Help Build Support for the Bill

While the bill's introduction in the House is exciting, it's a first step in the ASA's work to promote greater statistical and data literacy. Besides having a companion bill in the Senate, the more representatives and senators who are aware of the importance of such literacy for our country and for providing access to 21st-century jobs, the better. Your outreach is critical to building awareness and securing more support for the bill, which improves its chances of influence and enactment. Here are ways to help:

1. Urge your organization/employer to show their support for the bill by signing the letter organized by Data Science 4 Everyone at *bit.ly/3Ln6QxY.* (Ignore this request if you work for a federal, state, or local government or other ineligible organization.) We'd especially welcome organizations with a multi-state presence.
2. Voice your support for the bill as an individual by signing the same Data Science 4 Everyone letter.
3. Sign up to participate in an upcoming ASA Virtual Advocacy Day at *bit.ly/3lm9QzZ* to urge your US representative(s) and senators to support the Data Science and Literacy Act.
4. Share news of the bill with your networks.

Contact ASA Director of Science Policy Steve Pierson at *spierson@amstat.org* if you have any questions.

- Fastest-Growing Occupations, 2021–2031
  http://bit.ly/3YQf7NN

- "Statistics, Biostatistics Degree Growth Continued in 2021"
  https://bit.ly/3TlIpCP

- Statistics and Biostatistics Degree Data
  http://bit.ly/428HJ7U ∎

EMINENT STATISTICIAN
C.R. RAO
Awarded 2023 International Prize in Statistics

C.R. Rao, a professor whose work more than 75 years ago continues to exert a profound influence on science, has been awarded the 2023 International Prize in Statistics.

In his remarkable 1945 paper published in the *Bulletin of the Calcutta Mathematical Society*, Calyampudi Radhakrishna (C.R.) Rao demonstrated three fundamental results that paved the way for the modern field of statistics and provided statistical tools heavily used in science today.

The first, now known as the Cramér-Rao lower bound, provides a means for knowing when a method for estimating a quantity is as good as any method can be. The second result, named the Rao-Blackwell Theorem (because it was discovered independently by eminent statistician David Blackwell), provides a means for transforming an estimate into a better—in fact, an optimal—estimate. Together, these results form a foundation on which much of statistics is built. And the third result provided insights that pioneered a new interdisciplinary field that has flourished as "information geometry." Combined, these results help scientists more efficiently extract information from data.

Information geometry has recently been used to aid the understanding and optimization of Higgs boson measurements at the Large Hadron Collider, the world's largest
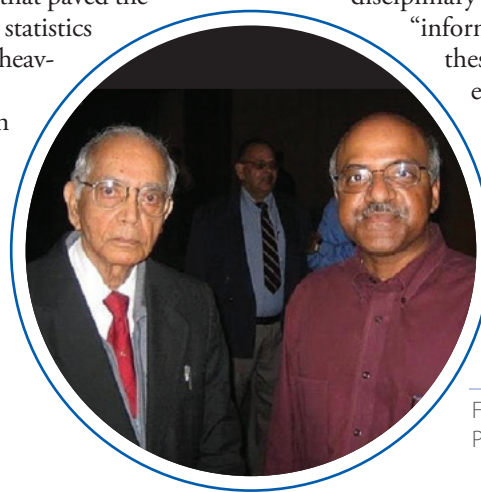
From left: C. R. Rao with 2010 ASA President Sastry Pantula

and most powerful particle accelerator. It has also found applications in recent research on radars and antennas and contributed significantly to advancements in artificial intelligence, data science, signal processing, shape classification, and image segregation.

The Rao-Blackwell process has been applied to stereology, particle filtering, and computational econometrics, among others, while the Cramér-Rao lower bound is of great importance in such diverse fields as signal processing, spectroscopy, radar systems, multiple image radiography, risk analysis, and quantum physics.

"In awarding this prize, we celebrate the monumental work by C.R. Rao that not only revolutionized statistical thinking in its time but also continues to exert enormous influence on human understanding of science across a wide spectrum of disciplines," said Guy Nason, chair of the International Prize in Statistics Foundation.

The International Prize in Statistics is awarded every two years by a collaboration among five leading international statistics organizations. The prize recognizes a major achievement by an individual or team in the statistics field, particularly an achievement of powerful and original ideas that has led to practical applications and breakthroughs in other disciplines.

Rao will receive the prize, which comes with an $80,000 award, this July at the biennial International Statistical Institute World Statistics Congress in Ottawa, Ontario, Canada.

Ramakrishnan unveils the C. R. Rao Gallery plaque in 2014 with Tejaswini Rao, C. R. Rao, and Bhargavi Rao (far left).

The first International Prize in Statistics was awarded in 2017 to David R. Cox for the development of the Cox proportional hazards model, which allows researchers to investigate patient survival rates in complex studies. Bradley Efron received the award in 2019 for a statistical method known as the bootstrap, a clever computational method for assessing uncertainty in applied statistics. Nan Laird received the award in 2021 for the development of powerful methods that have made possible the analysis of complex longitudinal studies.

More information about the life and work of Rao can be found in many places, including the following:

- *http://bit.ly/40e441Z*
- *http://bit.ly/3ZQRB4R*
- *http://bit.ly/3ZPbIAc* ∎

Biostatistics Program Gives Students Real-World Experience

Alexandra Hanlon, Ryann Kolb, and Alicia Lozano

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

From left: CUBE 2022 Virginia Tech interns Kinara Gasper and Kayla Williams
Photo/Ryan Anderson, Virginia Tech School of Medicine

Editor's note: This month's JEDI Corner highlights a training opportunity for undergraduate students from underrepresented backgrounds. Such programs are a key component of promoting JEDI in our profession.

The Collaborative Undergraduate Biostatistics Experience (CUBE) is gearing up for its second year at Virginia Tech this summer. CUBE exposes undergraduate STEM students, specifically those who are part of an underrepresented/minority population, to the data science and collaborative biostatistics fields. In this eight-week summer program, students focus on the following four pillars:

1. Training in introductory biostatistics
2. Training in R programming
3. Professional development
4. A collaborative research project that addresses research questions in a health-related field

> ... the program will bring awareness to the collaborative biostatistics field, and we want our profession to represent the intersectionality of our society through broad participation.

The goal of the program is to allow students to work with a real-world data set under the mentorship of experienced collaborative data scientists and clinical experts to help them determine if they want to pursue a career in collaborative applied data science. In the short-term, the program develops skills students can use for the workforce or graduate school, including communication, critical thinking, problem solving, teamwork, and other unique skills that are not taught as effectively in a classroom. Longer-term, the program will bring awareness to the collaborative biostatistics field, and we want our profession to represent the intersectionality of our society through broad participation.

The initial weeks of the program focus on learning course material in introductory biostatistics and basic R programming, with professional development sessions sprinkled throughout. As students develop these foundations, they are given opportunities to apply their knowledge to a real-life collaborative research project. The program culminates in an oral and poster presentation at a symposium, which allows students to tie together everything they have learned throughout the program and present it to others.

Regardless of their educational goals or intended career path, we want participants to leave the program with knowledge that will support their ongoing professional development. CUBE's professional development sessions are spread throughout the program. Some include lectures that focus on topics like communication, team science, building a résumé, and applying to graduate school. Others include touring cutting-edge research labs, attending networking lunches, listening to presentations from biostatisticians that detail a day in their life, etc.

