

January 2020 • Issue #511

AMSTATNEWS

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

20

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ADVOCACY**

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Executive Director

Ron Wasserstein: ron@amstat.org

Associate Executive Director and Director of Operations

Stephen Porzio: steve@amstat.org

Senior Advisor for Statistics Communication and Media Innovation

Regina Nuzzo: regina@amstat.org

Director of Science Policy

Steve Pierson: pierson@amstat.org

Director of Strategic Initiatives and Outreach

Donna LaLonde: donna@amstat.org

Director of Education

Rebecca Nichols: rebecca@amstat.org

Managing Editor

Megan Murphy: megan@amstat.org

Editor and Content Strategist

Val Nirala: val@amstat.org

Production Coordinators/Graphic Designers

Olivia Brown: olivia@amstat.org

Megan Ruyle: meg@amstat.org

Advertising Manager

Claudine Donovan: claudine@amstat.org

Contributing Staff Members

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

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American Statistical Association
732 North Washington Street
Alexandria, VA 22314-1943 USA
(703) 684-1221

ASA GENERAL: asainfo@amstat.org

ADDRESS CHANGES: addresschange@amstat.org

AMSTAT EDITORIAL: amstat@amstat.org

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

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Twelve Years of ASA Science Policy: Highlighting the Scope and Breadth

This column is written to inform ASA members about what the ASA is doing to promote the inclusion of statistics in policymaking and the funding of statistics research. To suggest science policy topics for the ASA to address, contact ASA Director of Science Policy Steve Pierson at pierson@amstat.org.

- 22 **STATS4GOOD**
Data for Good: The Year in Review

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

- 24 **STATtr@k**
What Supports the Big Tent for Statistics and Data Science?

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



ASA Day Contest Winners

History Quiz Contest

Question 1: What library is used to archive ASA historical materials?

Answer: Iowa State University Parks Library

Winner: Karl Broman

Question 2: What ASA president served as president (chancellor) of the University of Rochester and served as an adviser to US presidents Dwight Eisenhower, Richard Nixon, Gerald Ford, and Ronald Reagan?

Answer: W. Allen Wallis

Winner: Steve Wang

Haiku Contest

Student Entry First Place: Doha Akad

As a bird far flies

As stars are above the skies

Statistics applies

Non-Student Entry First Place: Larry Lesser*

So much more than math

ASA illuminates

like Nightingale's lamp

Non-Student Entry Second Place (Tie): Anne Milley

Many shades of gray

Statistics leads the way to

understand much more

Non-Student Entry Second Place (Tie): Barry Nussbaum

One eighty years old

Helping a profession grow

ASA still bold

**Larry Lesser has previously published statistics poetry (e.g., April 2018 Amstat News) and has several more statistics poems (including a haiku) in this month's issue of Journal of Humanistic Mathematics.*

departments

29 meetings

ASA to Cosponsor AI in Clinical Drug Development Symposium in May



Winston Richards (left) awards the Winston A. Richards Prize in Statistics to Ariel Stewart. Ariel had the best II and III performance in statistics. [Page 33](#)

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Take Advantage of the ASA's Data Challenge Opportunities

One might expect the first column of an ASA president to describe the ASA initiatives for the coming year. I am going to deviate from this practice and write about our initiatives in the February issue of *Amstat News*. Instead, I will focus on ASA data challenge opportunities in this first article.

Many readers might be familiar with the Kaggle competitions (www.kaggle.com/competitions), the KDD Cup (www.kdd.org/kdd-cup), and—of course—the famous \$1 million Netflix prize (www.netflixprize.com). However, did you know the ASA has a history of issuing data challenges that pre-date all of these? The Statistical Computing and Statistical Graphics sections have held a Data Exposition competition with entries being presented and judged at the Joint Statistical Meetings (<https://bit.ly/2RKVCrP>) since 1983. Some of these data sets (such as the airline on-time performance data from Data Expo 2009) continue to be used to demonstrate and teach statistical machine learning concepts, which illustrates the importance and impact of these challenges.

The ASA also has an annual Fall Data Challenge for high-school and college students hosted at <https://thisisstatistics.org>. This challenge typically focuses on a call to address real problems affecting our society. For example, the 2019 Fall Data Challenge used data from the US Department of Housing and Urban Development (HUD) relating to Los Angeles, New York City, and Seattle. There is also a spring competition—Statsketball—to keep the excitement going throughout the school year. This contest uses statistics to make predictions about the NCAA Basketball Tournament.

Then there is the Statistical Impact Competition (<https://bit.ly/2rCay0b>), which was part of 2019 ASA President Karen Kafadar's impact initiative and JSM theme—Statistics: Making an Impact. The goal of this challenge was to use data to illustrate areas that have been and could be impacted by the field of statistics. Submissions for the competition have been received and will form the foundation of an Innovation Workshop to be held



ThisIsStatistics has an annual Fall Data Challenge for high-school and college students and a spring competition, Statsketball, which uses statistics to make predictions about the NCAA Basketball Tournament.

in the spring of 2020. Participants at the workshop will share ideas, which will result in transdisciplinary collaborations impacting our world.

Another data challenge opportunity will be announced in mid-January. This challenge will be issued as part of the Women in Data Science (WiDS) Conference being held March 2. The WiDS conference is a global event during which data scientists from around the world come together virtually and locally to inspire data scientists, regardless of gender (www.widsconference.org). Regional events can be organized, and there has been one in the DC-MD-VA area for the past several years. We are issuing a data challenge as part of the WiDS 2020 DC-MD-VA regional event, but we are still working on what data set will be used. The plan is to issue the challenge in January, and contestants will present results at the DC-MD-VA WiDS 2020. So, stay tuned to ASA communication channels for details and think about organizing a WiDS event in your region!

Now, back to the longtime data challenges held at the Joint Statistical Meetings, because now is



Wendy Martinez

Three ASA sections work together to sponsor a now annual Data Challenge Expo at JSM. The contest is open to anyone and challenges participants to analyze a data set using statistical and visualization tools and methods.

the time to consider entering. Three ASA sections (Computing, Government, and Graphics) came together to sponsor a now-annual Data Challenge Expo. The contest is open to anyone who is interested in participating, including college students and professionals from the private or public sector. This contest challenges participants to analyze a data set using statistical and visualization tools and methods.

The data set for the Data Challenge Expo 2020 is the Global Historical Climatology Network (GHCN). Public use data files and documentation are available at <https://bit.ly/2P7rAME>. Contestants must use some portion of the GHCN data, but are strongly encouraged to combine other data sources in their analysis such as IPUMS (<https://ipums.org>), NASA's EarthData (<https://earthdata.nasa.gov>), the European Data Portal (<https://data.europa.eu>), or the National Agricultural Statistics Service (<https://bit.ly/2LDPCww>).

