August 2021 • Issue #530

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Loni Tabb Gives Insight on Winning First Annie T. Randall Award

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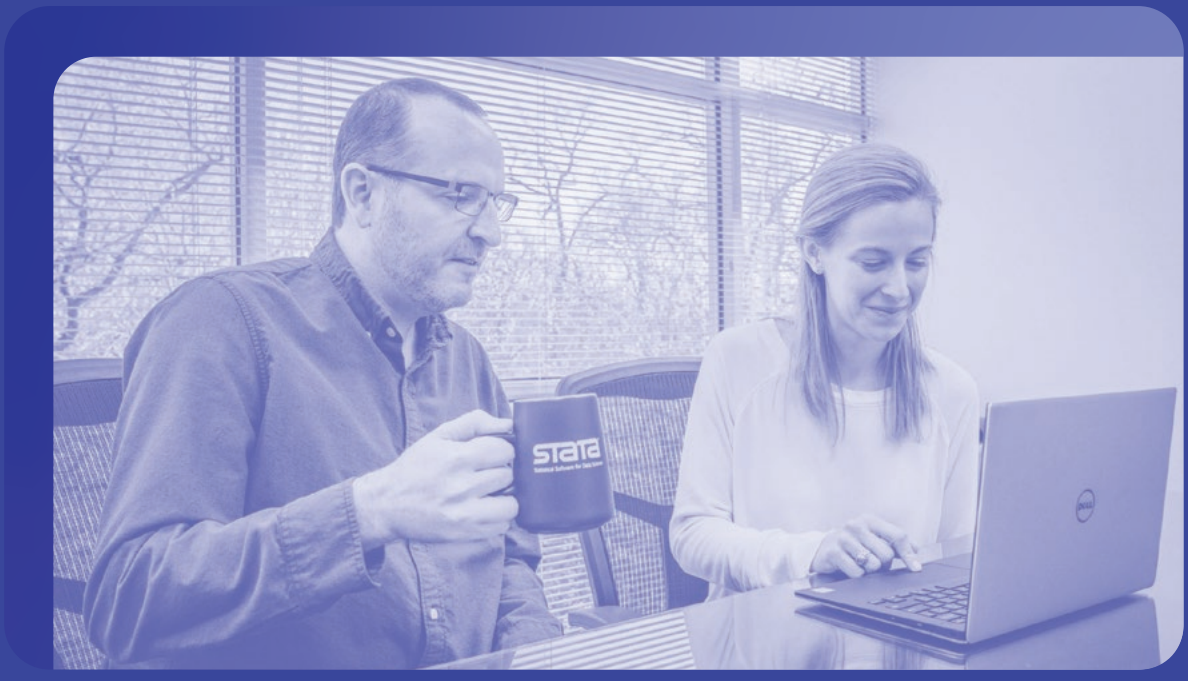

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American Statistical Association

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.

features

3 President's Corner

5 ASA President's Task Force Statement on Statistical Significance and Replicability

7 Stats from the Road: Did You Know?

8 Reproducible Research in *JASA*: 5 Years On

9 *TAS* Highlights - August Potpourri: Agent-Based Models, Tournaments, Statistical Ethics

9 Anti-Racism Task Force to Host Open Meeting

10 Biden Administration's First Budget Request Favors NIH, NSF; Flat Funds Education, Energy, Health, Justice Statistics

12 'How-To' Succeed Now and in the Post-Pandemic Future

15 New *JASA* Co-Editors Discuss Inspiration, Plans

17 My ASA Story: Kim Love, Collaborative Statistician

18 Loni Tabb Gives Insight on Winning First Annie T. Randall Award

20 Committee Spotlight: International Relations Committee Focuses on Outreach, Education

columns

22 **STAT*tr@k***
Federal Statistical Agency Employees Tell Why You Should Want Their Jobs

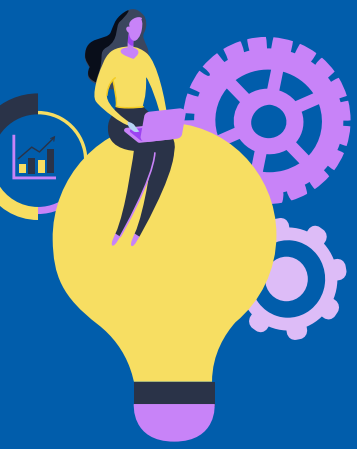
STAT*tr@k* is a column in *Amstat News* and a website geared toward people who are in a statistics program, recently graduated from a statistics program, or recently entered the job world. To read more articles like this one, visit the website at *http://stattrak.amstat.org*. If you have suggestions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

27 **MASTER'S NOTEBOOK**
JSM Conferences: An Opportunity to Detach, Reengage, Connect

This column is written for statisticians with master's degrees and highlights areas of employment that will benefit statisticians at the master's level. Comments and suggestions should be sent to Megan Murphy, *Amstat News* managing editor, at *megan@amstat.org*.

28 **STATS4GOOD**
Data4Good Goes Back to School: Capstone Projects for the Greater Good

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



WSDS Awards and Scholarships Available

The Women in Statistics and Data Science Conference, which will take place virtually October 6–8, is offering scholarships to help students and early-career professionals attend.

To be eligible, applicants must be either a student enrolled in a terminal degree program (bachelor's, master's, or doctoral) in biostatistics, statistics, or data science or have completed a master's or doctoral degree program in biostatistics, statistics, or data science within the last five years (2016–2021)

The purpose of this scholarship is to support participation by students and early-career professionals. The scholarship will offset the cost of registration.

Applications must be received by 5:00 p.m. ET on September 3, 2021. To submit an application, visit *ww2.amstat.org/meetings/wsds/2021/awards.cfm*.

departments

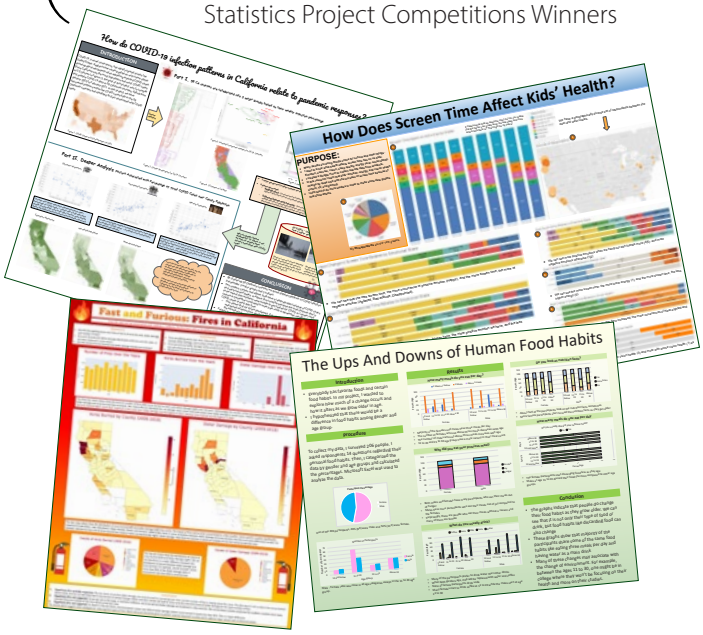
30 **meetings**

Beyond Big Data: Shaping the Future—SDSS 2021

Invited Session Proposals Sought for JSM 2022

34 **education**

ASA 2021 Data Visualization Poster and Statistics Project Competitions Winners



member news

44 People News

45 Section • Chapter • Committee News

46 Professional Opportunities

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Giving Power to the People Via Community Engagement

Photo/Steve Everett

Rob Santos

Greetings, my fellow statisticians. This summer has proven to be quite remarkable. The spring and early summer brought hopes of a new normalcy in a quasi-post-COVID world. But in the midst of our record heat wave and wildfires galore, a resurgence appears to be upon us thanks to the delta variant.

We will need to tap our reservoirs of resilience yet again to weather the months ahead. But we have weathered this storm before, so although the path is likely treacherous, we know what we need to do to navigate safely. Please continue to wear your masks per CDC guidance, and if you have not yet been vaccinated, please consider doing so (unless your doctor has advised otherwise). Your family needs you, your friends need you, and we—your ASA colleagues—need you.

For all our statistician heroes at the FDA or CDC or in pharma, public health, and the medical sciences and anyone else helping to end this pandemic, we thank you for helping to save lives and stem the suffering. Hang in there.

I would also like to thank all who have supported me as I navigate the senate confirmation process for the position of US Census Bureau director. In last month's Presidents Corner, I wrote about the value of vulnerability. I can proudly say I embraced that value heading into my confirmation hearing. Regardless of what the future holds, I will always cherish the expressions of support I received from the statistical community, especially fellow ASA members. I only hope I have the opportunity to pay it forward. But for now, let me tell you what I am really thinking about: the value of empowering people in our statistical work.

We have all heard the saying, "statistics tell a story," and I genuinely believe it. But I know the storyteller is a key player in any statistical inference venture. Context can be crucial. We statisticians tout the objective power of mathematical calculations, statistical theory, and inferential statistics. And indeed, we present seemingly objective empirical findings to researchers, who then interpret and synthesize with aplomb and add to their knowledge base.

Not surprisingly, different storytellers can develop different stories from the same set of analytic results. What appears to be a tangled mess to some may be an intricately woven tapestry to others. Indeed, different perspectives can lead to vastly different interpretations when viewing exactly the same statistics. All interpretations can be informative and contribute to a dialog that leads to insight. And that is why I value and seek alternative perspectives, be they in statistical studies, project management, leadership decision-making, or even career development.

Here is a story of how community engagement—specifically, perspectives offered by community members—added great value to a policy research project in which I was involved tangentially. The setting was Austin, Texas, and the topic was police profiling. Community concerns over police profiling of Black and Latino youth in east Austin had come to a head and tensions were rising alarmingly. Colleagues of mine at the Urban Institute secured funding to conduct a research project undergirded by a community-based participatory research design. Under this model, the police department leadership and some officers would work closely with community leaders from the affected neighborhood (and Urban Institute researchers) to define the problem to be addressed and help guide the research to better understand community concerns and police perspective, which in turn would hopefully lead to policy solutions.

Naturally, a big concern was that reliance on solely anecdotal information might not reflect the broader community sentiment and unnecessarily influence the direction and tone of the conversations between the community and police representatives. So, the research team decided to conduct a sample survey of households in the affected neighborhood and use the results to generate insights and policy recommendations for building a better, more productive policy-community partnership.

A questionnaire was developed and tested, a sample was drawn, and interviewers were trained and deployed over a long, hot summer. The completed interviews were gathered, processed, and tabulated.

Because this was a community-engaged study, rather than having the Urban Institute researchers synthesize the results, develop findings, and make policy recommendations, a different approach was taken. The Urban Institute researchers crafted sets of data visualizations from the survey data composed of easy-to-read charts and graphs. Then, a "data walk" was conducted at a local community center in the target neighborhood.

At the data walk, both community members and police staff—from the police chief to the officers who patrolled the neighborhood—participated in an evening event focusing on the survey results and their interpretation. Everyone gathered, reviewed the empirical data, and provided their own interpretations, with a researcher guiding a discussion at stations featuring a specific set of results on a single topic (e.g., satisfaction with some aspect of policing or perceptions of safety in the neighborhood).

Motivated by the survey findings, attendees also offered policy recommendations to ameliorate the tensions between police and community. The data walk was a little tense at first because of the unspoken power dynamic between the police and community members, although there was a base of trust that had been nurtured over the course of the project that helped ease tensions as the evening wore on.

During the data walk, both the researchers and police noted a seemingly contradictory pair of results that had the potential to call into question the integrity of the survey. The findings showed the community overwhelmingly believed the police were profiling the neighborhood youth and were highly dissatisfied. But other findings showed a high level of support for the police doing their job. Both researchers and police asked how that could be and concluded something was awry with either the survey questions or the implementation of the survey design.

However, the community participants knew better. Their unique perspective facilitated an understanding of results that led to knowledge gain. They pointed out that the results were not contradictory; both were valid sentiments of the community. They explained it this way: If they are home at night and someone is trying to break into their house, they call the police who then rush to them and avert the crime and often detain a suspect. They very much appreciate and value that response. But they do not appreciate police pulling over their neighbors, friends, and family members who are returning home from school or work after a hard day. They highly value the role of policing in public safety but are adamantly against profiling of community members because of their skin color.

This explanation made a lot of sense. And without a community engagement model, researchers might still be scratching their heads over what they thought represented an illogical data pattern.

Once this was articulated by community members, the data walk continued with renewed enthusiasm and innovative policy recommendations were jointly developed by the community members and police in attendance. Everyone learned from this experience, especially me.

Although I was not formally involved in this project, participating in the data walk opened my eyes to the value of alternative perspectives. You do not have to be a PhD-level substantive researcher or statistician to be a critical thinker. Your life experiences matter and can contribute to insights. Community members who have a stake in their communities can offer cogent insights if we only give them a chance to participate, to have a voice.

I have now been a big believer in the value of community engagement for years. I believe in nurturing environments in which different perspectives can be offered. Without that, a researcher can run the risk of missing a key finding and culturally relevant policy solutions.

Please remember that we—as statisticians—are also critical thinkers and can offer an alternative perspective that can benefit a research project. We can also encourage researchers to consider community engagement models to help enrich the understanding of results and the potency and relevance of their recommendations. When it comes to research, giving "power to the people" can prove invaluable in the interpretation of results.

ASA President's Task Force Statement on Statistical Significance and Replicability

The value of hypothesis testing, and the frequent misinterpretation of p*-values as a cornerstone of statistical methodology, continues to be debated. In 2019, the president of the American Statistical Association, Karen Kafadar, convened a task force to consider the use of statistical methods in scientific studies, specifically hypothesis tests and* p*-values, and their connection to replicability. The document written by the task force is reprinted below.*

Over the past decade, the sciences have experienced elevated concerns about replicability of study results. An important aspect of replicability is the use of statistical methods for framing conclusions. In 2019, the president of the American Statistical Association established a task force to address concerns a 2019 editorial in *The American Statistician* (an ASA journal) might be mistakenly interpreted as official ASA policy. (The editorial recommended eliminating the use of "$p < 0.05$" and "statistically significant" in statistical analysis.) This document is the statement of the task force, and the ASA invited us to publicize it. Its purpose is two-fold: to clarify that the use of *p*-values and significance testing, properly applied and interpreted, are important tools that should not be abandoned and to briefly set out some principles of sound statistical inference that may be useful to the scientific community.

P-values are valid statistical measures that provide convenient conventions for communicating the uncertainty inherent in quantitative results. Indeed, *p*-values and significance tests are among the most studied and best understood statistical procedures in the statistics literature. They are important tools that have advanced science through their proper application.

Much of the controversy surrounding statistical significance can be dispelled through a better appreciation of uncertainty, variability, multiplicity,

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and replicability. The following general principles underlie the appropriate use of *p*-values and the reporting of statistical significance and apply more broadly to good statistical practice.

Capturing the uncertainty associated with statistical summaries is critical. Different measures of uncertainty can complement one another; no single measure serves all purposes. The sources of variation the summaries address should be described in scientific articles and reports. Where possible, those sources of variation that have not been addressed should also be identified.

Dealing with replicability and uncertainty lies at the heart of statistical science. Study results are replicable if they can be verified in further studies with new data. Setting aside the possibility of fraud, important sources of replicability problems include poor study design and conduct, insufficient data, lack of attention to model choice without a full appreciation of the implications of that choice, inadequate description of the analytical and computational procedures, and selection of results to report. Selective reporting, even the highlighting of a few persuasive results among those reported, may lead to a distorted view of the evidence. In some settings, this problem may be mitigated by adjusting for multiplicity. Controlling and accounting for uncertainty begins with the design of the study and measurement process and continues through each phase of the analysis to the reporting of results. Even in well-designed, carefully executed studies, inherent uncertainty remains, and the statistical analysis should account properly for this uncertainty.

The theoretical basis of statistical science offers several general strategies for dealing with uncertainty. *P*-values, confidence intervals, and prediction intervals are typically associated with the frequentist approach. Bayes factors, posterior probability distributions, and credible intervals are commonly used in the Bayesian approach. These are some among many statistical methods useful for reflecting uncertainty.

Thresholds are helpful when actions are required. Comparing *p*-values to a significance level can be useful, though *p*-values themselves provide valuable information. *P*-values and statistical significance should be understood as assessments of observations or effects relative to sampling variation, and not necessarily as measures of practical significance. If thresholds are deemed necessary as part of decision-making, they should be explicitly defined based on study goals, considering the consequences of incorrect decisions. Conventions vary by discipline and purpose of analyses.

In summary, *p*-values and significance tests, when properly applied and interpreted, increase the rigor of the conclusions drawn from data. Analyzing data and summarizing results are often more complex than is sometimes popularly conveyed. Although all scientific methods have limitations, the proper application of statistical methods is essential for interpreting the results of data analyses and enhancing the replicability of scientific results.

The most reckless and treacherous of all theorists is he who professes to let facts and figures speak for themselves, who keeps in the background the part he has played, perhaps unconsciously, in selecting and grouping them.
(Alfred Marshall, 1885)

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STATS FROM THE ROAD

Did You Know?

Amanda Malloy, ASA Director of Development

Inspired by recent visits with ASA members (yes, still virtually), I thought I'd share answers to some of the most common questions surrounding charitable giving. Hopefully, you will find this information helpful as you plan your giving for this year and beyond.

Did you know …

Deductions for charitable giving were extended into 2021?

In December 2020, a new stimulus package was signed into law that extended the charitable tax incentives and provided an additional boost. For the 2021 tax year, single filers taking the standard deduction can deduct up to $300 of charitable contributions, and those married/filing jointly (who aren't itemizing) can deduct up to $600 in charitable contributions.

Giving through your IRA can provide great tax advantages?

For those who are 70 ½ and older and required to take the minimum distribution, this can be especially advantageous. The portion of the required minimum distribution (RMD) you donate is not considered taxable income, so you can end up in a lower tax bracket while still meeting all the RMD requirements. You just need to make sure the gift amount is distributed directly from your IRA to your charity of choice.

Monthly giving can help you spread out your annual donation?

In response to several requests made by ASA members, we launched a monthly giving program to allow donors to make automatic monthly donations. There are many benefits to doing this. It allows donors to spread out an annual donation over 12 months, rather than donating the whole amount at once. For many folks, this allows them to give more over time than they would otherwise be able to. Plus, you don't have to remember to donate and you can cancel or change the amount at any time.

There can be lots of benefits to charitable gift planning?