In the summer of 2022, CUBE was piloted by four students, whose final projects looked at a variety of current and pressing research topics. Two of the students worked together to examine sociodemographic characteristics (race, sex, income, insurance plan, and age) associated with sports-related ACL injuries diagnosed in the emergency department. The other two students engaged in projects independently. One explored antibody trajectories among dialysis patients after receiving the COVID-19 vaccine, while the other student's project looked at the experience of cancer pain from the perspective of patient and family caregivers using a Smart Health sensing system.

We look forward to seeing these students explore new questions and gain knowledge they will take with them far beyond this program.

To learn more about CUBE, visit *bit.ly/3JodBgo*. ∎

STATS4GOOD

EARTH DAY PROJECTS:

Measuring Climate Change and Taking Action

David Corliss is the lead of industrial business analytics and manager of the Data Science Center of Excellence at Stellantis. He serves on the steering committee for the Conference on Statistical Practice and is the founder of Peace-Work.

It's April, the flowers are blooming, and the birds are singing, so it must be time for Stats4Good's annual list of Earth Day project ideas.

In January, I identified climate change impacts and remediation as a top priority in environmental advocacy on the 2023 Data for Good Challenge List. A great place to begin is looking at the United Nations' sustainable development goals (*https://sdgs.un.org*). These 17 goals were identified by the UN in 2015 as part of a long-term plan for future development, creating a "shared blueprint for peace and prosperity for people and the planet."

Any of the sustainable development goals would be a good area for Data for Good (there is a Wikipedia page for each, *bit.ly/3yKYDvT*), but goal 13 focuses on taking urgent action to combat climate change and its impacts. This recognition by the UN as a sustainable development goal was the primary reason for identifying climate change impacts and remediation as a top priority on the 2023 Data for Good Challenge List.

Satellite data is increasingly being used to assess the impact of climate change and recommend beneficial changes. NASA maintains a website (*climate.nasa.gov/nasa_science/data*)

with data resources on global climate change. Desertification and deforestation are just two of the many ways satellite data is being used.

Another excellent source of data for measuring climate change in your area is the annual Christmas Bird Count from the National Audubon Society (*netapp.audubon.org/cbcobservation*). The data reported from this bird census is publicly available for researchers and especially valuable for longitudinal analysis of human impacts on the environment, including climate change. A good example is a US Environmental Protection Agency study on how the latitude of migratory birds' winter ranges have been moving north (*bit.ly/3JhtRiY*).

As is so often the case in Data for Good, the data is already available and ready to be used for high-impact analysis, but there are not enough statisticians volunteering to explore the possibilities. Since it's best to reach out to your local chapter of the Audubon Society for support and context for the data, these projects also provide an opportunity to participate in data collection and connect with a local community of activists who need statistical support.

Another environmental activity in which data is plentiful but more analytics are needed is benthic testing of macroinvertebrates in streambeds—the bugs found in the mud and silt at the bottom. Benthic testing looks at water quality by examining biodiversity in streambeds, with particular attention paid to the presence of genera indicative of clean water such as mayfly larva. It's the streambed equivalent of looking to see if a given location has chipmunks, which are sensitive to pollution, or if there are animals like rats that thrive in dirty environments.

Benthic testing is conducted by many local environmental groups across the country. Teams of volunteers gather in small groups, each assigned to a particular location in a watershed. Volunteers scoop up benthic material and pass it to a screen. A trained expert accompanying each small group identifies and catalogs which genera are present, producing a water quality score at that location. The data collected can be used to examine changes in water quality over time, allowing an assessment of the impact of climate change on the local environment.

Scientific studies, such as that by the Columbia River Basin (*bit.ly/3LrEPW5*), leverage data from benthic testing to measure the impact of climate change and recommend remediation measures. More studies of this type are needed, and many organizations are happy to partner with statisticians and data scientists to develop a climate change impact assessment for their local environment.

At the annual meeting of the American Association for the Advancement of Science, biomedical engineer and environmental activist Cynthia Prieto-Diaz declared, "We are all environmental scientists, because we all live in an environment." Each of us can learn about the United Nations sustainable development goals and find

Getting Involved

In opportunities this month, here are links to organizations working in environmental advocacy at which statisticians and data scientists can volunteer:

- Sierra Club, *www.sierraclub.org/topics/science*
- Citizen science projects from the European Research Executive Agency, *bit.ly/3YTkKef*
- Student projects from the National Science Teaching Association, *bit.ly/40hLFld*

Also, the National Academies has released an interactive resource, "Advancing Antiracism, Diversity, Equity, and Inclusion in STEMM Organizations" (*bit.ly/42vC3Fo*). Marginalized communities are under-represented in STEMM. This new resource provides information and ideas for D4G projects and activities to help make the entire STEMM community more diverse and representative.

out which are related to our own work, interests, and skill sets. Each goal has a global network of scientists, activists, and government organizations to drive needed positive change. Statisticians and data scientists are critically needed to support each one. With so many high-impact intersections between our skills and interests and the sustainable development goals, there is literally a world of opportunities for Data for Good. ∎

STAT*tr@k*

Statistical Thinking and Leadership Potential
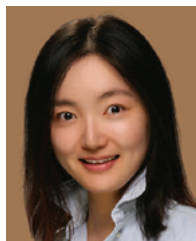
Jeanne Li is a senior research scientist at Amazon, who applies her research and statistical skills to workplace health and safety. Before joining Amazon, she worked as a research statistician in biomedical science and published numerous peer-reviewed articles. The opinions expressed in this article are her own.

Statisticians and data scientists (I will call them "data scientists" in this article) are in demand more than ever to transform ever-increasing data into insight so leaders can make informed business decisions. However, data scientists' value does not stop there. While I agree with John Tukey's famous saying, "The best thing about being a statistician is that you get to play in everyone's backyard," I'd like to argue that data scientists get to play in their own backyard, as well. Their training and experience with statistics equips them with exceptional potential to become leaders in their businesses.

Reference Group/Baseline

Data scientists can, for example, make more meaningful inferences from data by calling out reference groups for comparison. For instance, according to a 2017 statistic from the Center for Talent Innovation, women in tech in the US leave the tech field at a rate 45 percent higher than men. Here, the reference group is men. In contrast, a reference group could also be oneself. For example, compared to Kate's normal body temperature, her temperature is a half degree higher today.

The same principle could be applied to making sound judgments in one's career, as we often take into consideration the reference group or baseline. I have a mentee, let's call her Ava, who is usually an upbeat person and never speaks ill of anyone. One day, she came to me confiding that she didn't know how to approach a particularly aggressive colleague. My radar tuned into this right away, knowing where her baseline is.

That same sensitivity could be appreciated in a people manager, too. If a generally positive, no-fuss employee came to you with critical feedback, you would know you need to pay utmost attention, as opposed to just brushing them off. On the other hand, if a regular complainer complained to you, you might choose to tune out a bit.

> While I agree with John Tukey's famous saying, "The best thing about being a statistician is that you get to play in everyone's backyard," I'd like to argue that data scientists get to play in their own backyard, as well.

Machine Learning

As you probably know, machine learning was initially developed based on human cognition. Now that machine learning has matured over the last decade or so, there are principles data scientists can appreciate and apply beyond data science projects.