There are two GHCN data sets containing climate data from land surface stations placed around the world and ranging in time from 175 years ago to the past hour. One data set (GHCN Monthly) contains monthly mean temperatures that can be used for climate monitoring. However, the data set that would perhaps be more useful for entries in the competition is the GHCN Daily database. For instance, these data could be used for understanding changes in various growing seasons, assessing the frequency of heavy rainfall and other weather patterns, and describing the frequency of heat waves (see "An Overview of the Global Historical Climatology Network-Daily Database" in the *Journal of Atmospheric and Oceanic Technology* at <https://bit.ly/2E49SmL>).

Here are some questions to think about for an analysis; however, contestants should not feel

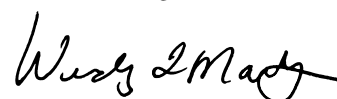
constrained by them. They are just to get the ideas flowing.

- Is there a long-term trend with respect to temperature? Are there any outliers or anomalies in space or time?
- Is there a spatial pattern with respect to temperature changes?
- Are there different geographic regions/clusters that behave differently (e.g., increases, no increases at all, or decreases)?
- Can you construct a spatio-temporal model that predicts temperatures in 2030 (i.e., some slight extrapolation)? What else might affect the temperatures 10 years from now?

Contestants will present their results in a speed poster session at JSM and must submit their abstracts to the JSM online system. Note that judging takes place at JSM and is based on the results presented there. Presenters are responsible for their own JSM registration and travel costs, as well as any other costs associated with JSM attendance. Group submissions are acceptable. To enter, contestants must do the following by February 4:

- Submit an abstract for a speed poster session via the JSM 2020 website (<https://bit.ly/2E6oew>). Specify the Statistical Computing Section as the main sponsor. You may include the Government Statistics Section and Statistical Graphics Section as additional sponsors.
- Forward the JSM abstract submission email to me at martinez.wendy@bls.gov.

I would like to end this first column by thanking the outgoing ASA Board members—Lisa LaVange (2018 ASA President), David Williamson (vice president), Amarjot Kaur (treasurer), James Lepkowski (Council of Sections representative), Cynthia Bocci (international representative), and Julia Sharp (Council of Chapters representative)—for their service to our profession. Also, of course, I want to welcome our newest board members—Rob Santos (2021 ASA President), Dionne Price (vice president), Ruixiao Lu (treasurer), Rebecca Hubbard (Council of Sections representative), Alexandra Schmidt (international representative), and Ji-Hyun Lee (Council of Chapters representative). And to all of our members, thank you for letting us serve you.



Highlights of the November 2019 ASA Board of Directors Meeting

ASA President Karen Kafadar convened the final ASA Board meeting of 2019 at the ASA headquarters in Alexandria, Virginia, November 22–23. The 2019 Board of Directors were joined by the incoming 2020 board members. The highlights of the board meeting follow.

Discussion Items

- As it does annually, the board discussed the status of committees in the Education Council and the Professional Issues and Visibility Council. These councils serve as the connection between their committees and the board. The board expressed gratitude for the great work these committees do on behalf of the profession and the association.
- The board welcomed two former US chief statisticians, Katherine Wallman and Hermann Habermann. They briefed the board on the citizenship data collection being carried out by the Census Bureau using administrative data per Executive Order 13880.

Action Items

- The board changed the names of three committees:
 - The ASA/MAA Joint Committee on Undergraduate Statistics will become the ASA/MAA Joint Committee on Undergraduate Statistics Education (and, perhaps, further be changed to ASA/MAA Joint Committee on Undergraduate Statistics and Data Science Education, pending MAA approval). The size of this committee was reduced at the suggestion of the committee.
 - The ASA/NCTM Joint Committee on Curriculum in Statistics and Probability will become the ASA/NCTM Joint Committee on K–12 Education in Statistics and Probability. A change to the charge of the committee was made as well.
 - The ASA LGBT Concerns Committee will become the ASA LGBTQ+ Advocacy Committee.
- The board created the ASA Task Force on Statistical Significance and Reproducibility. Its charge is to develop thoughtful principles and practices the ASA can endorse and share with

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Lisa LaVange, Past President

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Katherine Halvorsen, 2nd-Year Council of Sections Representative

Mark Glickman, 1st-Year Council of Sections Representative

Cynthia Bocci, International Representative

Scott Evans, Publications Representative

Amarjot Kaur, Treasurer

Ron Wasserstein, Executive Director and Board Secretary

scientists and journal editors. The task force will be appointed by Kafadar with advice from the ASA Board and make its recommendations to the board by November 2020.

- As it does each year, the board reviewed the ASA's strategic plan and how it is being implemented by the association. While no action to change the plan was taken, several suggestions for improved implementation will be followed up on by staff and board leadership.
- The board appointed initial members to the ASA Review Board, which is the body responsible for carrying out the policies for violations of the ASA Activities Conduct Policy. Board members Katherine Monti, Dionne

Price, and Ron Wasserstein are the initial members of this review board.

Reported Items

- Associate Executive Director and Director of Operations Steve Porzio summarized the ASA's financial activity through September 30, 2019. He said the ASA's financial health is very good, with net assets over \$21 million. He predicts a positive annual net revenue at year's end, but that depends on market activity the rest of the year.
- ASA Treasurer Amarjot Kaur reported on the ASA's investments. She noted the ASA's portfolio had gained over nearly \$3 million in value in the three quarters of 2019.
- Amanda Malloy, ASA director of development, summarized the results of ASA Giving Day. We raised more than \$80,000 from 300+ donors. The number of donors on ASA Giving Day was much higher than last year, which, Malloy noted, is exactly the goal of Giving Day. Malloy also noted there are more than 90 members in the Helen Walker Society (HWS). HWS members are those who have given at least \$1,000 to the ASA in the past year.
- The board received progress reports on the strategic initiatives launched by Kafadar. In addition, ASA President-elect Wendy Martinez updated the board on planned activities for 2020.
- The Council of Chapters Governing Board (COCGB) and Council of Sections Governing Board (COSGB) reported on their recent activities. The COCGB was actively supportive of Giving Day, has launched its new reporting mechanism, continues to monitor chapter health, and continues to improve the traveling course program. The COSGB reported on the continued growth in the number of interest groups and changes in procedures to financially support new sections. It also made suggestions on ways the website could be easier to navigate for section use.
- Mark Glickman, co-chair of the ad hoc Advisory Committee on Data Science, updated the board on the progress of that committee, noting recommendations will be coming to the April 2020 board meeting. Tian Zheng, chair of the Section of Statistical Learning and Data Science (now the largest section of the ASA), updated the board on activities of the section and shared her perspective on what is going on in various data science communities. Glickman and Zheng then answered questions from the board.