Including the ASA in your charitable gift planning (or estate planning) is a meaningful way to make a lasting impact on the important work of the organization, while allowing you to achieve your own philanthropic goals. Charitable gift planning can help you increase income in retirement, reduce your income tax to help avoid capital gains taxes, maximize inheritance for your heirs, and more. Plus, when you let me know you have included the ASA in your estate plans, you are recognized as a member of the 1839 Society!

Amanda Malloy

For more information about monthly giving and charitable gift planning, visit *www.amstat.org/giving* or contact me at *amanda@amstat.org*. I'm always happy to visit! Thanks for your support of the ASA. ■

Reproducible Research in *JASA*: 5 Years On

Readers of the July 2016 issue of *Amstat News* may have noticed a brief article, titled "Reproducible Research in *JASA*," that introduced an initiative to increase the reproducibility of manuscripts published in *JASA* Applications & Case Studies (ACS). Spearheaded by Montserrat Fuentes, then editor of Applications & Case Studies, the *JASA* ACS reproducibility initiative was responding to what was widely viewed as a reproducibility/replication "crisis" in the scientific literature. Indeed, most statistical papers did not provide the materials necessary to reproduce their results. For example, in the first half of 2016, less than 20 percent of papers published in *JASA* ACS provided any supporting code or data that would enable reproduction of their results.

Success of the initiative was by no means guaranteed, as similar reproducibility-focused efforts in statistics journals had had mixed results. However, the adoption of reproducibility standards by high-profile scientific and subject-area journals indicated such efforts could indeed shift expectations for transparency.

Fuentes felt strongly that it was important to introduce the initiative to promote more reproducible analyses in the statistical literature.

Due to the effort and dedication put forth by editors, associate editors, reviewers, and journal staff, the *JASA* reproducibility initiative is celebrating its five-year anniversary and its future looks promising. In fact, the *JASA* editorial team recently endorsed a proposal to adapt the initiative for Theory & Methods manuscripts. Hence, starting on September 1, 2021, all original research manuscripts submitted to *JASA* will undergo reproducibility review, with authors required to provide their reproducibility materials when invited to revise their initial submission.

From its launch as a somewhat amorphous concept, the *JASA* reproducibility initiative has evolved into an efficient system consisting of two parts: 1) a set of concrete guidelines and resources that support authors in assembling and disseminating the code, data, and documentation needed to ensure the reproducibility of their manuscripts and 2) a formal and structured review process that provides feedback to authors on the materials they submit.

The core of the first part of the system is the author contributions checklist (ACC) form. This form, to be completed by all authors who are invited to revise their initial submission, provides a detailed list of what materials should be included to document reproducibility and asks authors to describe these materials. The final version of the form is published alongside each manuscript, providing a "key" for how to make use of the reproducibility materials. Code and data, in addition to being provided as supplementary materials on the journal website, are archived at *JASA*-specific GitHub and DataVerse repositories.

ACC forms and accompanying materials are reviewed by an associate editor for reproducibility (AER) in parallel with the usual manuscript review process, ensuring the final set of reproducibility materials is usable and well-documented. The initial group of three AERs that helped launch the initiative (Christopher Paciorek, Victoria Stodden, and Julian Wolfson) was expanded to six in 2018 (Lorin Crawford, Jeff Goldsmith, Michael Kane, Christopher Paciorek, Cheng Yong Tang, and Julian Wolfson). The AER group will be welcoming two new members, Stephanie Hicks and Julia Wrobel, later this year.

Over the past five years, the reproducibility initiative has gone through several iterations, each of which has been informed by robust discussion within the AER team and with *JASA*'s editorial team. Along with policy changes, this has resulted in openly available materials, now presented in the *JASA* Reproducibility Guide [*jasa-acs.github.io/repro-guide*], including guidelines for authors and example supplementary materials whose results are well-documented and easily reproducible. Each of these iterations has attempted to increase access to the methods, results, and implementations being presented without creating undue burden on the editors, reviewers, or authors. The resulting reproducibility process increases transparency and addresses a major barrier to the reproducibility and replicability of statistical methods research: the absence of well-documented code and data.

What's next for the reproducibility initiative? Beyond the expansion to *JASA* Theory & Methods, the AER team is engaging in discussions with editorial teams from other journals to coordinate efforts around reproducibility. They are also looking for ways to make the reproducibility review process more efficient, transparent, and rigorous. Feedback from the statistical community is welcome and should be sent to *jasa.app.cs.aer@gmail.com*. ■

THE AMERICAN STATISTICIAN HIGHLIGHTS

August Potpourri: Agent-Based Models, Tournaments, Statistical Ethics

Joshua M. Tebbs, *The American Statistician* Editor

The August 2021 issue of *The American Statistician* (*TAS*) is available online and features 13 articles across different sections of the journal. One of the benefits of ASA membership is free access to online issues of *TAS*.

The General section has nine articles. The lead article provides a gentle introduction to agent-based models for statisticians. After giving numerous applications where agent-based models are commonly applied, the authors describe implementation and ways statisticians and data scientists can contribute to research in this area. The second article introduces readers to "prediction tournaments" and presents an interesting paradox that can arise when comparing contestants.

The next three articles revisit various issues arising in hypothesis testing. The third defends hypothesis testing on the basis of Bayesian model checking and offers implications in both Bayesian and frequentist practice. The fourth article establishes an intriguing connection between the standard Bayes factor and the region of practical equivalence (ROPE). The fifth article develops an equivalence relationship between *p*-values and Bayesian posterior probabilities with one- and two-sided tests; this equivalence is then used to justify the use of *p*-values from a Bayesian perspective.

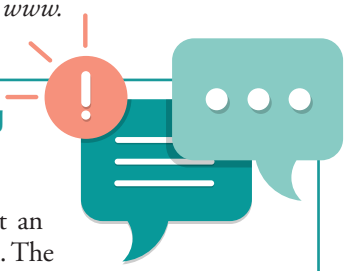
The sixth article considers the matching problem in causal inference and proposes an improved method to produce better effect estimates in terms of mean-squared error. The seventh considers the "Ockham Factor" in model selection, espousing both penalty and flexibility in a decision-theoretic framework. The eighth article considers the omnipresent issue of publication bias in the biomedical and social sciences and proposes strategies to adjust published estimates for this type of bias. Finally, the ninth article uses probability-generating functions to determine distributions of arrival times of random patterns in Bernoulli and Markov trials.

The Statistical Computing and Graphics section has one article, which considers the important problem of generating high-dimensional correlated binary data, focusing on exchangeable, decaying-product and 1-dependent correlations. The novelty of the proposed method is its flexibility and computational efficiency when compared to existing approaches.

There are two articles in the Statistical Practice section. The first gives a comprehensive summary of issues one might face when serving as an expert statistician in a legal dispute. The authors describe the ethics of such a role and provide examples from real cases. The second article revisits the replicability crisis and frames relevant questions from within an experimental design perspective.

Finally, the Teacher's Corner section has one article, which describes hands-on approaches to illustrating spatial randomness for undergraduate students. The authors also propose analytical methods students can use to evaluate spatial point patterns.

For more information about *TAS*, visit *www.tandfonline.com/toc/utas20/current*. ■



Anti-Racism Task Force to Host Open Meeting

David Marker and Adrian Coles,
Anti-Racism Task Force Co-Chairs

The ASA Anti-Racism Task Force will host an open meeting at JSM August 10 at 12:00 p.m. The meeting will be led by the Anti-Racism Task Force co-chairs David Marker and Adrian Coles and focus on the mission and vision for the task force, steps taken to date, and selected interim findings.

This will be an opportunity for any JSM attendee to contribute to the task force's work by suggesting additional factors to consider and/or comment on the work to date. For those ASA members who are unable to attend, preliminary findings can be found at *community.amstat.org/antiracismtaskforce/home*. Also on the website is the link to a form for submitting comments.

The task force was created by the ASA Board of Directors late last year with a mission to do the following:

- Review the association's infrastructure, policies, allocation of resources, and procedures to determine if implicit or explicit racism exist and how the existence of such conflicts with the association's position on justice, equity, diversity, and inclusion, harming marginalized groups.
- Assess the communications and activities of all ASA groups that provide services, benefits, or support to key stakeholders for the presence of racism. Key stakeholders include the association's members, other associations, and the public.
- Catalog the ways through which statistics and data science can contribute to racism and propose mechanisms through which the association will inform the public on the responsible use of statistics and data science to support anti-racist systems and institutions within our society.

Biden Administration's First Budget Request Favors NIH, NSF; Flat Funds Education, Energy, Health, Justice Statistics

Steve Pierson, ASA Director of Science Policy

The Biden administration's fiscal year 2022 (FY22) budget request sends a strong signal for its support of research funding, proposing 20 percent increases for the National Institutes of Health (NIH) and National Science Foundation (NSF). Many of the federal statistical agencies also see strong support through increases of 5–10 percent, as shown in Table 1. However, the FY22 request, released in detail in late May, flat funds the Bureau of Justice Statistics (BJS), Energy Information Administration (EIA), National Center for Health Statistics (NCHS), and the statistics account for the National Center for Education Statistics (NCES).

With Congress beginning to release its FY22 budgets this summer, this piece will briefly summarize the highpoints of the requests for the three research funding agencies and 13 principal federal statistical agencies.

The proposed increases for NSF and NIH are part of initiatives to help "spur innovation across the economy and renew America's global leadership" and to "build on efforts to combat the COVID-19 pandemic and improve the public health infrastructure," according to the budget request (*bit.ly/3hKFlz7*).

Two-thirds of the $9 billion increase for NIH is to establish the Advanced Research Projects Agency for Health, the purpose for which, according to the request, is to "drive transformational innovation in health research and speed application and implementation of health breakthroughs."

The $1.7 billion requested increase for NSF is intended to fund research across NSF's portfolio and "improve equity in science and engineering, advance climate science and sustainability research, [and] continue construction of forefront research infrastructure," according to the NSF's budget request to Congress (*bit.ly/2Te1jB2*).

The $15 million increase for the Agency for Healthcare Research and Quality (AHRQ) is to be allocated almost equally for research on integrated treatment for opioid and multiple substance abuse disorders in ambulatory care settings and for its initiative to improve maternal health.

The 12 percent increase for the Bureau of Economic Analysis (BEA), which also includes operations for the Office of the Under Secretary for Economic Affairs (OUSEA), is to ensure "the Department of Commerce remains a leader across government in data innovation and the implementation of the Evidence Act," according to the congressional justification (CJ). It includes $2 million for implementation of the Evidence Act and $7 million to develop a federal data service under OUSEA. The increase would also support such programs as GDP by County and Consumer Spending by State and BEA's international accounts.

The administration requests a $30 million increase for Bureau of Labor Statistics (BLS) programs and $28 million for the agency's relocation to the site of BEA and the US Census Bureau in Suitland, Maryland. The program increase, according to the agency CJ, seems to address the BLS's 12 percent loss of purchasing power since FY09. It specifies $13 million for "pay and benefit related built-ins" and other pay-related increases. $10 million is "to rebuild statistical capacity across the agency," noting "staffing levels have eroded due to significant unfunded mandates that have had to be absorbed through staff reductions" and stating the restoration of staffing levels "are critical toward supporting the Administration's priorities of advancing scientific integrity and evidence-based policymaking." The request also includes funds to reduce the current lag in the publication of the chained Consumer Price Index by three months.

The $5 million for the Economic Research Service (ERS) is largely to "expand the modeling, data, and analysis related to the intersection between climate change and agriculture sector." The CJ also reports that that the agency has 229 full-time employees, 90 located in DC and 139 at its Kansas City, Missouri, field office. This number shows significant progress in ERS's efforts to rebuild its staff levels to the 325 it had before its abrupt relocation in 2019.

For the National Agricultural Statistics Service (NASS), the $10 million increase also largely funds climate change work, through expansion of its existing geospatial program informing the impact of extreme weather events and establishment of baseline data for climate change tracking. Additionally,

Table 1—FY16–FY21 Budgets and FY22 Requests for NIH, NSF, AHRQ, and the 13 Principal Federal Statistical Agencies

							FY22	
	FY16	FY17	FY18	FY19	FY201	FY21	Request	% Change from FY21
Research Agency (amounts in millions of dollars)								
NIH	32311	34229	37084	39084	41685	42936	51953	21.0%
NSF	7463	7472	7767	8075	8278	8487	10169	19.8%
AHRQ	334	324	334	338	338	338	353	4.4%
Statistical Agency (amounts in millions of dollars)								
BEA	105.1	103.8	99.0	101.0	108.0	111.9	125.6	12.3%
BJS	41.0	45.5	48.0	43.0	43.0	45.0	45.0	0.0%
BLS‡	609.0	609.0	612.0	615.0	628.0	642.0	672.2‡	4.7%
BTS	26.0	26.0	26.0	26.0	26.0	26.0	26.0	0.0%
Census	1370.0	1457.0	2814.0	3821.4	7558.0	1106.6	1438.0	29.9%
EIA	122.0	122.0	125.0	125.0	126.8	126.8	126.8	0.0%
ERS	85.4	86.8	86.8	86.8	84.8	85.5	90.6	6.0%
NASS	168.4	171.2	191.7	174.5	180.3	183.9	193.7	5.3%
NCES	261.0	258.5	258.5	260.5	263.5	276.5	291.5	5.4%
-statistics	112.0	110.0	109.5	109.5	110.5	111.5	111.5	0.0%
NCHS	174.4	174.4	174.4	174.4	174.4	175.4†	175.4	0.0%
NCSES	58.3	59.7	62.4	64.0	65.0	66.7	73.2	9.8%
ORES*	25.9	24.0	27.0	35.4	36.0	36.4	38.4	5.7%
SOI	37.8	34.3	37.1	36.8	35.9	40.0	41.3	3.1%

*The ORES budget increase from FY18 to FY19 is partially explained by the merging of the Office of Retirement Policy (ORP) into ORES. The FY18 ORP budget was $2.3M.

†The NCHS budget was restructured starting in FY21 to account for $14 million previously routinely received from another account. The prior year budgets were adjusted to make them comparable.

‡The BLS request includes another $28 million for its relocation to Suitland, MD, to share facilities with BEA and the US Census Bureau.

the request includes funding for the quinquennial Census of Agriculture and proposes elimination of the Local Food Marketing Practices Survey.

The $15 million requested increase for NCES, according to the CJ, "would help maintain the assessment schedule as well as help allow initial research and development investments to improve assessment quality while reducing future program costs."

The $6 million increase for the National Center for Science and Engineering Statistics (NCSES) supports the creation of America's DataHub, a research center to securely share and link existing data to solve complex problems and improve the data and informational infrastructure around understanding racial equity and participation, among numerous other activities.

According to the director of the IRS Statistics of Income (SOI) Division, its 3 percent increase should allow the agency to meet critical hiring needs.

More Science Policy

To follow the FY22 budget developments, see:

- *bit.ly/3wK0DRQ*
- *bit.ly/36lpBGG*

Follow @ASA_SciPol on Twitter. Also, join the Count on Stats LinkedIn group at *www.linkedin.com/groups/8777968*, where you can network with fellow supporters of the federal statistical agencies, share your observations and perspective, and receive relevant updates.

Details for the requested budget of the Office of Research, Evaluation, and Statistics (ORES) were not available at the time of publication. The Bureau of Transportation Statistics (BTS) is funded through the Highway Trust Fund, not the appropriations process, so is not discussed here. ■

‘How-To’ Succeed Now and in the Post-Pandemic Future

Tom Krenzke, Ruixiao Lu, Maureen Mayer, Melinda Higgins, Jo Wick, Ruth Cassidy, Anamaria Kazanis, and Julia Sharp / ASA Council of Chapters Governing Board

It has now been more than one year since the COVID-19 pandemic brought in-person engagement to a screeching halt. This global disruption has affected all aspects of life and brought about unprecedented challenges for the American Statistical Association and its chapters. It was clear from the 2020 chapter annual reports that, while chapters have found creative ways to maintain membership activity and engagement, many are seeking guidance on navigating successfully during and after the COVID-19 pandemic.

Julia Sharp, chair of the ASA Council of Chapters Governing Board (COCGB), sent a spring message of support and thanks to ASA chapter members, acknowledging their efforts to encourage chapter engagement. She also communicated the importance of resources available on the ASA Council of Chapters (COC) website (*https://community.amstat.org/coc/home*) and included a presentation (*bit.ly/3B3uJTw*) summarizing those resources. In addition, the Council of Chapters district vice chairs outlined the activities reported by chapters that produced meaningful, productive interaction among their members.

The following are referential, but not exhaustive, lists of successful chapter activities as reported to the COC. Additionally, an event planning checklist from the Boston Chapter is included to help guide planning.

Arrange a Chapter Social

Live events may soon be the norm again, but virtual chapter socials can continue to be an effective tool for engagement. Many of the logistics remain the same—plans, invitations, reminders, and designated hosts—but chapters have found creative ways to overcome the restrictions of virtual social activities. In general, the COCGB recommends virtual events be shorter and hosts identify opportunities to keep participants actively engaged (e.g., trivia contests, breakout rooms). Examples include the following:

- In the Washington Statistical Society’s mentoring program, mentor-mentee pairs are encouraged to meet at social events. This activity boosts the attendance at events and gives the pairs an in-person meeting opportunity and chance to meet and network with others in the statistical community.
- The North Carolina Chapter hosted a science fair, an online pop-up social, and a virtual career fair, meeting approximately every two months (*bit.ly/3rg5xF5*), and their executive board met every two weeks. They curated the presentations and lectures on a YouTube channel (*bit.ly/3iXvrYV*).
- The San Francisco Bay Area Chapter held a holiday celebration with a focus on a positive outlook during the COVID era and how statistics can contribute to a better 2021. Academic and industry speakers, with ASA Executive Director Ron Wasserstein as a special guest, were included.

Invite an Outside Speaker

The ASA Chapter Visitation Program (*https://community.amstat.org/coc/chapterresources/chaptervisitationprogram*) is just one opportunity for chapters to invite a prominent outside speaker at minimum cost to the chapter. A quick survey of local universities for faculty with expertise in areas of interest could produce several speaker options. If the event is virtual, chapters may consider partnering to host and promote the event. Whether the event is held in person or virtually, chapters might consider recording and distributing the event through a devoted YouTube site. Examples include the following:

- The Kansas-Western Missouri Chapter co-hosted the 14th annual Frontiers in Biostatistics and Data Science regional symposium with Cerner Corporation and the University of Kansas Medical Center Department of Biostatistics and Data Science (*https://community.amstat.org/kwmchapter/annualsymposium/asoverview*). The symposium was canceled in 2020 but held virtually in 2021. The event included a keynote address by Jeffrey S. Morris of the University of Pennsylvania, titled “A Seat at the Table: The Key Role of Biostatistics and Data Science in the COVID-19 Pandemic.” Other speakers included David Morganstein, former president of the ASA, and Wasserstein. The event also included a virtual poster session.
- The Florida Chapter held its annual chapter meeting (*https://pages.uwf.edu/acohen/flchapter2020*) at the University of West Florida in early March 2020 and included a workshop, titled “The Statistical Assessment of Bioequivalence and Biosimilarity,” by Thomas Mathew, UMBC presidential research professor. Also included were two full days of external and internal speakers.
- The Nevada Chapter held two virtual symposiums with topics on COVID-19 modeling and new/existing statistics, data science educational programs at state institutions, and a virtual K–12 poster competition.
- The Georgia Chapter began a virtual lecture series it intends to continue post-pandemic. The speaker for their inaugural event on December 8, 2020, was Bin Yu of the University of California Berkeley, who focused

on veridical data science. The chapter also had a speaker from industry on December 15, 2020. William Myers from Procter & Gamble gave a talk, titled "Robust Experimental Designs for Model Calibration." The chapter has begun to compile these lectures on their YouTube channel (*bit.ly/3Baflom*).