One of my other mentees—let's call him John—recently joined a new company and came to me wondering if he is bugging his new manager too much. I asked a few questions and came to understand that John's new working environment is fast moving and there is a lot of ambiguity surrounding his projects. Knowing that his baseline is more autonomous and self-reliant, I encouraged him to continue to "bug" his manager so he could get better clarity on his projects. Then, once he'd gathered the necessary data and become acquainted with his new environment, John could return to his baseline and make small behavioral adjustments from there.
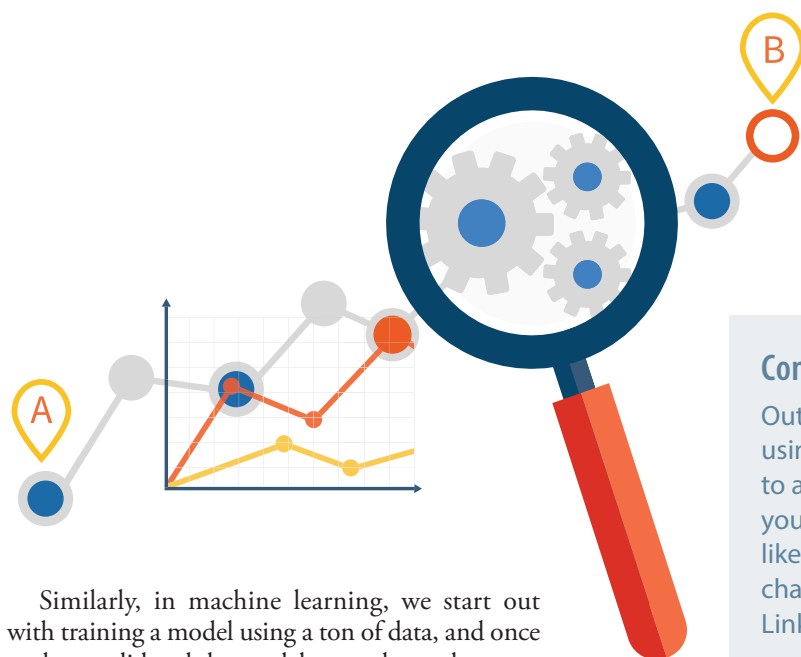
Similarly, in machine learning, we start out with training a model using a ton of data, and once we have validated the model, we only need to continue fine-tuning its parameters.

Probability and Sample Size

Probability has a whole range of applications, especially in risk assessment. We know we should not rely on an outcome to infer the quality of a methodology used. For example, Method A with a 40 percent success rate may yield a success, while Method B with a 70 percent success rate may still yield a failure. Especially with a small sample size. We don't rush to conclude that Method A is superior to Method B based on a handful of outcomes only, but rather focus on evaluating the quality (i.e., success rates) of the methods or testing them with many events.

The same principle can be applied to talent management. In most companies, internal promotions could be viewed as conservative and time consuming to complete (especially in the eyes of the employee waiting to get to the next level).

Most companies do this to ensure employees promoted to the next level will continue to perform successfully in their new position.

I heard from a people manager colleague that one of his employees pulled off an important project with huge success shortly after coming onboard, and my colleague was considering promoting that employee; however, it didn't take long for the employee to start creating more disasters than contributions. It stands to reason that we say career (or life for that matter) is a marathon, not a sprint. From a statistics perspective, this can be explained by probability and sample size.

In summary, our statistical training not only equips us to work on data science projects using our statistical expertise, but it transfers to larger business environments where we can flex our leadership skills. Don't discount leadership opportunities just because you're technical! ∎

Connect with Jeanne

Outside work, Jeanne Li is passionate about using statistical thinking and knowledge to augment day-to-day decision-making. If you're interested in such topics and would like to collaborate on similar articles or book chapters, you can connect with Jeanne via LinkedIn: *www.linkedin.com/in/jli1*.

MORE ONLINE
Did this article intrigue you? Check out another article Jeanne wrote at *bit.ly/42nkqHN*.

Like College Students, ChatGPT Finds Statistics Difficult

Norman Matloff is a computer science professor at the University of California, Davis. He was one of the founding members of the department of statistics there and works in both fields. His current research interests are fairness in machine learning and statistical disclosure control.

The startling success of OpenAI's large language model, ChatGPT, has caused considerable hand-wringing among academics. They fear, for instance, students could use ChatGPT to do homework, rendering the assignment of homework meaningless.

As a statistician, I wondered whether the app was really up to the task of doing statistics at the level of insight we demand of our students. I put a number of statistical questions to it and found that though it is indeed capable of doing impressive work, it will not replace homework in statistics courses any time soon.

I gave it both specific homework problems and open-ended questions. Let's take a look at the latter first.

General Questions for ChatGPT

I began by asking a personal favorite: How can public opinion polls be accurate if they are based on only a small fraction of the population? How can that be representative?

Statisticians are often asked this during election years. What did ChatGPT say about it?

The app generally does an excellent job of parsing questions and writes its answers in well-flowing, grammatically correct English. And it did make some good points in this case. It notes that "it's important to be aware of the margin of error associated with the results and to consider other factors that may impact the accuracy of the poll, such as response bias and non-response bias." But it largely evades the question put to it.

ChatGPT states, for example, "A larger sample size will generally result in a smaller margin of error, but even with a large sample, there is still some uncertainty associated with the results." But the (hypothetical) questioner was worried about small samples.

The app, noting the word "representative" in the question, offers stratified sampling as the explanation. It points out that polling organizations take various measures "… to ensure that the sample is representative of the population in terms of demographic characteristics such as age, gender, race, and education level."

But this would be unlikely to satisfy the questioner. Say 1,200 people are sampled, as is common, and we stratify by race. That would mean we design the sample to include about 160 African Americans. But anyone who wondered about the small sample overall would be even more puzzled as to why 160 African Americans is "representative" among the tens of millions of Black people in the US.

I also asked, "In a linear regression analysis, how can one determine which predictor variables are important?" Its answer began with the following:

> Statistical Significance: One can assess the importance of each predictor by examining the p-values of the estimated regression coefficients. If the p-value for a predictor is below a certain significance level (e.g., 0.05), it indicates that the predictor is significantly associated with the response variable and can be considered important.

So, the app is ignorant of a fundamental concept in statistics: the distinction between statistical and practical significance.

Another question I put to ChatGPT was what is the meaning of interaction terms in linear regression models?

Here, ChatGPT gave a circular response, using the term being queried as the answer, in effect saying "interaction is interaction":

> In linear regression models, interaction terms represent the effect of the interaction between two or more predictor variables on the outcome variable. … For example, in a study examining the relationship between education and income, you might include an interaction term to capture the effect of the interaction between education and experience on income.
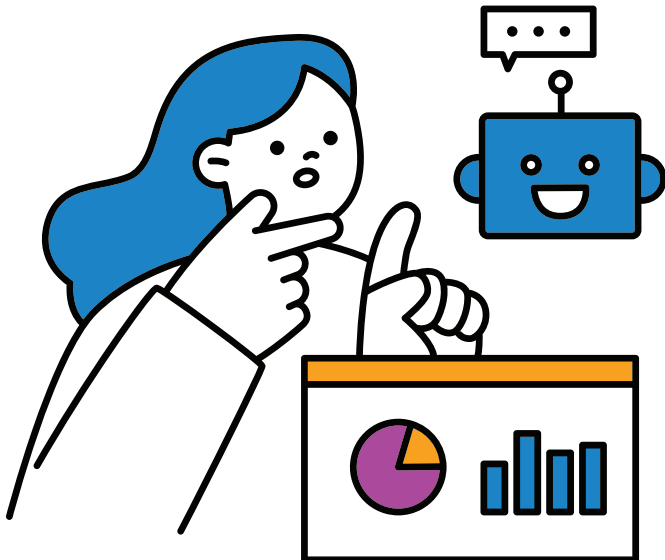
The answer does note one can define an interaction effect as the product of the two predictor variables. This might have been a good start, but it never got close to addressing the interpretability issue, by discussing how the impact of Xi on Y might be different at different levels of Xj.