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Anamaria Kazanis, 2nd-Year Council of Chapters Representative

Ji-Hyun Lee, 1st-Year Council of Chapters Representative

Katherine Halvorsen, 3rd-Year Council of Sections Representative

Mark Glickman, 2nd-Year Council of Sections Representative

Rebecca Hubbard, 1st-Year Council of Sections Representative

Alexandra Schmidt, International Representative

Scott Evans, Publications Representative

Ruixiao Lu, Treasurer

Ron Wasserstein, Executive Director and Board Secretary

- The board heard an update from Andreas Georgiou, the former president of ELSTAT—the Hellenic Statistical Authority—on the status of his continued trials and tribulations in the Greek court system. After meeting with Georgiou, the board approved another statement of support for him.
- Steve Snapinn, chair of the Publications Committee, and Scott Evans, publications representative to the Board of Directors, reported on discussions of the *CHANCE* Magazine Task Force. The board is considering a recommendation from the task force to rebrand *CHANCE* as a data science-focused publication.

The board will next meet April 3–4 at the ASA headquarters. ■

COMMITTEE ON PRIVACY AND CONFIDENTIALITY

Formal Privacy: Making an Impact at Large Organizations

A JSM 2019 Session Summary

With the growing amount of data collected every day, data confidentiality is increasingly at risk. Many of the traditional approaches to statistical disclosure control are no longer deemed sufficient to protect the confidentiality of the data. Formal privacy guarantees are provable privacy guarantees that typically hold, regardless of assumed knowledge and attack strategy of a malicious user. The formal privacy guarantees are especially important for large producers of statistics, such as national statistical agencies or large private companies. These organizations are increasingly designing and engineering systems with improved disclosure limitation systems, with strong consideration for formal privacy.

To learn more about this, the Committee on Privacy and Confidentiality (<https://bit.ly/2RWbNIL>) organized a Joint Statistical Meetings topic-contributed session, Formal Privacy: Making an Impact at Large Organizations. The session brought together four experts from large organizations who have developed, proposed, and implemented formal privacy models or variants of differential privacy. The presentations described challenges, discussed how the challenges were met, and provided an outlook for future implementation of formal privacy.

Lars Vilhuber of Cornell University, a member of the Committee on Privacy and Confidentiality, organized the session. The committee's co-chair, Aleksandra Slavkovic of The Pennsylvania State University, moderated the panel.

Simson Garfinkel of the US Census Bureau gave a talk titled "Deploying Differential Privacy for the 2020 Census of Population and Housing." The 2020 decennial census requires an actual enumeration. The data is collected under a pledge of confidentiality.

The 2010 Census data released to the public used a disclosure avoidance technique called household swapping. Swapping was limited to households within a state and of the same size. However, the swapping rate is confidential.

More recently, the Census Bureau conducted a reconstruction attack of the 2010 Census and re-identified data from 17% of the US population. The Census Bureau began to look for new approaches and has adopted differential privacy for the 2020 Census and Economic Census. The bureau is also working toward a similar solution for the American Community Survey, though no final decisions have been made.

Garfinkel noted that, despite its size, the decennial census is the easiest to make differentially private. There are only six variables per person: age, sex, race, ethnicity, relationship to householder, and location. There are no weights since it is a census.

The Disclosure Avoidance System (DAS) developed by the bureau allows it to enforce global confidentiality protections that rely on injections of formally private noise. The advantages of noise injection with formal privacy are transparency, tunable privacy guarantees (privacy guarantees do not depend on external data), protection against accurate database reconstruction, and protection of individual data. The challenges are that the entire country must be processed at once for best accuracy and every use of confidential data must be tallied in the privacy-loss budget. To do this, the Census Bureau created new differential privacy algorithms and processing systems (the aforementioned DAS) that produce accurate statistics for large populations (e.g., states and counties), constructed protected microdata that can be used for any tabulation without additional privacy loss, and fit the system into the decennial census production system.

The basic approach to creating a differentially private decennial census is to treat the entire census as a set of queries on histograms. The selected queries measure six geolevels (nation, state, county, tract, block group, block) and allow thousands of queries per geounit, resulting in billions of queries overall. Each histogram therefore has billions of cells.

MORE ONLINE

To access the presentations from JSM, visit <https://bit.ly/36UvJt8>.

The ASA Privacy and Confidentiality Committee is sponsoring a webinar on Privacy Day, January 28. The speaker is Michael Hawes, senior advisor for data access and privacy at the US Census Bureau. Details will be provided at <https://bit.ly/2RWbNIL>.

The Census Bureau first created a block-by-block algorithm designed to independently protect each block by measuring queries for each block, privatizing queries, and then converting results back to microdata. It also developed a top-down mechanism by first generating a national histogram without geographic identifiers and then allocating counts to each geography from the “top down.” This approach is easy to parallelize, and each geounit can have its own strategy selection. Using high dimensional matrix mechanism, there is parallel composition at each geolevel and reduced variance for many aggregate regions.

The Census Bureau then tested both algorithms on the 1940 census data, available at IPUMS. It turns out the advantages of the “top down” mechanism outweigh the disadvantages when compared to the “block-by-block” mechanism on various measures, and the Census Bureau has opted to implement the “top-down” algorithm. Various runs of the 1940 data through the DAS, covering various values of the privacy parameter epsilon, were released to the public and are available to researchers (see <https://bit.ly/2Ei1sbH>).

Garfinkel also noted several organizational challenges. For one, all uses of confidential data need to be tracked and accounted for. Ideally, all desired queries (tables) should be known in advance, together with their desired accuracy. Furthermore, the verification of correct implementation is a check. Finally, traditional tabulations rely on data quality checks, but under differential privacy, these must be conducted without looking at the confidential raw data! The largest policy challenge, however, is the choice and allocation of the privacy budget.

Finally, the data user concerns are even more challenging, as is the determination of the right value of epsilon. See Disclosure Avoidance and the 2020 Census (<https://bit.ly/38Eb2TZ>) for more information about differential privacy and the 2020 Census.

Ilya Mironov, recently at Google and now at Facebook, gave a talk titled “Differential Privacy in the Industry: Challenges and Successes.” A differential privacy framework measures the privacy guarantees provided by an algorithm. In this context, he described modalities of privacy, as practiced at Google. To frame the discussion, he provided a cross-classification of various algorithms by where the data are stored (distributed or centrally) and by what use is made of the algorithm

and the data (statistics/analytics or machine learning). Mironov said, “Statistics is old school and machine learning is where industry is heading.” This raises an important question for our statistics community: Why such a perception of statistics?

The goal for distributed data analytics is to learn about the data from distributed sources, such as individual devices (or other distributed data or databases setting). Mironov described the use of the RAPPOR (randomized aggregable privacy-preserving ordinal response) algorithm in the Google Chrome browser. It has inspired new theory and applications. The main challenges are that the absolute error increases with the square root of N and there is privacy loss over time.