- The North Texas Chapter hosted a virtual meeting with a presentation by Cici Bauer of The University of Texas Health Science Center in Houston about supporting local public health departments in COVID-19 control and mitigation.

Organize a Short Course

The ASA Council of Chapters Traveling Course Program (*bit.ly/2Ug2hgA*) provides another opportunity for chapters to host high-quality short courses at low cost. Traveling course offerings change every year, and application submission opens every November. Surveys of chapter membership could help gauge topics of interest and potential speakers. The Washington Statistical Society provides guidance on setting up a short course. The following is a summary:

- Determine the instructor, dates, course length, and course materials.
- Develop a budget and cost of the course.
- Obtain a short description of the course and short bio from the instructor.
- Find and finalize a location, dates, and set-up details. Set up an online registration sign-up system.
- Develop a Q&A page discussing the cancellation/refund policy and payment options.
- Create a course announcement and registration form.
- Advertise on an electronic mailing list for ASA sections and in chapter newsletters.
- Arrange flights and lodging for the instructor, if needed.
- Finalize course materials and arrange for distribution.
- Decide on a registration cut-off date.
- Check the membership status of all registrants.
- Submit credit card numbers to the ASA for processing
- Create a list of attendees, with affiliation and contact information.
- Order food and provide a tax exemption sheet (if needed). Get checks from the treasurer.
- Create name tags and tent cards for all attendees (including chairs and the instructor).
- Obtain course materials and print copies of the attendee list (for distribution at the course).

Examples include the following:

- The Southern California Chapter held an annual applied statistics workshop on deep learning and an ASA traveling course. There was a kick-off meeting with a keynote presentation and student presentations.
- The Puerto Rico Chapter hosted three chapter meetings and a virtual workshop.
- The Western Tennessee Chapter held a short course on evidence to improve clinical trials.

Organize a Career Day

Tap into some of the local expertise. Identify panelists to discuss their occupation and what skills and experience it takes to break into it. Panelists can include recruiting representatives and a moderator. Examples include the following:

- The San Diego Chapter hosted a career journey talk by industry leaders to graduate students.
- The Orange County-Long Beach Chapter held an annual career day with mock interviews in three categories: biostatistics, business analytics, and data science. The interviewers reviewed the students' résumés and helped them learn how to answer difficult questions, develop interview strategies, improve communication skills, and reduce stress before an actual job interview.
- The Boston Chapter holds a panel discussion inviting local people to discuss topics including education, clinical trials, epidemiology, genomics, engineering, actuarial sciences, weather, machine learning, prediction, and bioterrorism.

Promote Your Chapter

Mention how to join the chapter at events. Create a chapter brochure and send it to local universities and businesses. Also, write an article for *Amstat News* and *Chapter Chatter* (*www.amstat.org/ASA/Membership/Chapters.aspx*) about recent and future chapter events. Finally, send event advertisements to colleagues of speakers and local companies, organizations, and universities in the statistical community. Examples include the following:

- The Nevada Chapter developed a chapter newsletter and distributes it electronically to members. The newsletter includes event promotions, reports of virtual symposia and poster competitions, job opportunities in the area, changes to faculty or new degree programs, and opinion-provoking articles.
- The Orange County-Long Beach Chapter co-founded Mass Initiative in Data Science (MINDS), a student-run data science organization for high-school students.
- The Oregon Chapter held virtual speed talks by chapter members.

Expand Chapter Membership

Expanding chapter membership can feel daunting. However, the key to chapter growth is engagement, so organizing, promoting, and hosting chapter events is critical. The ASA designed the Chapter Stimulus Funding Program (*bit.ly/3xMUUf9*) to elevate chapter enthusiasm and engagement

Event Planning Checklist (from the Boston Chapter)

The following is a list of activities generally required for planning and conducting an ASA event. The officer/role responsible for conducting (or delegating) the activity is noted in parentheses.

Arrange in Advance (Program Chair)

- Speaker – discuss expectations, required arrangements, applications, recording, and access permissions
- Title of presentation
- Abstract
- Date and time
- Location (virtual or onsite)
- Virtual: Register for date and duration
- Onsite: Reserve venue (institution, building, room, food, beverage)
- Arrange needed equipment (laptop, microphones, video camera, applications, reservation time interval, maximum attendees allowed)
- Bio information for the speaker
- Handouts (if speaker requests help)
- In discussion with other officers in accordance with chapter constitution, determine chapter / attendee cost split for the event

Announce the Event (Program Chair – preparation, Communications Lead / Newsletter Editor)

- Speaker's name
- Speaker's job title
- Speaker's affiliation
- Location of event
- Date and time (start and end)
- Cost: Consider discounts for students / early career / members, food and beverage costs if applicable, meal or just appetizers, beverages: maybe tickets for alcoholic drinks, cost for handouts, and how money will be collected
- How to make a reservation: Person to contact
- Cutoff date and time reservations are accepted
- Abstract of the talk
- Directions to the location or HTML links to the event
- Other event information, arrangements, or contacts as appropriate

Days Before the Event

- Check all necessary equipment (program chair or host delegate)
- Check audio/visual materials and acquire requested handouts (program chair)
- Check on food/beverage arrangements (program chair)
- Check on collected money and number of participants (program chair)
- Send an email reminder (communications)
- If onsite, prepare signs to direct attendees to the room (host)
- Identify moderator for speaker intro (program chair)

Have Available for the Event

- Signs to place in the building to direct attendees if onsite, otherwise any event-specific links (host)
- Supply the bio information and abstract to the moderator (program chair)
- List of registered and paid attendees (communications)
- List of upcoming events (president)
- Event materials (president)
- Name tags and pens (if onsite)
- Join ASA and chapter information
- List of upcoming events (president)
- Reimbursement forms
- Speaker's token gift (if appropriate)

Tasks to Be Performed at the Event

- Place the directional signs as needed (host)
- Place name tags and pens in central location and encourage attendees to use them (president and officers)
- Collect any outstanding money for meals/handouts (treasurer)
- Call the event to order (president)
- Invite attendees to introduce themselves, if virtual, allowing cameras/microphones when a moderate number of attendees (president)
- Make announcements regarding future events and membership information (president)
- Introduce the speaker (moderator)
- After the presentation, thank the speaker and address questions (moderator)
- Close the meeting by thanking the speaker, the person arranging the event, and host of the event (president)
- Collect extra handouts, name tags, and pens (president)
- Tidy up the room when appropriate (officers)

Tasks to Be Performed After the Event

- Send any collected money and bills to the treasurer (program chair)
- Send the speaker a formal thank you letter on behalf of the chapter (president)
- Send post-publicity comments to the ASA for Amstat News (council representative)
- Summarize the event for local chapter newsletter (program chair/newsletter editor)

*Original (1999): Kathy Monti; Re-created (2021): Maureen Mayer

and stimulate chapter membership growth. Chapters can use these funds for new initiatives or to improve or expand existing chapter activities. The ASA also has a membership campaign that provides funding for membership socials (*bit.ly/3rdJejb*). Examples include the following:

- The Orange County-Long Beach Chapter meets quarterly for business meetings that include outside speakers, awards, and showcasing graduate students' research with presentations.
- The Washington Statistical Society's diversity committee actively reaches out to regional student chapters.
- The North Texas and San Antonio chapters support local science fairs.

Connect with Other Chapters to Coordinate Activities

A list of chapter officers and their contact information can be found on the ASA website (*bit.ly/2Ky0fhD*). Use this resource to contact other chapters to coordinate a series of virtual speaker seminars on a specific topic. ASA chapter liaison, Rick Peterson (*rick@amstat.org*), is available to help form connections. Examples include the following:

- The Detroit and Ann Arbor chapters jointly judged the Michigan Science and Engineering Fair.
- Boston, Connecticut, Florida, New Jersey, Princeton/Trenton, and Washington chapters, Boehringer Ingelheim Pharmaceuticals, Inc. (Biostatistics and Data Sciences Department), and the New England Statistical Society collaborated to sponsor a series of biostatistics webinars.

Connect with Sections to Coordinate Activities

As with chapters, the ASA website houses contact information for ASA sections and officers (*bit.ly/3wMjjQC*). Use this resource to contact section officers of primary interest to your region and coordinate events. Become members of the sections of interest for your chapter. Members will be notified of upcoming events sponsored by the section, and you can share this information with your chapter. Likewise, you can share your local chapter events with sections. ■

New *JASA* Co-Editors Discuss Inspiration, Plans

In January, Jane-Ling Wang, Ian McKeague, and Marina Vannucci became the Theory and Methods co-editors of our flagship publication, the Journal of the American Statistical Association (JASA). *Here, we ask them a few questions to find out more about them as editors and what the job entails.*

What or who inspired each of you to be a statistician?

Jane-Ling Wang: No particular person or cause. It might be attributed to a growing awareness among my classmates from National Taiwan University that statistics was the best playground for mathematics. We were the first generation of mathematics majors to choose statistics as our PhD training. Prior to that, only very few had switched to statistics for a PhD but, in our class, 11 out of the 45 graduating majors eventually completed a PhD degree in statistics, so it was a real fashion. In my own case, I first went to the University of California, Santa Barbara for a PhD in mathematics but decided to pursue a career in statistics from the University of California, Berkeley two years later. That was a decision I never regretted.

Ian McKeague: It is hard to put a finger on this. It was probably a combination of growing up in New Zealand, where statistics was and still is an important part of the high-school curriculum, along with an early interest in geology and physics (Ernest Rutherford has inspired many a New Zealander in that way). This led me to study mathematics at Cambridge University in the 1970s, where a number of influential probabilists and statisticians were active. These included Bruce M. Brown, who taught an inspiring course on statistical inference; Andrew Barbour, who supervised students in probability and Markov methods; and David G. Kendall, who was head of the statistical laboratory at the time. Ross Leadbetter later inspired me to do a PhD in statistics at UNC Chapel Hill.

Marina Vannucci: After getting my BS in mathematics, I was awarded a fellowship from IBM to work on "statistical software evaluation." That experience inspired me to eventually pursue a PhD in statistics.

Later on, a recognition that was particularly instrumental to my career was the SIS (Italian Statistical Society) prize, "Best Doctoral Thesis in Statistics," that I won for my PhD thesis work on the application of wavelets in statistics. It came at a point in my life when I was trying to decide what to do next and gave me confidence in myself and in my abilities as a researcher.

Jane-Ling Wang

Ian McKeague

Marina Vannucci

MORE ONLINE
To view the current issue of *JASA*, visit *www.tandfonline.com/toc/uasa20/current.*

Why did each of you accept the position as co-editor?

Jane-Ling Wang: It was an easy decision as *JASA* is a premier statistics journal with a top-notch editorial board. The opportunity to work with and learn from those talented associate editors was a major draw, as was the opportunity to get first-hand opportunities to learn about new developments in the field. Where else would I get such a unique opportunity to expand my scientific horizon?

Ian McKeague: Mainly because I was flattered to be asked! I also felt that it would be rewarding to contribute to the continued success of *JASA* as one of the premier statistical journals in the world.

Marina Vannucci: Service to the profession is something I value and an aspect of my professional career to which I have dedicated considerable effort, never shying away from time-consuming and, at times, challenging roles. I am particularly proud of my editorial work, which includes serving as editor-in-chief of the journal *Bayesian Analysis* and, currently, as co-editor of *JASA* Theory & Methods.

What is the most challenging part of being a Theory and Methods co-editor?

Jane-Ling Wang: Rejecting a good paper, especially one from a junior researcher. *JASA* has very limited space and can only publish about 10 percent of the submitted papers, so many interesting and strong papers do not make it to acceptance.

Ian McKeague: Certainly, it is an enormous amount of work, and not to be taken on lightly, but the rewards are numerous, especially in having a role in shaping the future of the field, and in the sheer intellectual enjoyment of it. Another challenge is the difficulty in handling unconventional submissions that fall outside the usual scope of *JASA*, especially when there is no associate editor with expertise in the area.

Marina Vannucci: Having organizational skills is key to the job. As editor, I make sure that high-quality submissions go through a rigorous review process, while working with associate editors (AEs) to ensure timely reviews. I communicate with AEs, referees, and authors in a constructive and transparent manner. I respond to comments from the authors and am willing to reconsider my decisions, after appropriate consultation with the AE. I set aside specific time daily to handle my editorial responsibilities, which helps in keeping my head above water!

Have you made any specific changes to the section, or do you plan to in the future?

All: The major change we have worked on is recruiting [more than] 30 new associate editors, while letting go [of] about 40. This change was important to reflect emerging areas and to bring in a fresh cohort of associate editors.

In addition to revamping the AE board, we have added a new option of "reject and resubmit" for papers under the first review, which allows resubmission if a paper shows promise but is not acceptable in its current form.

Also, over the last year, we have engaged in extensive discussions with Chris Paciorek and Heping Zhang to introduce a reproducibility review process for Theory and Methods that is similar to the current one for Applications and Case Studies. The reproducibility associate editors for A&CS have also contributed greatly to these discussions. The upshot is a plan that, beginning on September 1, 2021, authors submitting to Theory and Methods will be expected to provide relevant code and data upon submission of an invited revision (code and data will not be required at the initial submission, unlike A&CS). The plan will be announced in an upcoming issue of *Amstat News.* ■

My ASA Story

Kim Love, Collaborative Statistician

I joined the American Statistical Association in graduate school at the recommendation of my program and, in retrospect, I am so glad they encouraged us to join! After graduate school and my postdoc work, I took on a role as associate director of a university stat lab and found myself looking for new and different kinds of support than I had ever needed in the past. Thankfully, the ASA Section on Statistical Consulting and its network of members was already there for me. Through the community forum, business meetings at JSM, and eventually serving on the section's executive committee, I have had many opportunities to both learn from others and contribute to the field of statistical collaboration.

Kim Love

> . . . I found myself looking for new and different kinds of support than I had ever needed in the past.

One of the experiences that was most personally rewarding for me, however, came from a more general ASA experience. As a graduate student, I first became interested in the wider concepts related to statistical consulting when we used Dr. Janice Derr's textbook, *Statistical Consulting: A Guide to Effective Communication*, to learn about the process of collaboration. The work was pioneering at the time it was published, teaching communication and relational skills alongside technical skills and providing videos demonstrating both positive and negative client interactions. I used these while teaching a collaboration course to my own graduate students almost 10 years later, and I was thrilled to see these videos also captured their attention and pushed them to consider client interactions in greater detail and with the importance they deserve.

Kim with one of her professional heroes, Janice Derr, who wrote *Statistical Consulting: A Guide to Effective Communication.*

Needless to say, Janice Derr had become one of my professional heroes—and it may not surprise others who have had their own heroes in the field that it took some time to dawn on me that Janice was, in fact, a real person. When I further realized she had never been nominated for the ASA W. J. Dixon Award for Excellence in Statistical Consulting, my mission was clear. I reached out to my fellow consultants in academia and quickly had a nomination letter brimming with support. When she was selected for this honor in 2017, I received my own honor of meeting her at the awards ceremony at JSM that year. Although our meeting was brief, it was incredibly meaningful to me, and her many achievements continue to inspire me in my work.

Kim Love is the owner and lead collaborator of K. R. Love QCC. ■

Loni Tabb Gives Insight on Winning First Annie T. Randall Award

Leslie McClure and Scarlett Bellamy

Loni Tabb, associate professor at Drexel University and recipient of the first Annie T. Randall Innovator Award

The Annie T. Randall Innovator Award was established to recognize early-career statistical innovators across all job sectors and honor path-breaking Black female statistician Annie T. Randall for her pioneering career in government amid pervasive racial discrimination. Established in 2020 by the Biometrics Section, the award provides a $2,000 prize each year and is co-sponsored by the Mental Health Statistics Section. The inaugural awardee is Loni Tabb, an associate professor at Drexel University.

A native of the Philadelphia area, Tabb earned her BS in mathematics from Drexel University and promptly went for an MS in mathematics, also at Drexel. During her master's degree program, a professor introduced her to the biostatistics field and she was sold. After completing her MS, she earned her PhD in biostatistics from Harvard University in 2010. Tabb's dissertation work was in zero-inflated Poisson models, and she collaborated throughout her graduate work on applications in environmental health research, applying Bayesian spatial statistical methods to help understand health and social disparities.

From the beginning, Tabb was concerned with improving the health of the public and used her methodological work as an avenue to do so. After completing her PhD, Tabb returned to Drexel University as an assistant professor of biostatistics; in September 2017, she was promoted to associate professor and awarded tenure, reflecting her dedication to excellence in teaching, service, and cultivating a diverse and inclusive environment, in addition to her research.

Tabb has made significant contributions to the statistical literature in several areas, most notably Bayesian spatial methods. While the public health applications have differed, Tabb's work has consistently provided interesting methodological approaches to difficult applied research questions. We talked with Tabb about this recognition, her career thus far in biostatistics, and her advice for early-career statisticians.

How does it feel to be the first recipient of the Annie T. Randall Innovator Award, and what does it mean to you that the ASA initiated this award?

I'm honored and humbled to be the first recipient of the Annie T. Randall award. Annie was a trailblazer. She was the first in many spaces, and I'm blessed to follow in such a powerful, path-breaking, Black female statistician's footsteps. It is important for me, for many of us, to see leaders in the field that look like us. Annie was a fearless leader amid racial and sexual discrimination. The ASA recognizing her contributions and establishing this award in her name is a pivotal step to creating a more inclusive

and diverse environment for the association. Not only does this speak volumes to (bio)statisticians new to the field but leaders in the field, as well.

Why did you become a biostatistician?