And again, the answer failed to distinguish between statistical and practical significance:

> However, it's important to carefully consider the interpretation of interaction terms and to ensure that they are meaningful and statistically significant before including them in your model.

ChatGPT Does Statistics Homework

I teach a calculus-based course in probability and statistics for computer science majors. I gave ChatGPT actual homework problems from the class.

Say X, Y, and Z are indicator random variables, with success probabilities p, q, and r, and they are independent. Derive Var(XYZ) in terms of p, q, and r.

As noted, ChatGPT does parse questions well, and all that would remain here would be applying various known algebraic relations. And indeed, that is how it started, but at some point it did so incorrectly.

ChatGPT had similar, and more complex, problems with a homework question on what I called a "double geometric" distribution, extending over all integers, positive and negative. Again, the question asked students to derive the variance. I'll omit the details of the problem specification, but ChatGPT presented incorrect application of known probabilistic relations yet again.

I also asked ChatGPT to write some simulation code: *Buses arrive at a certain stop at random times, with the interarrival times having a U(0,b) distribution. Successive interarrivals are independent. ....Write R simulation code sim(nbuses,b,p,w) to find the long-run average wait times for passengers who arrive to find i passengers already present, i = 0,1,2,3,…,w…*

ChatGPT's solution was impressive in many ways. The tool clearly understood the question, in spite of the length and complexity, and a quick skim-through of the code shows ChatGPT apparently learned quite a bit from seeing similar problems on the web somewhere. But the code was wrong, severely so. For instance, the code ended by returning a certain quotient, with both numerator and denominator being conceptually incorrect.

Discussion

Perhaps we critics are being overly harsh on ChatGPT. After all, it learns from materials on the web and if, for instance, it does not understand the difference between statistical and practical significance, this is likely a reflection of the lack of such a distinction on the part of statistics instructors. ChatGPT is merely the messenger.

And one novel use of the tool might be to ask students questions of a nature, "Where is ChatGPT's answer wrong?" Might be fun for the students, though probably challenging in many cases.

At any rate, statistics instructors are still safe in assigning homework, albeit possibly of a more sophisticated nature. ∎

ICHPS 2023 Offers Opportunity for Professional Growth, Innovative Thinking

Michael Baiocchi, Ruth Etzioni, Beth Ann Griffin, and Lisa Lix

The International Conference on Health Policy Statistics was held January 9–11 in Scottsdale Arizona. After three years off due to COVID-19, the meeting brought together practitioners, methodologists, health service researchers, health economists, and policy analysts. In addition to US and Canadian participants, ICHPS co-chairs Ruth Etzioni and Michael Baiocchi welcomed attendees from Israel, Japan, Europe, Australia, and South Africa.

Sherry Glied gives the opening keynote. From left: Sherry Glied and Elizabeth Stuart.

The meeting kicked off with a welcome from Sally Morton, executive vice president of Arizona State University's Knowledge Enterprise. This was followed by the opening keynote from Sherry Glied, dean of New York University's Robert F. Wagner Graduate School of Public Service. Glied questioned how we might improve our processes for turning research data into evidence to inform policy. Serving as the discussant, Elizabeth Stuart—Bloomberg Professor of American Health and professor of biostatistics, mental health, and health policy and management at the Johns Hopkins Bloomberg School of Public Health—encouraged attendees to continue engaging in efforts to ensure their work can be communicated easily to stakeholders.

The closing keynote was delivered by Ziad Obermeyer from the University of California,

Berkeley. He shared how he uses machine learning to identify over- and under-testing of heart attacks in the emergency room, zeroing in on errors in the prediction model and tracing them to their behavioral underpinnings.

Casey Ross, a national technology correspondent at *STAT*, took to the podium next. Ross is well known for his articles about artificial intelligence in medicine and issues of safety, fairness, and privacy.

Between the keynotes was a "meet the editor" session that brought together editors from medical and health policy journals to share their experiences, discuss the characteristics of successful submissions, and define what health policy statistics researchers should and should not do as they seek to disseminate their work in high-impact publications. The editors included John Ayanian from *JAMA Health Forum*, Sharon-Lise Normand of the *New England Journal of Medicine* and *NEJM Evidence*, and John Wong of the *Annals of Internal Medicine*. A major takeaway was that journals are recognizing the increasing need for sophisticated statistical methods, so health policy statisticians have more options than ever to disseminate their work.

ICHPS also included a special plenary session, titled "Reproductive Health Policy IS Public Health Policy." This session addressed the profound consequences the Supreme Court's ruling in *Dobbs v. Jackson Women's Health Organization* will have on health care across the United States. J. Chris Carey, a retired obstetrician/gynecologist shared his experiences on the front lines of providing care for people seeking abortions. Amanda Jean Stevenson, a demographer who measures the effects of abortion policy on population health, gave the history of reproductive rights in the US and discussed how the use of and need for these services is estimated. The session addressed both the clinical and public health aspects of this acute and growing public health challenge.

On the afternoon of January 10, an anti-racism town hall led by Ofer Harel focused on what is needed for the American Statistical Association to become an anti-racist association and how specific methodological choices affect health policy research in this domain. Participants called

Editors from top health policy journals discuss what they look for in statistically rigorous research. From left: John Wong, Sharon-Lise Normand, and John Ayanian.

out opportunities for health policy and health services researchers to advance the anti-racist research areas. To know more, email Harel at *ofer.harel@uconn.edu.*

The following day, David Etzioni—who is chair of surgery at the Mayo Clinic in Scottsdale and has an active research and administrative portfolio about the appropriate analysis, interpretation, and reporting of surgical outcomes data—gave attendees a close-up view from the trenches of health data generation. He focused on the process between the clinician's orders and the appearance of the diagnosis or procedure code in the medical record. His conclusion? It's not always pretty, and the quirks can be entirely institutional or network dependent.

The Mid-Career Award goes to Laura Anne Hatfield and Corwin Zigler, while the Long-Term Excellence Award goes to Joseph Cappelleri. From left: Laura Anne Hatfield and Joseph Cappelleri.

To close out the meeting, Lisa Lix, chair of the ASA Health Policy Statistics Section, presented the Mid-Career and Long-Term Excellence awards. The Mid-Career Award is presented to a recognized mid-career leader in health care policy and health services research who has made outstanding contributions through methodological or applied work and demonstrates promise of continued excellence at the frontier of statistical practice. Two were honored with this award this year: Corwin

Zigler, associate professor in the department of statistics and data sciences at The University of Texas at Austin, and Laura Anne Hatfield, associate professor in the department of health care policy at Harvard Medical School.