He then went on to describe the development of a new software stack called Cobalt as part of the new Fuchsia operating system, still within the context of statistical analysis of distributed data (distributed analytics). It is also based on randomized response. The main challenge is who is anonymizing the data. The anonymization methodology must be transparent. There are various options enforced by organizational methods.

Turning to data analytics on centrally stored data, which, according to Mironov, is the “standard setting” in the differential privacy world. Examples include privacy integrated queries (PINQ), an early implementation of a data analysis platform designed to provide unconditional privacy guarantees for the records of the underlying data sets. The main challenges and risks are mission creep and expense of implementing the platform over time, forcing the analysts to make choices.

There are two main approaches to differentially private machine learning (in the context of centrally stored data): a family of algorithms called private aggregation of teacher ensembles (PATE) and the differentially private stochastic gradient descent (DP-SGD) method. PATE uses a collection of hundreds of models to train a student model. DP-SGD trains each gradient using differential privacy. According to Mironov, DP-SGD is a better fit for standard machine learning pipeline.

Mironov also said, “Right now, machine learning is more of an art than a science, which requires adjustments to models to train the models for privacy.” Again, this is a sentiment familiar to the statistics community and often heard when describing data analysis with real data versus pure mathematical modeling.

Juan M. Lavista Ferres of Microsoft gave a talk titled, “Differential Privacy in Windows 10, and Why Many DP Implementations Fail.” Introduced in 2015, Windows 10 is a series of personal computer operating systems produced by Microsoft. Microsoft collects metrics in an anonymous way as part of telemetry, a service that contains technical data about how the Windows 10 devices and its related software are working and sends this data periodically to Microsoft to fix issues that occur. Users have the option to opt out from telemetry. There are 100s of millions of devices that don’t opt out. The problem, as Ferres showed, is that the information from opt-out machines is not missing at random.

In telemetry, data is systematically collected many times across the lifetime of a device, which results in a privacy leakage problem. The solution is to discretize the numbers into buckets—that is to represent or approximate (a quantity or series) using a discrete quantity or quantities. To address this challenge, Microsoft developed a solution that could provide them with the signal without affecting the privacy of the individuals. Using a new approach to the local differential privacy (LDP) model, differential privacy is adapted for repeated collection of counter data and happens before the data is transmitted. Windows 10 includes an API allowing developers to leverage a built-in differential privacy solution.

Turning to implementation challenges, Ferres stated that many differential privacy projects fail because customers do not understand the solution. Ninety percent of developers surveyed had never heard of DP. Once introduced to it, they then think it is a magic box that can solve all their problems. A common frustration is that they can query global models, but not the individual data. The data is not accessible in a raw format.

Ferres also explained that he is passionate about DP because it can provide data-driven input to health issues such as Sudden Infant Death Syndrome (SIDS). The current approach for accessing data for research at the US Centers for Disease Control and Prevention requires writing scripts, submitting them to a trusted curator, seeking approval, and finally being able to run the script. This process takes three months and \$900 for each script. Juan says, “Research doesn’t work if every query takes three months to run.” He concluded by noting, “Differential privacy can be an amazing

tool for opening these data sets while preserving the privacy of the individuals.”

Shiva Kasiviswanathan of Amazon stated that differential privacy provides provable protection and allows clear quantification of privacy losses; however, there are challenges with implementing differential privacy at Amazon. Some are technology-oriented, while others are based on human and cultural factors:

- Different teams own different services, so differential privacy products have to be negotiated across teams
- The teams do not have proper differentially private data cleaning and exploration tools
- Software developers want code they can start with, not technical papers
- Explaining the legal implications of differential privacy is challenging

There is a large body of research that has been developed to design algorithms and tools to achieve differential privacy, understand the privacy-utility tradeoffs in different data access setups, and integrate differential privacy with machine learning and statistical inference. Amazon is working to address privacy challenges, especially by building differential privacy tools that are accessible to developers (both within and outside of Amazon).

Kasiviswanathan mentioned the autoDP package maintained by Yu Xiang on GitHub. It implements Rényi DP (which goes back to Mironov) and is particularly useful when the data set is accessed by a sequence of randomized mechanisms. This approach weighs the tradeoffs through a privacy calibrator that numerically calibrates noise to privacy requirements. They are working to integrate this with the Apache MXNet, a fast and scalable training and inference framework with an easy-to-use, concise API for machine learning.

Kasiviswanathan briefly described other privacy projects at Amazon, such as participant roles and analysis of false discovery rates.

Aleksandra Slavkovic of The Pennsylvania State University moderated the discussion at the end of the session. There was a focus on topics including achieving higher accuracy in large aggregations (e.g., large cities), defining federated learning (combining traditional and differential privacy methods), and how the privacy-loss budget will be set. ■



Nominations Sought for ASA President-Elect

MORE ONLINE
Learn more about the **ASA Science Policy Fellowship** at <https://bit.ly/38nlqj0> and view a video of former fellow Amy Nussbaum discussing her experience at <https://bit.ly/2P9QgUQ>. Questions about this opportunity may be directed to ASA Director of Science Policy Steve Pierson at pierson@amstat.org.

Nominations are being sought for ASA president-elect and vice president candidates for the 2021 election year. Yes, the 2020 elections have yet to be held, but the Committee on Nominations needs time to evaluate recommendations to propose the best possible slate of candidates for these critical positions.

As a member of the ASA, you recognize the importance of leadership in our diverse, complex, and multidisciplinary field. You and all fellow ASA members deserve visionary leaders who can ensure our discipline has a voice at the table when appropriate, whether it be in academe; research firms; federal, state, or local government; or nonprofit organizations. This is why we need your input.

For this election cycle, the president-elect will be selected from government and the vice president will be selected from academe. Think about your colleagues and associates who are members of the ASA and would make good candidates for these positions. Think about members who have helped run a conference or are active in your section or chapter. Then, nominate your choices for the 2022 president-elect and vice president by emailing elections@amstat.org.

Supply as much information about your nominee as possible to assist the committee in researching each candidate thoroughly and discretely.

The deadline for nominations is February 1, 2020.

ASA Seeks New Science Policy Fellow

The ASA is accepting applications for its science policy fellowship for fall 2020. A one- to two-year position, the fellow will be based at the ASA headquarters in Alexandria, Virginia; however, they will spend the bulk of their time in Washington, DC, advocating for statistics and experiencing first-hand how federal science policy is formed.

Applications are due by March 31, but the ASA will consider particularly high-quality applications until the position is filled.

The fellowship was created to elevate the profile of statistics in policymaking and advocate on behalf of the profession. Amy Nussbaum was the ASA's inaugural science policy fellow, and Daniel Elchert [is](#) the second and current fellow.