I became a biostatistician to blend my love of math and statistics and health. Biostatistics is a field that provides a collaborative environment, and I thrive in these types of settings, especially when trying to solve complex problems that range from missing data to complex data structures that warrant multilevel statistical frameworks to even transparency and reproducibility. As a biostatistician, I'm convinced my purpose is to help produce the evidence necessary to address the many public health challenges that plague our society, with an added focus on marginalized populations.

What drew you to spatial statistics?

Spatial statistics was an easy area for me to consider in terms of my training and research. I am a firm believer in where you live, learn, work, play, and worship having implications on health and social outcomes. Neighborhoods have such an effect on how we live our lives. Whether you live in a neighborhood filled with tons of green space and healthy and affordable food options or you live in a neighborhood that has been disinvested in and overpoliced, one can predict (with some error, of course) the potential health outcomes that follow.

Being able to blend my love for math and statistics and health has allowed me to work in this space called spatial statistics, and I hope to continue to contribute to this space and move toward more solutions.

What do you like best about being a biostatistician?

I love that biostatisticians get to critically assess (via statistical methods that range from descriptive to inferential in nature) many public health challenges, ranging from racial/ethnic inequities in health outcomes like cardiovascular health to, even more recently, inequities in COVID mortality, morbidity, and even vaccination distribution. Biostatisticians are key to making sense of complex data that could stem from cohort studies, clinical trials, and even claims/administrative-based data. As a biostatistician, I love that we help make sense of the data. We present the facts and draw inference. In turn, this leads to more evidence-based solutions in addressing these various public health challenges.

Who inspires you?

Women in STE(A)M inspire me. As a little girl, I never considered science, technology, engineering, or even math as options to contemplate for a career. It wasn't until I met strong, powerful women in STEM fields during my undergraduate training that I realized math and statistics were spaces built for someone like me. These women have been in spaces in which they were the only one … and that's not easy. It's uncomfortable at times, it's isolating, it's downright unfair to even walk into a space where you are the only one. In spite of all of that, all the women I know in STEM fields are bosses in their own right, have reached back to pull others (especially young women) forward, and are unapologetic about their gifts—which can be a challenge at times. But they do it, and they do it well. When I think of Annie T. Randall … she's a boss … she's a trailblazer … she paved the way for someone like me. And, for that, I'm grateful and blessed.

What advice might you have for folks who are starting off their careers?

My one piece of advice for those who are just starting their careers is to believe you belong. While there might be queues, signals, and/or societal norms that point toward the contrary, know you belong at the table. If you run into barriers getting a seat at said table, build one yourself.

Nominations and submissions for the Annie T. Randall Innovator Award are due by March 15 each year. Instructions are available at *bit.ly/3ecHVM7*. ■

COMMITTEE SPOTLIGHT

International Relations Committee Focuses on Outreach, Education

The ASA Committee on International Relations in Statistics was formed to identify goals, develop policies, and plan projects that foster activities involving international communications, exchange, and joint development with professional statisticians, societies, and other organizations in countries throughout the world. Here, Carolina Franco, chair of the committee, gives details about the committee's initiatives.

What is the purpose of your committee, in your own words?

The committee focuses on international communications and outreach. On a yearly basis, the committee administers the ASA Educational Ambassador's program. This is a wonderful program where (typically) two statisticians from other countries are sponsored to attend JSM and take one or more continuing education courses in an emerging area of research.

These scholars, the educational ambassadors (EAs), are selected based on a competitive application process and are then expected to teach a course about what they learned at JSM in their home countries or regions. This fosters the dissemination of ideas to students and other professionals who might not otherwise have the opportunity to be exposed to these areas of research. Different countries are targeted each year to ensure different parts of the world are represented across time, and the committee selects countries each year it thinks will greatly benefit from the program.

The committee also writes articles for *Amstat News* to inform the ASA membership about the activities of the committee, as well as other internationally focused topics of interest. And it pursues other initiatives based on the interests of the current members. Some of the initiatives we are pursuing this year are described below.

Why did you accept the position to chair the committee?

I really liked the committee's focus and activities and wanted to do my part to help. I believe this committee can make a real impact by providing educational and other growth opportunities to statisticians in other countries through the EA program, and through other communication and outreach initiatives, and it's rewarding to be part of that.

How often does the committee meet to plan activities?

That depends on the committee's initiatives in a given year. Typically, the committee meets in person during JSM, but since 2020 and JSM being virtual, all the committee's meetings have been virtual, as well. This year, we will probably meet virtually 3–4 times, but we have subteams within the committee working on different initiatives that have their own meetings.

What are some recent or upcoming committee events you would like to highlight?

In 2020, JSM went virtual, so it was decided that hosting new EAs would be deferred to the next in-person meeting. But the committee took this as an opportunity to pursue several other initiatives. Through meetings among the committee members, ASA Past President Wendy Martinez, and ASA Director of Strategic Initiatives and Outreach Donna LaLonde, several ideas came to light that were of interest to the committee members and had the potential to be of impact.

For example, the committee decided future EAs should be offered assistance in starting international

student chapters in their home countries, should they be interested in doing so. These international student chapters could be a great way to provide more opportunities to students around the world. The committee then began an effort to compile educational, networking, and mentoring opportunities that might already be available through the ASA and be of interest to student chapters. The committee has been in contact with ASA staff, as well as leaders from the sections and other relevant ASA committees, to identify opportunities. In addition, one of our committee members volunteered to begin a new student chapter in his home country of Nigeria, and the committee will support him in this endeavor.

Also, subteams within the committee are writing two articles about COVID-19. One will focus on the impact of COVID-19 on statistical communities around the world, and the second will focus on the statistical challenges brought about by COVID-19.

Another subteam is looking into starting a website, wiki, or electronic mailing list to compile events and opportunities of interest to international members. This team has been in communication with the ASA's newly established Justice, Equity, Diversity, and Inclusion (JEDI) Outreach Group, which has similar efforts in place.

An EA virtual meeting is another initiative we are pursuing this year. We noticed the committee has lost touch with some of the earliest EAs due to the passing of time. We hope that by having a virtual meeting, we can strengthen those relationships and receive feedback on how the committee and ASA in general can be of help to members from other countries. This EA reunion may become a recurrent even in future years.

What are some upcoming events you are most excited about?

I'm excited about the committee members working together to accomplish all the initiatives above! I'm also looking forward to meeting some of the previous educational ambassadors during the EA virtual reunion. I met the 2019 EAs at JSM 2019, but never met any of the earlier EAs (the first EA was selected in 2005).

Committee Members

Carolina Franco *(Chair)*

Nathaniel Newlands *(Vice Chair)*

Mark Otto

Jana Asher

Hadiza Galadima

Amarjot Kaur

Obafemi Adegoke Keshinro

Christopher McMahan

Valeria Quevedo

Diane Uschner

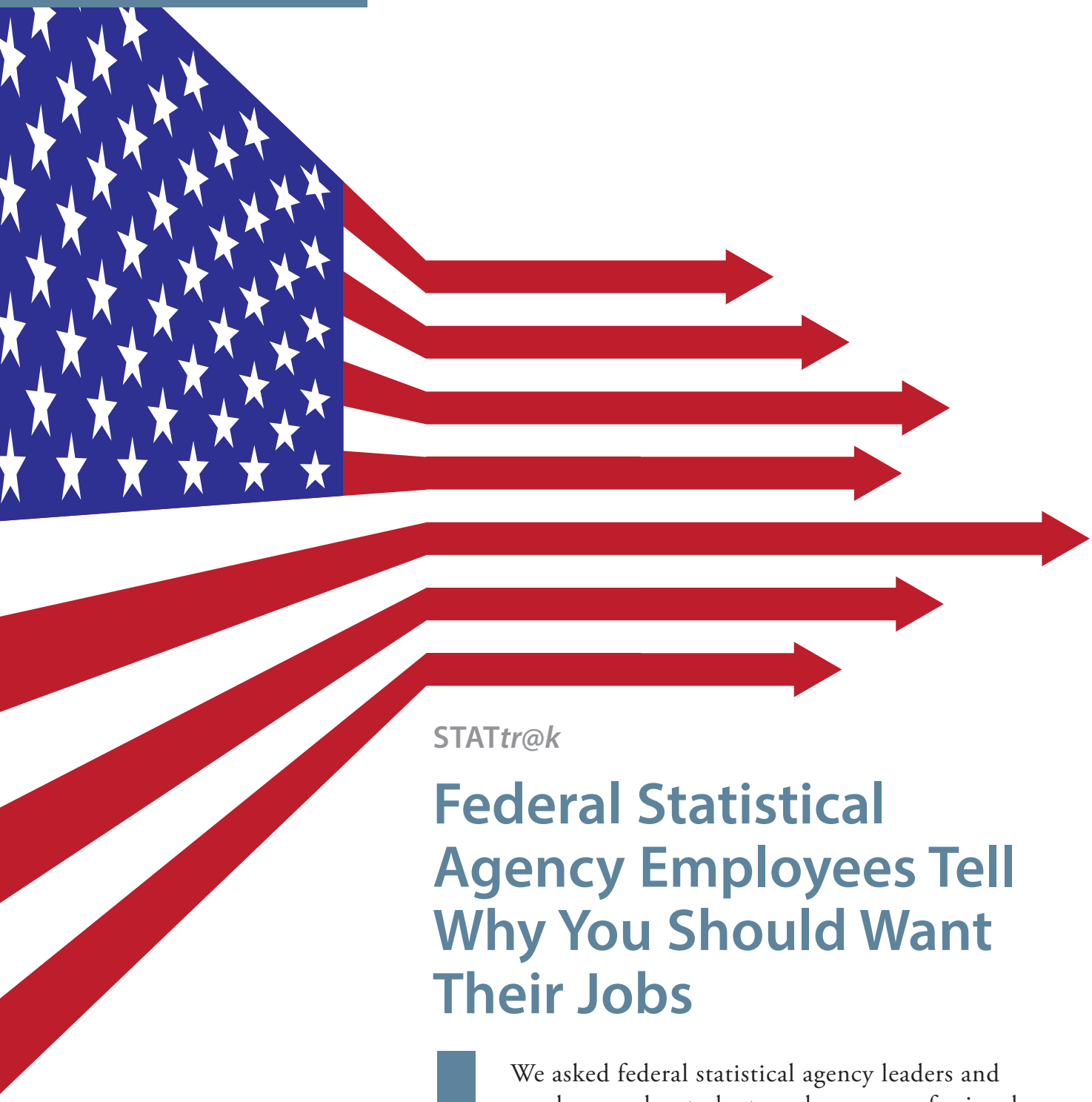
Alexandra Schmidt

Matilde Sanchez-Kam

Donna LaLonde

Any additional information or news you'd like to share about the committee with ASA members?

Please stay tuned for our upcoming articles, and contact me at *carolina.franco@census.gov* with any questions or thoughts about the committee's activities. Also, for more information about the Educational Ambassadors Program and to learn about our past EAs, visit *bit.ly/3yTHezo*. ■



STAT*tr@k*

Federal Statistical Agency Employees Tell Why You Should Want Their Jobs

We asked federal statistical agency leaders and employees why students and young professionals should work at their agencies. They responded enthusiastically with the following inside looks at their jobs and the agencies they work for.

Samson Adeshiyan
Director, Office of Statistical Methodology and Research, US Energy Administration

Do you want to learn how to develop and publish nationwide survey statistics and independent analyses that help policymakers, businesses, and consumers make informed decisions? If so, a career at a federal statistical agency might be right for you.

Here, you'll learn about sample design and statistical modeling, questionnaire design, interviewing, data collection, data editing, data publishing, and much more. You will also work alongside some of the best statisticians and scientists in a nurturing, creative environment.

Within the federal statistical system are agencies such as the US Energy Information Administration, Bureau of Economic Analysis, Bureau of Labor Statistics, National Agricultural Statistics Service, and US Census Bureau. In addition to producing their standard official statistics and analyses, federal agencies are often asked to produce current data during crises. Recently, the US Energy Information Administration provided data analyses about the Colonial Pipeline shutdown to policymakers.

Statisticians who work for the federal government receive a competitive salary, as well as excellent health and retirement benefits. Additional benefits include telework, subsidized public transportation, and a variety of educational opportunities.

If you think you have what it takes to collect and analyze the data that drives US markets, consider working for a federal statistical agency.

Vipin Arora
Deputy Director, National Center for Science and Engineering Statistics

Meaningful and interesting work. A sense of purpose. Commitment to public service. Opportunities to grow and innovate. The federal statistical system thrives on finding and developing leaders who are driven by such values.

Would you like to help gather and publish information on the research and development and innovation that will propel our nation's economy in the future? We do that at the National Center for Science and Engineering Statistics. How about helping to project what energy markets will look like in the future? The Energy Information Administration is the place for you. Are you more interested in informing policymakers and the public about key trends in transportation? You should consider the Bureau of Transportation Statistics.

These are just a few examples of the critical and fascinating topics we work on every day across the federal statistical system—the world's best statistical and analytical team. Whatever your interests might be, there is a federal statistical agency, unit, or program that needs your unique skills and talents.

Emily D. Buehler
Statistician, Bureau of Justice Statistics

The Bureau of Justice Statistics (BJS) is the primary federal statistical agency of the US Department of Justice. Our mission is to collect, analyze, publish, and disseminate information about crime, criminal offenders, victims of crime, and the operation of justice systems at all levels of government in the United States.

As a statistician at BJS, I manage data collections related to government expenditures and employment in the criminal justice system, sexual victimization in correctional facilities, and law enforcement training academies. I enjoy being able to learn new things and tackle different challenges across a variety of substantive areas, while overseeing the entire lifecycle of a data collection—from planning and design through publication.

When deciding what to do after earning my doctorate, it was important to me that my career be purpose-driven. Contributing accurate and reliable statistics to inform policy discussions and public understanding of criminal justice topics is rewarding. While there are many potential jobs that use statistical knowledge and skills to make a difference, I believe working at the federal level is a unique opportunity to provide trustworthy information that supports efforts to make real the principles of an equitable system of justice for all Americans.

Chris Chapman
Associate Commissioner, National Center for Education Statistics

The National Center for Education Statistics (NCES) is a great place to build a career if you are interested in education research or data collection and reporting methodology.

The US education system is highly decentralized, making it challenging to find comparable data across states and localities. This creates tremendous limitations on the ability of policymakers, researchers, and the public to understand education in the country as a whole and how it compares internationally.

NCES specializes in providing these much-needed data. Working at NCES puts you right in the middle of addressing this need on day one of working here. NCES has few employees compared to the scope of projects we undertake. In terms of career development, this means you start at NCES with a significant amount of responsibility and ability to influence study design, analyses and data presentation, and quality control activities.

While not heavily staffed, we have significant levels of funding. Common with most federal statistical agencies, you will find that our studies tend to be much better resourced—and obtain more notice—than is typically possible in studies you might be able to undertake if you work in academia or with private research firms.

Yang Cheng
Senior Research Mathematical Statistician, Research and Development Division, National Agricultural Statistics Service

By working at the USDA National Agricultural Statistics Service (NASS), you make a difference. The information NASS provides is essential to US agriculture, contributes to a stable economic climate, and reduces risk. You will work with smart, motivated colleagues in a diverse team of professionals from many geographic areas and academic backgrounds. Nearly 70 percent of NASS employees are statisticians from a wide range of various fields.

NASS offers academic and professional development opportunities to give you the tools you need for the job and to help you advance your career. These include college courses, graduate-level degree programs, cross-training programs, workshops, leadership development, seminars, online courses, and opportunities to collaborate with academia.

We conduct more than 400 weekly, monthly, quarterly, or annual surveys each year and the Census of Agriculture, a complete count of US farms and ranches, every five years. We have ongoing research on survey design, sampling, complex modeling, and other cutting-edge statistical issues.

You should consider working for NASS if you are interested in statistics, public service, and national agriculture. NASS offers excellent career opportunities in a dynamic and rewarding work environment. If you are interested in advanced modeling and objective data, enjoy solving problems, and/or want to learn and grow throughout your career, consider joining the NASS team.

Samuel Foster
Director, Office of Statistical Analysis and Support, Office of Research, Evaluation, and Statistics, Social Security Administration

Would you like to perform research and statistical analyses that affect more than 65 million Retirement Survivors and Disability Insurance (OASDI) beneficiaries and Supplemental Security Income (SSI) recipients? Would you like to study the relationship between these payments and the American economy?

Our researchers conduct policy-relevant research and evaluation, including in-depth analyses of Social Security solvency proposals. Office of Research, Evaluation, and Statistics (ORES) researchers work on longer-term research papers, as well as quick turnaround analysis on critical issues for the agency and other stakeholders. You can engage in this meaningful work by seeking employment with the Social Security Administration.

Our statisticians and researchers work together with data experts to provide statistical data on OASDI and SSI program benefits, payments, covered workers, and other indicators. In their analyses, ORES statisticians and researchers identify trends and relationships within data. They have access to and use rich data sources, including administrative record data linked to survey data, for Social Security research and policy analysis. They also conduct tests on the data validity and account for high survey nonresponse rates or sampling error. They develop microsimulation models that estimate the distributional effects of proposed changes in Social Security programs. Our statisticians also recommend how to improve the design of future surveys—ensuring the availability, integrity, and confidentiality of statistical data—and participate in several interagency statistical programs and projects.

Patricia Hu
Director, Bureau of Transportation Statistics

In an era in which data is valued as an economic asset and decisions need to be informed by evidence, there is no better time to join the federal statistical system.

At the Bureau of Transportation Statistics (BTS), we inform all decisions about transportation by leveraging data from diverse sources—public or private, structured or

unstructured—building evidence, and exploring experimental statistics. All these decisions affect how we travel safely from A to B and how our Amazon packages are delivered to our front doors.

Let me give you two examples of BTS's recent work. First, at the onset of the pandemic, BTS transformed from developing monthly statistics to developing rapid indicators on a daily and weekly basis on how COVID-19 impacts transportation. Fifteen months later, we see the pandemic continues to impact travel behavior. Second, the administration's equity goal has inspired BTS's effort to create data and methods to help build an equitable transportation future.

So why work for a federal statistical agency? Being a member of the federal statistical system gives one a true sense of purpose, knowing that what we do is for the well-being of all Americans.

Steve Klement
Chief, Quality Program Staff, US Census Bureau

Jonah Wong
Methodology Staff Recruitment and Retention, US Census Bureau

The federal government needs help making data-driven decisions for allocations in infrastructure, public health, and other programs for the public good. The 125 agencies that comprise the federal government's statistical system compile the information used to determine where and what type of roads, hospitals, schools, or other infrastructure should be built and maintained.

Your expertise in performing data science—expanding collection methods, performing analysis, and providing statistics in new ways—will help the mission of the statistical agencies in becoming more comprehensive and efficient at producing the knowledge the country needs.