The Long-Term Excellence Award is given to an individual who has made significant contributions to health care policy and health services research through mentoring and/or service that advances the aims of the Health Policy Statistics Section. This year's award recipient is Joseph Cappelleri, executive director of biostatistics at Pfizer and adjunct professor at Brown University, Tufts Medical Center, and the University of Connecticut. The award recognizes his research, education, and service contributions to the statistical and health policy communities, with an emphasis on patient-reported outcomes and measurement science.

Students and mentors get to know each other and share questions and stories during the student lunch. Michael Baiocchi (seated, center)
All photos by Olivia Brown/ASA

ICHPS also provides learning and networking opportunities for those new to health policy. In addition to honoring 11 students with travel awards, the conference provides a venue for students and developing scholars to network and engage with leading methodologists via poster sessions, a student luncheon, and roundtable sessions. The student lunch brought together dozens of students and mentors. Mentors were drawn from academia, government, and industry and shared their candid experiences and thoughts about career development. Students also received a reduced conference registration rate, and all workshops were free for students.

The next conference will take place in January of 2025 and be co-chaired by Beth Ann Griffin and Lane Burgette. ∎

Nagambal Shah is the recipient of the 2023 AAAS Lifetime Mentor Award. This award honors individuals who have mentored significant numbers of underrepresented students.

Kimberly Sellers (left) congratulates Nagambal Shah, who received a standing ovation during the AAAS Awards Ceremony that took place in early March during the AAAS meetings in Washington, DC.

"I am so proud and humbled to receive this unique award, thank you AAAS," said Shah in a tweet (*bit.ly/3Jwzuu6*). "I would also like to thank all my mentees for taking this journey with me."

As a long-time mathematics professor at Spelman College, Shah—known as "Mama Shah"—has mentored countless women, encouraging them to pursue graduate-level work in STEM while advising them through their undergraduate research development, conference presentations, and undergraduate theses.

Beyond her imprint at Spelman, Shah has been active in the ASA community. She founded StatFest in 2001, served as chair of the ASA's Committee on Minorities in Statistics, and helped develop the ASA's Diversity Workshop and Mentoring Program—a multi-day program held in conjunction with the Joint Statistical Meetings during which early-career statisticians are partnered with senior-level statistician mentors.

For contributions to the foundations of statistics that significantly advanced the frontiers of statistics and for insight that transformed understanding of parametric statistical inference, **Nancy Reid** is the inaugural recipient of the David R. Cox Foundations of Statistics Award, presented by the American Statistical Association. Reid will formally receive the award and deliver a lecture at the Joint Statistical Meetings in Toronto in August.

Nancy Reid

Reid, university professor of statistical sciences at the University of Toronto, co-authored with David Cox a 1987 *Journal of the Royal Statistical Society, Series B* discussion paper titled "Parameter Orthogonality and Approximate Conditional Inference." With this paper, and subsequent work with Cox and others, Reid has

made major contributions to higher-order inference and various aspects of conditioning.

In addition to her work in foundational areas of statistics, Reid has successfully pursued numerous other lines of research, contributing to experimental design, nonparametric statistics, robust statistics, and comparisons and contradictions between Bayesian and frequentist inference.

The David R. Cox Foundations of Statistics Award was created in 2022 through an endowment created by Deborah G. Mayo, professor emerita of philosophy at Virginia Tech. The ASA presents the award in odd-numbered years. The recipient receives a $2,000 honorarium and is invited to give a lecture at the Joint Statistical Meetings.

Anyone interested in supporting the ASA's effort to increase the size of the award through donations that may be matched by the donor and friends of David Cox is encouraged to contact Ron Wasserstein, ASA executive director, at *ron@amstat.org*. ∎

Peihua Qiu, dean's professor and founding chair of the department of biostatistics at the University of Florida College of Public Health and Health Professions, has been elected a 2022 fellow of the American Association for the Advancement of Science.

Qiu is among more than 500 scientists, including 19 at the University of Florida, in the 2022 AAAS Fellow class. They are being recognized for their scientifically and socially distinguished achievements by the world's largest general scientific society and publisher of the *Science* family of journals.

"We are incredibly proud of Dr. Qiu and his selection as [an] AAAS Fellow, one of the highest honors granted to scientists," said Beth A. Virnig, dean of the College of Public Health and Health Professions. "Dr. Qiu is a nationally and internationally recognized thought leader, whose work has led to many important advances in statistical science and health research."

Qiu was selected in recognition of distinguished contributions to the statistics field and its applications, particularly in jump regression analysis, image processing, statistical process control, survival analysis, disease screening, and disease surveillance. He has published two research monographs and more than 150 research papers in refereed journals in these areas.

He is an elected fellow of the American Statistical Association, American Society for Quality, and Institute of Mathematical Statistics, as well as an elected member of the International Statistical Institute. He has served as associate editor for many top statistical journals, including the *Journal of the American Statistical Association* and *Biometrics*, and as the editor of *Technometrics*.

Among Qiu's current research projects is the development of a rigorous disease outbreak surveillance and detection system that can help public health officials contain disease outbreaks at their source, avoiding widespread health and economic impacts. Qiu co-leads the project, which is supported by a U grant from the US Centers for Disease Control and Prevention.

A tradition dating back to 1874, election as an AAAS Fellow is a lifetime honor. ∎

ASA members **Lynne Billard** and **Elizabeth Thompson** were awarded honorary life membership in the International Biometric Society during the 2022 International Biometric Conference in Riga, Latvia.

Billard, a former IBS president, was honored for her tireless efforts to advance women and other marginalized professionals during her nearly five decades of commitment to IBS.

Thompson was also honored for her commitment to IBS through the years and her research in statistical genetics and pedigree analysis. She served as IBS president from 2016–2017.

For more information about the International Biometrics Society, visit *www.biometricsociety.org/home*. ∎

Obituaries

Jane F. Gentleman

Wendy and David Gentleman

It is with profound sadness that we announce the passing of Jane F. Gentleman following a lengthy battle with cancer. She was an inspiring role model who will be lovingly remembered and missed by her two children, eight grandchildren, four great-grandchildren, in-laws, extended family members, dear friends, and respected colleagues.

Jane grew up in the Washington, DC, area, the only child of the civil liberties and Constitutional lawyer Joseph Forer and the public-school teacher, viola player, and volunteer English instructor Florence Forer. She felt a strong desire for siblings and adopted her two cousins as her "brothers." Jane loved life and was passionate about math, music, and—most of all—her family. She was incredibly organized, fiercely independent, keenly adventurous, and bluntly honest. She could be both wildly silly and intensely serious.

Because she loved both math and English, Jane was torn about which to major in at university but, in the end, figured it was easier to do English as a hobby. She earned her bachelor's degree in mathematics (1962) and, while a working single mother, her master's in statistics (1965), both from the University of Chicago.

She met her second husband, Morven Gentleman, in 1965 while working at Bell Labs in New Jersey. They spent a year in England, and then moved to Canada to work at the University of Waterloo,

Jane at her birthday party in 2019

Ontario, and have a second child. They enjoyed an active social life and much travel abroad. She earned her PhD from the University of Waterloo (1973) and went on to become an assistant then associate professor in the department of statistics at Waterloo.

Jane moved to Ottawa, Ontario, in 1982 to work at Statistics Canada, first as a senior research statistician, then as chief of the Health Status and Vital Statistics Section, and finally as assistant director of analytic methods. She was also editor-in-chief of their journal, *Health Reports*.

