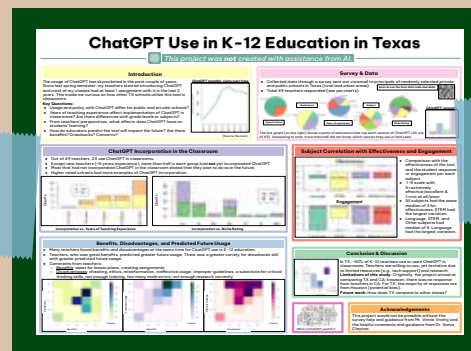
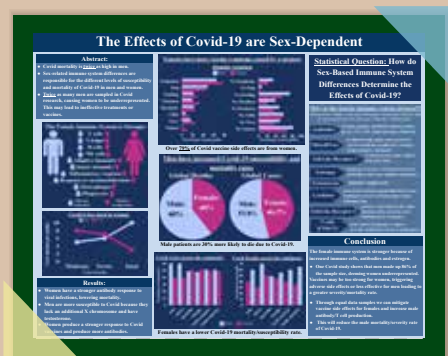
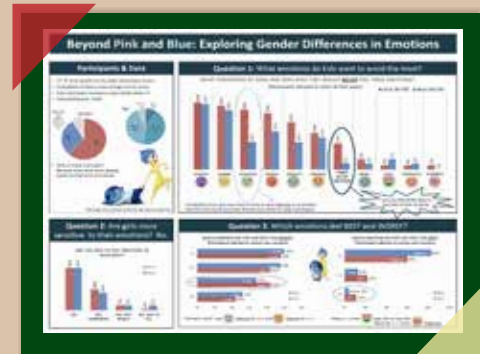


August 2024 • Issue #566

AMSTATNEWS

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



Data Visualization Poster & Statistics Project Competition Winners

ALSO:
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New Report Concludes Federal Statistics at Risk

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AMSTATNEWS

AUGUST 2024 • ISSUE #566

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American Statistical Association



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

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columns

- 23 **STATS4GOOD**
**Extending Horizons: Data for Good Collaborations
Across Academia, Industry, Government**

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.

- 24 **STATtr@k**
Statistical Thinking: A Brand Differentiator

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

REGISTRATION OPEN

Registration is open for the 2024 ENVR Workshop

The biannual meeting of the ASA's Statistics and the Environment Section will take place in Boulder, Colorado, October 3–5. The workshop will provide a platform for discussions about the current and future states of spatial statistics. Scientific presentations on interdisciplinary topics are welcome. Visit the website to view the program and register: <https://community.amstat.org/envr/events/workshops/envr2024workshop>.

Remembering Stephen Webb

Sadly, longtime ASA member and aerospace consultant Stephen Richard Webb passed away June 18, 2024, at the age of 85.

Steve graduated from the University of Illinois with a BS in mathematics and later earned his master's and PhD in statistics from The University of Chicago. His career in aerospace included significant contributions to the Apollo rocket heat shields and missile defense simulations.

Residing in Orange County, California, most of his life, Steve was a dedicated singer with the Pacific Chorale and an active member of several organizations, including the Orange County Ski Club and Balboa Ski Club. Steve will be remembered for his quiet, easygoing nature; dry sense of humor; and deep commitment to family, friends, and good martinis.

Read more about Steve's life on the *Amstat News* website: <https://magazine.amstat.org>.

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From Transaction to Transformation

Summer marks a time when we celebrate transitions by participating in commencement celebrations and new beginnings. These transitions mean we leave communities and have opportunities to become members of new communities.

In June, my family celebrated the high school graduation of my son. In the fall, he will begin his first year of college. This exciting transition to a new community made me consider ways in which we participate in our various communities and take advantage of the opportunities they present.

How we connect, collaborate, and contribute to our communities is, in part, shaped by our alignment with the mission and purpose of the community. For instance, interactions can be transactional, characterized by exchanges in which we seek tangible benefits.

Transactional interactions are an important, pragmatic, and efficient way to meet short-term goals. For example, in the statistics community, submitting an abstract to a conference or workshop might be a transactional interaction, if you attend the conference solely to make a presentation.

While such interactions are necessary and important, there may be further opportunities to build community lurking within them. Transformational interactions, characterized by a shared commitment to the long-term well-being of the community, can help foster our own well-being while we invest in others in the community.

The ASA's strategic plan puts forward three main themes: Enhancing the Diversity and Breadth of Our Association; Increasing the Visibility of Our Profession; and Ensuring the Future of Our Profession. It is our deep connection to these themes that motivates us to invest time, effort, and resources into growing and sustaining our association.

How does this play out in our profession? If you are attending an ASA-sponsored event such as the Biopharmaceutical Section Regulatory-Industry Statistics Workshop, Fall Technical Conference, 2024 ENVR Workshop, WSDS

2024, ICHPS 2025, or a chapter-sponsored event, I encourage you to set an intention to help make the event transformational for you and others by taking the following actions:

- Participate in discussions and be an active listener
- Ask thought-provoking questions
- Make time to meet new colleagues
- Leave the event with at least one commitment to follow up

These all help build relationships and foster future opportunities.

Transformational interactions do not necessarily require in-person events. As another example, the online ASA Community provides an accessible platform for active participation. Investing time in sharing your expertise has the potential to be transformational for you and your (new) colleagues.

Over the coming weeks, I encourage you to respond (either individually or to the group) to an ASA Community post that requests help on a topic for which you are knowledgeable.

Writing for an ASA publication is another transformational opportunity. Consider sharing your expertise by submitting a column for *CHANCE* magazine's "One Thing About" This column invites contributors to share their unique perspectives on statistics and data science. Recent columns have touched on ethical practice and the rhetoric of statistics. You might even consider asking a colleague to join you in writing the article.

Another way to help transform the ASA community is by nominating or supporting the nomination of a colleague for one of the many awards offered by the ASA. If you had the opportunity to attend the awards ceremony at JSM, you helped us recognize the diversity of accomplishments by members in our community. Nominating or supporting the nomination of a colleague for an award not only honors their achievements but also strengthens our community's recognition of outstanding contributions.



Madhumita (Bonnie)
Ghosh-Dastidar

I want to encourage everyone to share their perspectives on how we should move forward to ensure there are opportunities for meaningful interactions available to all members of our community.

More Opportunities

Revisit previous President's Corner columns to learn about more opportunities to participate in transformational interactions. Topics covered include the following:

- Expanding the 'Big Tent' for Statistics: Our Mission and Vision for Fostering Community
- From Inspiration to Impact: Mentoring Matters
- Network, Learn, Grow: Top 10 Tips for a Successful Conference



View them all at <https://magazine.amstat.org/blog/category/presidentscorner>.

In addition, I want to encourage everyone to share their perspectives on how we should move forward to ensure there are opportunities for meaningful interactions available to all members of our community. There are several ways you can provide this input. In last month's issue, the Mentoring Working Group asked for input about building communities of practice. If you have not already done so, please take a few minutes to review the article and respond to the request for input (<https://magazine.amstat.org/blog/2024/07/01/mentoring-is-the-way>). Early in fall 2024, we will be distributing a member survey. Speak up! Your feedback can drive positive change. Finally, I am always interested in hearing from you, so share your thoughts with me at bonnieg@rand.org.

Shifting our focus from transactional to transformational interactions can be challenging. But it demonstrates a shared commitment to the goals of the community and can be hugely rewarding. By prioritizing transformational interactions, we are stronger as a profession and better equipped to address complex and long-term challenges such as membership growth.

Also, consider volunteering for a chapter or section activity. We are an association of more than 15,500 members, the "Big Tent," so sections and chapters provide an excellent opportunity to begin making connections and building your community. (Richard Zink's June article provides a great entry point.) Alternatively, build your network by reaching out to members of the Council of Sections Governing Board or Council of Chapters Governing Board.

Transformational interactions require the support of both personal and collective growth. In this spirit, I am instituting a series of new member meet-ups with the goal of investing in the professional development of new members. The first is scheduled for September 12 at 4 p.m. ET. If you are new to the ASA and would like to learn more, be on the lookout for announcements about these meet-ups.

M. Ghosh Dastidar

Honor a Member with a Legacy Page

Richard C. Zink, JMP Statistical Discovery

There are people who leave a lasting impact. My grandfather was one such individual. He exuded joy and led with love. He exemplified service: He was the first to volunteer and the last to leave. He brought out the best in people and moved them to give of themselves, to lift up others. He was humble. He was funny. And not a day goes by I do not miss him.

Dionne Price also made a lasting impact—on her family and friends, at Emory University, at the US Food and Drug Administration, within the Biopharmaceutical Section, at the American Statistical Association, and on our discipline.

I collaborated with Dionne on steering committees for the Biopharmaceutical Section and Biopharmaceutical Section Regulatory-Industry Statistics Workshop. I also had the honor of interviewing her twice for the Biopharmaceutical Section podcast—once when she served as section chair and again when she was president-elect of the ASA. I am grateful our paths crossed, even for those brief periods. I grieve with those who feel Dionne's absence, and I grieve for those who never had the opportunity to know her.

It is incumbent on us to share Dionne's influence. Her story. Her legacy. This is why it is my sincere privilege to announce a new initiative—ASA Legacy Pages—to honor members of the ASA who leave an enduring mark on our discipline and society. And it brings me great joy that Dionne is the first recipient of a legacy page



Dionne Price is the first recipient of a legacy page.

(<https://shorturl.at/DYnCh>), made possible by donations given in her memory.

An ASA legacy page is a new way to celebrate our profession and the individuals who enrich it. First, it is a meaningful way to honor a colleague, collaborator, mentor, professor, friend, or loved one and the impact they have had on the statistical community. Second, it provides financial support to the programs and initiatives of the ASA, thereby promoting the practice and profession of statistics.

Anyone can begin a campaign to set up a permanent legacy page on behalf of another individual, alive or deceased, subject to the following requirements:

- The honoree must be (or have been) a member of the ASA.
- The honoree must be in good standing with the ASA's Code of Conduct. The ASA reserves the right to remove a Legacy Page if the honoree has violated the code.

Once a campaign reaches \$5,000 in donations, the honoree receives a legacy page on

the ASA website featuring a photo, brief essay describing their accomplishments, and list of individuals who contributed to the campaign.

Campaigns may be started with the individual's involvement so the honoree can direct donations to a particular ASA fund or cause. Alternatively, campaigns may be developed without the individual's knowledge as a surprise for an upcoming event. Finally, campaigns may be initiated in remembrance of an icon in our field who has passed.

A legacy page is conferred upon raising \$5,000, but there is no time limit or ceiling for donations. Larger amounts are welcome to benefit a specific cause or a range of activities within the following areas:

- Showcasing the impact of statisticians and improving statistical literacy
- Advocating for statisticians and the proper use of statistics among policymakers
- Cultivating future leaders in statistics, data science, and artificial intelligence
- Improving K–16 statistics education

Anyone may serve as a campaign lead on behalf of an ASA member, past or present. Details about developing a campaign can be found on the About Legacy Pages page of the GiveASA website at ww2.amstat.org/giving/aboutlegacypages.cfm. ■



Richard Zink

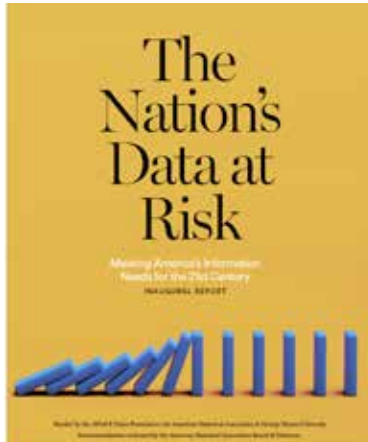
MORE ONLINE

Learn how to honor someone through a legacy page at ww2.amstat.org/giving/aboutlegacypages.cfm.



New Report Concludes Federal Statistics at Risk

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



MORE ONLINE
Download *The Nation's Data at Risk* at <https://bit.ly/NationsDataAtRisk>.

The *Nation's Data at Risk: Meeting America's Information Needs for the 21st Century*—a report by a team of American Statistical Association and George Mason University researchers released July 9—concluded federal statistical agencies face mounting barriers, inhibiting their ability to innovate to the extent needed to provide the information and evidence required in the 21st century. In addition, the research team found the chief statistician's office in the Office of Management and Budget is under-resourced, reducing its ability to coordinate and lead a decentralized statistical system.

Funded by the Alfred P. Sloan Foundation, with additional support by the ASA and George Mason, the report concludes an 18-month investigation into the health of the federal statistical agencies and marks the project team's transition to preparing the next report, which is expected to be released in a year and annually thereafter. Additionally, a scientific advisory board counseled the team on the report, along with 11 subject matter experts who conducted a thorough review of it.

The project team posed the following six questions of the 13 principal federal statistical agencies:

1. Does the agency consistently produce trusted, quality statistics?
2. Is the agency trustworthy and accountable?

3. Does the agency have sufficient support in three key areas: professional autonomy; parent-agency support; and sufficient budget and skilled staff?
4. What are the challenges and threats the agency faces and their magnitude and potential consequences?
5. Is the agency agile? What are its innovation record and opportunities to respond to future data needs?
6. Is the agency responsive to user needs and transparent about its data products and decisions that affect users?

Based on publicly available information, listening sessions with current and former statistical system leaders, and information provided by the agencies, the report documents the following six findings:

1. Statistical agencies are experiencing significant weaknesses in at least one of the three critical supports from question #3.
2. As a consequence, long-standing statistical series that produce important economic indicators, such as the unemployment rate, are prone to becoming outdated in content and methods because of the statistical agencies' inability to invest in continuous testing and improvement.
3. Agencies face a challenging environment in which to more rapidly develop and implement new data collection methods and tap other public and private data sources to sustain quality and timeliness, increase efficiency and productivity, and keep up with policy areas of interest.
4. Agencies are increasingly challenged to protect the confidentiality of respondents' information in a time of increased risk of disclosure while still serving their fundamental responsibility of providing data fit for users' needs.

Project Team Members

The project team includes the following:

Jonathan Auerbach, *George Mason University*

Claire McKay Bowen, *Urban Institute*

Constance Citro, *National Academies*

Nancy Potok, *NAPx Consulting*

Steve Pierson, *American Statistical Association*

Zachary Seeskin, *NORC at the University of Chicago*

5. An opportunity for agencies that would facilitate their continued production of trusted, quality statistics is to ‘blend’ survey data with administrative records and commercial sources to improve data quality and content.
6. Agencies should increase outreach and engagement to understand their stakeholders and data users.

The team members concluded immediate action is needed to put the agencies and chief statistician’s office on a firmer footing so federal statistics remain widely trusted and useful to a society saturated with information from many sources, credible and not. They identified 15 recommendations for Congress, parent agencies, the Office of Management and Budget, and the statistical agencies, which were endorsed by the ASA Board of Directors.

The team members think the 15 actions would fill important gaps in existing legislation and regulations to bolster statistical agencies’ professional autonomy, data-sharing authority, and resources.

To be clear, the team members reason that while the statistical agencies are achieving much with the resources and authorities they have, adopting their recommendations should position the agencies to respond effectively to the increasing information demands and future challenges.

The team concluded that not implementing their recommendations would put needed federal statistics—and the nation’s data needs—at unnecessary risk.

The report also includes statistical agency profiles—reviewed by each agency—that summarize the work and fundamental characteristics of the agency; rate the strengths of the agency’s essential

supports; and identifies recent successes, strengths, vulnerabilities, challenges, and opportunities. The profiles also have agency-specific recommendations.

Additionally, the report has extensive supporting materials, covering such topics as the value of federal statistics, origins and overview of the federal statistical system, previous assessments of the federal statistical system, foundational documents for federal statistical agencies, quality of principal federal statistical agency programs, and innovation by principal statistical agencies.

Members of the project team request feedback on the report—what it missed or got wrong—as well as recommendations for its second-year report, using the form at <https://bit.ly/NationsDataAtRiskFeedback>. ■

Editor’s Note:

The views of the project team are not necessarily the views of their respective organizations.

Thought Leaders Headline Symposium on AI in Pharmaceutical Medicine

David Madigan, Northeastern University, and Demissie Alemayehu, Pfizer

The Symposium on Risks and Opportunities of Artificial Intelligence in Pharmaceutical Medicine—co-sponsored by Pfizer, Northeastern University, and the American Statistical Association—was held June 10–11 in Boston, Massachusetts.

The annual event is intended to provide a forum for major stakeholders to have a dialogue about pertinent issues with policy implications for the proper implementation of this emerging technology.

Featuring presentations by thought leaders from sectors such as the US Food and Drug Administration, pharmaceutical industry, and academia, the theme of the symposium was Generative AI in Medical Research & Drug Development: Hype or Reality?

David Madigan, conference co-chair and provost of Northeastern University, and Ron Wasserstein, ASA executive director, opened the event with welcoming remarks, followed by Kannan Natarajan, head of biometrics and data management at Pfizer. Natarajan set the stage for the conference, underscoring the myths and realities of generative AI in drug development, and introduced keynote speaker Tala H. Fakhouri, associate director of policy analysis at the FDA’s Center for Drug Evaluation and Research Office of Medical Policy. Fakhouri’s talk, “Responsive Regulation of AI in Drug Development,” provided insights into the current thinking of the FDA, including ongoing initiatives and long-term goals.