Recently, Elchert spearheaded the ASA's involvement with the social media company Reddit by organizing Ask Me Anything (AMA) digital town hall events to highlight statistical perspectives on issues of the day, starting with the decennial census (<https://bit.ly/2LH8k6i>).

Through Capitol Hill meetings, media outreach, grassroots organizing, and coalition building, he has helped lead the ASA's advocacy for evidence-based policymaking and championed principal federal statistical agencies such as the Economic Research Service in the United States Department of Agriculture and the National Center for Education Statistics in the Department of Education.

Elchert is also leading the ASA's State of the US Data Infrastructure article series by interfacing with former federal statistical agency leaders to create thought pieces highlighting statistical agencies as key to our country's capacity to make policy decisions informed by data and evidence (<https://bit.ly/2PwSgff>). As part of this effort, Elchert led the creation and building of the LinkedIn group Count on Stats (<https://bit.ly/2qDU5Jf>), a growing community of professionals with an interest and stake in the work of the federal statistical agencies.

Finally, Elchert also served as co-author of the ASA's first survey of master's graduates, providing insight about graduates' degree satisfaction and related job market demands (<https://bit.ly/358sa25>).

Nussbaum represented the ASA at meetings from the National Academies to Capitol Hill and even introduced her own member of Congress to climate scientists. Among the many projects she worked on were the documents "Guidance on Statistical Evidence in Legislation," "Recommendations to Funding Agencies for Supporting Reproducible Research," and "Guidance for Service on Federal Advisory Boards and Committees." ■



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International Prize in Statistics Nominations to Open Soon

The International Prize in Statistics—one of the highest honors in statistics—is awarded every two years to an individual or team “for major achievements using statistics to advance science, technology, and human welfare.”

Nominations for the 2021 International Prize in Statistics will open in early 2020. Here are some points to consider when choosing a nominee for the prize:

- The prize will be awarded for a single work or body of work, rather than for more diffuse reasons such as “lifetime achievement.” Not only should powerful and original ideas be recognized by the prize, but also contributions that lead to breakthroughs in other disciplines or works with important practical effects on the world.
- Generally, the prize will be awarded to individuals, but in some cases, groups of individuals working on similar ideas—or even teams of individuals or organizations—could be recognized.
- The recipient(s) must be living at the time of selection for the award.
- The 2021 prize will be announced in October 2020 and presented at the ISI World Statistics Congress in July 2021 in The Hague.

A nomination packet consists of the following:

- Name, address, phone number, and email address of nominator (person making the nomination)
- Name, address, and email address of the candidate (person being nominated)
- Nomination statement (maximum of 1,200 words) addressing why the candidate should receive this award (The statement should explain the contributions of the candidate in terms understandable to a non-specialist. The nomination statement should also indicate what the relationship is between the nominator and the candidate.)
- Copy of the candidate’s CV, listing publications, honors, service contributions, etc.
- Up to four letters of support (The committee reserves the right to contact the nominator and writers of the support letters to seek additional information and insight.)

Unsuccessful nominations are carried over for one selection cycle (two years). For more information, visit <https://bit.ly/2Prds0V>. ■



MORE ONLINE

Learn more about the International Prize in Statistics at <https://bit.ly/2Prds0V>. Visit <https://bit.ly/359CNSz> to download the nomination form. Email the form and related materials to nominations@statprize.org by August 15.

NERDS Workshop Fills Void



Yongqiang Tang, Bingming Yi, Xinming Hao, Ming-Hui Chen, and Daoyuan Shi stop for a smile October 11 during the workshop.



John Loewy, Honghong Zhou, Jian Zhu, and L.J. Wei talk animatedly during the NERDS Workshop.

The New England Rare Disease Statistics (NERDS) Workshop, the first of its kind in the nation, attracted more than 160 attendees from all over the country on October 11, 2019. This sold-out event filled a void for statisticians working to bring cures for rare diseases.

The last 10–15 years have seen an emergence of drug development efforts in the rare disease space. Contributing factors include increased public awareness, encouraging drug regulation changes, scientific advancements in cellular/molecular biology and genetics, development of innovative trial designs, an influx of capital investment, and availability of scientific talent through decades of cultivation. As a result, a number of regulators, academicians, and industry statisticians now work to bring these orphan drugs to patients, facing unique technical issues and challenges.

Recognizing the need for a conference like NERDS, Ouhong Wang, vice president and head of biostatistics at Vertex, proposed the conference so statisticians across the rare disease drug development spectrum would have a forum to exchange ideas, share experiences, and network.

The one-day workshop included detailed presentations and discussions. Vertex's incoming CEO, Reshma Kewalramani, kicked off the event by delivering the keynote speech, "Tyranny of Numbers." The scientific program featured speakers including L.J. Wei of Harvard University, Robert Beckman of Georgetown University, Jingjing Ye of FDA, Ziliang

NERDS Organizing Committee

Yang Song, Vertex (Co-Chair)

Sammi Tang, Servier (Co-Chair)

Kun Chen, University of Connecticut

Charlie Cao, Biogen

Roe Gutman, Brown University

Mike Hale, Takeda

Daniel Meyer, Pfizer

Jeffrey Palmer, Pfizer

John Zhong, REGENXBIO

Li of Vertex, Chenkun Wang of Vertex, Rima Izem of Children's National, Ming-Hui Chen of the University of Connecticut, Qing Liu of Quantitative and Regulatory Medical Science, LLC, Balram Gundapaneni of Pfizer, Feng Tai of Agios, and Peng Sun of Biogen. In addition to several actual case studies, topics discussed included treatment effects in rare diseases, trial designs, pediatric trials, historical control, comparative effectiveness, and matching methods.

Attendees' feedback was overwhelmingly positive, and there are plans to continue the workshop. For more information, visit the workshop website at <https://nerds.nestat.org>. ■

Triage Judges Needed for COMAP Modeling Contest

One Team Will Receive ASA Data Insights Award

In 2016, the Consortium for Mathematics and Its Applications (COMAP) added a data insights problem, Problem C, to its annual Mathematical Contest in Modeling (MCM, <https://bit.ly/36F2XNe>). In this new modeling challenge, teams are presented with a modeling problem and data set.

The American Statistical Association will designate one outstanding team as the winner of the ASA Data Insights Award, and qualified triage

judges are needed to assist in the initial review of submissions. In mid-February, triage judges will receive the judging guidelines, initial allocation of papers to review, and examples. Also, there will be a web training session February 22 at 1 p.m. ET.

The MCM is open to both high-school students and college undergraduates. In 2020, more than 5,000 teams are anticipated to participate in Problem C.

If you are interested in serving as a Problem C triage judge, contact Dave Olwell at dholwell@me.com. Judging must be completed by March 22, and judges are compensated \$10 per paper scored.