Jane became a Canadian citizen and was proud to be a dual citizen of her two beloved home countries. She had many friends and volunteered for her local political party, community association, newspaper, high school, and the Canadian Amateur Musicians, Musiciens Amateurs du Canada.

In 1999, Jane moved back to the DC area to take a job as director of the Division of Health Interview Statistics at the National Center for Health Statistics. Her proudest accomplishments included interchanges between Statistics

Canada and the National Center for Health Statistics; commemoration of the National Health Interview Survey's 50th anniversary; and what she called her "legacy," a poster showing a young girl analyzing data and saying, "I want to be a statistician just like my mom."

Jane had a long and distinguished career, producing more than 180 publications, co-authoring a book on data analysis, delivering more than 180 invited talks, and engaging in all kinds of professional service. She was the winner of the Janet L. Norwood Award for outstanding achievement by a woman in the statistical sciences and the University of Waterloo's Faculty of Mathematics Alumni Achievement Medal in recognition of "her outstanding leadership and distinguished and wide-ranging research contributions in the statistical sciences, and for her advocacy for the status of women and health issues."

Jane met the man she considered her third husband, Dick Shrager, through her involvement with the Washington Recorder Society. They spent 15 happy years together making music, going to concerts and the theater, eating sushi, and giggling over Dick and Jane references. They often vacationed with family. She missed Dick terribly after he passed away and continued to have conversations with him. She was a fighter who self-diagnosed her cancer and survived major surgery and chemotherapy. When it was clear treatment wasn't working, she got herself into a clinical trial and navigated a complicated medical system. Because she was immuno-compromised, she self-isolated

during COVID, maintaining her connections by going online for family calls, book clubs, recorder playing, French group meetings, and meetings with her "lady statisticians."

We plan to hold a musical memorial in the spring. In lieu of flowers, please consider donating in her honor to Planned Parenthood at *www.plannedparenthood.org/about-us.*

Bruce E. Trumbo

Ayona Chatterjee, Julia Norton, Eric Suess, and Ann Cambra

On July 8, 2022, we learned Bruce E. Trumbo, professor emeritus of statistics and biostatistics at California State University, East Bay passed away. He was 84 years old.

Bruce was an internationally recognized contributor to the statistics field. He was a fellow of both the American Statistical Association and Institute of Mathematical Statistics and was honored with the ASA Founders Award for his vision of the importance computers would play in research and laying the groundwork for these changes at the National Science Foundation; for leadership in solving problems related to establishing a computer-searchable version of *Current Index to Statistics*; for excellence in teaching, including using real data; for providing indexes for major statistical journals; for inspiring students of statistics in other disciplines; and for outstanding service to ASA.

Bruce received the first IMS Carver Medallion in 2002 for contributions to the institute and statistics profession. His selection for this award recognized his performance as an advocate for statistical science through his work for the federal government, contributions to establishing a widely used computer-searchable index of statistical publications, service as editor of several statistical publications, service as a member of policy-making committees of statistical societies, and contributions to the use of computers in the education of statisticians.

Bruce served two terms as editor of the *Current Index of Statistics* and oversaw its transition from printed paper volumes to a computerized searchable index. In 1994, he received the ASA Board of Directors Certificate of Appreciation in recognition of his "vision in extending the scope of the *Current Index to Statistics* and for introducing new electronic products." In 1998, Bruce again received this certificate for "outstanding contributions to the association and the statistics profession through exemplary service as editor of AMSTAT online from 1996–1998."

Three times, early in his career, Bruce took year-long leaves of absence from the university to work at NSF for the Division of Mathematical Science as program director for statistical research. Through his leadership, many academic statisticians who previously might not have received funding were awarded NSF grants dedicated to integrating computational statistics with applied and theoretical research. Additionally, he worked to ensure female statisticians were hired for this position following his terms and helped appoint women to many important positions at the national level.

Bruce was the author of two books, *Learning Statistics with Real Data* (2001), which was translated into Chinese by a former student, and *Introduction to Probability Simulation and Gibbs Sampling with R* (2010), which included chapters on the Bayesian analysis of medical testing with uncertainty. He published numerous papers, articles, and conference papers, many related to classroom presentation of statistical ideas. Some of his early research focused on adding color to maps, which was original work and early in this field. He was awarded several grants that provided learning opportunities for his students.

Bruce joined California State College at Hayward (currently California State University, East Bay) in 1964, after spending the previous year teaching in the mathematics department at San Jose State University while completing his PhD in statistics at the University of Chicago. After joining the faculty, he helped develop the newly formed statistics department's undergraduate and master's-level graduate curriculum. His students benefited professionally from his insights into statistics and his dedication to life-long learning, which allowed him to keep up with ever-changing technology. His efforts ensured his students were prepared to enter the job market locally, nationally, or internationally or to pursue PhD degrees immediately upon graduating.

Bruce loved to teach and devoted his life to teaching and learning. His teaching spanned seven decades, and he continued to teach on StackExchange (*math.stackexchange.com*) as

BruceET, answering more than 3,000 probability and statistics questions; he often included R code for demonstration purposes. Through these efforts, he earned 49,382 reputation points, placing him in the top 0.48 percent overall. His impact was impressive, as he reached ~2.6 million people.

Bruce was dedicated to the statistics field and the department of statistics and biostatistics at California State University, East Bay. His professional efforts will have a lasting impact on the field. He was an inspiring teacher, mentor, co-author, and friend to generations of students, faculty, and department chairs.

Bruce served with distinction as a faculty member. He was elected to and served many terms on the academic senate. Also, for many terms, he served on or chaired the Faculty Affairs Committee. Early in his career, he served for a year in the president's office, and he served as department chair for one term. Bruce was an active member of all department committees and served on various college committees. He received the George and Miriam Phillips Outstanding Professor of the Year Award in 2003–2004 to honor his contributions to students and academics. In 2009–2010, he received the Sue Shaffer Award for service to faculty. He was a pioneering faculty member whose faithful service on committees at every level and attention to providing individual mentoring ensured faculty success in achieving tenure and promotions, being published, and enhancing teaching techniques.

The Bruce E. Trumbo Scholarship Endowment Fund was established in 2008 and has been awarded 14 times in recognition of academic excellence and support of current students in the department of statistics and biostatistics. Anyone wishing to contribute in Bruce's memory can do so by sending a check payable to Cal State East Bay Educational Foundation with the following notation at the bottom of the check: Statistics and Biostatistics Department, Trumbo Scholarship. The check should be mailed to Cal State East Bay Educational Foundation, University Advancement, 25800 Carlos Bee Blvd., Hayward, CA 94542-9988. To donate online, visit *bit.ly/3n0hksY.*

Donald E. Young

Donald E. Young passed away peacefully on December 19, 2022, at age 100. He was born in Newton, Massachusetts, in 1922 and survived the Great Depression and WW2. He served in the Army during WW2 from 1942–1946. First, he served with the 368th military police escort guard, guarding German prisoners of war in a prisoner of war camp in Tishomingo, Oklahoma. In 1944, his unit retrained as medics assigned to the 191st General Hospital and set up a 1,000-bed general hospital in Paris. Donald was chief of the hospital's postal section and, in 1945, he received a certificate of merit from the European Theater of Operations United States Army in recognition of his "conspicuously meritorious and outstanding performance of Military Duty." He also received the *Croix de guerre,* a military honor of the French government.