A highlight of the symposium was a panel discussion moderated by David Sontag of MIT that included Robert Ball of the FDA, Brian Caffo of Johns Hopkins University, Subha Madhavan of Pfizer, Anthony Philippakis of MIT, and Hoifung Poon of Microsoft. The panelists exchanged ideas and opinions about issues surrounding the challenges and opportunities of leveraging generative AI in medical research and drug development.

New features of this year’s conference included a workshop and poster sessions. The workshop focused on AI application and real-world evidence generation in drug development.

For more information about the symposium, visit <https://aipm.provost.northeastern.edu>. The next symposium is expected to take place in Portland, Maine, in June 2025.

Data Science Statement Updated to Include AI

The ASA Committee on Data Science and Artificial Intelligence formed in early 2022 as an advisory committee to the ASA Board of Directors. The committee is responsible for providing strategic advice about data science and AI and recommending initiatives and actionable steps. The 10 committee members also collaborate with other committees and working groups within the ASA on joint initiatives.

The committee revised the 2015 ASA Statement on the Role of Statistics in Data Science, and the board approved the revised document in November 2023 as an official board statement, now titled the “ASA Statement on the Role of Statistics in Data Science and Artificial Intelligence.”

ASA Statement on the Role of Statistics in Data Science and Artificial Intelligence

MORE ONLINE

View the list of committee members at <https://bit.ly/3xEjhky>.

Read an earlier statement at <https://bit.ly/45Q4EqR> and blog post at <https://bit.ly/45MsB2i> about the role of statistics in data science.

Data science and artificial intelligence (AI) have, in recent years, captured the attention of a world audience for their spectacular contributions in a wide range of scholarly research and commercial endeavors. Whether it be the development of self-driving cars, machines to recognize speech and generate human-like text, or technology that can accurately detect cancer, the success of data science and AI is all around us and will continue to affect scientific innovation and how we live our lives. The ability to address challenging questions with complex data combined with thoughtful methods is largely the fruit of the innovative and entrepreneurial spirit that characterizes these burgeoning areas. Nonetheless, the interdisciplinary nature of data science and AI means a substantial collaborative effort is needed, and that statisticians—who themselves are data scientists—should be extensively involved in data science and AI initiatives to realize their full potential for productivity, innovation, and problem-solving.

In the past 20 years, data science and AI have rapidly evolved, fueled by the explosion of data and advancements in computing power. This evolution has been marked by the development of

sophisticated machine learning (ML) algorithms, deep learning neural networks, and generative AI—including large language models—that have revolutionized industries such as health care, finance, and marketing and generated new areas of research in statistics and computing. The big tent of statistics has grown massively bigger, with the role of statisticians in this new and evolving world requiring adaptation. The boundaries between statistical and computational methods have become more blurred, given the advances in ML and deep learning algorithms, which often require a deep understanding of both statistical theory and computer science. This has led to a rethinking of the traditional role of statisticians in data science and a recognition that statisticians need to be equipped with a wider range of skills and expertise to remain effective and, indeed, relevant.

Data science and AI rely heavily on statistics, mathematics, and computer science to gain knowledge from data. These fields produce tools to interact with data, provide effective and meaningful summaries or inferences from data, and—in the case of AI—develop systems that can carry out tasks ordinarily requiring human intellectual processes. It is difficult to think of an

area of science, industry, commerce, or government that in some way does not require such knowledge extraction from data on a regular basis. However, it is unrealistic to expect one person working in data science or AI to possibly be an expert in all relevant areas. A data scientist or AI scientist must fluently interact with the disciplines and areas of research the data analyses attempt to address and must be able to work with those specializing in other areas within data science and AI in which they lack specialization. Data science and AI endeavors require maximum multifaceted collaboration to fully realize their potential.

Statistics plays a central role in data science and AI, especially in the areas of ML and deep learning. Framing questions statistically allows leveraging data resources to extract knowledge and obtain better answers. The central dogma of statistical inference—that there is a component of randomness in data—enables researchers to formulate questions in terms of underlying processes, quantify uncertainty in their answers, and separate signal from noise. A statistical framework allows researchers to distinguish between causation and correlation, and thus to identify interventions that will cause changes in outcomes. It also allows them to establish methods for prediction and estimation, to quantify their degree of certainty, and to do it all using algorithms that exhibit predictable and reproducible behavior. In this way, statistical methods aim to focus attention on findings that can be reproduced by other researchers with different data resources.

Simply put, statistical methods enhance researchers' abilities to accumulate knowledge.

Contributing to the responsible development of data science and AI systems requires a sustained and substantial collaborative effort with researchers knowledgeable in areas not typically in the purview of statisticians, including those with expertise in data organization, distributed computation, and model lifecycle management. Statisticians must work with them, learn from them, and teach them. Engagement must occur at all levels—with individuals, groups of researchers, academic departments, and the profession as a whole. New problem-solving strategies are needed to develop end-to-end data science and ML operations pipelines, from raw data collection and management to model monitoring/retraining and governance to user-friendly implementations of principled statistical methods and the

communication of substantive results. Statistical education and training must continue to evolve—the next generation of statistical professionals needs a broader skill set and must be more able to engage with software and ML/deep learning engineering experts. Effective teaching of data science and AI requires more than just a mechanical explanation of algorithms; it must be done in the context of the entire data science process. This includes understanding how to formulate a research question, collect and preprocess data, choose appropriate statistical methods and models, and interpret and communicate results in a meaningful way. While capacity is increasing within existing and innovative new degree programs, more is needed to meet the massive, expected demand. The next generation must include more researchers with skills that cross the traditional boundaries of statistics; there will be an ever-increasing demand for such multifaceted experts.

Working with statisticians, departments of statistics and data science, and other professional societies, the American Statistical Association (ASA) is well positioned to help formulate discussion about the role of statistics in data science and AI, navigate the way forward in this quickly evolving environment, and provide forums for communication and collaboration among data scientists and AI scientists, including statisticians and non-statisticians alike. The future of data science and AI is uncertain, but one thing is clear: the field will undoubtedly continue to evolve rapidly and have a profound impact on society. As a result, the role of statisticians will also be subject to change and expansion, as they must adapt to new technologies and tools while continuing to provide expertise in traditional areas of statistics such as uncertainty quantification, sampling design, and causal inference. The need for interdisciplinary collaboration and a diverse range of skills will become increasingly important for statisticians to remain relevant in this dynamic and ever-changing field. The ASA aims to facilitate collaboration among all data-driven fields, and thus enable workers in these areas to achieve more than they could on their own.

For further insight about this topic, read the earlier statement at <https://bit.ly/45Q4EqR> and a blog post at <https://bit.ly/45MsB2i>. ■



Ron Wasserstein



Donna LaLonde

GUESTS



Bonnie Ghosh-Dastidar



Ruth Etzioni



Carolyn Rutter



'Practical Significance,' Take II: With a Little Help from My Friends ... Mentoring and the ASA

This interview with ASA President Bonnie Ghosh-Dastidar of RAND Corporation, Ruth Etzioni of Fred Hutch, and Carolyn Rutter of Fred Hutch was conducted by Practical Significance co-hosts Donna LaLonde and Ron Wasserstein during a recent episode in which they discussed Ghosh-Dastidar's vision for strengthening and expanding mentoring in the ASA community and the working group she launched with Etzioni and Rutter.

Donna LaLonde: Please, introduce yourselves and tell us about your day job.

Bonnie Ghosh-Dastidar: I work at RAND, a nonprofit organization that develops solutions to public policy challenges through research and analysis. My work is primarily interdisciplinary, team science-focused, emphasizing health and social-economic well-being. I also serve as the head of the RAND Statistics Group, a group of exceptional statisticians and data scientists.

Carolyn Rutter: I am at Fred Hutch Cancer Center. I work on cancer screening and colorectal cancer screening, with an emphasis on policy. Bonnie and

Ruth are two people who have co-mentored me along the way. I worked with Bonnie at RAND. Ruth is just an amazing person for bringing people together, and she's part of the reason I came to Fred Hutch. I learned so much about mentoring from both of these women. It's such a fantastic experience to collaborate with them on this initiative.

Ruth Etzioni: I've been at Fred Hutch for too many years to count. I'm in the biostatistics program in public health sciences. I love being at Fred Hutch because it has allowed me to feel that I'm a scientist, I'm a statistician, but I'm first a scientist. My research program right now is

focused on new diagnostic technologies that are exploding in cancer—both for early detection and disease monitoring—and how to make good decisions and policies around these new tests, which are absolutely critical if we want to do precision oncology. I'm very excited and committed to Bonnie's initiative.

Donna LaLonde: Would you share a personal experience or a story about the impact mentoring has had on your career?

Ruth Etzioni: That's a great question. I've had an impact both as a mentee and a mentor. In my early years at Fred Hutch, I'd come out of a traditional statistics program, and I landed in a very

new environment. And I had two mentors. One was Margaret Pepe, who's well known for her statistical work around diagnostic testing. And I learned a tremendous amount about problem-solving and problem selection from her. Another was Nicole Urban, who was a health economist. But she was not working as a health economist. She was working as a health policy researcher. And it was because of her that I actually moved toward health policy and eventually became very involved in the ASA Health Policy Statistics Section. So, these experiences were really formative for me during those first few years.

Bonnie Ghosh-Dastidar: It's hard to pick just one, but there's one career mentor who I want to recognize because I feel my entire career might be attributed to her. A scholarship brought me from India to Albright College in Reading, Pennsylvania. Dr. Petee Jung at Albright College, the only female professor in their mathematics department, bolstered my confidence sufficiently to pursue a dual degree in mathematics and computer science.

I had come to the US to study computer science, which my dad saw as the future of society. With gentle persuasion, this professor led me to see the beauty of mathematics while the undergraduate classes shaped my interest in pursuing a career in the mathematical sciences. So, that's probably one mentor who had the largest cumulative impact on my career.

Carolyn Rutter: I'll mention two experiences. At the beginning of my career, I worked with Constantine Gatsonis, who works in diagnostic testing. He is responsible for nurturing my interest in cancer screening and changed the trajectory of my career.

I also mentored Pedro Nascimento de Lima, who

Mentoring programs can foster a sense of community. So, my 'big picture' hope is for an ASA-wide mentoring program that expands existing section and group-specific mentoring and leads to more ASA members who see themselves as stewards of our profession.

Bonnie Ghosh-Dastidar

was a student when he began working on my project. I want to emphasize how much a mentor can learn from a mentee. I learned from Pedro's research on robust decision-making. Mentoring is a two-way street.

Ron Wasserstein: Bonnie, how do you envision the impact mentoring can have on the broader ASA community?

Bonnie Ghosh-Dastidar: It's all about our professional society, which has brought so much value to my career. In every professional society, we focus on membership benefits when defining the member value proposition. Based on informal conversations with ASA members, it was apparent that mentoring could provide significant benefits—both by increasing opportunities to gain knowledge and expertise from people who have been in the same field and to build relationships with people who can provide support, advice, and valuable connection.

Mentoring programs can foster a sense of community. So, my 'big picture' hope is for an ASA-wide mentoring program that expands existing section and group-specific mentoring and leads to more ASA members who see themselves as stewards of our profession. ASA data has shown that members who see themselves

as stewards of the profession are more likely to be sustaining members. So, this initiative is focused on member benefits while also engaging people in fostering a stronger ASA community.

Ron Wasserstein: Carolyn and Ruth, you agreed to lead the working group on Bonnie's initiative because of your commitment to mentoring. What are the goals and outcomes you hope to achieve?

Carolyn Rutter: Bonnie was talking about community, and that is an exciting aspect of this mentoring initiative—thinking about mentoring more broadly, so we can find ways to support people at all levels of their careers.

We're in this post-COVID era, where sometimes people don't feel that connectedness within their positions. Not everybody goes into the office all the time. We're trying to find a way to provide support so junior people have someone to ask questions of and senior people can ask each other questions like, "How should I be mentoring. This builds from the idea of communities of practice. I'm going to shoutout to Nicola Justice, who helped us develop this approach. We are looking to build a community so everybody can get their mentoring support and the mentors don't have so much pressure.

Getting in Touch

ASA Community Feedback Page:

[https://community.amstat.org/
communityinput/home](https://community.amstat.org/communityinput/home)

ASA Community:

[https://community.amstat.org/
resources](https://community.amstat.org/resources)

Bonnie Ghosh-Dastidar

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Carolyn Rutter

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Ruth Etzioni

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Ruth Etzioni: We are working differently post-COVID, and we're connecting differently. And we're also in a time where there are more new tools for connecting. And we have recognized that the one-to-one mentor model does not always work. We don't always have enough mentors. It is, as Carolyn said, a "big ask" for mentors.

So, we want to do something innovative and leverage how we're working and these new tools to create more of a 'many-to-many' type of model, where the key is that it's very accessible. People don't have to write an application to get into a mentoring program—it's accessible and it's connected.

We have a lot of expertise that could be made easily accessible to others. By creating an open channel for sharing this expertise, we can enable learning not just for those who ask questions, but also for passive observers and even other mentors. This approach fosters multiple channels of learning and connection.

Ron Wasserstein: What are the biggest challenges for establishing a successful program in mentoring?

Bonnie Ghosh-Dastidar: Carolyn and Ruth are up to

any challenge. So that gives me great optimism for our plans. Specifically, the initiative is like a roadmap, thinking ahead to what we need to accomplish and a few challenges we're carefully considering and trying to solve. One challenge is how to sustain the initiative. We have a vision, we have a plan to implement the vision in a relatively brief amount of time, but how to sustain that is one question I think about.

The second challenge is how to scale, because often the demand for mentorship exceeds the supply of mentors. This is why the many-to-many model is attractive. It can include mentors who might be reluctant to the one-on-one model or worried about their time commitment. It's like a diffused responsibility or shared responsibility that I, for one, [would] find much easier to agree to if I were to be a mentor.

In addition, I've also heard from different programs that we need to think carefully about how to assess the outcomes of mentoring. So, we launch many initiatives; this is just one of many. ASA had some very successful ones. But how do you think beyond qualitative, maybe some quantitative sort of metrics to try to decide how to adapt a mentoring program or grow as we move forward? Scalability, sustainability, and assessment of outcomes are the three things I think about.

Ruth Etzioni: My challenge is how do we bring people together? How do we grab their interests and convince them? We have a very short amount of time to get people's attention. So how are we going to do this effectively?

The issue is that we want people who are not getting help to access this, but the people who tend to access ASA materials and communications will overlap greatly with the people who are

already supported. So again, we'll be open to any suggestions of how to reach out so less-connected people feel welcomed and included in this initiative.

We'll be able to share our energy and excitement around it very easily, but we want that to be infectious.

Carolyn Rutter: Exactly. How do we bring people in? How do we identify the needs so we can meet them? And then there's the sustainability side of it. How do we continue to assess what we've started and maybe change it, improve it, in an ongoing way? These are things both Bonnie and Ruth said very well.

Ron Wasserstein: Bonnie, how can our listeners share their ideas and questions with you and the group?

Bonnie Ghosh-Dastidar: I believe for an initiative to be successful, it needs to represent what our members want. So, Ruth and Carolyn have put a great deal of energy into this initiative. They have an amazing working group that represents people across sectors, as well as career stages. This summer, they distributed a brief member questionnaire as a way for the broader membership to chime in and have their voices heard.

Currently, members can share thoughts on my community feedback page. I believe every person who agrees to be a leader is more energized when there's feedback or input because you feel like somebody is pitching in. It is a collective effort.

Sharing thoughts on the community feedback page or ASA community is welcome. Also, you could email one of us directly if you felt you wanted to speak more privately. There are multiple ways you can share input. We want to get the conversation started! ■

Industry Statisticians Discuss Influence on Regulatory Guidance, Policies

Meijing Wu and Di Zhang

Drug development must adhere to a meticulously regulated environment in which regulatory guidance and policies are crucial for providing structured and/or standardized approaches. There is a growing trend of collaboration among industry, academia, and regulators to implement and develop regulatory guidance and policies that promote innovative design and analysis methods.

Here, Meijing Wu and Di Zhang—editors of the *Biopharmaceutical Report*—interview Ivan Chan from BMS and Bill Wang from Merck about the impact of regulatory guidance/policies in driving statistical innovation.

In your experience, do you observe any discrepancies between the recommendations outlined in current regulatory guidance and the actual practices within the industry? If so, would you provide specific examples?

Ivan: Much progress has been made to harmonize the regulatory policies and implementation around the world for drug development. However, we still sometimes encounter disparities between the regulatory guidance and actual practices. Managing these discrepancies can be complex and challenging, particularly when regulatory bodies from different countries have different requirements to meet their local needs. For example, for designing and analyzing time-to-event endpoints, the US Food and Drug Administration and European Medicines Agency have different recommendations for censoring rules, leading to variations in our approach.

Bill: Indeed, there has been broad collaboration in regulatory innovation in statistics. An illustrative example is the ICH E17 [general principles for planning and design of multiregional clinical trials] guidance, which establishes clear principles for sample size allocation in a multiregional trial. Despite consensus on these principles, the implementation varies by country and region due to local laws and regulations that may not align with ICH guidance.