The largest agency in the statistical system, the US Census Bureau provides data on the country's people and places, researches best methods for collection and estimation, and provides our democracy's important count of representation in the most scientifically accurate manner. We also provide data collection and analysis support to many of the smaller statistical agencies.

The Census Bureau provides a safe working environment with great benefits such as career development opportunities, liberal leave policies, teleworking, 401K equivalent, and one of the few remaining defined retirement pensions. Our employee's work affects national policy while balancing personal career and life goals.

Juan David Munoz
Economist, Bureau of Labor Statistics

Working for the Bureau of Labor Statistics (BLS) has been an incredibly rewarding and fulfilling experience for me. As a recent undergraduate from Florida State University, the starting salary, schedule salary increments, benefits, and opportunity to live and work in our nation's capital made up by far the most compelling offer I got. I have had the opportunity to work alongside individuals from the US Census Bureau, Department of Agriculture, Department of Education, and others to produce the Supplemental Poverty Measurement, a statistic that drives policy nationwide and affects many Americans.

The intrinsic knowledge that my work is benefiting the nation is hard to match. To know I am contributing to my country fills me and my family with pride. Furthermore, at BLS, I feel I am cared for, respected, and treated as a human being. I get a flexible working schedule, all benefits, three weeks of vacation a year, and health and dental insurance. When I suffered a family loss and had to leave the country for five weeks, BLS was extremely supportive and accommodating.

I feel nothing but loyalty and gratitude for the BLS and invite anyone who has the relevant skills to apply. It is a great experience and a good steppingstone for any other job in data analytics.

Jennifer D. Parker
Director, Division of Research and Methodology, National Center for Health Statistics

If you are looking for a career with opportunities to make a difference, apply your talents using an assortment of approaches, and continually learn new skills, consider a job in federal statistics.

At the National Center for Health Statistics (NCHS), statisticians and data scientists have the opportunity to contribute to the information that informs and guides decisions affecting the health of all Americans. Through its large population and provider health surveys and the National Vital Statistics System (i.e., death and birth data), NCHS monitors the nation's health and identifies emerging trends. Statisticians contribute to the collection and dissemination of key health statistics at every step.

There is a role at NCHS for statisticians and data scientists with a variety of expertise and interests to develop and apply new and innovative methods. On the forefront are new data

sources, linked and blended data, and model-based approaches that will increase the scope and relevance of the health and health care information produced. There are opportunities to learn and apply new scientific and technological skills, as well as the scientific communication and leadership skills that can increase your impact.

I have been at NCHS for more than 25 years and continue to find everything we do exciting and interesting. More importantly, I have been proud to be part of an agency committed to providing data used to improve people's health.

Laura R. Rasmussen
Chief, Statistical Services Branch, Statistics of Income, Internal Revenue Service

Want to make an impact on the lives of every resident and citizen of the United States? The Statistics of Income Division produces tax data related to individuals, estates, businesses, nonprofit organizations, trusts, and foreign investments. Teams of statisticians, economists, and information technology specialists work together to sample returns after they are filed with the Internal Revenue Service (IRS), correct errors and perfect the data, and weight the data to create quality population statistics. These data, available from no other source, are used by policy makers in Congress and the Department of the Treasury to evaluate tax policy and change tax laws.

Federal agencies, research organizations, and the media rely on our data to examine the effects of legislation on the people, business, and economy. State and local governments, as well as businesses, employ the data for making critical planning decisions. And think tanks and academia use our data to support their economic and social policy research.

Join us so you can be part of where it starts and help produce data that affects everyone around you.

Alana Rhone
Economist, Economic Research Service

If you enjoy being part of work that matters or believe in service to mankind, working at a federal statistical agency is right for you! Federal statistical agency employees are motivated by the fact our work has a positive impact on the lives of others.

The Economic Research Service (ERS) provides context for and informs decisions that affect the agricultural economy, food and nutrition, food safety, global markets and trade, resources and environment, and rural economy. This, in turn, benefits everyone with efficient stewardship of our agricultural resources.

Federal statistical agency employees also enjoy unparalleled career opportunities. ERS has provided me with several opportunities for my career growth. My career at ERS began as an 1890s Scholar intern while I was earning my bachelor's degree. Before I left my last summer internship at ERS, I contributed to a publication that would later make me a published author. There are not many jobs that offer the opportunity to publish your research and analysis in reports, award-winning magazines, and professional journals, as well as participate in oral briefings and congressionally mandated studies delivered directly to executive and legislative branch policymakers and program administrators. That is a win-win for me! I am proud to be part of a federal statistical agency.

Marlyn Rodriguez
Economist, Bureau of Economic Analysis

The federal government offers a great package. There is the knowledge going in that your work is in service of the American people. Working as a statistician in the federal government will surround you with the experts behind the most widely used statistics in the country, ranging from economic indicators to the important metrics that ensure we are keeping the country safe.

The benefits package is excellent, as well, and I have found it to be competitive with the private sector, especially when you take into consideration work-life balance and job security. But what keeps me going is the intrinsic reward—I know what I work on matters, and it's hard to put a number on that.

For example, I work on GDP, which is one of the most closely watched of all economic statistics. It provides policymakers and the American people with a pulse of the economy. Every month, we produce this number and I know what I work on lands directly on the president's desk. It is that important. ■

MASTER'S NOTEBOOK

JSM Conferences: An Opportunity to Detach, Reengage, Connect

Jonaki Bose, National Center for Health Statistics

As a recently appointed member of the ASA Committee on Applied Statisticians (CAS), I'm delighted to have the opportunity to share my thoughts about the Joint Statistical Meetings (JSM). For the second year in a row, JSM will be held virtually. And despite this change, the program is replete with a smorgasbord of offerings.

There are sessions on optimal profiles of Major League Baseball starting pitchers, emerging statistical challenges and opportunities in mental health research, and statistical issues related to developing the COVID-19 vaccine. In short, something for everyone.

Applied statisticians, in particular, may find interesting the invited session organized by CAS on the principles of visual communication, titled "Let the Data Tell the Story: Principles of Visual Communication for Effective Collaboration," August 9 at 1:30 p.m.

JSM is particularly ideal for applied statisticians because there are a multitude of sessions covering the translation of theoretical research into application, as well as documenting and discussing lessons learned from practical experiences. This permits us to step away from the details of our work lives, open our senses, and absorb incremental and drastic ways of improving what we do.

This exposure is often invigorating and permits us to reengage with what we're doing. I often come back to work energized, ready to tackle a back-burner project that was stumping me or approaching existing projects with a new eye.

Part of this reinvigoration occurs from interacting with other professionals. JSM has amazing roundtables that allow access to thinkers, whether they are preeminent scientists in their fields or early-career statisticians who have dug deeply into specific topics.

Even in the absence of in-person social events, it is possible to meet and form connections with our colleagues, have conversations about gnarly projects, and feel less isolated. With all the upheavals of the past 15 months, this is what we need. So come on over!

Check out the table above for sessions that caught my eyes as interesting for applied statisticians. ■

Date	Day	Time	Session ID	Topic	General Statistics
8/8/2021	Sunday	1:30 p.m.	220639	Advances in Longitudinal Methods in Research on Aging and Dementia from the MEthods for LOngitudinal Studies of DEMentia (MELODEM) Initiative	20.8%
8/8/2021	Sunday	3:30 p.m.	220490	Justice, Equity, Diversity, and Inclusion (JEDI) in Statistics and Data Science	13.2%
8/9/2021	Monday	12:00 p.m.	220645	How to Build and Sustain Effective Collaborations (Roundtable)	9.4%
8/9/2021	Monday	1:30 p.m.	220351	Let the Data Tell the Story - Principles of Visual Communication for Effective Collaboration	3.8%
8/10/2021	Tuesday	1:30 p.m.	220313	Surrogate Markers and the Role of Mediation Analysis in Drug Development	3.8%
8/10/2021	Tuesday	12:00 p.m.	220657	Discussing Scanners and Sites Variability in Neuroimaging Studies and Their Impact on Clinical and Methodological Grant Proposals (Roundtable)	7.5%
8/11/2021	Wednesday	12:00 p.m.	220610	Machine Learning with Complex Survey Data (Roundtable)	0.0%
8/11/2021	Wednesday	3:30 p.m.	220364	Technical and Transferable Skills to Get Hired and Flourish in the Industry/Government	9.4%
8/12/2021	Thursday	2:00 p.m.	220225	Addressing Individual Variation to Improve the Analysis of Forensic Evidence	3.8%
8/12/2021	Thursday	4:00 p.m.	220140	Quantifying the Anthropogenic Fingerprint in Climate Change	9.4%

STATS4GOOD

Data4Good Goes Back to School: Capstone Projects for the Greater Good

With a PhD in statistical astrophysics, **David Corliss** is lead, Industrial Business Analytics, and manager, Data Science Center of Excellence, Stellantis. He serves on the steering committee for the Conference on Statistical Practice and is the founder of Peace-Work, a volunteer cooperative of statisticians and data scientists providing analytic support for charitable groups and applying statistical methods in issue-driven advocacy.

Sarah Handau. Maddie Young. Haelie Egbert. Edina Kovacs. Eli Baker. Five great students from different backgrounds and unique skills, all working with one goal in mind: identify risk factors and hotspots for human trafficking in Appalachian Ohio. What brought this amazing D4G team together? A capstone project.

With the fall semester starting in just a few weeks, it's an exciting time for students and professors as they plan for the new year. We're going to see some changes with the COVID pandemic trending downward in many countries and we move into a "new normal." And some changes we saw during the pandemic will be continue. New technology, practices, and connections developed to support remote study will form the backbone of the emerging post-COVID environment in education, government, and private sector research.

Opportunities for education projects have become more global, with students working as easily with coral reefs in Australia or STEM education in Africa as an organization in their home town. The work from home environment has also led to more data and other resources becoming available to the public. The possibilities for school projects—including term papers, class projects, and other educational experiences—are endless. The same goes for student groups.

This month, we're going to look at capstone projects in detail. These projects generally involve working with a team on a long-term task to produce something complex, such as a new statistical application with associated data, modeling, and visualization. The projects normally take one or more semesters and serve as the final project for a program. Capstone projects many times allow for a "real world" experience by providing a project created by a team with diverse skills and backgrounds and leveraging raw, uncurated data to produce a functioning application on a managed timeline. Many capstone programs give students a choice of several potential projects, often including one or more in community service. This makes capstone programs a great opportunity to get started in Data for Good when starting one's career.

I would like to give a Stats4Good shout-out to **Evan Boyle and Holly Bossart**, recipients of the inaugural ASA Pride Scholarship. The scholarship was established to raise awareness for and support the success of LGBTQ+ statisticians and data scientists and allies. You can read all the details at *bit.ly/2TByQFs*.

Of course, capstone projects are more than just the students. Professors, private sector partners, and more are needed to make it all happen. Here are some qualities I have found that make for good capstone projects:

- Partnership with industry, government, or some other organization outside the university. The project must complete an analysis or statistical product needed by this outside group, not the professors.

- At the same time, the professor needs to completely own the academic requirements and assessment: This is a class project, not an internship.
- Working with a team is better than working individually, so different people, skills, resources, and backgrounds can support the project. Diversity is so much more than fair play. As with all justice issues, practicing it actively makes things work better.
- While working as a team, however—and this is a key point that is sometimes missed—each person working on a capstone project needs to have ownership of a specific part of it. They need to be responsible for this task and take credit for it going forward. Those who set up and manage student projects need to create opportunities to show ownership and leadership—both for the success of each part of the project and as something students can show future employers.
- Clear goals. The parameters of a successful project need to be described early on and in writing, with each person agreeing to work together to achieve them.
- In addition to goals, good projects have stretch objectives for each person. These are not included in the written goals (i.e., project requirements, without which the project is not a success). The university/outside sector partnership needs to create opportunities for each team member to excel, going above and beyond the required to do something extraordinary.

Get Involved

In opportunities this month, civic hacking events bring people in a community together to use data and analytics to address local issues and concerns. September has long been a big month for civic hacking events, so now is the time to find an event near you and see how to get involved.

Capstone projects offer many opportunities for statisticians in academia, government, NGOs, and private industry. I was connected to the human trafficking project for Eyes Up Appalachia, a community foundation in Ohio, through volunteer D4G work in human trafficking, but it also helped me make connections at a major research university from where my employer recruits data scientists. My role was mentor—serving as a subject-matter expert; recommending contacts, data sources, and methods; teaching best practices; and reviewing and encouraging work. It was such a rewarding experience for me to work on this project! I strongly encourage looking at capstone projects at a university you support to check out the opportunities to get involved. ■

Beyond Big Data: Shaping the Future—SDSS 2021

Wendy Martinez, Claire Bowen, and Donna LaLonde

SDSS
VIRTUAL • JUNE 2–4, 2021

Colleagues, thought-provoking talks, and *Star Trek* trivia all contributed to the success of the Symposium on Data Science and Statistics (SDSS) 2021, which took place virtually June 2–4.

Before deciding to go virtual due to COVID-19, SDSS presenters and participants were learning the words to "Meet Me in St. Louis" and anticipating trips to the Gateway Arch. However, when it was clear the symposium wouldn't be held in person, SDSS 2020 Program Chair Dave Hunter shared his experiences and lessons learned last year to improve this year's virtual event.

In an effort to further refine the referee process, authors submitted two-page extended abstracts, which were reviewed by program committee members. The committee accepted 54 out of the nearly 100 submissions for refereed talks. There were also 133 submissions for lightning talks, with 108 accepted onto the program. Furthermore, the committee formalized the roles of program chair-elect and past chair to ensure continuity from year to year.

Safiya Noble, Stephen T. Ziliak, and Wendy Martinez opened the symposium with a plenary session titled "Equitable and Inclusive Data and Technology." This session set the tone for the conference by reminding everyone of their responsibility to "shape the future" through the ethical practice of data science and statistics.

Panelist Hansi Lo Wang, an NPR national correspondent, speaks during the closing panel on the 2020 Census.

Continuing this theme, Lily Wang, Sara Del Valle, and Juan Lavista Ferres presented in the second plenary panel, "Impacts of COVID-19." They gave their perspectives on the contributions of statisticians and data scientists, lessons learned, and implications for future research.

The closing plenary session offered the opportunity for Nancy Potok, who is co-chairing the ASA's Census Quality Indicators Task Force, D'Vera Cohn from the Pew Research Center, and Hansi Lo Wang from NPR to do a deep dive into the 2020 Census.

New this year was a late-breaking session, "Recent Trends in High-Dimensional Statistics," organized by Alex Shkolnik of the University of California at Santa Barbara. There was also the opportunity to remember the significant contributions of Jim Harner, who passed away in 2020. Harner was a program co-chair for the inaugural SDSS held in 2018 and responsible for the continued success of the conference. Also new was a special session honoring the data science achieve-

SDSS Trivia Night, with a *Star Trek* theme, brings out many smiling faces.

ments of Bill Cleveland and John Tukey, many of which occurred long before the phrase 'data scientist' became popular.

SDSS 2021 hosted several networking events. The conference started off with a mixer; later, there was a mentoring session, where attendees could ask questions of mentors from various sectors. The conference ended with Trivia Night, which took on a *Star Trek* theme. All trivia participants were winners and received a prize.

Although many longed to meet in person, there were advantages to having a virtual conference, including making new connections with fellow data scientists and statisticians from as far away as Brazil and Germany and being able to watch recordings of sessions on demand until September.

Hunter and Helen Zhang arranged for a special issue of *STAT* that will showcase presentations made at SDSS 2021. It is expected to be published by the end of the year. The special issue of *STAT* for SDSS 2020 can be found at *bit.ly/3rlb0KD.*

SAVE THE DATE

SDSS 2022 will take place in Pittsburgh, Pennsylvania, June 7–10. Claire Bowen and Emily Dodwell are leading the SDSS 2022 program committee. Check out the website and start planning now: *ww2.amstat.org/meetings/sdss/2022.* ■

Invited Session Proposals Sought for JSM 2022

Ming-Hui Chen, JSM 2022 Program Chair

Ming-Hui Chen

AUGUST 6–11

JSM 2022 WASHINGTON, DC

STATISTICS: A FOUNDATION FOR INNOVATION

JSM 2022 is heading back to Washington, DC, after last being there in 2009. The meeting will be held from August 6–11 and it is expected to be the first big in-person post-COVID-19 meeting for the statistical community.

To begin planning for next year, the program committee is soliciting invited session proposals. ASA President-elect Kathy Ensor has set the theme for the 2022 meetings as "Statistics: A Foundation for Innovation." This theme emphasizes the essential role of statistics in the era of big data and data science. Session proposals relating to the theme are especially welcome.

The competition for invited session slots is expected to be intense. Preparing a strong and compelling proposal is the key for your proposal being selected. The proposal topic has to be fresh and attractive to a wide range of JSM attendees. Selecting diverse speakers with gender balance and a mix of seniority may also help. Most importantly, your proposal must be unique and extremely appealing to those members of the program committee representing your chosen sponsors.

Invited Paper and Panel Sessions

A standard invited session usually consists of 2–6 speakers and discussants who report and discuss the most interesting and significant findings in their research under a unified theme. An invited panel includes 3–6 panelists who collectively address an important topic of great current interest. JSM usually has many more standard invited sessions than panel sessions.

Once you have chosen your participants, select up to three sponsors in ranked order. A sponsor can be an ASA section, an interest group, or an affiliated society (i.e., IMS, ENAR, WNAR, SSC, KISS, ICSA, IISA, ISBA, RSS, ISI, CAS, CWS).

When you submit a proposal, you will need to provide a title, general description of the session, and a list of speakers with their affiliations and the tentative titles of their talks, which can be revised later. Abstracts are not required, as these will be submitted by the speakers at a later date. Again, the more detail you provide, the more competitive your proposal will be.

Due to the limited number of sessions and increasing attendance, many strong invited session proposals will not be selected. If your proposal is not selected, you may consider revising it for a topic-contributed session.

Memorial Sessions

There are five open slots for memorial sessions at JSM 2022. One strategy to maximize your chance of obtaining an invited memorial session is to first submit your proposal as a regular invited session. You may pick "memorial session" as the sponsor. But also pick sections as sponsors. If one of the sections picks up your proposal as one of its guaranteed sessions, then you are done. If not, your proposal might still be selected in the open competition for invited sessions. If that fails, your 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 September, decisions about memorial sessions will be made 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 2022. Send your idea (or the poster itself) to JSM 2022 Poster Chair Gyuhyeong Goh of Kansas State University at *ggoh@ksu.edu*.