After WW2, Donald attended Boston University School of Management, majoring in economics and statistics, and graduated magna cum laude in 1950. He worked as a statistician for the US Census Bureau for 35 years (1950–1985), starting in the industry division and later moving to the International Statistical Programs Office, where he served as statistical adviser to the Government of the Philippines from 1956–1958 and 1961–1963. Donald also served as a consultant to the governments of Costa Rica, Nicaragua, and Paraguay and lectured at international statistical conferences in the Peoples Republic of China.

Donald E. Young

As assistant division chief for industry surveys in the construction division, Donald received in 1970 the Department of Commerce Silver Medal for Meritorious Federal Service for "providing new economic benchmarks by successfully executing the 1967 Census of the Construction Industries." The Department of Commerce Silver Medal is awarded for exceptional performance characterized by noteworthy

or superlative contributions that have a direct and lasting impact on the Department of Commerce. In 1977, Donald received a certificate of recognition for significant contributions to the 1977 economic censuses and, in 1985, he received the Department of Commerce Bronze Medal for Superior Federal Service for "significant contribution to publications of the 1982 economic and agriculture censuses and to international programs."

Donald did not speak of his numerous recognitions, but after his passing, his family discovered his awards and recognitions, including his election in 1949 to the Beta Gamma Sigma international honor society—the highest recognition a business student can receive in an undergraduate or master's program at a school accredited by the Association to Advance Collegiate Schools of Business.

In the International Statistical Programs Office, Donald designed training manuals for economic statistics and led educational trips for international trainees. While leading a group of international trainees to IBM in New York, he received a telegram stating, "We have a new trainee joining your group. Her name is Carmina Fernandez; take good care of her." He took care of her for more than 56 years as they were married in 1960.

Donald and Carmina continued to work as Census Bureau statisticians until their retirements in 1985 (Donald) and 1992 (Carmina). Donald served as special assistant to the assistant director for economic fields before retiring with 41 years of government service. More than 95 colleagues attended his retirement luncheon. Donald was a member of the American Statistical Association for 70 years and a member of the International Association of Survey Statisticians.

Donald spent quality time with his family and taught his children to live honestly and honorably. He was involved in various community and youth activities. He served as vice president of the Eleanor Roosevelt Senior High Parent Teacher Student Association and was recognized in 1980 for outstanding service to the children and youth of the community. He was a big supporter of the Prince George's County Science Fair and served as an honorary judge. The American Legion Department of the District of Columbia presented him with a certificate for serving with "honor and distinction" as post commander for the Department of Commerce Post 45 from 1973–1974. He also served as prior post adjutant of Post 45 DC Department of Commerce of the American Legion. In addition, Donald was a member of the Veterans of Foreign Wars Clinton Post #9376 and a member of the American Legion Clinton Post #259.

Donald celebrated his 100th birthday in May of 2022 with a drive-by parade organized by the Veterans of Foreign Wars. Also, the Singing Capital Chorus barbershop quartet performed for him. He received a certificate of recognition from the Veterans of Foreign Wars and the Governor's Citation from Maryland Governor Larry Hogan.

Donald was a loving father, adoring grandfather, and loving uncle to many nephews and nieces. From 2009 until Carmina's passing in 2016, Donald was her primary caregiver. Donald passed away on the sixth anniversary of his wife's passing. At his funeral mass, the American Legion honored him with a Post Everlasting ceremony, and the Veterans of Foreign Wars served as pall bearers. The Maryland Honor Guard paid him tribute with military funeral honors that included Taps and the presentation of the flag. He is loved and missed by many.

Donald Guthrie

Donald Guthrie, 89, passed away peacefully on November 18, 2022, with family by his side.

Donald Guthrie

He was born to Donald and Clair Guthrie in Eureka, California, on July 8, 1933. Don graduated high school at 16 and soon thereafter graduated from Stanford University. He went on to complete an MA in mathematical statistics from Columbia University and returned to Stanford to earn his PhD in statistics. Over the many decades of his career, Don taught and researched at several institutions, most notably Oregon State University and the University of California at Los Angeles.

Throughout his career, Don was an innovator in the use of modern computing in statistics. His research and publications primarily examined child psychiatry and statistical computing. His love of baseball crept into his work, as well, including the editing of a special section related to statistics in sports in the *Journal of the American Statistical Association.* While research was important, his energy centered on mentorship. At OSU, he served as the major adviser for six of the first eight PhD students to graduate from the department.

In addition to a passion for baseball, Don became an avid runner, participating in numerous marathons—some more than once—including Boston, New York, Seattle, Los Angeles, and Avenue of the Giants.

He and the love of his life, Janet, were married in 1954, and they traveled the world after their children were grown, returning each time with an abundance of stories. They spent countless evenings enjoying a symphony or opera performance, and as they transitioned into retirement, Don and Janet moved to Bainbridge Island, Washington, to be closer to the younger generations of their family.

Don was preceded in death by his parents and is survived by his wife, Janet; his sister, Jean; his children, Don (Candace) and Sarah (Jon); his grandchildren, C.J. (Ryan), Donald "Jack" (Stephanie), and McCage (Jennifer); and his great-grandchildren, Corin and Rhys.

How Can We Help?

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

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

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

ASA AWARDS & RECOGNITION

Know of a deserving person who should be considered for ASA recognition? The ASA's extensive awards program recognizes statisticians who have made outstanding contributions through areas such as:

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Many ASA sections and chapters offer their own awards.
Visit the section and chapter websites to view their offerings.

Student Paper Competition Open for Submissions

INFORMS, the international association for operations research and analytics professionals, is sponsoring a competition to encourage student research called "Doing Good with Good OR." It will feature work performed by students in cooperation with public and private organizations. Such work will feature operational research or management science methods and could appeal to multiple disciplinary and application-area interests.

INFORMS must receive completed submissions by May 15. Finalists will be announced by the end of June and must submit full papers by September. The competition winner will be selected at the 2023 INFORMS Annual Meeting.

For more information, visit *bit.ly/3JNiqkQ.* ∎

Lawrence D. Brown PhD Student Award

Applications are wanted for the Institute of Mathematical Statistics Lawrence D. Brown PhD Student Award.

The award includes reimbursement for both travel costs and the registration fee for the annual meeting. Applicants must be current PhD students at the time of applying and studying an area of statistical science, probability, or machine learning.

Lawrence D. Brown was the Miers Busch Professor and professor of statistics at the University of Pennsylvania Wharton School. He had a distinguished academic career and was known for his groundbreaking work in fields such as decision theory, recurrence and partial differential equations, nonparametric function estimation, minimax and adaptation theory, and the analysis of call center data.

The deadline to apply for the award is May 1. For more information, visit *bit.ly/42nvSTN.* ∎

NCTM Grants

Apply for the National Council of Teachers of Mathematics' grants, scholarships, and awards. Funding ranges from $1,500 to $24,000 and is available to help math teachers, prospective teachers, and other math educators improve the teaching and learning of mathematics.

While most grants are for K–12 educators, many are for preservice teachers and education researchers. Most application deadlines are May 1, 2023. Visit the council's grants website at *www.nctm.org/grants* for details. ∎

Project ACCESS

The American Mathematics Association of Two-Year Colleges is seeking applications for Project ACCESS. This professional development initiative is for two-year college mathematics faculty members.