Another scenario involves regional regulations providing their own guidance, making it difficult to bring regulators together, even when the industry attempts to create unified ICH guidance. The FDA's IND [investigational

new drug] safety reporting guidance serves as an example, where efforts to reduce reporting burden contradict with other agencies that insist on comprehensive data. This highlights the industry's struggle to align different regulators for mutual benefit, leading to divergent paths in regulatory approaches.

What are the challenges in promoting statistical innovation within the constraints of regulatory guidance?

Bill: There have been many noteworthy innovations proposed by various entities, being academia, industry, or regulatory agencies. These innovations sometimes find their way into regulatory practices and evolve into official guidance.

However, there are some obstacles. For example, many innovations—especially in statistical methods—often come with theoretical assumptions, whether model-based or not. These assumptions, when confronted with real-world scenarios, can be challenging to accommodate comprehensively. Consequently, guidance needs to strike a balance, being general enough to avoid specifying on every possible situation yet specific enough for practical implementation. This creates a potential implementation challenge for the guidance.

Ivan: We're also dealing with regulatory requirements from different countries and various health agencies. Usually, sponsors aim to adopt the most conservative approach that would be accepted by all agencies because the study will be run in multiple countries and data from the study will be used for global submissions. This conservative approach, however, tends to inhibit statistical innovation. Regulatory departments within companies are often very conservative. To ensure protocols pass every review body, this conservative practice may potentially impede innovation before reaching agencies.

Educating regulatory liaisons in-house to be more willing to take risk is crucial, providing teams with the opportunity to engage with different agencies and experiment with novel approaches to trial design and analytical methods.

On the regulatory side, harmonizing policies across different regions and countries is essential for promoting innovation. A great example is the rollout of the estimand guidance, where



William (Bill) Wang, Executive Director, Clinical Safety Statistics, Merck Research Laboratories



Ivan Chan, Vice President and Head of Hematology Biostatistics, BMS

every regulatory body aimed to adhere to common principles, showcasing the positive impact of unified approaches across regions.

Do you have any experience/examples of successfully influencing a regulatory guidance?

Ivan: There is a good example on adaptive designs I was fortunate to be involved in. A working group was initiated by a group of quantitative experts from industry in 2005, at a time when not many people besides the interested group would consider the potential for applying adaptive design to phase three trials. The industry working group developed a position paper on adaptive designs and began collaborations with academics and regulatory agencies, primarily the FDA. This effort led to the draft guidance in 2010 developed by the FDA.

Over the years, new methodologies and examples emerged from both academic and industry settings, culminating in the finalized guidance in 2019. This extensive process involved conversations, meetings, and workshops, creating a platform for the exchange of ideas and innovation, which laid the foundation for developing the guidance.

The ICH guidance—such as the E9(R1) [Statistical Principles for Clinical Trials: Addendum: Estimands and Sensitivity Analysis in Clinical Trials] and E17 documents—were recently finalized, as well, with formal industry participants contributing to its development. This model of industry involvement in guidance development is seen as a positive step forward.

Looking ahead, there's an opportunity for FDA to consider involving industry participants in the guidance development process, similar to the ICH model. This, I believe, would be a significant step forward in the development of guidance.

Bill: In the realm of statistics, we have numerous examples where statistics play a pivotal role in shaping regulatory guidelines. I can share two personal examples—one involving myself and the other related to Ivan.

The first example is Ivan's work in fundamental research on statistical methodology for vaccine trials. In vaccine trials, where outcomes are typically rare, Ivan and another former Merck colleague proposed an innovative method known as the "exact method" to design and analyze these rare endpoints. Ivan's method was specifically quoted in a recent draft NMPA [National Medical Products Administration] guidance on vaccine clinical trials.

Another personal example involves my participation in the working group that drafted ICH E17. I was one of the few statisticians among almost a

dozen cross-disciplinary professionals representing regulatory agencies and industry associations. In this case, we encountered an issue that, if each region required a specific sample size, it would make the multiregional clinical trial become unmanageably large. The challenge was to come up [with] an approach that could achieve the global study objectives while still being implementable.

In this context, a few statisticians, including me, contemplated the idea of using pooling strategy, which is a statistical approach often applied but not necessarily as a major strategy in global collaborative trial design efforts. The idea received positive feedback and evolved into one of the seven principles finalized in ICH E17.

This example illustrates how a statistical concept, originally just an analytical idea, can transform into a major strategic component in regulatory guidance.

How would you assess the current efforts made by health authorities in fostering collaboration among themselves, industry, and academia for the development of regulatory guidance? Are there any notable initiatives or strategies you find particularly effective or lacking?

Ivan: Bill's involvement in the ICH effort extends beyond the scope of a particular country. It aims to harmonize policies across different countries and regions, involving industry and developing guidance with participation from both industry and academia. The process invites not only industry representatives but also academic participants, creating an ideal forum for developing regulatory guidance. This approach fosters collaboration across the three different areas of expertise.

In the US, FDA has been collaborating with academic centers, and there may be opportunities to extend this collaboration to statistical experts from the industry.

Engaging industry partners in the development of guidance can be beneficial, as they bring real-world examples, understand the challenges, and can help identify areas for innovation. This collaborative approach aligns well with the needs of the industry and can enhance the quality of regulatory guidance.

There is a good example of FDA involving the industry in initiatives like the Complex Innovative Trial Designs initiative. The FDA initiated several workshops where they invited academic experts and industry representatives. Participants presented ideas and commented on what they were thinking. Personally, I was fortunate to be involved from the pharma side, invited by the FDA to discuss industry examples, potential gaps and challenges, and how to implement complex innovative designs.

Sharing statistical methods isn't an issue; the difficulty increases when it comes to sharing specific data or detailed implementation, but it's still possible.

Bill Wang

These workshops foster open conversations between industry and regulators, addressing challenges and sharing experiences.

Bill: I can provide an example of a notable initiative that has proven to be effective. In the US, there is a public-private partnership initiated by the Center for Drug Evaluation and Research and Center for Biologics Evaluation and Research. The partnership promotes collaboration between industry and regulators.

Three years ago, I co-led the ASA safety working group and initiated a private-public partnership with the FDA through a rigorous application process. Each task force under the working group has designated liaisons from different divisions of the FDA. This strategy of forming partnerships across industry, regulatory bodies, and academia has proven to be a successful and effective approach.

What actions do you believe health authorities can take to enhance collaboration among health authorities, industry, and academia, specifically with the aim of driving statistical innovation in regulatory practices?

Bill: Yes, there's an example of the tripartite effort in China, which is driven by regulators but closely involves partners from academia and industry experts. The goal is not only to develop innovative methodologies but also to apply them to regulatory practices.

On the global scale, the ICH has involved industry and regulators. There are also academic professors from Europe who are part of the ICH working groups. These have enhanced collaboration among health authorities, industry, and academia, specifically with the aim of driving statistical innovation in regulatory practices.

Ivan: The private-public partnership is an excellent example, especially when working groups come together. I'm thinking that in addition to addressing issues and fostering innovation, we could take a step further in empowering different stakeholders during the process of writing the guidance. In

the ICH, they usually have academic and industry experts participating in writing position papers and guidance documents. China is attempting to follow the ICH model, which I believe is a good approach to emulate.

In your opinion, what role can the industry play in strengthening collaboration in the development of regulatory guidance? Are there specific measures or initiatives you think would be beneficial for enhancing industry participation in this collaborative process?

Bill: I can identify a few aspects where industry can contribute. Pharmaceutical companies can leverage our implementation experiences to think about standardization and be part of the topic proposal for developing regulatory guidance. Collaborating with regulators, industry experts can identify areas that require practical innovations.

Another area where industry can improve is sharing best practice and clinical trial examples. Sharing statistical methods isn't an issue; the difficulty increases when it comes to sharing specific data or detailed implementation, but it's still possible.

In the complex innovative designs case I participated in, several companies shared examples with the FDA. Around four or five companies shared their experiences on different aspects of complex innovative designs, highlighting how methods were implemented in studies and the challenges faced. It's possible to share valuable insights without divulging proprietary information.

Ivan: Industry statisticians, with a wealth of trial experiences, understand the practical needs and challenges. They play a pivotal role in developing methodologies tailored to specific studies. By sharing results and experiences across the scientific community, industry experts contribute to a collective knowledge base. This collaboration enhances the voice of industry in shaping regulatory guidance, promoting standardization, and fostering innovation. ■

Editor's Note:
The opinions provided here are the authors' and may not represent those of their employers.

This article originally appeared in the spring *Biopharm Report*. Visit the Biopharm Section website at <https://community.amstat.org/biop/biopharmreport> to read the entire report.

NSF's Division of Undergraduate Education Teams Up with Statisticians, Data Scientists

To strengthen the connection between the statistical community and National Science Foundation, we continue the series introduced in the May 2023 issue that poses questions to NSF program officers and awardees. If you have questions or comments for the program officers, send them to ASA Director of Science Policy Steve Pierson at spierson@amstat.org.

This month's program officer is from the Division of Undergraduate Education in the Directorate for STEM Education (EDU) at the National Science Foundation. The awardees are from several universities and were awarded funding from the division's Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) program.

Program Director



Michael Ferrara is a permanent program director in the Division of Undergraduate Education at the National Science Foundation. He earned a doctorate in mathematics from Emory University in 2005 and was a professor in the department of mathematical and statistical sciences at the University of Colorado Denver from 2009–2020. Ferrara maintains active research programs in extremal combinatorics and undergraduate STEM education. He co-leads the NSF Hispanic-Serving Institutions program, serves as co-lead of the NSF S-STEM program, and works on the mathematics and data science clusters of the Improving Undergraduate STEM Education program.

Tell us about the Division of Undergraduate Education and its programs.

Undergraduate education in the United States is exceptionally broad, and DUE reflects that. Our signature program, Improving Undergraduate STEM Education in the Directorate for STEM Education, supports projects to improve STEM teaching and learning for undergraduate students, including studying what works and for whom and how to transform institutions to adopt successful STEM practices. We have scholarship programs to support talented, low-income students (NSF Scholarships in STEM) and future K–12 STEM

teachers (Robert Noyce Teacher Scholarship Program). Other opportunities focus on undergraduate STEM education at two-year colleges (Improving Undergraduate STEM Education Innovation in Two-Year College STEM Education program and Advanced Technical Education program) and Hispanic-serving institutions.

Do the programs support statisticians and data scientists?

Yes, absolutely! We have so many excellent projects across our programs led by members of the ASA community. Some of these projects are centered on statistics and/or data science education, while others require data expertise to carry out research or evaluation activities. DUE has many awards led by statisticians and data scientists.

What advice would you give to a potential proposal writer, whether a first-time or returning applicant?

When writing a proposal for a DUE program, be sure to tell the story of your institution and the students you want to serve. Make a strong case that the work is aligned with your local context and is in touch with students' strengths, needs, and realities. Also, be sure the key components of your proposal are clear and a reader can understand what you are asking of students, faculty, and other participants. Reviewers appreciate being able to visualize a potential project 'end-to-end.'

Is there anything else we should know about DUE?

Innovative undergraduate education is happening in classrooms across the nation. Consequently, DUE welcomes and funds proposals from institutions of every size, shape, mission, and geographic area. If you have an idea you think could make for a great project, reach out to any DUE program officer (<https://bit.ly/4f2xVCN>) and we can happily arrange for a 30-minute consultation to provide feedback.

Awardees



Ludkovski



Rodriguez



Gillen



Canner



Schaffner



Chatterjee



Hasenstab

A team including **Michael Ludkovski** of the University of California at Santa Barbara, **Abel Rodriguez** of the University of Washington, **Dan Gillen** of the University of California at Irvine, **Judith Canner** of California State University, Monterey Bay, **Andrew Schaffner** of Cal Poly San Luis Obispo, **Ayona Chatterjee** of California State University, East Bay, and **Kyle Hasenstab** of San Diego State University received \$5 million from the Division of Undergraduate Education's Scholarships in Science, Technology, Engineering, and Mathematics (S-STEM) program.

Tell us about your project, including its motivation and goal.

The Pacific Alliance for Low-Income Inclusion in Statistics and Data Science is a cohort-based bridge program that aims to increase degree completion by low-income, high-achieving undergraduates with demonstrated financial need, as well as the number of these students who pursue graduate degrees in statistics and data science.

The alliance is composed of the following seven public universities:

- University of California, Santa Barbara (lead institution)
- University of California at Irvine
- University of Washington
- California State University, Monterey Bay
- Cal Poly San Luis Obispo
- California State University, East Bay
- San Diego State University

Program scholars receive need-based scholarships of up to \$10,000 per year during the last two years of their undergraduate degree and the first year of their graduate education. They also receive academic and career support through faculty and graduate student mentoring, a series of monthly events held both online and in person that help build community and introduce students to a variety of topics and statistics and data science professionals, and support in preparing for and applying to statistics and data science graduate programs.

Describe your approach to the Division of Undergraduate Education.

The mission of the Undergraduate Education Division is to “promote excellence in undergraduate science, technology, engineering, and mathematics (STEM) education for all students.” This means contributions to STEM education (both in terms of workforce development and research on

undergraduate education) are critical to the success of proposals submitted to DUE.

In the case of our proposal, this was manifested in two ways. The S-STEM solicitation allows for submissions under the following three tracks:

- Track 1 (Institutional Capacity Building)
- Track 2 (Implementation: Single Institution)
- Track 3 (Inter-Institutional Consortia)

Our program was submitted under Track 3.

Two key goals shared by all tracks are to “provide scholarships to domestic low-income academically promising students with demonstrated financial need pursuing a degree in one of the S-STEM eligible disciplines” and to “adapt and implement evidence-based curricular and co-curricular activities.” Therefore, success required a team that was knowledgeable of the STEM education literature, and the proposal needed to demonstrate this.

Furthermore, unlike Track 1 and Track 2, proposals under Track 3 are expected to “engage in high quality educational or social sciences research to advance understanding of how to adapt, implement and scale up effective evidence-based programs and practices designed to foster positive outcomes for low-income students in STEM.” This meant our team needed to not only be aware of the STEM education literature, but also needed to include members at the forefront of such research.

We were lucky to partner with the Center for Evaluation & Research for STEM Equity at the University of Washington for the research component of the project. I believe this played a key role in getting the proposal funded.

Another aspect that often gets overlooked in many NSF proposals with a heavy educational emphasis is the need to have a strong evaluation team. This is another place where we were lucky by teaming with the Center for Science & Engineering Partnerships at the University of California at Santa Barbara. ■

MORE ONLINE

Visit www.nsf.gov/funding/programs.jsp?org=DUE for a full list of Division of Undergraduate Education opportunities.