Introductory Overview Lectures

Introductory Overview Lecture (IOL) topics are selected because of their potential to enrich the future directions of statistical theory and practice through broader dissemination. For 2022, we want 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 can also present an invited or contributed paper, panel, or poster. Email JSM 2022 Program Chair Ming-Hui Chen at *ming-hui.chen@uconn.edu* with suggestions for topics and speakers. ■

Dates and Details

Invited session proposals may be submitted through the JSM online system at *ww2.amstat.org/jsminvited* until September 8 at 11:59 p.m. ET. Decisions about the invited program will be made by the end of September.

Check out the complete list of JSM 2022 Program Committee members at *ww2.amstat.org/meetings/jsm/2022/programcommittee.cfm.*

JOIN THE
JSM DC
CONVERSATION!

Follow @AmstatNews and use #JSM2022!

ASA 2021

Data Visualization Poster and Statistics Project Competitions

WINNERS

The American Statistical Association is pleased to announce the winners of the 2021 ASA Data Visualization Poster Competition and Statistics Project Competition.

First-place winners receive $300, a certificate, and grade-appropriate graphing calculators for themselves and their advisers provided by Texas Instruments. Second-place winners receive $200 and a certificate; third-place winners receive $100 and a certificate; and honorable mentions receive certificates.

The poster and project competitions are directed by the ASA/NCTM Joint Committee on Curriculum in Statistics and Probability. The 2021 ASA Data Visualization Poster Competition leader is Jennifer Broatch of Arizona State University. Michelle Larson of the University of Iowa is the head project competition leader.

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

Visit *www.amstat.org/education/posterprojects* for details, including previous winners, entry forms, instructional webinars, and the rubrics used for judging the posters and projects.

2021 Regional Poster Competition Leaders

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

Connecticut Chapter Statistical Poster Competition

Zhou Fan, Yale University
bit.ly/CTChapterASA

Kansas/Western Missouri Statistics Poster Contest

Ananda Jayawardhana, Pittsburg State University
bit.ly/PittStatePosterComp

Michigan Statistics Poster Competition

Dan Adrian, Grand Valley State University
https://bit.ly/2Nf6ZC6

Nevada K–12 Statistics Poster Competition

Alicia Hansen, Past President, Nevada Chapter of the ASA
http://bit.ly/2YpQGLW

Ohio Data Visualization Poster Competition

Jerry Moreno, John Carroll University
bit.ly/OHPosterComp

Pennsylvania Statistics Poster Competition

Pete Skoner, Saint Francis University Science Outreach Center
https://bit.ly/2Lh0RJb

Pullman, Washington Statistics Poster Competition

Dean Johnson, Washington State University
dean_johnson@wsu.edu

Southern California Statistics Data Visualization Poster Competition

Rebecca Le, County of Riverside California State University, Long Beach
https://bit.ly/3hFjRUi

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

Elizabeth Petraglia, Westat
https://bit.ly/2LbGIHw

ASA National Data Visualization Poster Competition

Leader: Jennifer Broatch, Arizona State University

Contact: Rebecca Nichols, ASA Director of Education, *rebecca@amstat.org*
https://bit.ly/2LbGIHw

GET INVOLVED

For information about how you can start a regional poster competition or mentor students in your area, see the article appearing in the July 2011 issue of *Amstat News* at *https://bit.ly/2NN6TCZ.*

You can download a flier about the ASA poster and project competitions and other K–12 statistics education programs and resources to share with your local schools at *https://bit.ly/2zCC9S4.*

For additional information or questions regarding how to get involved in the poster or project competitions, contact ASA Director of Education Rebecca Nichols at *rebecca@amstat.org.*

About the 2021 National Project Competition

Each year, the Statistics Project Competition attracts a wide variety of submissions from students in grades 7–12 who have completed creative studies. The submission deadline for the project competition is June 1 to enable participation from high-school students who may be preparing for the AP Statistics exam administered in mid-May. The competition is especially useful for these students because it provides them with opportunities to apply the statistical skills they have acquired throughout the school year to solve real-world problems of interest to them. Results of the project competition, as well as a list of the judges, can be found in the online version of *Amstat News* at *http://magazine.amstat.org*.

Grades K–3

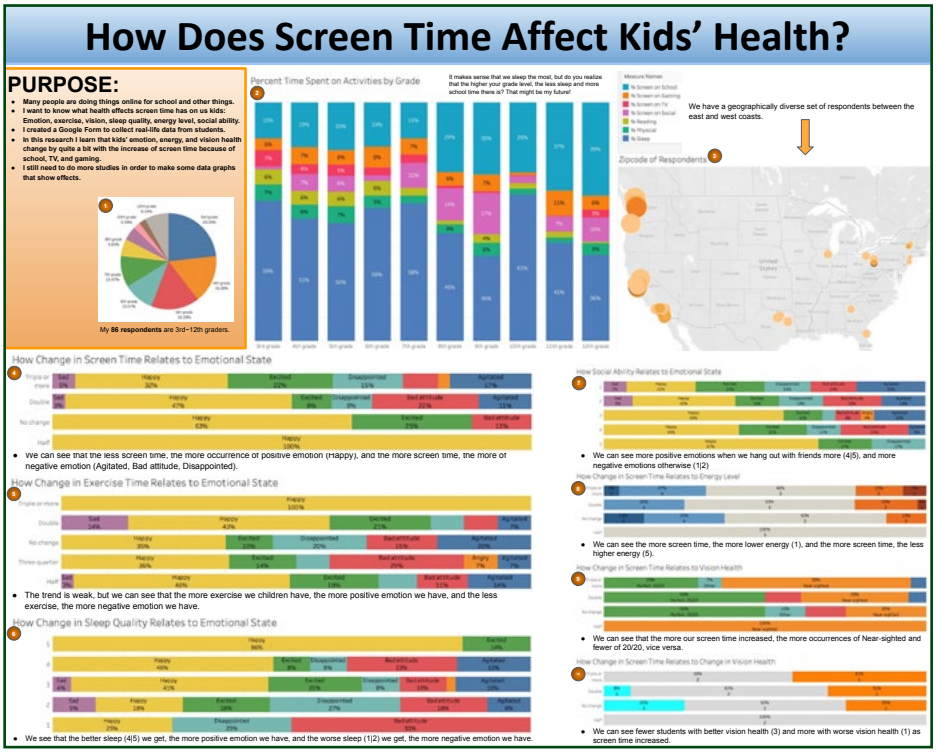
FIRST PLACE

Jun-Hur Erian Cheng

How Does Screen Time Affect Kids' Health?

Data Scientist Jr. Program

Pittsburgh, Pennsylvania



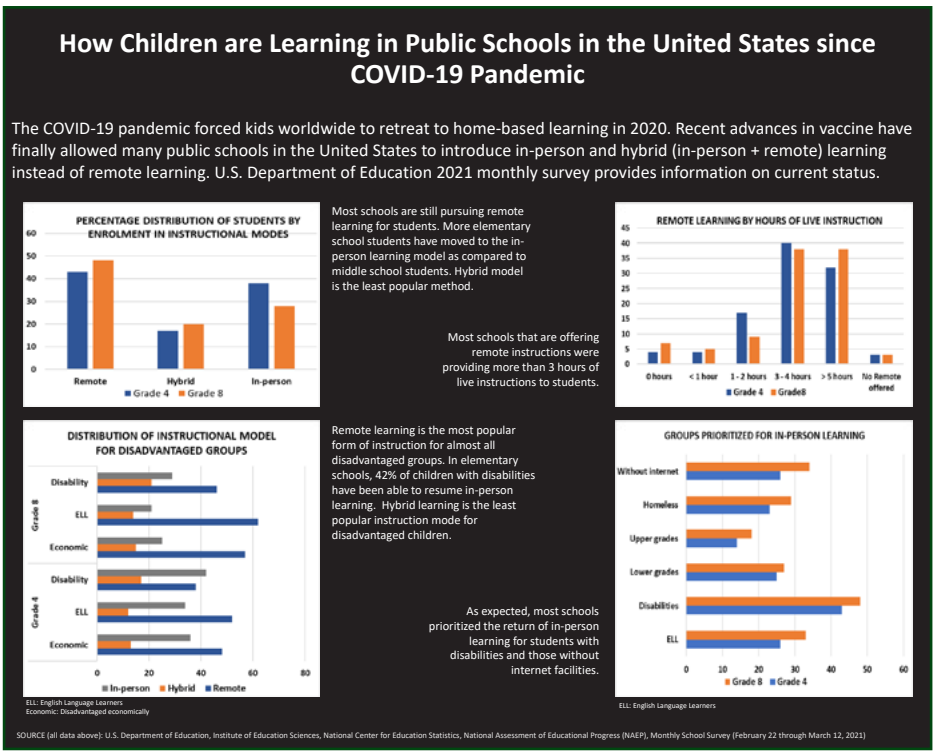
SECOND PLACE

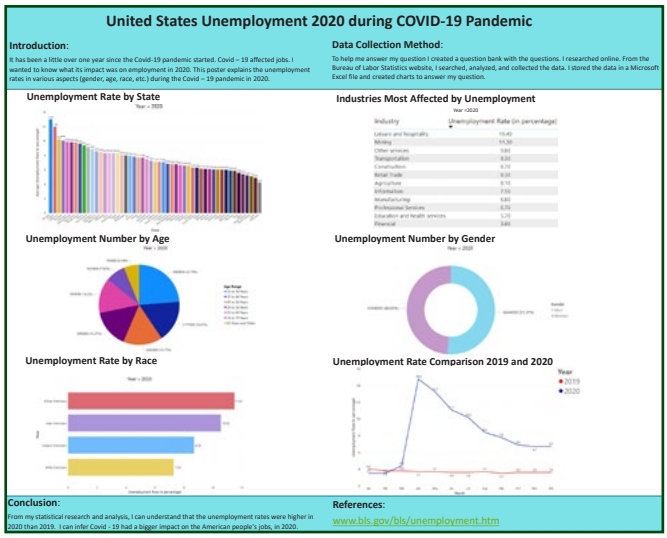
Anjalika Mukherjee

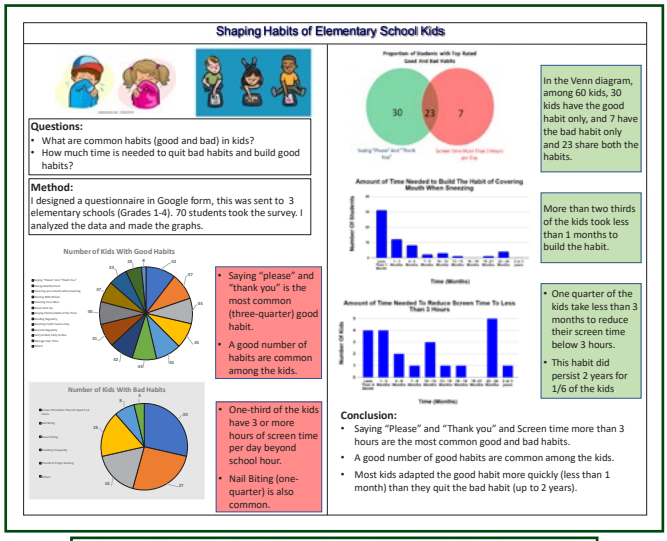
How Children Are Learning in Public Schools in the United States Since COVID-19 Pandemic

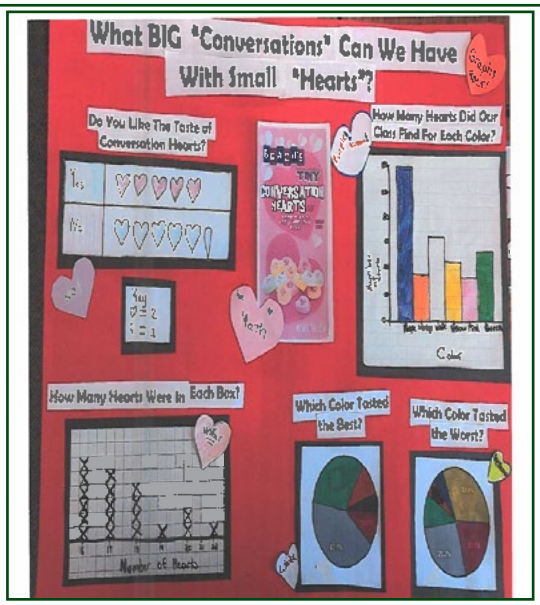
Cougar Ridge Elementary

Bellevue, Washington









THIRD PLACE

Shriya Madhavan

United States Unemployment 2020 During COVID-19 Pandemic

STEM School Highlands Ranch

Highlands Ranch, Colorado

HONORABLE MENTION

Mubashwir Ariyan

Shaping Habits of Elementary School Kids

Dorothy C Goodwin School

Mansfield, Connecticut

HONORABLE MENTION

Dr. Petrick's Third-Grade Class

What BIG 'Conversations' Can We Have with Small 'Hearts?'

Timmons Elementary School

Chagrin Falls, Ohio

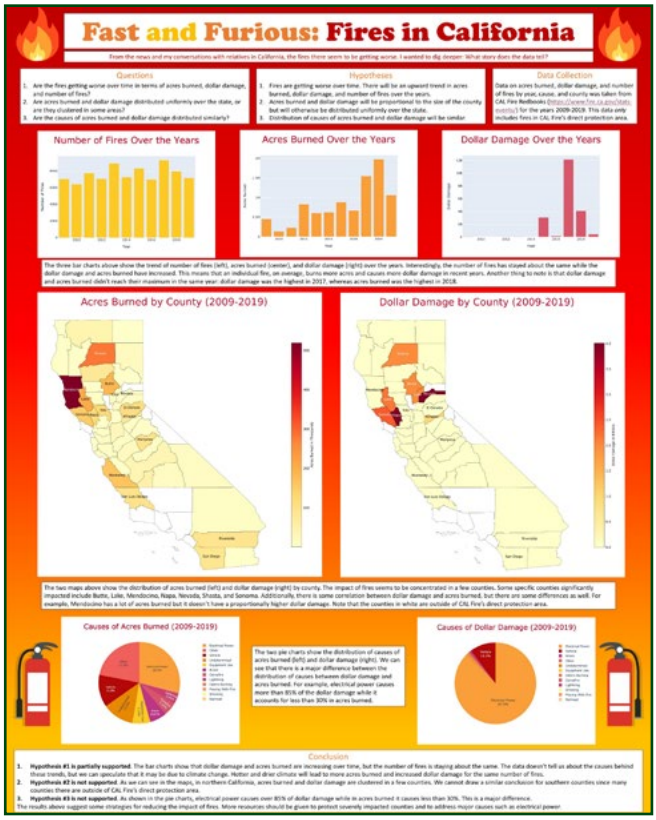
Grades 4–6

FIRST PLACE

Paavani Tewari

Fast and Furious: Fires in California

Clague Middle School
Ann Arbor, Michigan

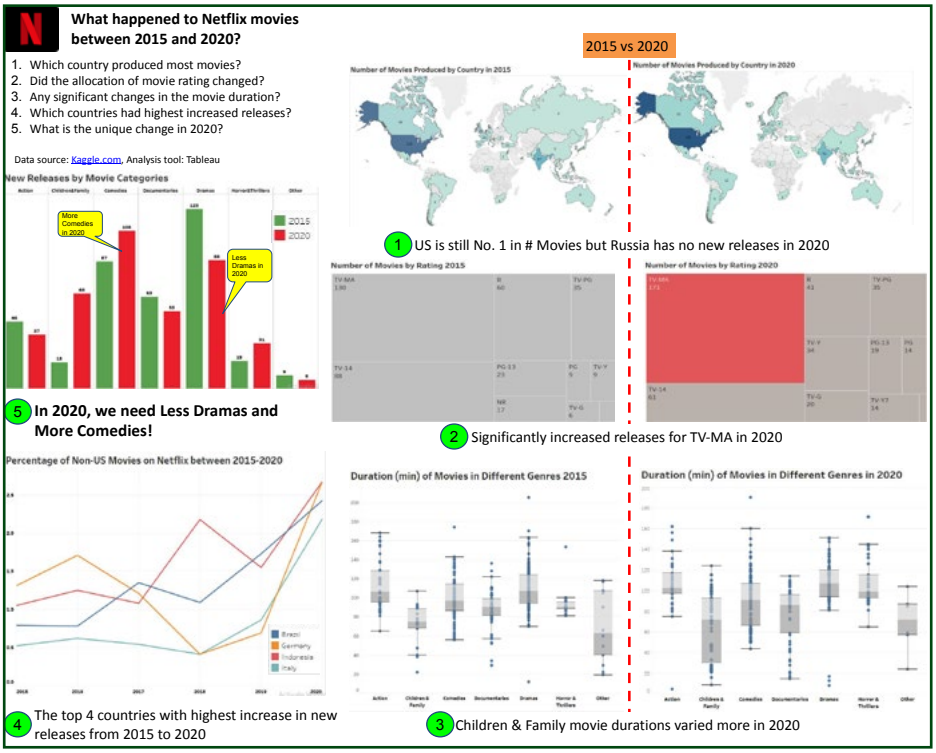


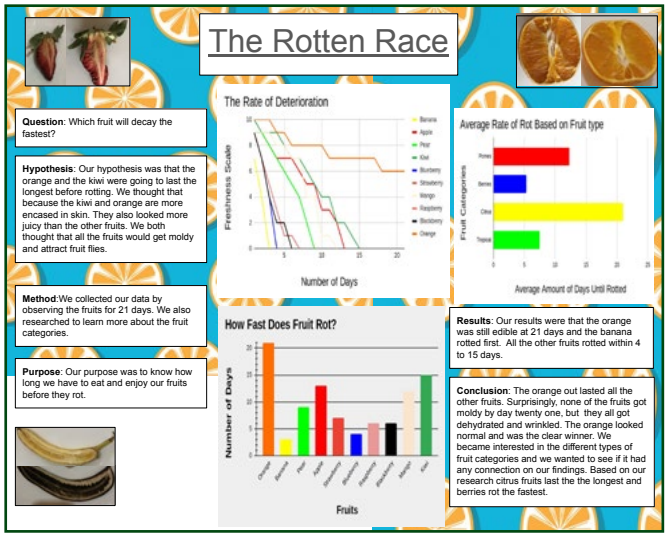
SECOND PLACE

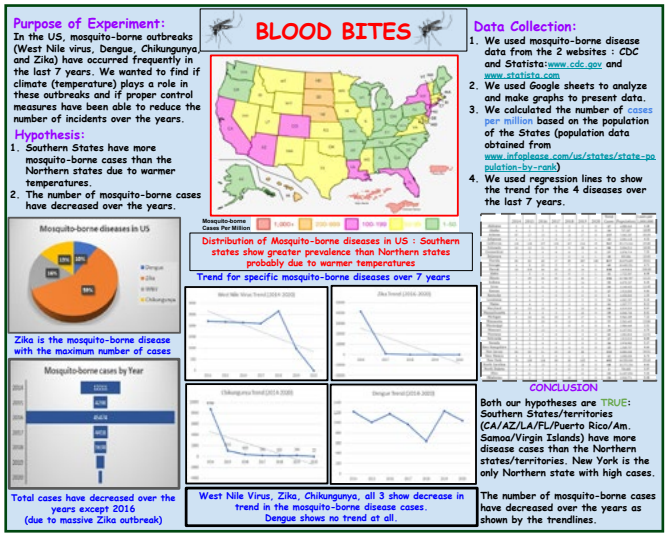
Joshua Bie

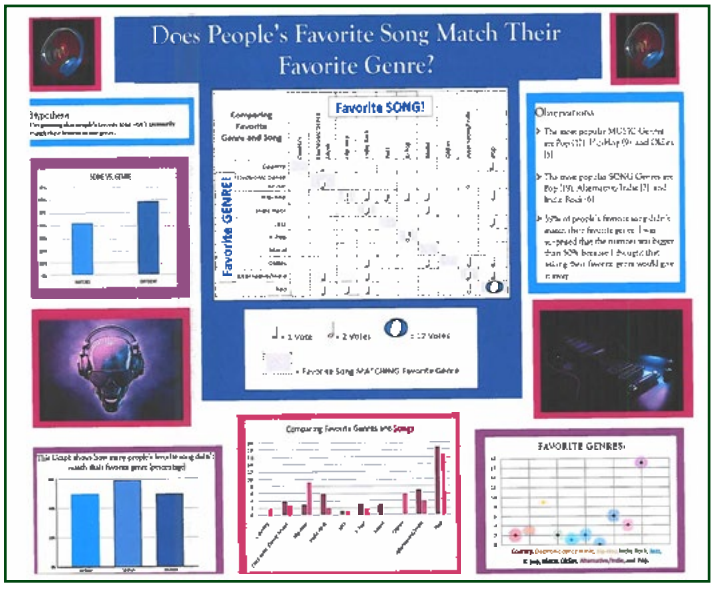
What Happened to Netflix Movies Between 2015 and 2020?