Applicants should have a master's degree or higher in mathematics, mathematics education, or a related field with significant coursework in graduate-level mathematics and be a recent graduate with a master's or doctoral degree or an adjunct faculty member who has moved into a full-time position. Preference will be given to faculty members who are in their first four years of full-time teaching at this level.

The deadline to apply is May 15. For more information and to apply, visit *bit.ly/3Z0Pf1L.* ∎

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

AWARD	DEADLINE	QUESTIONS & NOMINATIONS
Links Lecture Award	July 1	*awards@amstat.org*
Dorothy Marie Lamb and Annette Lila Ryne Memorial Scholarship	July 15	*awards@amstat.org*
Health Policy Statistics Section Achievement Awards	September 15	*www.asahealthpolicy.org/for-students*
Lester R. Curtin Award	October 15	*awards@amstat.org*
Deming Lecturer Award	October 15	*awards@amstat.org*
Lingzi Lu Memorial Award	October 15	*awards@amstat.org*

SRMS Offers Number of Member Benefits

The Survey Research Methods Section provides free access to the JSM proceedings papers sponsored by the section, the International Conference on Establishment Statistics proceedings, the Hard to Reach conference proceedings, and proceedings from other conferences at *www.asasrms.org/Proceedings/index.html*. Section members also have free access to all AAPOR webinars from 2011–2021. (Email Brady West at *bwest@umich.edu* for information.)

The section also provides free webinars to members. The latest was titled "Teaching Complex Sample Design Principles to Undergraduates: A Creative Approach to a Midterm Assessment" and presented by Jana Lynn Asher from Slippery Rock University. For more information about upcoming SRMS webinars, visit *bit.ly/42mhPxK*.

Additionally, the section has an active discussion group on the ASA Community at *bit.ly/409Qg8I*. Members can subscribe to the SRMS discussion group and receive posts through emails. Exploring the rest of the ASA Community can also be rewarding.

Members can review more SRMS benefits at *bit.ly/3Lw8JZi*. ∎

Share **YOUR** Views

Do you have an opinion you would like to share with colleagues? Send us a letter. Letters should be 600 or fewer words and must include your name.

Send your letter to the editor or any other news you would like to share to Megan Murphy at *megan@amstat.org*.

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

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

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

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

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

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

Massachussets

■ Various opportunities for postdoctoral fellows and other academic positions are available in the Biostatistics Department at the Harvard TH Chan School of Public Health. You can find a list of open positions at *www.hsph.harvard.edu/biostatistics/fellowship-opportunities* .

Missouri

■ An interdisciplinary team of researchers studying the effect of sleep deficit on human performance seeks to hire a post-doctoral fellow on a 9 to 12-month appointment. The candidate should have completed a PhD in statistics or a related field by time of appointment (June 1 preferable). Job description and application process can be found at Missouri S&T's Human Resources (HR) Office website (*https://hr.mst.edu/careers/academic-employment*); Position #00083388.

Texas

■ The Department of Statistics and Data Sciences (SDS) at The University of Texas at Austin is seeking applications for one or more assistant/associate/full professor of Instruction positions to begin in Fall 2023, subject to the availability of funding. More information about the position and instructions for submitting an application are available at *https://apply.interfolio.com/121227*. EOE. ■

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Add section and chapter membership at *ww2.amstat.org/membersonly/additems.*

ASA

This month's Top 10 is the 'Top Ten **Rejected JSM Themes**.'

Wasserstein

As is tradition, *Amstat News* continues its hilarious offering by ASA Executive Director Ron Wasserstein, who delivers a special Top 10—one that aired during a recent edition of *Practical Significance*.

Over the years, Ron says he has had the privilege of seeing how things work on the inside of the ASA. He says, "For example, every ASA meeting has a theme, and I get to see how themes are debated and developed. JSM 2023 has the theme 'One Community: Informing Decisions and Driving Discovery.' That's a great theme. But not every theme proposed makes it to prime time!" Here, Ron offers the "Top Ten Rejected JSM Themes."

PODCAST

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

10
"Turning Uncertainty into Fun-certainty."

09
"Welcoming Bayesians with Prior Experience."

08
"We're 95% Confident You Will Enjoy the Meeting."

07
"There Is No Transformation That Will Make Us Normal."

06
"We Really Mean Well."

05
"Striving to Be as Good as the Conference on Statistical Practice."

04
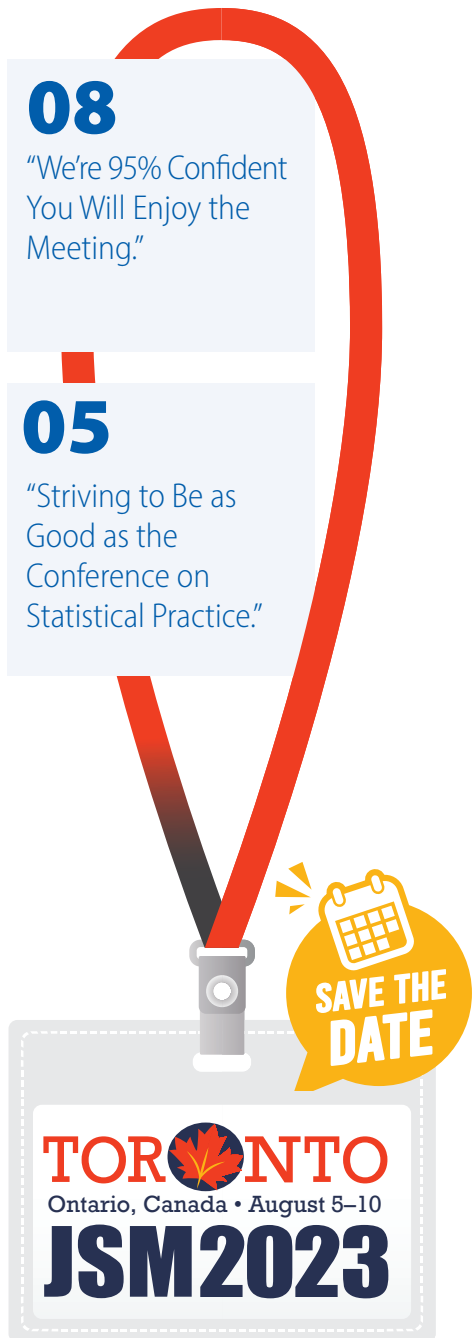"Meeting All Your Expectations in a Few Moments."

03
"Where All Interactions Are Significant."

02
"Where R Is Not What Pirates Say, Python Is Not a Snake, and Some People Still Excel."

#01
"Statisticians Are Practically Significant."

SAVE THE DATE

TORONTO
Ontario, Canada • August 5–10
JSM2023

One Community: Informing Decisions and Driving Discovery

TORONTO
Ontario, Canada • August 5–10
JSM2023

BE PART OF THE PROGRAM

Key Dates for Participants

May 31, 2023
Draft Manuscript Deadline

Key Dates for Attendees

May 1, 2023 (11:00 am ET)
Registration and Housing Open

May 31, 2023
Early Registration Deadline

June 1 – June 29, 2023
Regular Registration

June 30 – August 10, 2023
Late Registration

July 6, 2023
Housing Deadline

August 5-10
2023 JOINT STATISTICAL MEETINGS
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ww2.amstat.org/meetings/jsm/2023

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