Welcome TO OUR NEWEST MEMBERS

Anas Abdallah	Samantha Bates	Ze Chen	Hyungrok Do	Esther Omofa
Theophilus B.K. Acquah	Prins	Chak Kwong (Tommy) Cheng	Kim-Anh Do	Folorunso
Prince Afriyie	Ricardo Batista	Henrique Cheng	Travis Dockter	Nicole Fornarotto
Israa Ahmed	Hikaru Belzer	Jerry Cheng	Renny Doig	Agata Foryciarz
Entejar Alam	Yuval Benjamini	Sunny Cheng	Juncheng Dong	Freier Luke Freudenheim
Yeabsira M. Alemu	Souvick Bera	Kelsey Cherland	Siyuan Dong	Dylan Friel
Dhari Alenezi	Richard Brath	Jungin Choi	Xinxin Dong	Chenlian Fu
Amna Ali	Lucca Braudagan	Ye Jin Choi	Zhuofan Dong	Shing Fu
Waleed Almousa	Moorea L. Brega	Teri Christiansen	Zihan Dong	Patrick Gahan
Christian Shea Alvarado	Michael Ethan Hornsby Brown	Sophia P. Chung	Hope R. Donoghue	Connor Gamba
Safaa R. Amer	Genevieve Brunner	Carl S. Cloyed	Hongyu Du	Mauricio Garcia Tec
Taylor Amery	Hope Buell	Edward J. Cohen	Jiasong Duan	Varun Garde
Abigail Ames	Thanh Bui	Andrea J. Cook	Guilherme Jardim Duarte	Jim Garrett
Tope Kolade Amusa	Prabhakara R. Burma	Thomas Cook	Mateo Dulce Rubio	Judie Gatson
William N. Anderson	Chloe Elizabeth Burt	Kassidy Crockett	Ecaterina Duscova	Nathanael Gay
Sarah B. Andrea	Brendan Callender	Alvaro Cruz	Miriam R. Elman	Julie George
Joseph Antonelli	Mihai Cucuringu	Jose Luis Tejada Cruz	Cael Elmore	Cedric Gerbelot
Zoran Antonijevic	Ziyao Cui	Rachel Cummings	Oana M. Enache	Michael Geyer
David Christopher Arredondo	Rachel Cummings	Fabio D'Ottaviano	Kenny Evans	Novin Ghaffari
Oshiokamele Aruna	Castellanos	Tulip N. Daaboul	Mohamed Rashed Ezzeldin	AmirEmad Ghassami
Michelle Audirac	James-Robert Caulkins	Luis Damiano	David Fairley	Zemen Ghelaw
Didier Auroux	Subhrasish Chakraborty	Simion De	Li Fan	Lucas Godoy Garraza
Dhara Babaria	Stephanie Chan	Michael Flavio De Araujo	Winnie Fan	Shanti V. Gomatam
Krishnakumar Balasubramanian	Charlotte Chase	Salem Omar Dehom	Andrew Farris	Eric A. Grau
Olukorede Balogun	Rahul Chatterjee	Shreyanshu Dekate	Daniel Felsky	Skyler Gray
Sibabrata Banerjee	Geng Chen	John Michael Demeter	Wentao Feng	JoEllen Green
Kazeem Olanrewaju Bankole	Kaiyi Chen	Sakshar Desai	Xiaoke Feng	Aaron Timothy Griffin
Eric A. Baron	Melissa Xuemei Chen	Samira S. Deshpande	Brian J. Fergen	Kyle Frederic Grosser
John R. Bassler	Minshuo Chen	Adrian Diaz	Davide Ferrari	Xuesong Guan
	Ran Chen	Scott A. Diegel	Matthew Ferrell	Zhenxing Guo
	Tianyi Chen	Wen Ding	Michelle A. Fetherston	Shilpa Gupta
	Tzu-An Ann Chen		Renato Filjar	Mohammad Haider
	Yi Chen		Jacob Brent Fisher	Kayla Hallmark
			Jason Fleischer	
			Ethan Fogarty	

Forough Hammond
 Karen Han
 Wenshan Han
 Ryo Hanaoka
 Hisayuki Hara
 Murali Haran
 Surya Hardiansyah
 Nick Hart
 S. M. Mehedi Hasan
 Ruoyu He
 Wei He
 Zhibing He
 Jeremy Heng
 H.M. Wiranthe B.
 Herath
 Karen Higgins
 Jessica E. Hill
 Talmage Hilton
 Shintaro Hirano
 Bret Holladay
 Richard Holubkov
 Björn Holzhauer
 Enamul Hoque
 John Horgan
 Ibuki A.J. Hoshina
 Reka Howard
 Kathleen Nichole Hoyl
 Beibei Hu
 Boyi Hu
 Shuangcheng Hua
 David Huh
 Cassandra Hung
 Richard Huntsinger
 Martin Hyllienmark
 Ivy Isaman
 Alhassan Ismail
 Harald K. Iverson
 Nagaraj Jaganathasamy
 Molly Jacobs
 John E. Jacobsen
 Byron Casey Jaeger

New Member Spotlight:

LIDA WANG

This month, we spotlight new member Lida Wang, who answered the following questions so we could get to know her better:

How did you become interested in statistics and/or data science?

I became interested in statistics during my undergraduate studies. At the time, I was majoring in mathematics, but I found statistics more engaging because it is directly relevant to solving real-world problems. Since then, I have developed a strong interest in building predictive models and have taken numerous courses in data science and machine learning.

What do you consider your dream job?

I am currently a fourth-year biostatistics PhD student. My plan is to seek postdoctoral opportunities in the statistical genetics and data science fields. In the future, whether I stay in academia or move into industry, I hope to apply the statistical knowledge I have gained to solve real-world problems. I am particularly interested in the interdisciplinary field of life sciences and statistics and aspire to develop methods or tools that benefit human health.

What do you hope understanding statistics and/or data science helps you accomplish?

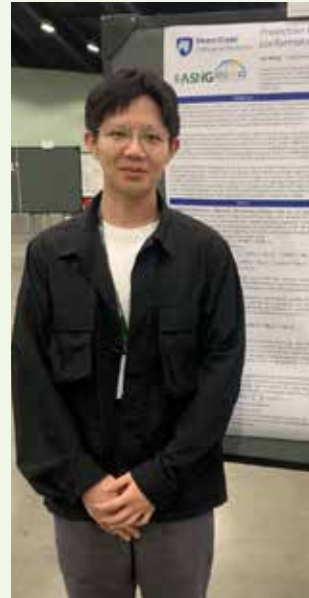
Understanding statistics and data science equips me with the tools to contribute meaningfully to various fields by providing insights and solutions based on data. I hope to make significant contributions to improving public health outcomes, understanding human genetics, and advancing knowledge in my field through rigorous research.

Is there a particular group of statisticians you would like to reach out to you?

The Section on Statistics in Genomics and Genetics.

What is your favorite hobby?

My hobbies include traveling, cooking, and hanging out with friends.



Lida Wang

Heyang Ji	Chi-Wei Lai	Daniel Liu	Ljubomir Miljacic	Denisse Olarte
Jianfei Jiang	Kenneth Lambiotte	Gang Liu	Aaron C. Miller	Onur M. Orun
Jitong Jiang	Autumn Langer	Pengyu Liu	Mikaela Ann Miller	Aaron M. Oustrich
Zheyu Jiang	Sarah Lathrop	Shangbin (Gary) Liu	Aditya Kumar Mishra	Christopher Thomas Pagano
Shuhao Jiao	Jericho Bolos Lawson	Suqi Liu	Emma Paige Mitchell	Junvie Pailden
Felix Michael Jimenez	Ann Lazar	Yue Liu	Ahmed Mohamed	Youngju Pak
Arnold Johnsen	John Le	Divyatmika Lnu	Zeinab Mohamed	Tianyu Pan
Cassie A. Johnson	Huijae Lee	Qiaoyang Lu	Nathalie Moon	Yiqing Pan
Eunice Jun	Mengying Lei	Chongliang Luo	Juston Moore	Cinzia Papappicco
Denise Kalos	Qi Lei	Stian Lydersen	Alexandra Mossman	Sola Park
Ajsi Kanapari	James Leiner	Chong Ma	Giovanni Motta	Chathurangi Heshani
Md. Rezaul Karim	Dean Leonardi	Shiyang Ma	Herath Mudiyanseelage	Pathiravasan Ellis Patrick
Xinyi Ke	Kelvin Man Yiu Leung	Tsung-wei Ma	Madhurima Mukhopadhyay	Pam Patterson
Brandon D. Keck	Jonathan Levy	Ying Ma	Cameron J. Mulder	Vanessa K. Pazdernik
Brian Tinnell Keller	Richard Levy	Juan C. Maggi	Mehroze Munawar	Stefanie Peschel
Stella M. Kent	Kelly Lewis	Keokani Kipona Marciel	Marius I. Muresan	Emily Nancy Peterson
Aidan W. Kerns	Can Li	Deanna J. Marriott	Senthil Kumar Muthiah	Michael J. Petron
Abbas Khalili	Gang Li	Bryan D. Martin	Patrick Mwangi	Hien Pham
Brandon H. Kim	Hong Li	William T. Martinez	Khashayar Namdar	Tuan Pham
Stephanie Klopfer	Huimin Li	Ricardo Masini	Siddhartha Nandy	Alexander Pinard
Beata Knecht	Jinzhou Li	Lowell Mason	H. M. Nayem	Melissa Quinby
Seyoon Ko	Wei Li	Kaatje A. Matthews-vanKoetsveld	Blue Neustifter	Pittard
Jake Koerner	Xiang Li	Aye Aye Maung	An T. Nguyen	Peyton Politewicz
Adam Komisarof	Xiaoming Li	Halley McCormick	John Nguyen	Tyler A. Pollard
Mallika Kommareddi	Zhuoxuan Li	Craig McCrohon	Yijin Ni	Margaret L. Porter
Zewei Kong	Michael Chase Lightfoot	Camilla McKinnon	Sarah Norris	Alexander Preiss
Gizem Korkmaz	Danyu Lin	Ryan Patrick Alexander McShane	Tyler Nutter	Amrit Puhan
Kelly Koser	Hanti Lin	Sarah K. McWaid	Brianna O'Malley	Ahmad Qadri
Yuhei Koshino	Haotian Lin	Sagar Mehta	Molly Offer-Westort	Nayyer Qasim
Vikesh Koul	Hui-Min Lin	Qian Meng	Elie Ohana	Nina Qi
Alexander Kuhn	Xiaofeng Lin	Zhuo Meng		Christopher Qian
Brendan Kumagai	Yixiao Lin	Ebenezer Mensah		Qiuyuan Qin
Kelly Kutch	Zhengzhi Lin	Daniel Milan		Zhuo Qu
Evan Kwiatkowski	Antonio Linero			
Wiriaporn Laaied	Andrew Liu			
	Bin Liu			
	Bo Liu			
	Dali Liu			

Kevin Quinlan	Zhu Shen	Alexander Torgov	Ruishan Wu	Shidong Zhang
Hassan Rafique	Claudia Shi	Katherine E.	Shushan Wu	Xiangyu Zhang
Prabrisha	Peng Shi	Tranbarger	Yinfei Wu	Yingjin Zhang
Rakshit	Tiang Shi	Kevin Trimm	Yuchen Wu	Yumin Zhang
Peter Ralph	Yu Shi	Khoa Hoang	Angela Jean Wyse	Yuzheng Zhang
Aaditya Ramdas	Hyon B. Shin	Trinh	Lu Xia	Ge Zhao
Ruwani Rasanjali	Aditya Shrivastava	Jeffry Troll	Haotian Xian	Hongru Zhao
Uma Ravat	Rachel A.	Georges Tsafack	Feifei Xiao	Huanyu Zhao
Timothy	Silverman	Elisa C. Tsao	Fangzheng Xie	Jian Zhao
Raxworthy	Susheela Singh	Masaru	Guang Xu	Jonathan J. Zhao
Matthew Recker	J. McLean	Tsuchikawa	Maoran Xu	Kangyi Zhao
Daniel B. Reeves	Sloughter	Laura Lindley	Sheng Xu	Leshan Zhao
Edy Reynolds	Abigail Smith	Tupper	Xiangyu	Lihui Zhao
María Eugenia	Bonnie Smith	Michael Turchin	Xiangyu Xu	Xiang Zhao
Riaño	Lois Keller Smith	Fatima Tuz-Zahra	Yingying Xu	Xilei Zhao
Mark Risser	Sarina Lauryn	Jennifer Valcin	Yueqi Xu	Dong Zhou
Sunhee K. Ro	Smith	Matthew Eugene	Joshua K.	Jian Zhou
Eva Roa	William John	Vanaman	Yamamoto	Jincheng Zhou
Amber Robbins	Spaven	Leslie Vazquez	Cheng-Han Yang	Meijian Zhou
Justine Rochon	Jacob Spooner	Moreno	Jen Jiemin Yang	Xiaodan Zhou
Jose Francisco	Sachin Sridhar	Lasse Vuursteen	Ke Yang	Zhengyang Zhou
Rodriguez	Maggie	Carly Waldeck	Liuqing (Jasmine)	Bennett Zhu
Fernando	Stanislowski	Chunxiao Wang	Yang	Xiaochen Zhu
Rodriguez	Ashley Stengel	Guoqing Wang	Wei Yang	Yaxu Zhuang
Bryce Rowland	Tess Stopczynski	Haiyan Wang	Yang Yang	Anna Zink
Dooti Roy	Alexander Strang	Hongyuan Wang	Zitong Yang	Yvonne M.
Jason Phillip	Sarah Stutts	Jing Wang	Ashly Yap	Zubovic ■
Rutberg	Wen Su	Jingshen Wang	Ziyi Ye	
Ritwik Sadhu	Heidi J. Sucharew	Tianjiao Wang	Seth Adarkwah	
Sakib Salam	Dennis L. Sun	Wenjia Wang	Yiadom	
Gino N. Salza	Raanju R.	Xinyi Wang	Pakize Yigit	
Sharindi Amasha	Sundararajan	Xuerong Wang	Mengqi Yin	
Samaraweera	Krithika Suresh	Zhenhua Wang	Toshiya Yoshida	
Joseph Schenker	Xiao Hui Tai	Camille Anne	Huilan You	
Joseph T.	Wenpin Tang	Wardlaw	Amber Marie	
Schlicht	Brianna Marie	Grayson E.	Young	
Caroline Schmitt	Taracena	Weavil	Tao Yu	
Daniel	Danielle M.	Jonathan Wells	Xuesong Yu	
Schuermann	Taylor	Kael Wherry	Zhentao Yu	
Andrej Schwabe	Katherine	Charlotte	Hossein Zahed	
Hina Shaheen	Thompson	Wickham	Hui Zhang	
Silvey Shamsi	Kevin Paul	James David	Jeffrey Zhang	
Lulu Shang	Tolliver	Wilson	Jingyang Zhang	
Rohan Sharma	Guangyu Tong	Taylor M. Wing	Missi Zhang	
Linchuan Shen	Alexander Austin	Fan Wu		
	Tooze			

JEDI CORNER

STATISTICAL SUPPORT NEEDED *for* WORKPLACE DEI

David J. Corliss, JEDI Communications Committee Chair

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

As programs promoting diversity, equity, and an inclusive (DEI) workforce become widespread, the need for analytic support for these initiatives has grown, as well. Statisticians and data scientists now play a vital role in collecting, curating, and analyzing employee data to produce data-driven assessments and recommendations that create and support greater diversity.

Employee initiatives come with a particular set of ground rules. It all starts with the human resources department or, in smaller organizations, the operations lead. As it's likely your organization already has a DEI initiative, you will want to work within the existing framework.

Begin by reaching out to your department head or manager to discuss how your expertise can help with these important and highly visible initiatives. Most human resources leaders are analytic consumers, not producers. If you are not familiar with working with non-scientists, finding a partner with this experience can help.

The first goal in supporting employee DEI programs is developing strong working relationships with all stakeholders, especially leadership. Only after developing these relationships can work begin on analytics to produce effective results.

As scientific experts, others will look to us for metrics, graphics, and interpretation of statistical results to drive effective implementation. One useful metric is the Diversity Index, recently developed by the US Census Bureau. Created as part of the 2020 census, this metric quantifies the percent likelihood that two persons selected at random will be from different racial and ethnic groups. This can be calculated for the internal workforce, job candidates, and leadership and then compared to local, job section, and national demographics.

One company putting hard numbers behind their DEI efforts is Amazon. Information is collected anonymously, and the compiled data is used to measure progress, identify areas of concern, and guide future efforts.

An annual report includes breakdowns for several employee categories, including senior leaders. Previous years are archived and available on the website (www.aboutamazon.com/news/workplace/our-workforce-data), so people can see the changes over time. By collecting and reporting diversity data and sharing it publicly, Amazon demonstrates what is possible with DEI metrics in the workplace.

DEI advocates and leaders can share this example with their management as a guide in developing their own metrics. Our expertise as data leaders makes us an invaluable resource for any company working to develop a strong, well-informed, and effective DEI program while ensuring data is collected and reported in a secure manner and in keeping with ethical standards for data management.

Keeping these principles in mind can go a long way toward making your support for DEI initiatives a productive and rewarding experience. ■

STATS4GOOD

Extending Horizons: Data for Good Collaborations Across Academia, Industry, Government

David J. Corliss

There is an old saying that the one person who is smarter than anyone else is everyone working together. It's especially true in Data for Good, where partnerships that reach across the traditional categories of academia, government, and industry are often the most powerful.

As a statistician working in industry, I get to see this first hand in the development of AI to predict the amount of damage to the local electric grid from incoming storms. The work combines government and academic data and research from around the world to support a local industry need. The same kind of partnerships can empower our D4G projects.

Most of us can participate in community service projects through work. Since partnerships go both ways, there are opportunities for almost everyone. Statisticians and data scientists working in industry are the best people to identify scientists in academia and government who can provide essential expertise. Scientists in academia and government naturally have partners in industry, non-governmental organizations, and community groups.

For example, a common activity for professionals in all areas is supporting food banks and anti-hunger organizations. These organizations certainly need and deserve our support, and that means we can do even more by leveraging our professional skills.

The key is finding an activity people are already engaged in and then adding your professional expertise to drive even greater results.

This type of collaboration translates to other popular projects, including literacy efforts at schools and support for animal shelters. Your local United Way (www.unitedway.org/local/united-states) is a great place to start when looking for an organization doing good work in the community that could use data and analytics.

National D4G projects can benefit from cross-sector partnerships, as well. This is an area in which ASA chapters can bring together a diverse group of people to form a project team. Chapter leaders can brainstorm the topics members want to work on and then foster partnerships with members in industry, government, and academia to attack the problem.

On the global level, ideas include fighting climate change by leveraging UN resources on sustainable development (<https://sdgs.un.org/goals>), investigating the prevalence of and local risk factors for COVID-19 and long COVID, and identifying risk factors for exploited labor hidden in the supply chains of local industry using new data (www.dol.gov/agencies/ilab/statistics-forced-labour) from the US Department of Labor.

August is the perfect time to make new connections, review

Getting Involved

The statistics section of the American Association for the Advancement of Science has started a new webinar series (<https://bit.ly/3y3dbKw>).

Another resource is the Hosted Event Series (www.niss.org/event-series) from the National Institute for Statistical Sciences, which maintains an archive of past presentations on their website.