Data Scientist Jr.
Agoura Hills, California









THIRD PLACE

Carter Shannon and Connor Shannon
The Rotten Race
Rydal Elementary School
Huntingdon Valley, Pennsylvania

HONORABLE MENTION

Aarush Bagchi, Samarth Agrawal, Ashriya Kshirsagar, and Ishaan Mondal
Blood Bites
Country Meadows Elementary School
Long Grove, Illinois

HONORABLE MENTION

Michelle Harrow
Does People's Favorite Song Match Their Favorite Genre?
Hawken School
Lyndhurst, Ohio

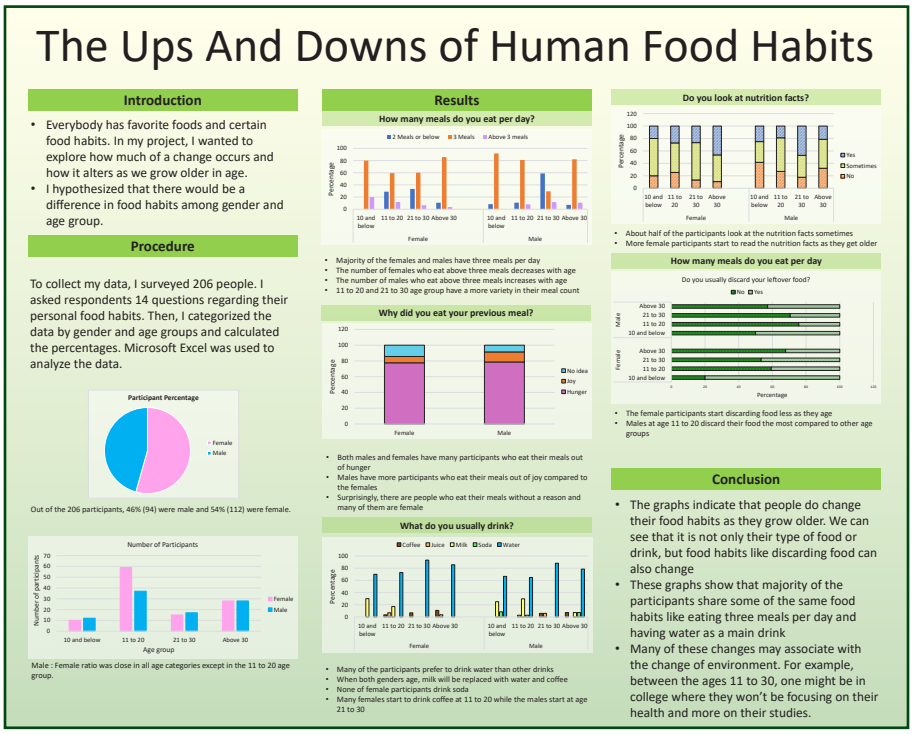
Grades 7–9

FIRST PLACE

Dinithi Senevirathna

The Ups and Downs of Human Food Habits

George S. Mickelson Middle School
Brookings, South Dakota

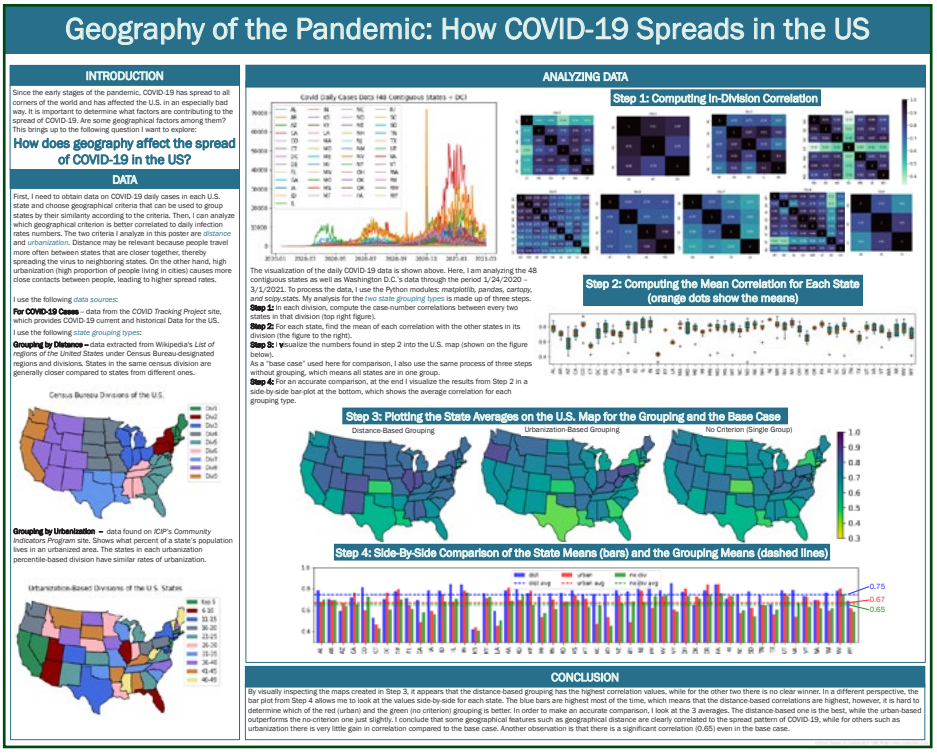


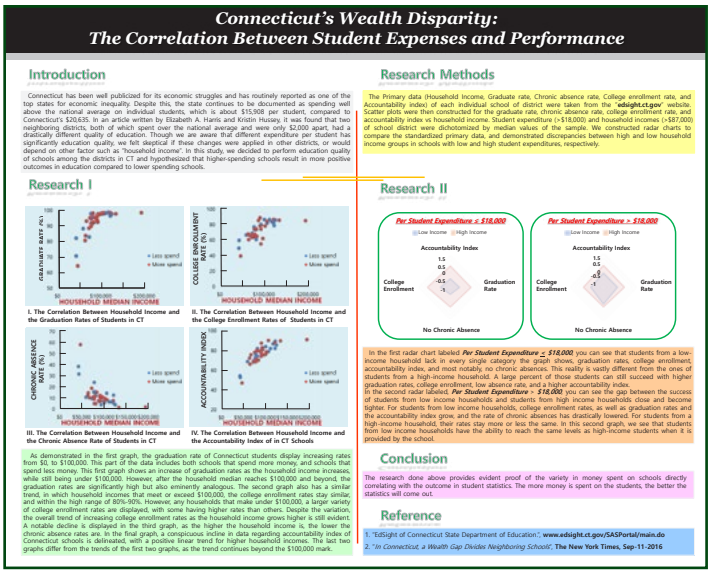
SECOND PLACE

Victoria Djidjev

Geography of the Pandemic: How COVID-19 Spreads in the US

Sandcreek Middle School
Ammon, Idaho





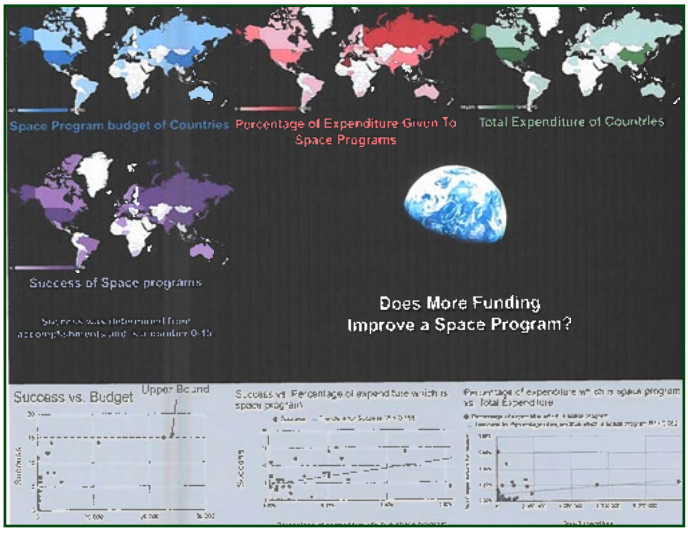
THIRD PLACE

Kate Soo Hyun Kim and Claire Jeon

Connecticut's Wealth Disparity: The Correlation Between Student Expenses and Performance

James Hill House High School/ Cheshire High School

New Haven/Cheshire, Connecticut



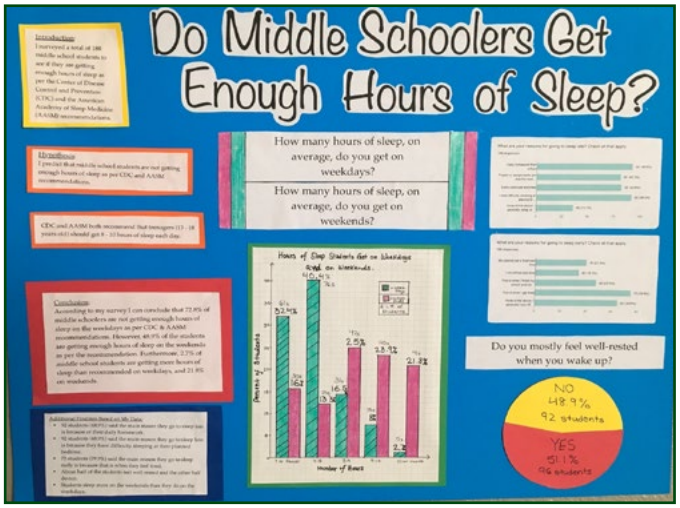
HONORABLE MENTION

Tolga Cavusolglu and Chengyuan Zhang

Does More Funding Improve a Space Program?

Hawken School

Lyndhurst, Ohio



HONORABLE MENTION

Sara Gupta

Do Middle Schoolers Get Enough Hours of Sleep?

Northern Hills Middle School

Grand Rapids, Michigan

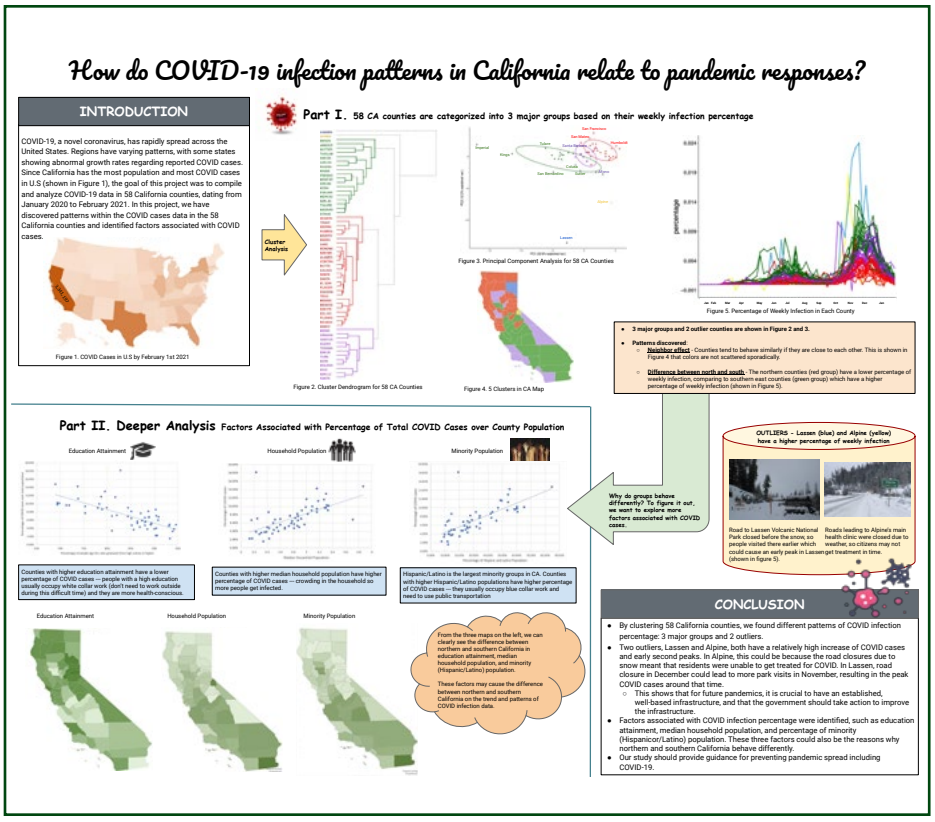
Grades 10–12

FIRST PLACE

Binze Li, Jiaqi Yu, Aurora Wu, and Jeslyn Gao

How Do COVID Infection Patterns in California Relate to Pandemic Responses?

Next-Gen Intelligent Science Training
Ann Arbor, Michigan

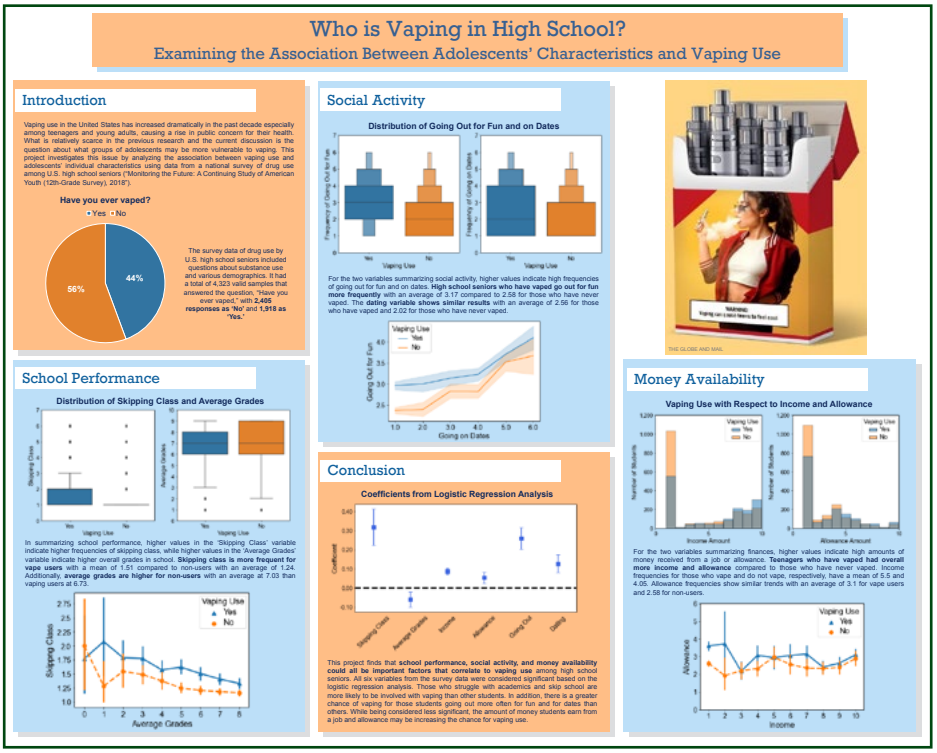


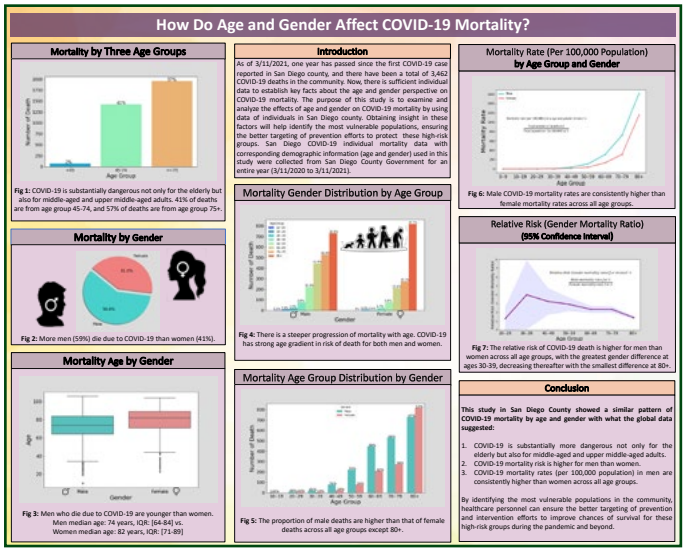
SECOND PLACE

Ava Chae

Who Is Vaping in High School?