For more information about Problem C, contact Stacey Hancock at stacey.hancock@montana.edu. ■



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20

YEARS OF

**STATISTICS
ADVOCACY**

**After Two Busy Decades,
SPAAC Wants to Be Busier**

Steve Pierson, ASA Director of Science Policy

The ASA's work to increase the visibility of statisticians in policy and more broadly goes back to at least the Scientific and Public Affairs Advisory Committee's (SPAAC) creation nearly 25 years ago. SPAAC serves as a sounding board for a variety of policy issues the ASA may consider acting upon.

Activities of SPAAC have included discussing statistical perspectives on current issues and whether the ASA should sign onto letters circulating in the scientific community or send its own letter. The committee works closely with the ASA director of science policy and science policy fellow, who are the ASA staff liaisons to the committee.

The committee's activities have covered an array of issues over the years. A regular activity has been to organize sessions for the Joint Statistical Meetings, which have covered topics such as statistics and the supreme court, statistical measurement on public policy, election integrity, and accuracy of election polls. The committee also hosts an annual JSM poster competition highlighting the contributions statisticians make to society, from health care and the economy to national security and the environment.

In the 2000s, the committee organized a workshop on climate change and was active in election integrity issues. Both efforts resulted in an ASA board statement. SPAAC also created several Statistical Significance pieces, which serve the same purpose as the pieces for the JSM poster competition, and oversaw the 2009 congressional visits.

Moving into the next decade, the committee was instrumental in the writing and introduction of Rep. David Loebsack's bill—the Statistical Teaching, Aptitude, and Training Act of 2010 (STAT Act). SPAAC also monitored and supported the establishment of the Office of Financial Research and led the ASA's response to the US Department of Veterans Affairs Secretary's decision to ban the book *How to Lie with Statistics* from its training sessions.

Since the mid-2010s, the committee has been the ASA's lead on the work of the federal Commission on Evidence-Based policymaking and the subsequent work it set in motion. In 2017 and 2018, under Jerry Reiter's leadership, the committee led the development of the joint ASA and American Mathematical Society statement regarding drawing of voting districts and partisan gerrymandering. Also in that period, SPAAC was active in responding to House bills requiring the EPA to only take regulatory actions based on research for which the underlying data is openly available. With the committee's leadership, the ASA sent letters to Congress about the original Secret Science Act and Congress's Honest Act. The committee's work also led to an

CHARGE OF THE SCIENTIFIC AND PUBLIC AFFAIRS ADVISORY COMMITTEE

Consider public policy issues (1) which affect the statistical community or (2) to which statisticians can contribute

Recommend policies to the ASA Board of Directors

Serve as a liaison between ASA and other statistical experts, professional and governmental organizations, and the media on these issues

What Has SPAAC Been Up To?

The Scientific and Public Affairs Advisory Committee creation can be traced to a 1987 document recommending and outlining the creation of an ASA Office of Scientific and Public Affairs (OSPA), which led to the ASA hiring an OSPA director, Marilyn Humm. She served in that position from 1988 to 1998. In the minutes of the December 1991 ASA board meeting, the board approved an advisory committee to OSPA and its charge was approved at the December 1995 board meeting. The early activity of the advisory committee seemed to focus on public affairs and included the creation of the ASA media experts list. Today, the committee is much more active. Take a look at some of what it has accomplished in the last 20 years:

JSM Poster Competition: <https://bit.ly/2YGVGtj>

Statement on Climate Change: <https://bit.ly/2YFLSjB>

Statement on Electoral Integrity: <https://bit.ly/2E6lHJe>

Statistical Significance: <https://bit.ly/2E7zLIV>

2009 Congressional Visits: <https://bit.ly/2YOW89j>

STAT Act: <https://bit.ly/38tLY2a>

Office of Financial Research: <https://bit.ly/2t4bPNO>

Reaction to How to Lie with Statistics Ban: <https://bit.ly/2PFuDuo>

Commission on Evidence-Based Policymaking: <https://bit.ly/2PCahCs> and <https://bit.ly/2r7UiDQ>

Statement Regarding Drawing of Voting Districts and Partisan Gerrymandering: <https://bit.ly/38E95Hs>

Secret Science Act Letter: <https://bit.ly/34diHFm>

Honest Act Letter: <https://bit.ly/2Q9QWsz>

The Hill Op-Ed: <https://bit.ly/2YGwLGg>

op-ed in *The Hill*, "HONEST Act Needs Honest Engagement of Scientific Community."

In the last two years, the committee has been especially involved in responding to federal calls for comments on issues covering the US Environmental Protection Agency, a citizenship question on the decennial census, and policy-comment embargo times for the release of federal economic statistics. For more about the committee's work, see the article about the scope and breadth of ASA science policy activities in this issue.

Looking ahead, the committee is seeking to expand upon its current activities and invites you to contact Larry Hedges, committee chair, at l-hedges@northwestern.edu with your suggestions and comments. ■

MORE ONLINE

Get involved! Contact any of the committee members with your ideas. <https://bit.ly/2YBAoNY>

SCIENCE POLICY

Twelve Years of ASA Science Policy:



Steve Pierson earned his PhD in physics from the University of Minnesota. He spent eight years in the physics department of Worcester Polytechnic Institute and later became head of government relations at the American Physical Society before joining the ASA as director of science policy.

The ASA's science policy activity has covered a variety of topics since the creation of the ASA's science policy staff position 12 years ago. In her September 2019 column, 2019 ASA President Karen Kafadar mentioned several recent ASA science policy and advocacy initiatives, including Count on Stats, protecting a USDA statistical agency, and ensuring the integrity of the decennial census. She also touched upon the ASA's forensic science reform work, in which she has played a leadership role over the last decade.

The responsibilities of the position are to raise the profile of statistics and statisticians in policy-making and to advocate for the interests of statisticians. The execution of these responsibilities can be grouped into the following nonexclusive categories:

- Statistics improving governance, justice, democracy, and other aspects of society
- Scientific freedom and human rights
- Scientific integrity
- Science to inform policymaking
- Evidence-based policymaking
- Improving science and its process
- Nominations

As you read this, it should be clear that the following activities extend beyond the science policy staff, which now includes a science policy fellow. This work has been accomplished with the help of or by members, committees, sections, ad hoc groups, and task forces, sometimes without the input of the ASA science policy staff at all.

Statistics Improving Governance, Justice, Democracy, and Other Aspects of Our Society

Statistics has the potential to improve broad aspects of our society and every-day life. As part of the responsibility to raise the profile of statistics and statisticians in policymaking, we have supported the following activities that do just that:

Election Integrity

The controversies clouding the 2000 US presidential election led the ASA Scientific and Public Affairs Advisory Committee (SPAAC) and various ASA members to investigate ways statistics can help bolster election integrity. Their work led to various advances, as well as partnerships with



many organizations working in the area. One such partnership brought about the ASA playing an integral role in the development of the 2008 *Principles and Best Practices for Post-Election Audits*. That document, which the ASA endorsed, encouraged risk-limiting audits (RLAs) to take the place of auditing a fixed percentage of ballots, no matter the margin and with no scientific justification for the percentage.