Check out these resources, be inspired, and give thought to what subjects you would like to see—or maybe even present—in Data for Good.

past work, and set new goals. With JSM and the start of the new academic year, now is the time to develop partnerships to support D4G objectives. It can be easy to focus on the same circle of colleagues in the same sector but be intentional about seeking out new collaborators and opportunities.

Whether attending JSM or not, use the conference program (<https://bit.ly/3wx7mV4>) to find the people and research addressing the questions that matter to you. Data for Good means you don't have to wait until you die to donate your brain to science! Don't let JSM season pass without making connections for your next project in Data for Good. ■



David Corliss is the principal data scientist at Grafham Analytics and founder of Peace-Work.

STATtr@k

Statistical Thinking: A Brand Differentiator



George Rodriguez is a chief scientist who earned his MS in statistics after earning his PhD in chemistry at the University of Rochester.



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

As statisticians in an organization with a sizeable data science community, we are frequently asked to compare data-driven modeling by those trained in statistics and those trained in machine learning. If not handled with care, the ensuing discussion can deteriorate into a polarized debate.

One camp thinks machine learning is a subfield of statistics, while the other is convinced it is the other way around. Such a discourse may lead to tribalism that fails to serve both communities.

Lack of clarity about this topic can cause organizations recruiting data scientists to struggle and job applicants to market themselves incorrectly. A clear differentiation can help organizations map their needs to the most suitable candidates and

help statisticians articulate and market their skills effectively.

Exploring blogs, books, papers, conference presentations, and colleague practices suggests data modeling by those trained in machine learning often begins with a relatively large data set, which is wrangled before various algorithms are explored. The most suitable models are deployed and their usage is tracked. The process is known as machine learning operations (blue components), and it includes concepts such as version control, model efficiency, and assessment automation. This refined and highly structured workflow resembles an engineering process more than the scientific method.

Adding practices and formal methodologies foundational to most statistics curricula provides

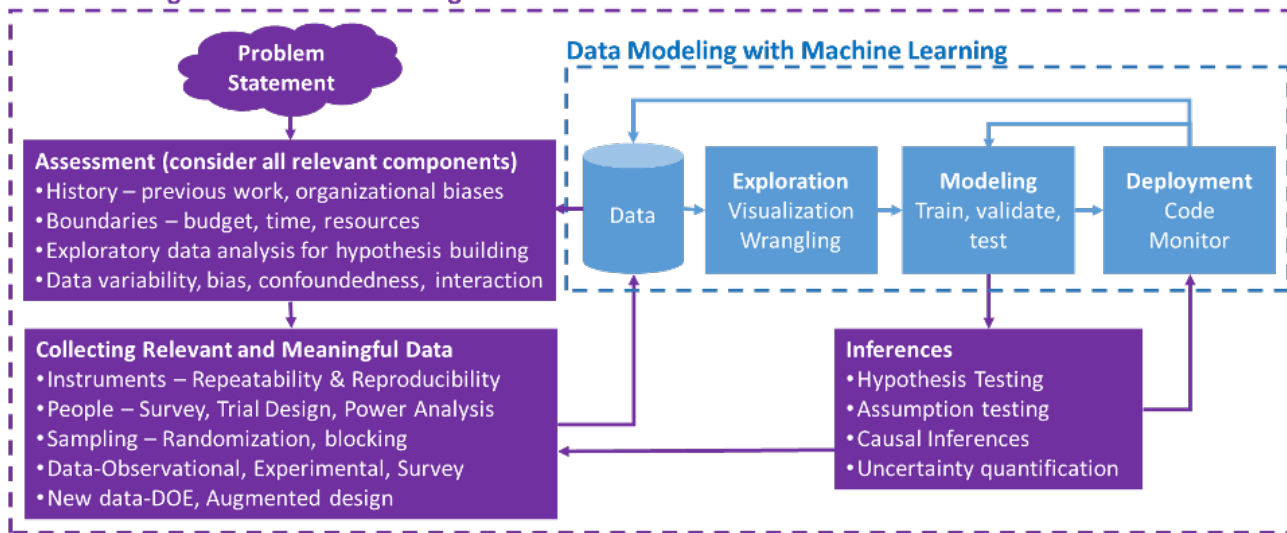
a different framework. We refer to these additions as statistical thinking (purple components). This approach leads to a distinct and stronger brand for those formally trained in statistics and helps hiring managers select the most suitable job applicants relative to the positions under consideration.

Statistical thinking includes engaging problem owners (e.g., researchers) as early as possible, hopefully before data collection begins. The aim is to create the best problem statement that will lead to the most valuable answers. It also involves looking at work processes relevant to the project, understanding organizational cultures that could create biases, and assessing available data.

Researchers will recognize these activities as best practices. The goal of this approach comes

Exploratory data analysis and model building are generally similar, regardless of one's training.

Data Modeling with Statistical Thinking



from John Tukey, who stated, “It’s better to have an approximate answer to the right questions than a highly accurate answer (i.e., a model) to the wrong question.”

Statistical thinking shines in planning data collection. Quantifying repeatability and reproducibility is performed if instruments or apparatuses are involved. Design of experiment methods such as blocking and randomization are used to address known or potentially confounded variables. The proper surveys or trial designs are considered if people are the objects being measured.

The purpose of incorporating these well-tested methods is to target maximized Fisher information before experiments are performed and data collected. These tools emerged before the

era of big data; accordingly, they provide the means to develop economic experimental protocols leading to the most insights.

Exploratory data analysis and model building are generally similar, regardless of one’s training. However, before models are deployed, statistical thinking encourages formal hypothesis testing and checking fundamental assumptions. Correlation embedded within the models may be scrutinized further for causality. Parsimonious models more likely to reveal underlying phenomena are targeted. These practices routinely suggest other hypotheses and therefore send researchers back to experimentation and data collection.

The description above is not intended to minimize the value machine learning practitioners

bring to an organization dealing with large and highly unstructured data challenges. In fact, poorly deployed and maintained models lead to significant value lost.

This column is also not intended to suggest statisticians cannot engage in machine learning operations. Its purpose is to articulate the different approaches to data modeling so hiring teams have a clearer perspective when evaluating job candidates relative to their organizational needs and statisticians have a better way to market their training and broader role in solving ill-posed problems that will eventually be addressed with data models. ■

Data Visualization Poster & Statistics Project Competition Winners

The American Statistical Association announces the winners of the 2024 ASA Data Visualization Poster and Statistics Project competitions. First-place winners received \$300, a certificate, and grade-appropriate graphing calculators provided by Texas Instruments. Second-place winners received \$200 and a certificate, third-place winners received \$100 and a certificate, and honorable mentions received certificates.

2024 National Project Competition Winners

Each year, the statistical project competition attracts a variety of submissions from students in grades 7–12 who conduct creative studies and write a report. The submission deadline for the project competition is June 1 to enable participation from high school students who might have been preparing for the AP Statistics exam administered in mid-May. The statistical project competition provides students with opportunities to apply the statistical skills they gain throughout the school year to solve real-world problems of interest to them. Results of the project competition can be found in *Amstat News* online at <http://magazine.amstat.org>.

The poster and project competitions are directed by the American Statistical Association/National Council of Teachers of Mathematics Joint Committee on Curriculum in Statistics and Probability. The 2024 poster competition leader is Jennifer Broatch of Arizona State University, while Dione Maxwell of Loganville High School serves as head project competition leader.

Posters are due every year on April 1 and are submitted digitally as photos of physical posters or as digitally created posters. Projects (written reports) for grades 7–12 are due every year on June 1.

Visit the poster competition webpage (<https://bit.ly/34VmGNg>) or project competition webpage (<https://bit.ly/3surRMv>) for entry forms, instructional webinars, the rubrics used for judging, and information about previous winners.

Regional Poster Competition Leaders

Students outside the regional competition areas submit their posters directly to the ASA office to be judged separately by the Washington Statistical Society as part of the “Other Region.” The best posters from each region move on to national judging. Information about regional poster competitions and winners is available on the individual regional poster competition websites.

Connecticut Chapter Statistical Poster Competition

<https://bit.ly/44ePhGT>

Zhou Fan and Leying Guan, Yale University

Kansas/Western Missouri Statistics Poster Contest

<https://bit.ly/46BvmDN>

Ananda Jayawardhana, Pittsburg State University

Michigan Statistics Poster Competition

<https://bit.ly/46zyEHt>

Dan Adrian, Grand Valley State University

Nevada K–12 Statistics Poster Competition

<https://bit.ly/3CV9WDQ>

Elizabeth Harris, Lied STEM Academy

Ohio Data Visualization Poster Competition

<https://bit.ly/3CU4NvX>

Jerry Moreno, John Carroll University

Pennsylvania Statistics Poster Competition

<https://bit.ly/3rfLKJR>

Pete Skoner, Saint Francis University, School of STEAM

Pullman, Washington Statistics Poster Competition

<https://bit.ly/3NCcVWH>

Dean Johnson, Washington State University, Southern California

Statistics Data Visualization Poster Competition

<https://bit.ly/3NzWRER>

Rebecca Le, County of Riverside and California State University, Long Beach

Washington Statistical Society Data Visualization Poster Competition (DC Metro Area)

<https://bit.ly/34VmGNg>

Sabrina Zhang, Westat

ASA National Data Visualization Poster Competition

<https://bit.ly/34VmGNg>

Jennifer Broatch, Leader, Arizona State University
Rebecca Nichols, ASA K–16 Education Coordinator

2024 National ASA Data Visualization Poster Competition Judges

Anna Cunningham
Arizona State University

Joel Nishimura
Arizona State University

Sam Ingram
Arizona State University (student)

Muhammad Amir
Hakimi Bin Rohimi
Arizona State University (student)

Wei-Chieh Lin
Arizona State University (student)

Ayona Chatterjee
*California State University,
East Bay*

Alfred Ma
Columbia University

Margo Moreno

Delante Moore
Emory University

Melvin Peralta
Michigan State University

Jacqueline Probst

Victor Agboli

Mesaru Teramoto
The University of Utah

Carvis Durr
University of Central Florida

Anna Valeva
Western Illinois University

Marcela Alfaro-Córdob
*University of California,
Santa Cruz*

Federica Ricci
University of California, Irvine

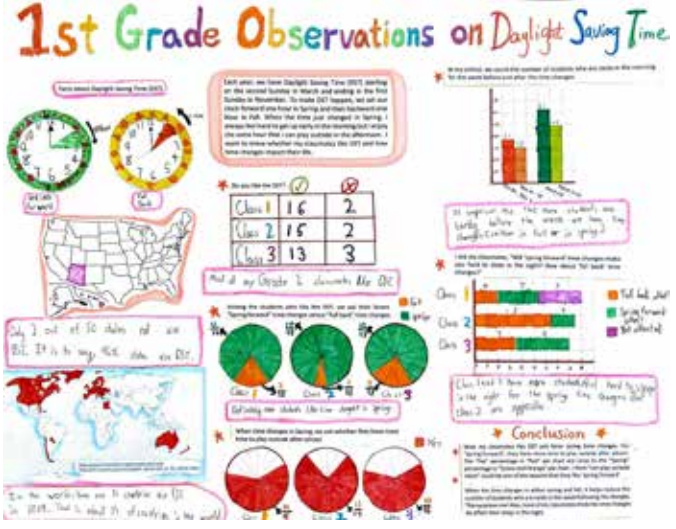
Tyler George
Cornell College

Debra Hydorn
University of Mary Washington

Alice Paul
Brown University

Jesse Hsu
University of Pennsylvania

GRADES K-3



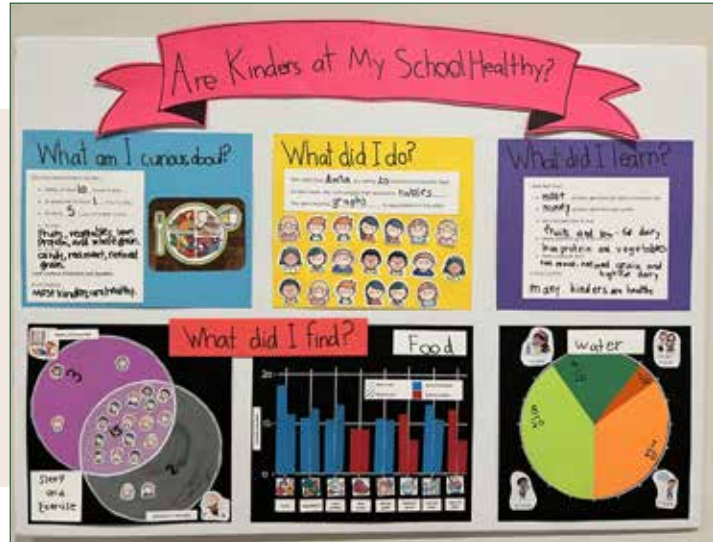
Herui Wang

“First Grade Observations on Daylight Saving Time”

Mansfield Elementary School
Mansfield Center, Connecticut

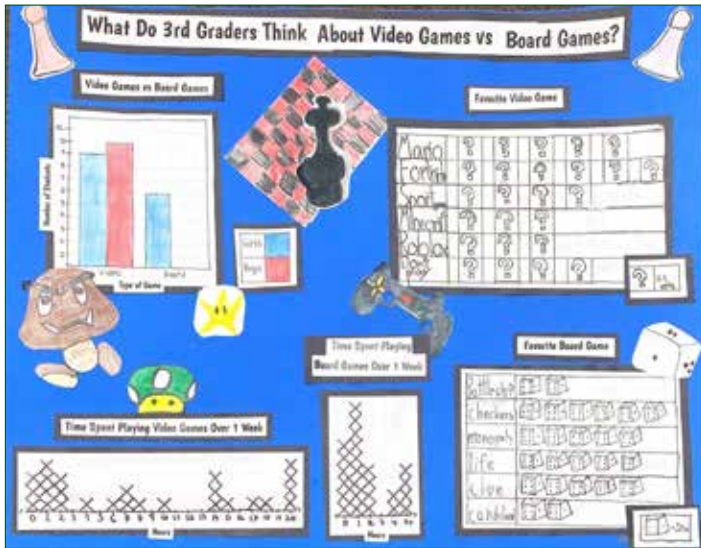
Second Place
Rebekah Yung

"Are Kinders at My School Healthy?"
Sacred Heart Schools, Atherton
Newark, California



2024 National Poster Competition Winners

GRADES K-3



Third Place

Dr. Petrick's Third Grade Class

"What Do 3rd Graders Think About Video Games vs. Board Games?"

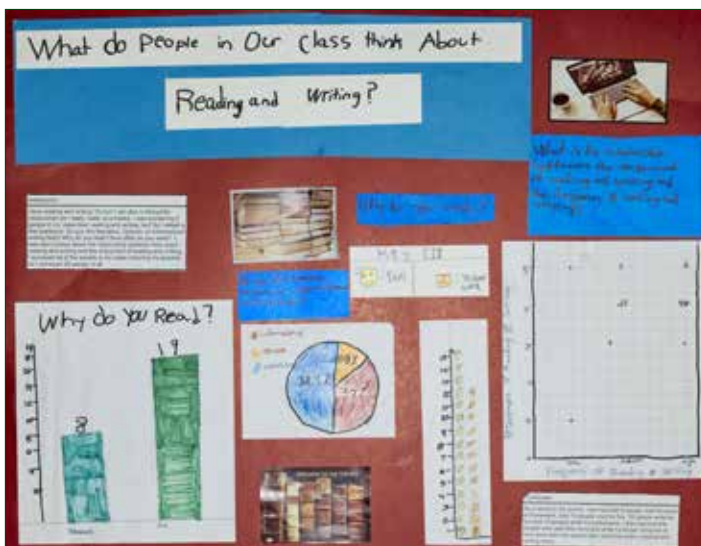
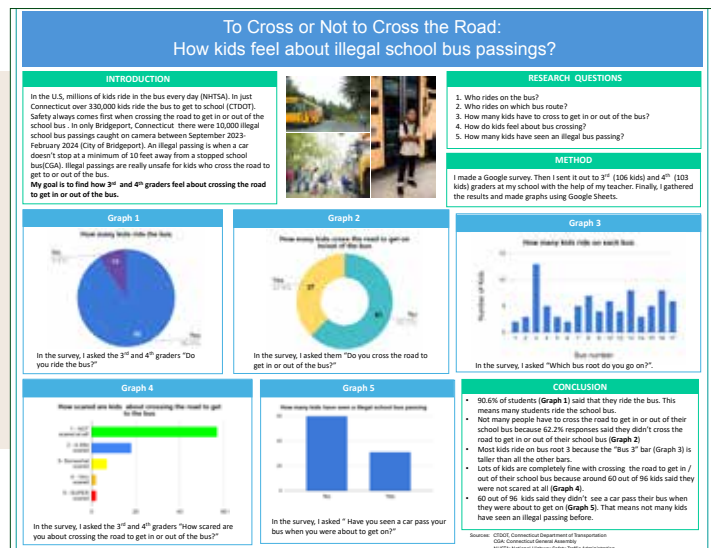
Timmons Elementary
Chagrin Falls, Ohio

Honorable Mention

Mihin Witharana

"To Cross or Not to Cross the Road:
How Kids Feel About Illegal School
Bus Passings"

Mansfield Elementary School
Mansfield Center, Connecticut



Honorable Mention

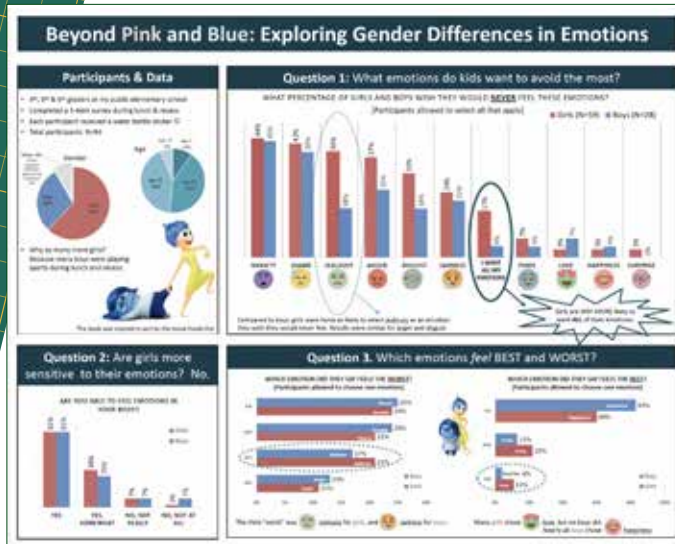
Adalyn Michels

"What Do People in Our Class Think About Reading and Writing?"