Manhattan High School
Manhattan, Kansas





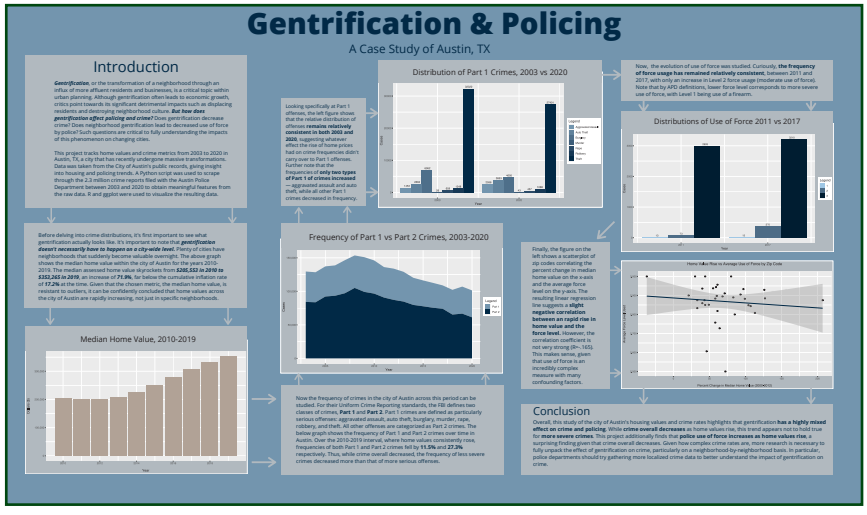
THIRD PLACE

Sarah Dong

How Do Age and Gender Affect COVID-19 Mortality?

Westview High School

San Diego, California



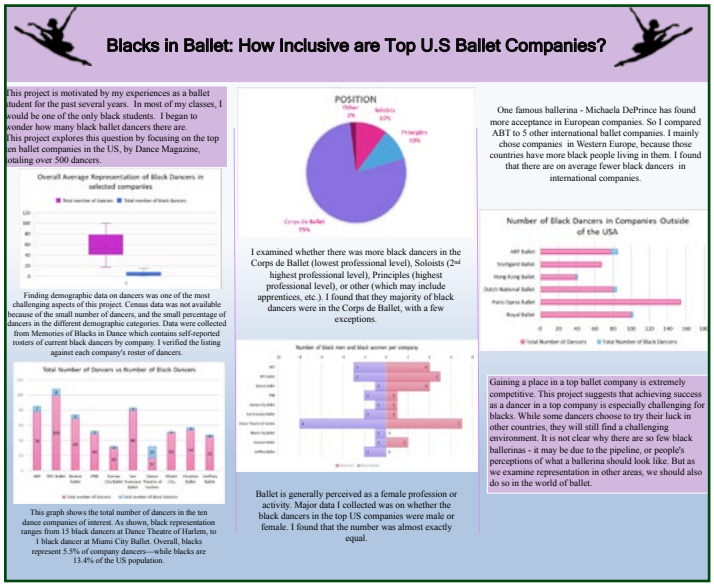
HONORABLE MENTION

Jeffrey Pan

Gentrification & Policing: A Case Study of Austin, TX

Phillips Academy

Andover, Massachusetts



HONORABLE MENTION

Nina Ganeshan

Blacks in Ballet: How Inclusive Are Top US Ballet Companies

Lafayette High School

Williamsburg, Virginia

The Department of Statistics at Florida State University recently announced **Susan Murphy**—professor of statistics at Harvard University, Radcliffe Alumnae Professor at the Harvard University Radcliffe Institute, and professor of computer science at the Harvard John A. Paulson School of Engineering and Applied Sciences—as the 2021 speaker for the Myles Hollander Distinguished Lecture.

Susan Murphy

Murphy will present "We Used a Bandit Algorithm to Personalize but Did It Work?" September 24. Murphy's lab works on clinical trial designs and online learning algorithms in sequential decision-making, particularly in the area of digital health. She developed the micro-randomized trial for use in constructing mobile health interventions, which is in use across a broad range of health-related areas. She is a 2013 MacArthur Fellow, a member of the National Academy of Sciences and National Academy of Medicine, both of the US National Academies. She is a past president of the Institute of Mathematical Statistics and Bernoulli Society and a former editor of the *Annals of Statistics*. She is a prior recipient of the R. A. Fisher Award from the Committee of Presidents of Statistical Societies and the Guy Medal in Silver from the Royal Statistical Society. For more information and to register for the virtual talk, visit *stat.fsu.edu/HollanderLecture*.

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

Bin Yu of the University of California, Berkeley has been awarded an honorary doctorate from the University of Lausanne (UNIL) Faculty of Business and Economics in Switzerland. She was honored for being one of the most influential researchers of her time in statistics and data science, for the excellence and impact of her work, and for her major contributions to the development and advancement of machine learning.

Bin was interviewed by journalist Nathalie Randin, with an introduction by Dean Jean-Philippe Bonardi of UNIL, in French (*bit.ly/3wEZBpX*). An English translation is available at *bit.ly/3rcif7u*. Visit the UNIL website at *bit.ly/36Cw3yV* to read more about the award. ■

Obituary

John Leroy Folks

John Leroy Folks, a longtime ASA member, passed away May 30, 2021.

Leroy was born October 12, 1929, to Homer Caesar and May Theo Folks in Hydro, Oklahoma, and raised on a farm. He started his education in a two-room school. From a young age, he demonstrated exceptional academic skills. Prior to enrolling at Oklahoma A&M, he served with the 45th Infantry Division, 158th Field Artillery Battalion, in Japan and Korea as operations chief. After his service, he earned his bachelor's and master's degrees in mathematics with an emphasis on statistics and was a member of the Delta Tau Delta fraternity. He later earned his PhD in statistics from Iowa State University.

While at Iowa State, Leroy met the love of his life, Sue Folks, on a Sunday evening at The Roger Williams Club at First Baptist Church. One year later, they married in Sue's hometown of Mansfield, Arkansas. They moved to Richardson, Texas, where he worked at Texas Instruments for several years.

In 1961, Leroy and Sue moved to Stillwater, Oklahoma, where he began his career at Oklahoma State University as an associate professor in the mathematics department. He served as chair of the statistics department for 25 years and was named a Regents Service Professor, retiring in 1998.

Leroy is a life fellow of the ASA, International Statistical Association, and Royal Statistical Society. Read more about his life and career at *legcy.co/3erzooB*.

Biometrics

The Biometrics Section will sponsor the following events at JSM 2021:

Biometrics Section Mixer
Monday, August 9, from 6:30 – 7:30 p.m. EDT via Zoom:
bit.ly/3kxgbFW

During the mixer, we will present the student award winners and inaugural Annie T. Randall Innovator Award. If anyone is interested in volunteering for the section or has any suggestions for other section activities, grab a favorite beverage and drop by.

Invited Sessions

Advances in Longitudinal Methods in Research on Aging and Dementia from the MEthods for LOngitudinal Studies of DEMentia (MELODEM) Initiative
Organizer and Chair: Michelle Shardell, University of Maryland School of Medicine
https://bit.ly/3rhZFec

Novel Methodology for the Analysis of Physical Activity Data Measured by Accelerometers
Organizer and Chair: Erjia Cui, Johns Hopkins Bloomberg School of Public Health
https://bit.ly/3BhXImB

COVID-19 Vaccine Statistics: A Reflection on a Year at Warp Speed
Organizer and Chair: David Benkeser, Emory University
https://bit.ly/2TiPXf4

Surrogate Markers and the Role of Mediation Analysis in Drug Development
Organizer and Chair: Peng Wei, The University of Texas MD Anderson Cancer Center
https://bit.ly/3rihfyK

Recent Statistical Advances for Mobile Health
Organizer: Walter Dempsey, University of Michigan
Chair: Tianchen Qian, University of California, Irvine
https://bit.ly/2TnyySE

Design Considerations for COVID-19 Prevention Studies
Organizer: Sahar Z. Zangeneh, Fred Hutchinson Cancer Research Center
Chair: Holly Janes, Fred Hutchinson Cancer Research Center
https://bit.ly/3rmgdlC

Topic-Contributed Sessions

Recent Advances in Causal Analyses That Tell the Story of Complex Mediation Mechanisms
Organizer and Chair: Xu Qin, University of Pittsburgh
https://bit.ly/3ew49ss

Academics Industry Perspectives on Cancer Data Innovations: Simultaneous Inference, Inconsistency, and Clinical Response
Organizer and Chair: Arnab Kumar Maity, Pfizer
https://bit.ly/3kyMJ2s

Causal Inference When Resources Are Limited
Organizer and Chair: Mats J. Stensrud, École polytechnique fédérale de Lausanne
https://bit.ly/3BixOPW

Advances in Analytic Methods and Novel Applications of the Use of Synthetic Control for Causal Estimation of Effects of Therapeutic Interventions
Organizer: Margaret Gamalo, Pfizer
https://bit.ly/3z4ntVM

New Developments in Integrated Analysis of Complex Data from Multiple Sources
Organizer: Xiaofei Wang, Duke University
Chair: Herbert Pang, Genentech
https://bit.ly/3kyYeXq

Biometrics Section Byar Award Student Paper Session I
Organizer: Chao-Kang Jason Liang, National Institute of Allergy and Infectious Diseases
https://bit.ly/36NdB6w

Novel Approaches for Handling Complex Data in Treatment Diagnosis and Evaluation
Organizer: Thaddeus Tarpey, New York University
Chair: Hyung Park, New York University
https://bit.ly/3wR4b4L

Modern Statistical Learning Methods for High-Dimensional Biomedical Data: Treatment Heterogeneity and Data Integration
Organizer and Chair: Lu Xia, University of Washington, Seattle
https://bit.ly/3BhqR1s ■

MORE ONLINE
Check the online program at *bit.ly/3isA12m* for details.

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

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

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

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

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

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

Westat

Improving Lives Through Research®

Statistical Career Opportunities

Westat is an employee-owned corporation headquartered in Rockville, Maryland. We provide statistical consulting and survey research to the agencies of the U.S. Government and to a broad range of business and institutional clients. With a strong technical and managerial staff and a long record of quality research, Westat is a leader in the statistical services field.

We are currently recruiting for the following position:

Senior Survey Sampling Statistician This position requires a master's degree or Ph.D. in statistics with coursework in survey sampling or a master's or Ph.D. in survey sampling. A Master's degree or Ph.D. in Statistics with course work in survey sampling or a Masters or Ph.D. in Survey Sampling. Candidates with a master's must have at least 15 years of experience in sample survey design, selection or weighting. Candidates with a Ph.D. must have at least 12 years of experience in sample survey design, selection or weighting. Candidates would benefit from knowing SAS, R and other statistical software packages although candidates are not required to do programming.

Westat is an Equal Opportunity Employer and does not discriminate on the basis of race, creed, color, religion, sex, age, national origin, veteran status, disability, marital status, sexual orientation, citizen status, genetic information, gender identity, or any other protected status under applicable law. To apply, go to **www.westat.com/careers**.

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An Employee-Owned Research Corporation®

EOE

Arizona

■ A.T. Still University is seeking a senior biostatistician to join our Research Support team. The senior biostatistician will prepare research designs and statistical analysis plans and perform and interpret complex analyses. A PhD is required, or a master's degree in biostatistics or a related field. Please visit *atsu.edu/atsu-1712* for more information and to apply. EOE.

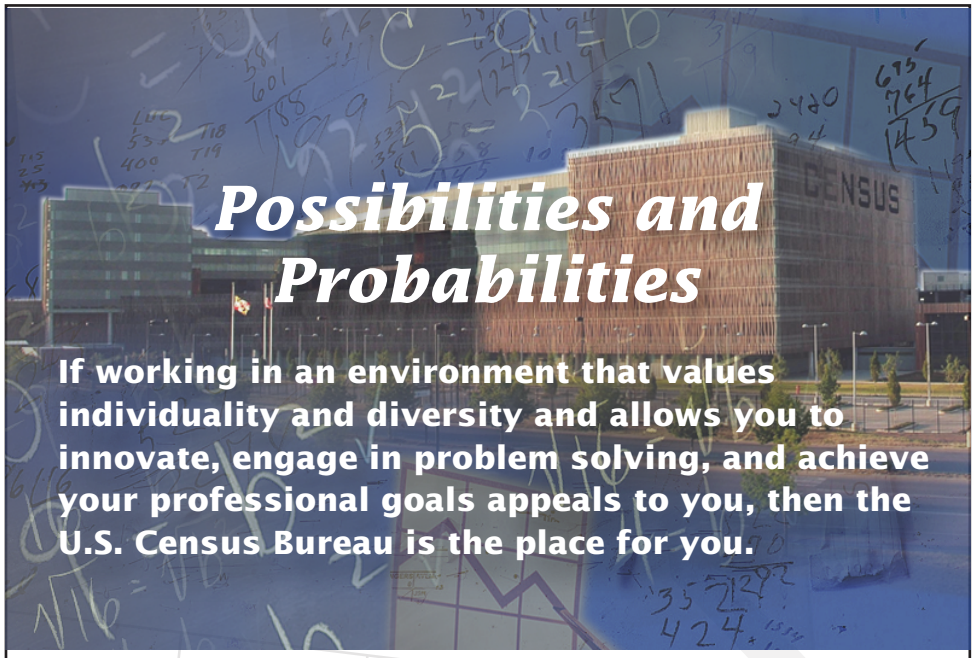
Florida

■ UF Health Science colleges are recruiting Assistant, Associate or Full Professor faculty in Artificial Intelligence (AI) in health sciences with up to two in the Department of Biostatistics, administered by College of Medicine and College of Public Health and Health Professions. Qualifications include a doctoral degree in health science, engineering, or related disciplines. Application review will begin immediately. Please apply Job No. 70950 at *https://facultyjobs.hr.ufl.edu* EOE.

■ The University of South Florida Health Informatics Institute invites applications for an associate or full professor in biostatistics with application to rare diseases and diabetes. The Institute is an NIH-funded statistics and data coordinating center for several large clinical research networks (*www.hii.usf.edu*). Preferred areas of interest include longitudinal data analysis, clinical trials, and big data. University benefits package, EOE. Apply to position #26797 at *Careers@USF.edu*.

Oklahoma

■ Department of Biostatistics and Epidemiology, University of Oklahoma Health Sciences Center (OUHSC), is recruiting a tenure-track associate/full professor and a research-track assistant professor of biostatistics. PhD in biostatistics or related field and collaborative research experience required. Attach letter of interest, CV, names of three references: Kai Ding, PhD (*kai-ding@ouhsc.edu*). OUHSC is an EOE institution. Individuals with disabilities and protected veterans are encouraged to apply.



Your Work as a Mathematical Statistician at the Census Bureau

- Design sample surveys and analyze the data collected.
- Design and analyze experiments to improve survey questionnaires and interview procedures.
- Improve statistical methods for modeling and adjustment of seasonal time series.
- Perform research on statistical methodology that will improve the quality and value of the data collected.
- Publish research papers and technical documentation of your work.

Requirements

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

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

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

United States Census Bureau

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

Texas

■ Lecturer position in the new Master of Engineering Management & Leadership (MEML) degree program at the Rice Center for Engineering Leadership (*www.rcelconnect.org*). The mission of RCEL is to produce a generation of ethical-technical leaders in engineering and technology. To apply, please see *https://apply.interfolio.com/88542*. Applications will be reviewed on a rolling basis, with start dates as early as fall 2021. EOE

Virginia

■ The GMU Department of Statistics invites applications for renewable-term, non-tenure-track positions beginning Fall 2021. For the complete position description, or to apply, go to *https://jobs.gmu.edu/postings/50495*. Be sure to use the position number F264Az. The review of applications will continue until the positions are filled. EOE. ■

AMSTATNEWS

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professional opportunities

US Census Bureau ..... p. 47
Westat ..... p. 46

software

JMP software from SAS ..... cover 4
StataCorp ..... cover 2

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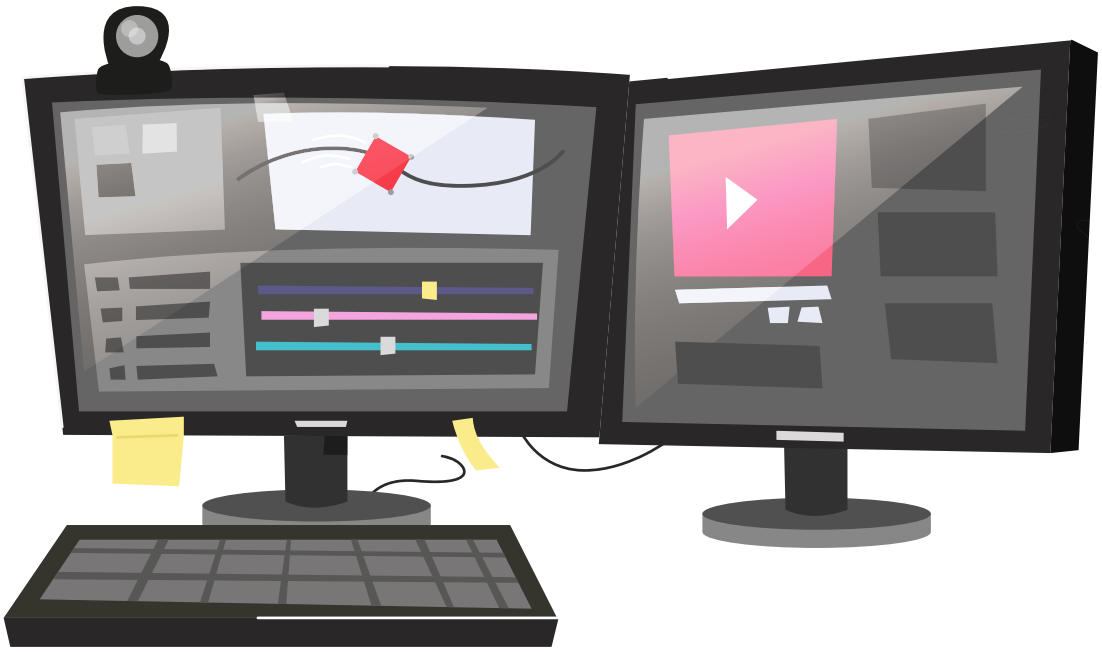
If statisticians were an animated character, which one would they be?

Caleb King • @ckingstats
Uncle Iroh from #AvatarTheLastAirbender. A wise and trusted friend who always looks out for your best interests, but can also surprise you from time to time.

The Science of Uncertainty • @PARITSURESH
#Loki - God of Mischief

Rebecca Hubbard • @RhubbBstat
Lisa Simpson. I don't see any tigers around here, do you? *youtu.be/wnBMwPcRbVE*

Kel Zou
Statistical Snoopy



NEXT MONTH:

What was your first job, and how did it prepare you for a career in statistics?

ASA GIVING DAY

October 8, 2021

SAVE THE DATE

See the impact you can have through a donation on ASA Giving Day and leave a message about who inspires you at *ww2.amstat.org/givingday*.

Plus, participate in the Chapter and University challenges and Donate and Share, Early Bird, and Afternoon Energizer contests.

Tweet, tag, and share #ASAGivingDay!

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Author, *Dark Data*

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Statistician, W. L. Gore

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Steve King

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