Philip Stark laid out the framework for rigorous RLAs in 2008 and went on to pilot them with various California counties. In 2010, the ASA explicitly endorsed RLAs, recommending they be routinely

Highlighting the Scope and Breadth



The ASA has worked to reform the field of forensic science through efforts such as congressional testimony, the Advisory Committee on Statistics in Forensic Science, and a special issue of *CHANCE*.

conducted and reported in all federal and most state-wide election contests.

Though activity by the ASA on election integrity has slowed in recent years, Stark remains actively involved in advancing RLA theory and methods—the latest approaches relying heavily on sequential tests derived from martingale inequalities—in addition to achieving their wider use.

RLAs have been piloted in at least nine US states and Denmark. RLAs are required by or mandated

in statute in California, Colorado, Nevada, Rhode Island, Virginia, and Washington. Further, earlier this Congress, Sen. Ron Wyden introduced a bill requiring RLAs, which the ASA endorsed.

Forensic Science

Kafadar reviewed in her September 2019 article the ASA's forensic science work—under the guidance of the ad-hoc Advisory Committee on Statistics in Forensic Science—noting board statements on the importance of statistical research in strengthening forensic science and recommendations for the use of statistical statements in expressing the strength of forensic evidence. She also mentioned the National Institute for Standards and Technology (NIST) funding of the Center for Statistics and Applications in Forensic Evidence (CSAFE). There are other indications of the central role of statisticians in forensic science reform, including Kafadar's September 2019 congressional testimony, Constantine Gatsonis's December 2011 testimony, the strong engagement of the NIST Organization of Scientific Area Committees for Forensic Science with statisticians, and the *CHANCE* special issue on forensic science.

Use of Value-Added Models for Evaluation of Teachers

In 2014, the ASA board issued a position statement to better inform the use of value-added models (VAMs) for educational assessment. With technical input and guidance from Sharon Lohr, Daniel McCaffrey, and Walter Stroup, the statement noted the strengths and limitations of VAMs and made recommendations for their use. While it's hard to measure the impact of the statement, it has been cited extensively in discussions about the use of VAMs for the evaluation of teachers.

Statistical Perspective for Federal Calls for Comment

The ASA, through its committees, has been active in responding to federal calls for comment. For example, SPAAC has provided statistical perspective on the policy comment embargo time for federal economic statistics, the federal poverty measure, a citizenship question on the decennial census questionnaire, and the proposed US Environmental Protection Agency (EPA) transparency rule (as noted below) in the past two years. The ASA Privacy and Confidentiality Committee (P&CC) has also been instrumental in the ASA's responses to calls for comment.

MORE ONLINE

For additional information, the online version includes numerous hyperlinked resources. See <https://bit.ly/2tcT0Z0>.

Scientific Freedom and Human Rights

Through the leadership of the ASA Scientific Freedom and Human Rights Committee, the ASA monitors these issues as they relate to the statistics profession. The principal activity in this regard over the past decade has been advocating for government statisticians around the world who have been persecuted for their professional work.

While there are numerous examples, the most prominent have been Graciela Bevacqua of Argentina and Andreas Georgiou of Greece. This work has included letters, petitions, meetings, media outreach, and a board statement. We posted a policy update on the Georgiou case to the ASA website in September.

Scientific Integrity

Scientific integrity is a strong running theme in the ASA's science policy work. Indeed, the ASA's positions on the late addition of the citizenship question to the 2020 Decennial Census questionnaire and the relocation of the USDA Economic Research Service (ERS) are based on maintaining the integrity of both agencies' products.

The science that should inform regulations is another example of this work. Under the leadership of SPAAC and P&CC, the ASA has been vocal about the EPA proposed transparency rule to base regulations on research for which the underlying data is publicly accessible, starting with House-passed bills known as the Secret Science Act and HONEST Act.

While the ASA applauded the idea that researchers and federal agencies strive to make data available to others—under strict pledges to maintain confidentiality of data provided by individuals and establishments where necessary—and to encourage reproducible research, the ASA urged a 2018 proposed rule from the EPA not be adopted because, among other reasons, it hampers the use of evidence, introduces potential bias in rulemaking, and neglects the challenge and complications of protecting confidentiality. In 2017, then ASA President Barry Nussbaum and SPAAC Chair Jerry Reiter published an op-ed in *The Hill*, “HONEST Act Needs Honest Engagement of Scientific Community.”

Science to Inform Policy

Scientists and scientific associations share a common desire for the science used to inform policymaking to be robust and represent a balanced view. Recognizing their expertise ends at the science, scientific associations generally stop short of recommending action or endorsing a specific policy approach. The ASA's climate change work fits well within this category of encouraging policymakers to use sound science to inform climate-related discussions.

Soon after the hiring of the ASA science policy director, an ASA member commented to the current executive director in 2008 that she didn't think the ASA was addressing the country's major challenges, with climate change being one. That conversation led to a series of actions by the ASA overseen by the since-created ASA Advisory Committee on Climate Change Policy and its precursor. For example, the committee organized a special issue of *CHANCE*, provided a compelling case for a federally funded interdisciplinary research program around climate, and wrote an *Amstat News* article about the status of climate change science that was viewed more than 23,000 times.

The 2008 conversation also led to the creation of an inter-societal Climate Science Working Group (CSWG), an informal assembly of Washington representatives who meet monthly to share information related to climate discussions in the federal government and coordinate activities. The coordinated activities include the annual Climate Science Day, for which a few dozen scientists of various disciplines form teams of two to three individuals and—through meetings on Capitol Hill—seek to establish connections with congressional lawmakers and their staffs on climate science.

Another CSWG activity was the 2016 letter to Congress signed by 31 scientific societies sharing a consensus view of climate change, which is—in short—that climate change is occurring and greenhouse gases emitted by human activities are the primary driver. Associations in the CSWG include AAAS, the American Geophysical Union, the American Chemical Society, and the American Meteorological Society, as well as three agriculture-related associations.

Evidence-Based Policymaking

Evidence-based policymaking is another strong theme throughout the ASA's science policy work, because it represents a general desire of the ASA membership to ensure policymakers consider the available evidence in their work. The statistical community is also supportive of the closely related data-driven decision-making.