Explorer Elementary
Caledonia, Michigan

2024 National Poster Competition Winners

GRADES 4-6



First Place

Journey Rodriguez

"Beyond Pink and Blue: Exploring Gender Differences in Emotions"

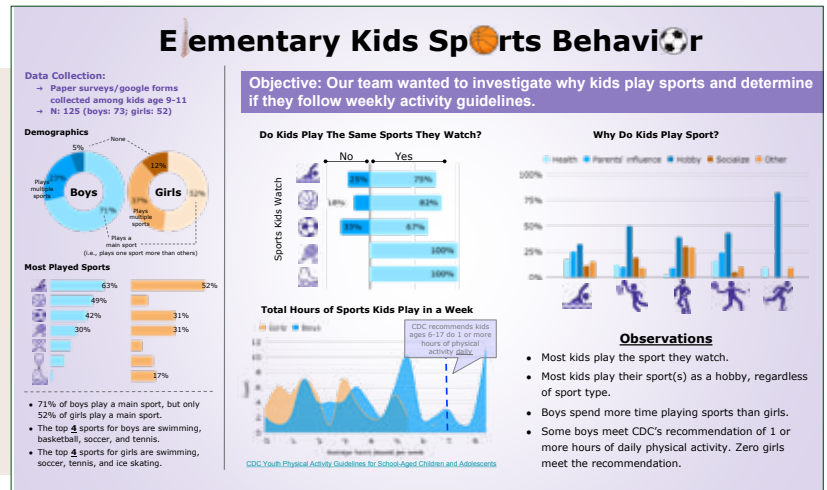
Chaparral Elementary School
Claremont, California

Second Place

Elvis Wu, Ethan Ou, Jayson Wang,
and Brady Huang

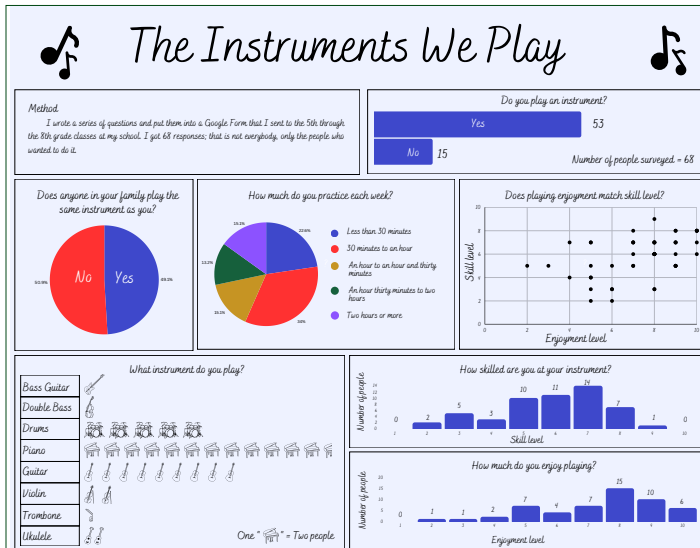
"Elementary Kids Sports Behavior"

Luxmanor Elementary School,
Diamond Elementary School, and
Stone Mill Elementary School
Rockville, Maryland



2024 National Poster Competition Winners

GRADES 4-6



Third Place
Cleo Marinescu

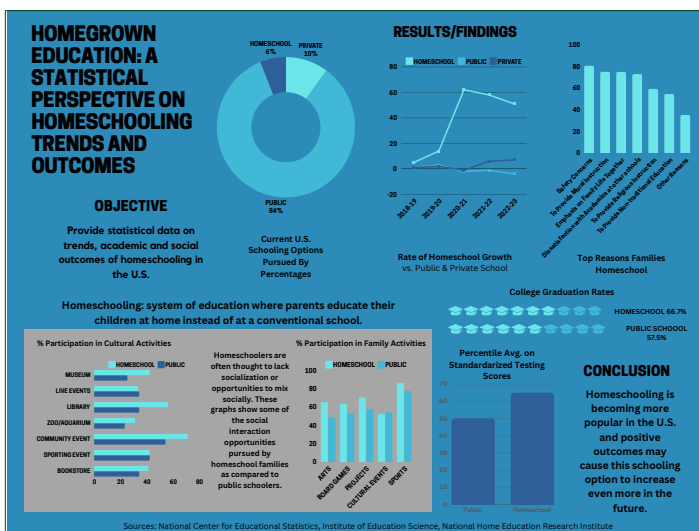
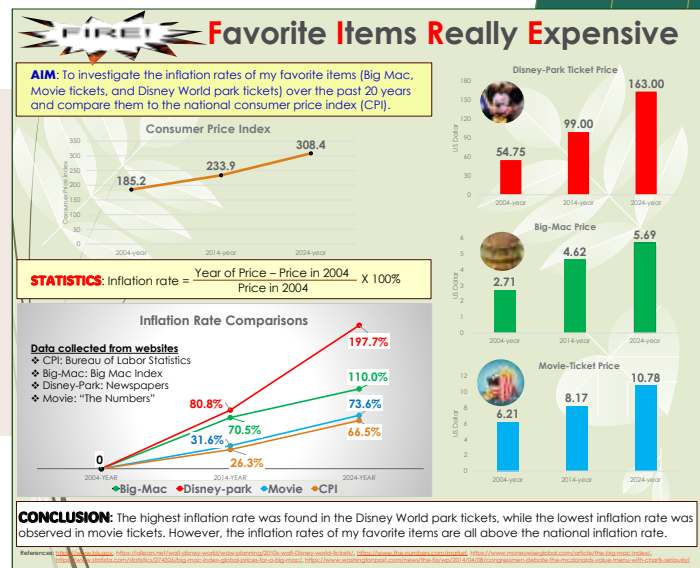
"The Instruments We Play"

Sequoyah School
Pasadena, California

Honorable Mention
Roger Wang

"Favorite Items Really Expensive"

St. Mark's School of Texas
Dallas, Texas



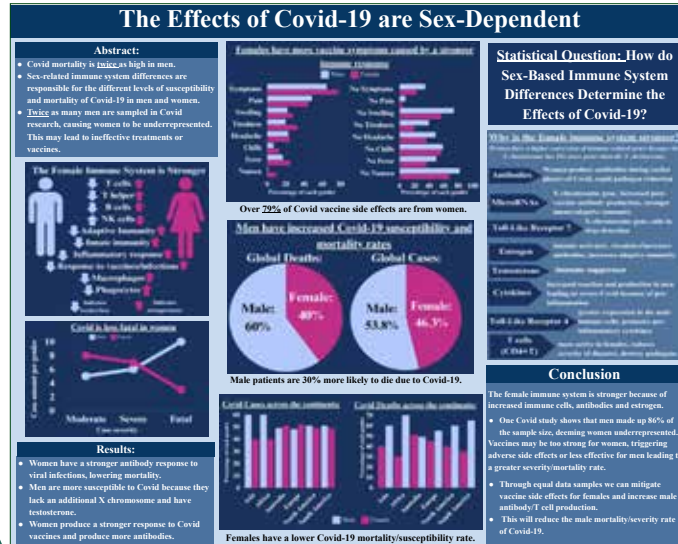
Honorable Mention
Aydin M. Soner and Arslan N. Soner

"Homegrown Education: A Statistical Perspective on Homeschooling Trends and Outcomes"

Homeschool
Columbia, South Carolina

2024 National Poster Competition Winners

GRADES 7-9



First Place

Sameera Rampertab

"The Effects of COVID-19 are Sex-Dependent"

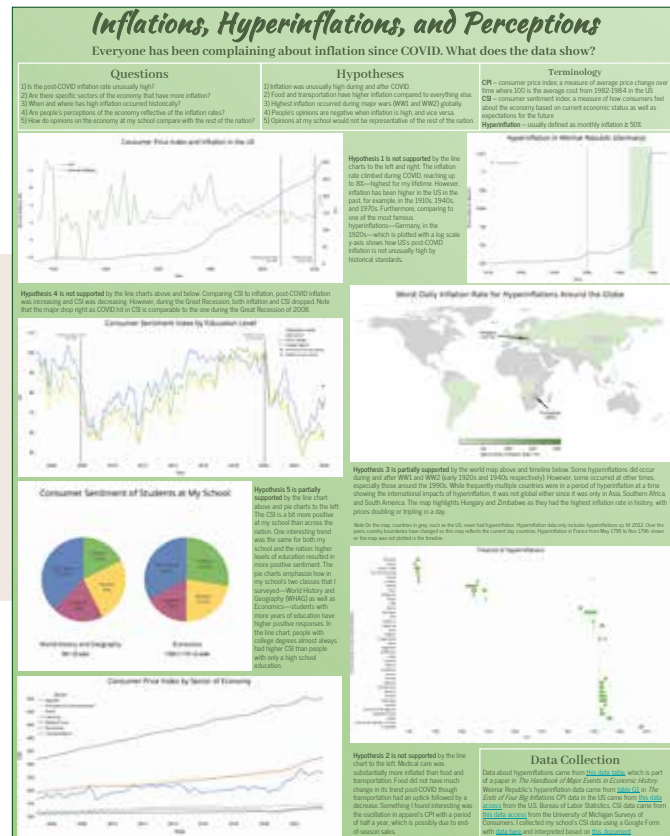
Sacred Heart Academy
Valley Stream, New York

Second Place

Paavani Tewari

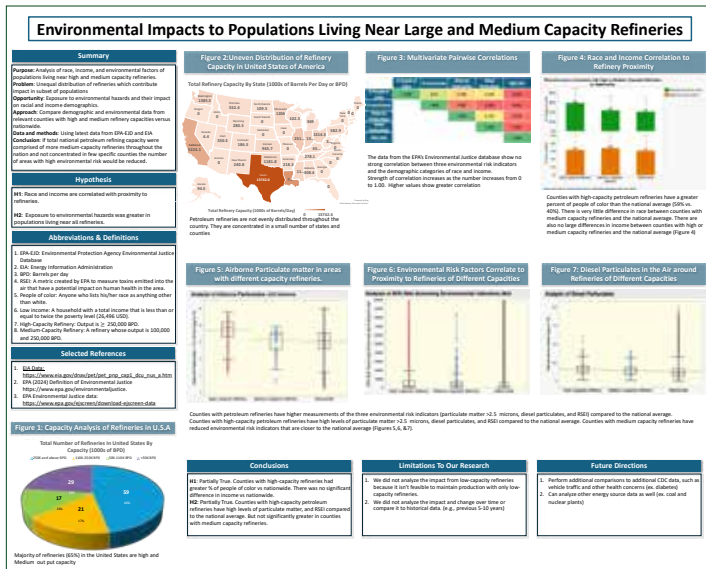
"Inflations, Hyperinflations, and Perceptions"

Huron High School
Ann Arbor, Michigan



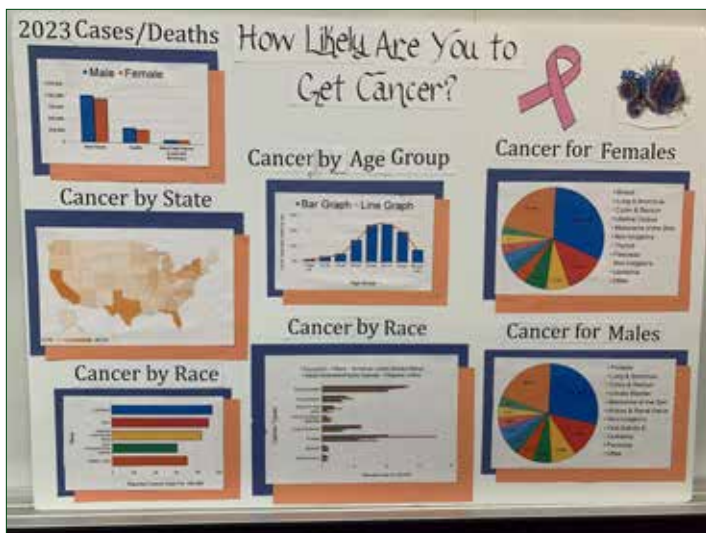
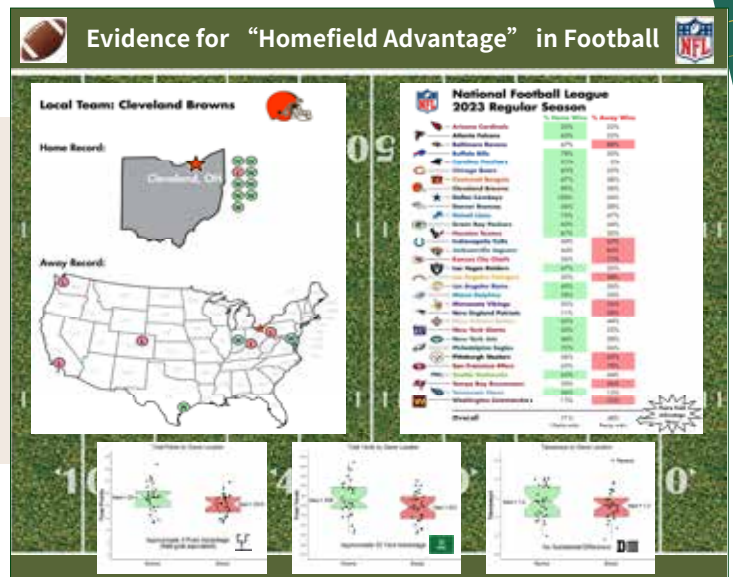
2024 National Poster Competition Winners

GRADES 7-9



Third Place
Samarth Gioia and Justin Chen
 “Environmental Impacts to Populations Living Near Large- and Medium-Capacity Refineries”
 Woodland School and Newhart Middle School
 Belmont, California

Honorable Mention
Cole Nowacki
 “Evidence for ‘Home Field Advantage’ in Football”
 Kirtland Middle School
 Kirtland, Ohio



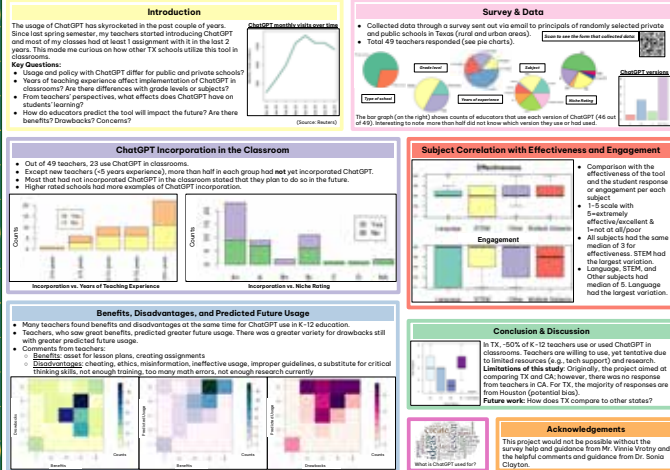
Honorable Mention
Evan Lac, Ryan Vu, and Ethan Park
 “How Likely Are You to Get Cancer?”
 Hyde Park Middle School
 Las Vegas, Nevada

2024 National Poster Competition Winners

GRADES 10–12

ChatGPT Use in K–12 Education in Texas

This project was not created with assistance from AI.



First Place Maureen Min

"ChatGPT Use in K–12 Education in Texas"

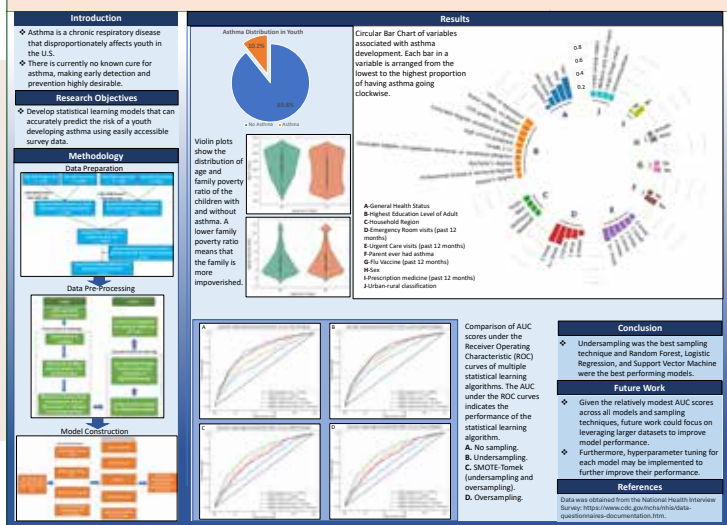
The Kinkaid School
Houston, Texas

Second Place Matthew Xie

"Risk Prediction of Asthma Development in Youth Using Statistical Learning Models"

Pittsford Sutherland High School
Pittsford, New York

Risk Prediction of Asthma Development in Youth using Statistical Learning Models



MORE ONLINE

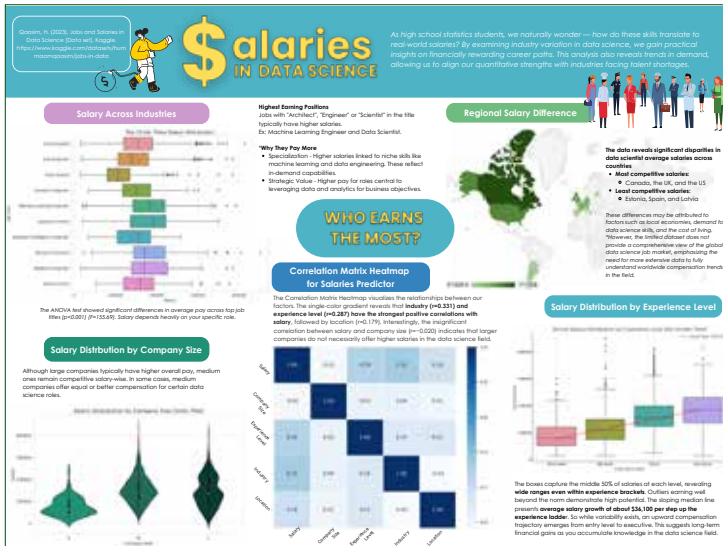
For information about the **poster competition**, visit the ASA's website at <https://bit.ly/34VmGNg>.

For information about the **project competition**, visit <https://bit.ly/3surRMv>.

For **questions** regarding how to get involved in the competitions, contact Rebecca Nichols at rebecca@amstat.org.

2024 National Poster Competition Winners

GRADES 10-12



Third Place (tie)
Ella Babigian and Julia Xia

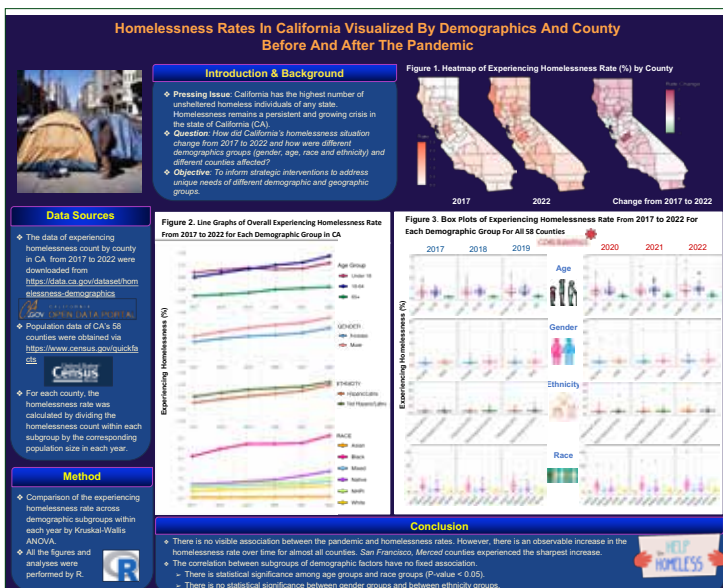
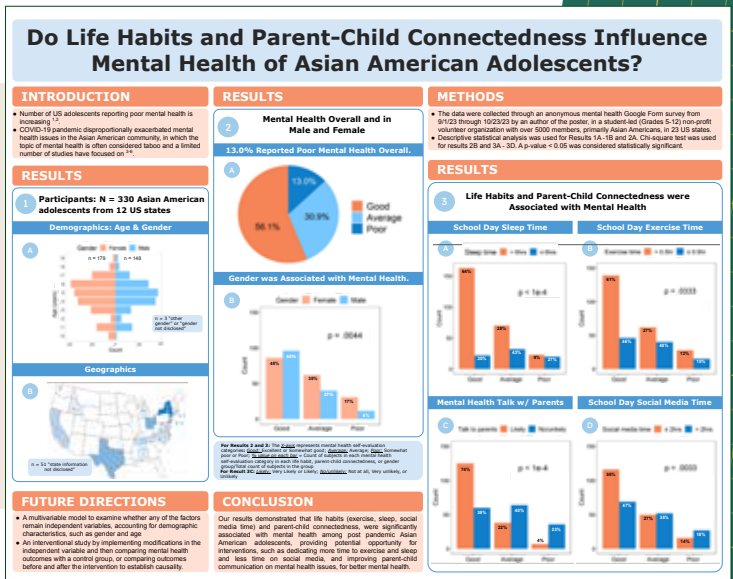
“Salaries in Data Science”

Miss Porter's School
Farmington, Connecticut

Third Place (tie)
Brenna Li and Hanson Miao

“Do Life Habits and Parent-Child Connectedness Influence Mental Health of Asian American Adolescents?”

Dublin Jerome High School
Dublin, Ohio



Honorable Mention
Jason L. Ma and Elaina Li

“Homelessness Rate in California Visualized by Demographics and County Before and After the Pandemic”

San Mateo High School and
Campolindo High School
Moraga, California

Nashville Is Calling: Time to Submit JSM 2025 Invited Proposals

Alexandra Schmidt, JSM 2025 Program Chair



Schmidt

As thousands get ready to attend JSM 2024, the American Statistical Association and its partners are starting to plan next year's meetings, which will take place in Nashville, Tennessee, August 2–7.

Nashville is widely known as Music City and the birthplace of country music. It is a vibrant and culturally rich city with a lot to offer visitors. Highlights include the Country Music Hall of Fame and Museum, Grand Ole Opry—the longest-running radio broadcast in US history featuring live performances by famous country music artists—and the Honky Tonk Highway. Located on Lower Broadway, this stretch of bars and clubs offers live music all day and night featuring both up-and-coming and established artists.

The theme chosen by ASA President-Elect Ji-Hyun Lee is

“Statistics, Data Science, and AI Enriching Society.” Statistics, data science, and AI can collectively contribute to a smarter, more efficient, and equitable society. Their applications span various domains, improve quality of life, drive innovation, and create opportunities for growth and development. Emphasizing the *responsible use* and *ethical considerations* of these technologies will ensure they continue to enrich society in meaningful and sustainable ways.

With this theme in mind, JSM 2025 program committee members invite proposals for invited sessions.

Invited Paper and Panel Sessions

Invited sessions can be oral presentations or panel discussions. An invited paper (oral) session usually consists of two to six speakers and discussants who report and discuss the most interesting and significant findings in their research under a unified theme. For an invited panel, a typical session consists of three to six people who provide commentary, discussion, and debate on a topic of contemporary interest.

The ideal session involves fresh, important work many JSM attendees will consider interesting. Many of the most stimulating sessions present

diverse viewpoints and strategies on a common topic, with speakers coming from different institutions and taking different approaches toward similar problems.

To organize a session, decide on a topic of broad interest and contact potential participants. Ideally, the topic will be relevant to the JSM theme, but it is not required. Then, write a proposal consisting of a brief abstract/rationale, list of participants, and tentative titles for the talks.

JSM has strict guidelines for participation (www2.amstat.org/meetings/jsm/2025/guidelines.cfm), including the “one speaker, one talk” rule, which states an individual can be part of just one talk or panel. Talk to potential speakers to ensure they are not committing to multiple presentations.

Once written, submit the session proposal at www3.aievolution.com/JSMAnnual2025 by September 5, indicating the type of session and proposed sponsor. It is a good idea to contact a member of the program committee well before the submission deadline to see if they are willing to sponsor the session. Members of an ASA section or other sponsoring society should contact their corresponding representative first. The representative might accept the session outright for one of their



Fountain at the Symphony Place in Nashville, Tennessee—stock photo

Statistics, Data Science, and AI Enriching Society

allocated spots, or they may enter it into a general competition in which selection is decided by a vote of the entire program committee. In either case, only sessions submitted via the online system will be considered.

Decisions about the invited program will be made by mid-October.

Memorial Sessions

There are five open slots for memorial sessions at JSM 2025. A strategy for obtaining one of these slots is to first submit a proposal as a regular invited session and choose “memorial session” as the sponsor, but also pick sections as sponsors. If one of the sections doesn’t choose the proposal as one of its guaranteed sessions, the proposal might still be selected in the open competi-

tion for invited sessions. If that fails, the proposal will automatically compete for one of the five designated invited memorial session slots. Unless the session is selected by an organization or ASA section in October, decisions about memorial sessions will be made later in the fall.

Invited Poster Sessions

An invited poster session consisting of up to 40 electronic posters will take place during the Opening Mixer on the Sunday of JSM 2025. Send an idea (or the poster itself) to JSM 2025 Poster Chair Shirin Golchi at shirin.golchi@mcgill.ca.

Introductory Overview Lectures

Introductory Overview Lecture (IOL) topics are selected because

of their potential to enrich the future direction of statistical theory and practice through broader dissemination. For 2025, the committee aims to have four IOLs. These proposals should address timely and important statistical topics of interest to a wide range of JSM attendees.

Note that IOL speakers are an exception to the “one speaker, one session” rule, as they can also present an invited or contributed paper, panel, or poster.

Email JSM 2025 Program Chair Alexandra Schmidt at alexandra.schmidt@mcgill.ca with suggestions for topics and speakers. ■

SDSS 2024: Forging Connections and Bridging the Gap

Amanda Koepke, SDSS Program Chair

All photos by
Olivia Brown/
ASA



Attendees mingle among the posters at the Symposium on Data Science and Statistics in Richmond, Virginia.

Forging connections across academic fields and exploring innovative research in both data science and statistics can present an opportunity for learning and growth. This desire to cultivate connections inspired the theme for the 2024 Symposium on Data Science and Statistics, “Beyond Big Data: Bridging the Gap.”

The more than 300 attendees in Richmond, Virginia, took short courses; gave and attended paper, poster, and panel sessions; mingled and made new friends between sessions; and immersed themselves in the city’s historic neighborhoods.

The conference began with a series of short courses spanning a variety of topics and offering participants the opportunity to expand their technical toolkits and enhance their expertise. These sessions were well attended, reflecting the high level of interest and engagement from participants eager to deepen their understanding of and skills in Bayesian computing, data visualization, generative AI fundamentals, and Julia.

Alyssa Fowers from *The Washington Post* kicked off Day 1 with a presentation on data journalism. On Day 2, Dilma

Da Silva of the National Science Foundation Directorate for Computer and Information Science and Engineering gave a peek into research horizons for AI and CISE. The final plenary session on Day 3 was a panel discussion, “Ethics and Fairness in Statistics and Data Science,” that featured Matthew D. Rotelli of Eli Lilly and Company, Elham Tabassi of the National Institute of Standards and Technology, and Caitlin Wylie of the University of Virginia.

The refereed sessions showcased a diverse array of presentations, and lightning talks provided previews of



Featured speaker Dilma Da Silva of Texas A&M University gives a peek into research horizons for AI and CISE.



Li Zhou of Auburn University chairs the session "Identification and Characterization of Tuberculosis Cases in Real-World Data: All of Us Research Program and UK Biobank"



Attendees are engrossed in a discussion in front of a digital poster.



Attendees visit the Graceland University table during the symposium.

topics that sparked thought-provoking discussions during the subsequent poster sessions. The posters attracted strong attendance, with conversations extending beyond the scheduled session times.

From informal meetups to structured sessions, networking opportunities were plentiful, offering many chances for attendees to connect, exchange ideas, and build professional relationships.

Speed mentoring made a return this year and facilitated connections between mentees and mentors from various fields and backgrounds.

In response to feedback from previous conference participants and to enhance the symposium's social and networking offerings, the program committee introduced a new role this year—activity and outreach chair. In this role, Kristine Gierz researched local activities and compiled them into a document accessible via QR code. She also implemented a new online sign-up system to connect interested participants for nightly outings.

The chair for SDSS 2025 is Stephanie Shipp, research professor in the department of statistics at Iowa State University. The symposium will take place April 29–May 2 at the Hilton Salt Lake City Center in Salt Lake City, Utah. ■

STATISTICIAN'S VIEW

Rethinking Faculty Research Evaluation

Bertrand Clarke, Murali Haran, Galin Jones, and Steven MacEachern

Bertrand Clarke has been head of the department of statistics at the University of Nebraska for 11 years. Before that, he worked at the University of Miami and University of British Columbia as a full professor. He earned his PhD in statistics at the University of Illinois in 1989.



Murali Haran has been head of the department of statistics at The Pennsylvania State University since 2018. He earned his BS in computer science at Carnegie Mellon University in 1997 and his PhD in statistics at the University of Minnesota in 2003. He has been on the faculty at Penn State Statistics since 2004.



Galin L. Jones is the Dr. Lynn Y. S. Lin Professor of Statistics, director of the school of statistics at the University of Minnesota, and co-chair of the University of Minnesota Data Science Initiative. Jones is a Fellow of the American Statistical Association and the Institute for Mathematical Statistics and co-editor of the *Journal of Computational and Graphical Statistics*.



Steve MacEachern is distinguished arts and sciences professor of statistics at The Ohio State University. He holds a courtesy appointment as professor of psychology. MacEachern earned his BA in mathematics from Carleton College and his PhD in statistics from the University of Minnesota. He served as chair of statistics at Ohio State from 2015 to 2023.



While back, one of us interviewed a junior candidate for a faculty position. This person showed a lot of promise, had a novel research agenda, and obviously was going to impact the profession in non-traditional ways. However, given current faculty evaluation guidelines, we could not make an offer in good conscience because their contributions would not be fairly rewarded. We don't think this is an isolated problem.

Academia seems to have an increasing emphasis on a particular productivity—a focus on publishing many papers, with high prestige accorded to a narrow set of journals. This has several consequences:

- It places stress on faculty, particularly junior faculty who don't yet have tenure.
- Researchers who think and write rapidly and work on many projects at once are admired, while researchers who focus on relatively few ideas may be pressured into becoming more like the first category.
- Counting the number of publications in prestigious journals makes things more difficult for faculty who don't work on the research prioritized by those journals.

- Many lack the connections or the resources, usually funding and personnel, that help with having many publications in prestigious journals.

Giving faculty the ability to work in ways that suit them the best may help make academia more appealing, especially considering increased competition from industry. It is important to recognize there are many new ways to make contributions. Thinking carefully through these issues will impact promotion and tenure, graduate students' theses, and junior faculty hiring.

We have several suggestions. For evaluations, have faculty submit, at most, some fixed (small) number of research manuscripts that best represent their research.

In addition, we should better understand our community's strengths and weaknesses in evaluating work. For example, as a community, we're good at deciding whether theorems are interesting, whether a proof is standard or requires ingenuity, whether a result has a large scope or small, and so on. We're also good at recognizing whether a decision has been made to write a collection of papers that differ modestly as opposed to a smaller number of 'bigger' papers.

We are not as good at evaluating contributions that are distant from our communal training, so we should develop better procedures for evaluating an individual's contribution to joint work and evaluating work that touches other fields.

We should ask letter writers to address only the scholarly contributions each paper makes. It's good to ask whether the small set of publications to be evaluated represents a substantial intellectual contribution since this is the productivity we want to evaluate. It is fair to assess whether the contribution compares favorably to expectations in the discipline and perhaps to other individuals.

Letter writers should be encouraged to not focus on extraneous proxies for quality such as the prestige of the journal in which the work appeared, grants related to the work, collaborators involved, and institutions involved. Department committees can assess these proxies, and external letters that rehash a vita add little to evaluation.

The scholarly contributions should allow for important technical contributions, impactful algorithm and software development, and contributions to other scientific domains (research driven by questions from other disciplines). Ideally, researchers should also be allowed to study

esoteric subjects, provided they are doing something thoughtful and intellectually serious. While citation counts can be seen as a plus, the value of the research should not be equated to citation counts.

We regard the improvement of evaluation of faculty research as crucial given that modern statistics is a much more diverse discipline than it was just a decade ago, and it is important for us to respond to new challenges. We hope our suggestions will catalyze further discussion. ■

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.



John M. Abowd, professor emeritus at Cornell University and chief scientist of the United States Census Bureau (retired), received the Association for Computing Machinery Policy Award for transformative work in modernizing the US Census Bureau's processing and dissemination of census and survey data, which serves as a model for privacy-aware management of government-collected data. Abowd's work has transformed the government's capacity to improve the accuracy and availability of vital statistical and data resources while enhancing citizens' privacy.

The ACM Policy Award recognizes an individual or small group that makes a significant impact on the formation or execution of public policy affecting computing or the computing community. The award is accompanied by a \$10,000 prize.

For more information about Abowd and the ACM award, visit <https://awards.acm.org/policy>. ■

Principal statistician and researcher **D. Anthony Miles** and his research team won two best paper awards at the summer 2024 Academy of Business Research Conference. The Analytix Research Group won for their applied statistics research.

The two best paper awards were in the marketing sessions for the following papers:

- "Social Media Rating Sites and Consumer Behavior: A Nationwide Study on 'Rate My Professors' and Its Influence on College Students with Pre- and Post-Decisions in Consumer Behavior"

- "Predictive Analytics and the 2024 Presidential Election: A Study on Key Predictive Analytics and Candidate Attributes That Help Predict Results in the 2024 Presidential Election"

The Analytix Research Group members are Nathan Tymann, Joshua Garcia, Wanda Goodnough, dt ogilvie, Eniola Olagundoye, La'Shaun Seay, Robin Shedrick, and D. Anthony Miles. ■

*Submitted by Peter Parker, Gerald J. Hahn
Quality & Productivity Achievement Award
Committee Chair*

Frederick W. Faltin of Virginia Tech was honored with the 2024 Gerald J. Hahn Quality and Productivity Achievement Award. Throughout his 40-year career, Faltin has made significant contributions as a researcher, consultant, author, and educator. He has successfully applied statistical quality and productivity methods across many problem domains, and through his publications and presentations, has promoted their use by others.

Faltin is best known for his work in process control, statistical process monitoring, and design of experiments. He is also known as a corporate research manager and international consultant. He was elected a fellow of the American Statistical Association in 2002.

Faltin was deeply involved in quality and productivity improvement across many of General Electric's businesses and founded the data science laboratory at GE Research. After his career at GE, Faltin co-founded a consulting company that supported organizations around the world in

domains ranging from manufacturing to financial services, health care, and corporate real estate.

Faltin has successfully promoted quality and productivity techniques through the publication of technical and non-technical papers and articles in refereed journals, magazines, and book chapters. He was co-editor of three books in applications of statistics, including the *Encyclopedia of Statistics in Quality and Reliability*.

Through the many professionals he has trained and mentored in courses, tutorials, and seminars, his work has delivered value to individuals' careers and to product and process design and improvement of their employers.

Faltin's ability to translate sophisticated statistical concepts into real-world applications nonstatistical operators and managers can understand and apply has been key to his impact. Methods Faltin developed and taught are now routinely used by practitioners around the globe.

Faltin currently serves as professor of practice in the department of statistics at Virginia Tech, where he teaches the theory and practice of data science in the computational modeling and data analytics curriculum. In this role, he is promoting awareness and use of statistics for organizational quality and productivity improvement to the next generation of professional data scientists.

The Gerald Hahn Award recipient will give the Q&P plenary address at the Fall Technical Conference. Nominations for the 2025 award will be open later in the year. ■

Buchmann, Ryu, and Smit Vega Garcia Receive EDGE Awards

Amy Buchmann and Hwayeon Ryu are the inaugural recipients of the Mary Beth Ruskai Research Fund for Women, established by the EDGE Foundation, and Mariana Smit Vega Garcia is the Karen EDGE fellow.

Buchmann is an associate professor in the mathematics department at the University of San Diego. She did her undergraduate studies in mathematics at Chapman University and earned her PhD from the department of applied and computational mathematics and statistics at the University of Notre Dame. She was a postdoctoral fellow in the department of mathematics and center for computational science at Tulane University.

Buchmann studies complex biological systems using mathematical and computational models. The focus of her research is computational fluid dynamics, and she is particularly interested in creating mechanical models of microorganisms to study their coordinated behavior and interactions with their environment.

Ryu is an associate professor of mathematics at Elon University. She earned her BS in mathematics from Korea University in South Korea in 2008 and her MA and PhD in mathematics from Duke University in 2011 and 2014, respectively. She is a 2016 MAA Project NExT Fellow and recent recipient of the 2024 Distinguished Teaching Award by a Beginning College Mathematics Faculty Member recognized by the Southeastern Section of the Mathematical Association of America. Ryu is the faculty lead for organizing a regional STEM conference for undergraduate students in collaboration with Wake Forest University and recently began serving as a faculty adviser for a student planning committee of the Association for Women in Mathematics Elon Student Chapter.

Ryu's research interests are in mathematical modeling and analysis of dynamical systems arising from disciplines such as systems biology, neuroscience, and immunology. Her current work on mathematical modeling of immune response to SARS-CoV-2 is supported by the National Science Foundation research grant.

She serves as a sole principal investigator.

Smit Vega Garcia earned her undergraduate and master's degrees from the Universidade de São Paulo in Brazil. She then earned her PhD in mathematics from Purdue University in 2014. She was a post-doc in Germany and at the University of Washington. In 2018, she joined Western Washington University as an assistant professor and was promoted to associate professor in 2021. Her research has been funded by the NSF, which also allowed her to fund a conference (Jumpstart 2023) focused on first-generation students interested in mathematics. In 2023, she received the Peter J. Elich Excellence in Teaching Award, which is the highest teaching award available to faculty members at Western Washington University.

The Karen EDGE fellowship will help Smit Vega Garcia enhance her research program by allowing her to travel to meet collaborators and present her work at conferences while maintaining her commitment to her students and building a supportive mathematical community.

With a bequest from the estate of Mary Beth Ruskai, the foundation established the Mary Beth Ruskai Research Fund for Women. Every year, two grants of \$5,000 are awarded to women in the mathematical sciences for a 12-month grant period. The award helps advance their research careers through travel, collaboration, or other activities. The scope of these grants reflects Ruskai's commitment to women and interdisciplinary work.

The Karen EDGE Fellowship Program was established with a gift from Karen Uhlenbeck on the occasion of her 2019 Abel Prize. The fellowship supports and enhances the research programs and collaborations of mid-career mathematicians who are members of an underrepresented group.

For more information about the Mary Beth Ruskai Research Fund and the inaugural fellows, visit www.edgeforwomen.org/the-mary-beth-ruskai-research-fund-for-women. For information about the Karen EDGE Fellowship, visit <https://bit.ly/3zUFefj>. ■

Oncology Educational Fellowship for Grad Students and Postdocs

The American Statistical Association, in collaboration with the FDA Oncology Center of Excellence and Biopharmaceutical Statistics Section, is launching an oncology educational fellowship designed for senior graduate students and postdocs.

Program Highlights

- Starting in September, monthly online sessions will delve into oncology drug development and regulatory policy.
- Fellows will learn from leading experts in the field.
- The program is free but highly competitive.

Application screening starts August 15. Visit <https://bit.ly/3WqrrGE> for details. ■

Fulbright US Scholar Program Competition

The Fulbright US Scholar Program offers research and lecturing opportunities to scholars at all career levels and disciplines. Participants pursue graduate study, conduct research, or teach English abroad.

The application deadline is September 16. For more information, visit <https://fulbrightscholars.org/us-scholar-awards>. ■

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

The ASA’s extensive awards program (amstat.org/ASA/Your-Career/Awards-and-Scholarships.aspx) recognizes statisticians who have made outstanding contributions to the association and statistical profession through research, teaching, consulting, and service.

AWARD	DEADLINE	QUESTIONS & NOMINATIONS
Health Policy Statistics Section Achievement Awards	September 15, 2024	Health Policy Statistics Section website (asahealthpolicy.org/for-students)
Lester R. Curtin Award	October 15, 2024	awards@amstat.org
Deming Lecturer Award	October 15, 2024	awards@amstat.org
Lingzi Lu Memorial Award	October 15, 2024	awards@amstat.org

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CHAPTER OR SECTION OFFICER?
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IS HERE FOR YOU

ASA leaders are ASA members who volunteer in some way, primarily as **chapter or section officers** or **committee chairs or members**. We aim to make your volunteer experience easy by providing materials you need in **one convenient location**.

Visit the Leader HUB on the ASA Community at <https://community.amstat.org/asaleaderhub/home>.



chapternews

SFASA Summer Program Inspires Students to Explore Statistics

Vanessa Chang, Jason Ma, Elaina Li, Julia Ganju, Anurag Jakkula, and Li Zhang

The San Francisco Bay Area Chapter held its fifth K–12 student summer program, during which students create and lead projects. The program provides a unique learning experience under the mentorship of chapter officers and volunteers.

Students were assigned mentors and proposed a research idea for their project in June 2023. Over the next three months, mentors met with the students weekly to track the their progress, answer questions, and refine the projects.

The students chose their research projects, obtained the data from publicly available databases, and performed data analysis to test hypotheses using RStudio. At the end of the program, they presented their projects virtually to SFASA members and family.

Elaina Li (10th grader) and **Vanessa Chang** (12th grader) presented their project on the effect of demographics on homelessness in California before and after the pandemic under the mentorship of **Anwen Huang** (sophomore at the University of California, Berkeley) and **Chenglin Ye** (senior principal statistical scientist at Genentech; vice president of SFASA).

They obtained the homeless count data (2017–2022) from <https://data.ca.gov/dataset/homelessness-demographics> and downloaded the county population characteristics from the US Census to perform normalization. They found no statistically significant association between the pandemic and homelessness incidences. However, homelessness incidences increased over the study period. Though there was no statistical significance in homelessness incidences between ethnic groups, the older population (age 65+) and males had higher homelessness incidences.

Julia Ganju (12th grader) and **Anurag Jakkula** (12th grader) investigated the effectiveness of various molecules in inhibiting the aromatase enzyme for breast cancer treatment. They employed machine learning techniques under the guidance of **Leah Ung** (junior data scientist at the University of California, San Francisco) and **Jiying Zou** (data scientist at Genentech).

Breast cancer is characterized by a tumor in breast tissue, which is stimulated by the aromatase enzyme's production of estrogen. Aromatase inhibitors block aromatase activity, reducing the amount of estrogen that promotes cancer cell growth.

The students' project evaluated 11 regression models to predict aromatase protein inhibition given 252 binary molecular features. Out of the models tested, the LGBMRegressor emerged as the most successful.

They also tested 27 classification models to predict whether the inhibition of the aromatase protein would be above a certain performance threshold. They found LGBMClassifier to be the most effective model in this context.

Jason Ma (10th grader) presented his project on the logistic regression analysis of the team-based game VALORANT under the mentorship of **Jeetu Ganju** (principal, Ganju Clinical Trials).

Ma aimed to identify which metrics are good predictors of winning for a given player. He found the players who won had higher values of average combat score, kill per round, and assists per round but lower death per round compared to players who lost. These metrics were statistically significant predictors of winning in VALORANT.

At the end of the program, the students had positive comments about their experience and what they learned through participating in it.

“Working on this project with SFASA’s guidance was an amazing opportunity and has inspired us both to continue exploring the field of statistical and machine learning,” said Ganju and Jakkula.

“I learned how to use RStudio to create different types of visualizations of our data and how to use it to run nonparametric tests on our data to see if there is a significant statistical difference between the groups we were comparing,” stated Chang, who had little coding experience.

As someone new to RStudio, Ma learned programming in R and new R packages, including tidyverse, jsonlite, and caret. He discussed how he found it difficult to share his work in a presentation format; however, his mentor gave him a lot of encouragement and suggestions, which helped him complete the project.

Li, who’d returned to the program, stated her previous experience helped her figure out the research questions with appropriate analysis approaches.

SFASA’s summer program not only introduced the students to technical skills but also fueled their passion for statistics. Now a mentor, Huang attended this summer program twice during high school. The hands-on experience, mentorship, and chance to present their work often inspires the students to continue exploring this field. ■

SRMS Elects Officers, Offers Webinar, Sponsors Sessions

Members of the Survey Research Methods Section recently elected the following new officers:

Chair-elect 2025

Dan Liao, Columbia University

Program chair-elect 2025

Kristen Olson, University of Nebraska-Lincoln

Treasurer 2025–2026

Daifeng Han, Westat

Publications officer 2025–2026

Emily Berg, Iowa State University

Education officer 2025–2026

Jingchen (Monika) Hu, Vassar College

Council of Sections representative 2025–2027

Stephanie Zimmer, RTI International

The term for incoming officers begins January 1, 2025.

SRMS at JSM 2024

At JSM 2024, the section sponsored four invited sessions, nine topic-contributed sessions, 11 contributed sessions, six contributed posters, seven contributed speed presentations, and one professional development course, in addition to cosponsoring a number of other sessions. The section also sponsored two roundtable lunches.

SRMS Webinar

Yajuan Si, a research associate professor in the survey research center at the Institute for Social Research at the University of Michigan-Ann Arbor, presented a webinar titled “A Comparative Review of Data Integration Methods” in April. Si reviewed existing data integration methods, compared their assumptions and properties, and clarified their connections and variations with traditional probability survey inference approaches.

Westat provided financial support for the webinar, which was offered to the SRMS and ASA community, as well as the public.

Lead the Future of Data Science at the U.S. Census Bureau!

We are looking for data scientists to mine and interpret data; deliver valuable insights; and connect the dots to help realize the data's full potential.

What we value

The value you bring to our agency is reflected in our competitive salaries and incentives, best-in-class benefits, and flexible schedule offerings. We value:

- > Your creativity, ingenuity, and agility.
- > Your unique characteristics, skills, and experience.
- > Your contributions to our team of world-renowned statisticians.
- > Your work-life balance.
- > Your career growth and development.

With a strong and adaptive workforce, the U.S. Census Bureau can remain at the forefront of data innovations, data quality, and public trust.

What you will do

- > Perform efficient, timely, and accurate data analysis.
- > Optimize data quality using interdisciplinary, analytical, statistical, and programming skills.
- > Research historical data to help inform current programs via adaptive design.
- > Develop and monitor analytic tools and reports.

What you need

- > U.S. citizenship.
- > A Bachelor's degree or higher in Data Science, Computer Science, Mathematics, Statistics, or another directly related field.
- > A combination of progressively higher education and/or experience may be used to further meet the GS-09 to GS-13 requirements.

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Join Us
for an
ASA meeting!



**ASA BIOPHARMACEUTICAL
SECTION REGULATORY-INDUSTRY
STATISTICS WORKSHOP**

**Rockville, Maryland
September 25–27, 2024**

Featuring three days with invited sessions
co-chaired by statisticians from industry,
academia, and the FDA.

ww2.amstat.org/meetings/biop/2024



**WOMEN IN STATISTICS AND
DATA SCIENCE**

**Reston, Virginia
October 16–18, 2024**

Highlighting the achievements and
career interests of women in
statistics and data science.

ww2.amstat.org/wsds

www.amstat.org/meetings

Top Ten Words That Have the Word 'Ten' in Them

Amstat News continues its entertaining offering by ASA Executive Director Ron Wasserstein, who delivers a special Top 10—one that aired during a recent edition of *Practical Significance*. He says, “Throughout its tenure, the *Practical Significance* podcast has—to the extent possible—hastened to extend and strengthen the extensive knowledge of those who listen, brightening their days with discussions intentionally selected to hearten each of them.” He continues, “To that end, we note there are well over 1,000 words that have the word ‘ten’ in them, including ‘ten’ in the previous sentence—and including the word ‘sentence.’ It seemed appropriate to my addled brain to select the top 10 words that have the word ‘ten’ in them, with a rationale for each selection.”



Wasserstein



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

10

Kindergarten (three of the best years of my early life)

09

Concatenation (a fun thing to do with strings)

08

Heighten (also has the number eight in it)

07

Nonexistent (also has the number one in it)

06

Idempotent (my favorite kind of matrix)

05

Centenarian (because those folks are at least 10 times 10 years old)

04

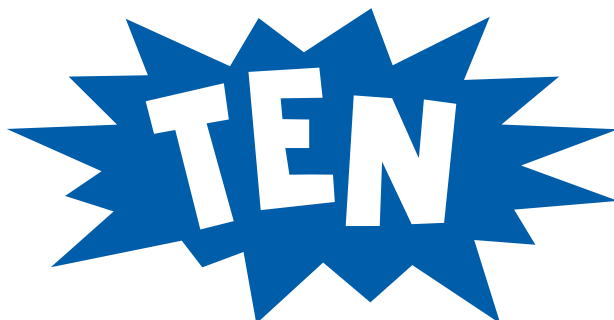
Latent (that's what some variables are)

03

Tendencies (statisticians look for them)

02

Plenipotentiary (it's fun to say and three times as long as the word “envoy,” but means nearly the same thing)



#01

And the number one word that has the word “ten” in it:

Listeners (because what is a podcast without them?!)



International Conference on Health Policy Statistics

Statistical Innovation to Improve Health Equity

January 6–8, 2025 • Mission Bay, San Diego, California

ICHPS provides a unique forum for practitioners, health service researchers, methodologists, health economists, and policy analysts to exchange and build on ideas to disseminate to the broader health policy community.

PARTICIPATE

Speaker Registration Deadline

October 15, 2024

ATTEND

Early Registration

September 10 – December 4, 2024

Regular Registration

December 5, 2024, – January 8, 2025

Housing Open

September 10 – December 12, 2024



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