The ASA's support of the effectiveness and efficiency of the federal statistical agencies could be its own heading because of the ASA's history of supporting the agencies going back to its 1839 founding. I categorize this support under evidence-based policymaking because, as the ASA Board stated in December 2018, “The federal statistical system forms the foundation of US evidence-based policymaking and data-driven decision-making.” The board endorsement of the National Academies' *Principles and Practices for a Federal Statistical Agency* provides important parameters for the ASA's work.

Advocating for the Profession: The ASA Wants Your Recommendations Going Forward

What issues would you identify as opportunities for ASA science policy work? Are there policy issues in which more statistical perspective or input would benefit the process and/or product? What's happening in your community (geographical or otherwise) about which the ASA's input could be instrumental? How can the ASA raise the profile of statisticians to inform evidence-based policymaking?

If you have responses to any of these questions, the ASA wants to hear from you! I cannot emphasize enough the importance of ASA members providing input and engaging in ASA science policy work.

Advocacy for the ASA means supporting the profession of statistics, encouraging the engagement of statisticians, providing the perspectives of the ASA as it relates to issues on which we have expertise, or urging a particular course as it relates to the ASA perspective.

To recommend a topic for ASA advocacy, you can email me at sperson@amstat.org. Alternatively, you can contact the ASA executive director, a board member, a member of the ASA Scientific and Public Affairs Committee (SPAAC), or another relevant ASA committee member with your request. After receiving a request, the ASA will respond through the following actions:

1. Assess whether the topic meets the criteria provided by the board in 2017.
2. Consider the likelihood of success, which includes asking whether we can leverage concern in our broader community.
3. If a topic meets the board criteria and appears to be a relevant issue the ASA can influence, we will assess whether it is in accordance with a board statement or

previously board-approved action or the board must be consulted on the specific issue.

The ensuing actions the ASA could take include responding to calls for comments, writing a letter, issuing a board statement, requesting more information, meeting with key officials, and issuing a whitepaper.

In addition to SPAAC, other ASA committees and sections help ensure ASA science policy and advocacy work engages broad and relevant expertise across the association. For health policy issues, the ASA Health Policy Statistics Section is the group to be consulted, whereas issues relating to climate change are relevant to the ASA Advisory Committee on Climate Change Policy. Other frequently consulted committees include the Advisory Committee on Forensic Science, Privacy and Confidentiality Committee, Committee on Funded Research, and Scientific Freedom and Human Rights Committee.

Besides suggesting topics for ASA science policy work, you can also get involved by serving on a committee, raising ASA advocacy issues with your elected officials, or being a science policy fellow with the ASA or through the AAAS program. You could also seek out a federal advisory committee matching your expertise and ask to be nominated by the ASA.

To keep abreast of ASA science policy work, you can read the science policy section of Member News—emailed monthly to ASA members—monitor the news and highlights section of the ASA science and policy homepage, follow @ASA_SciPol on Twitter, connect with me on LinkedIn, and watch for updates in *Amstat News*.

For more information, visit the ASA advocacy and policy webpage at <https://bit.ly/2LNV684>.

The ASA's work in support of the federal statistical agencies has several components: (i) ensuring the integrity of their data and products, as noted above; (ii) maintaining objective, credible, and timely data through sufficient agency independence via control over their publications, budget, and information technology; (iii) providing sufficient resources to do their jobs effectively and efficiently; and (iv) building trust and confidence in government statistics.

Beyond census citizenship and ERS work mentioned under the Scientific Integrity section and the ASA's support of the federal statistical agencies' budgets and tracking thereof, the ASA

evidence-based policymaking work is represented by the following activities:

Count on Stats

Count on Stats (CoS) is a public relations campaign in its third year meant to build public confidence and trust in government statistics. Through CoS, we have advocated for a rigorous 2020 census, highlighted the value and necessity of the ERS, distributed weekly social media features, and provided general agency support through congressional outreach by ASA staff. This advocacy contributed to outcomes such as heightened media attention on statistical agencies,



The ASA was an active partner in advocating for the Puerto Rico Institute of Statistics in 2018 and helped save it from meddling by politicians.

including publications in *The Washington Post*, *The Des Moines Register*, and *The Kansas City Star*.

In spring 2019, we launched the CoS LinkedIn group, which is freely available to any person with a LinkedIn account and serves as a networking and resource group for anyone with an interest in federal statistics. One prominent feature of the CoS LinkedIn group is the ongoing State of the US Data Infrastructure series, which is a monthly campaign to assess the challenges facing principal federal statistical agencies. Katherine Wallman wrote the inaugural post, “The State of the US Data Infrastructure.” Former National Center for Health Statistics (NCHS) Director Charlie Rothwell assessed the state of NCHS infrastructure,³ and former ERS Administrator Katherine Smith Evans wrote about the state of ERS infrastructure. More are underway.

Independence of the Federal Statistical Agencies

The ASA has been an active advocate for the independence of the statistical agencies so their data is widely viewed as objective, in accordance with

Principles and Practices for a Federal Statistical Agency and the White House Office of Management and Budget (OMB) Statistical Policy Directive No. 1: Fundamental Responsibilities of Federal Statistical Agencies and Recognized Statistical Units. This work has ranged from helping to ensure the IRS Statistics of Income (SOI) Division maintained control of their IT and helping to bolster the control of the Bureau of Transportation Statistics over its publications, IT, and budget to keeping the ERS in the USDA research mission and advocating to restore Senate confirmation of the heads of the Bureau of Justice Statistics and National Center for Education Statistics.

Puerto Rico Institute of Statistics (PRIS)

The ASA was an active partner in advocating for the PRIS in 2018. In addition to disconcerting meddling by the governor on the PRIS advisory board, there was a proposal to consolidate it into another government department, remove its independence protections, and outsource its statistical research. PRIS was saved in a last-minute move by the Puerto Rico legislature, but concerns remain.

Commission on Evidence-Based Policymaking (CEP)

The ASA has been supportive of the CEP from its beginning, including board endorsement of the CEP recommendations, and remains so through enactments of its recommendations.

Improving Science and the Scientific Process

Statisticians firmly believe more engagement of statisticians throughout the research process will improve both the science and scientific progress. The ASA's work here has largely been through the federal research funding agencies that help set research funding policy and carry it out. One component of this work is supporting the budgets for a few federal research funding agencies.

Highlighting the Role of Statistics

The ASA has been active in highlighting how more engagement of statisticians and statistics could improve the science. In a 2012 guest editorial in *Science* advocated by the ASA, Marie Davidian and Thomas Louis answered the question posed in the title of their piece, "Why Statistics?"

In 2014, three groups made the case for how statistics could contribute to three presidential initiatives. The three whitepapers were the following: "Discovery with Data: Leveraging Statistics with Computer Science to Transform Science and Society," "Statistical Research and Training Under the BRAIN Initiative," and "Statistical Science: Contributions to the Administration's Research Priority on Climate Change." As an example of the impact of these whitepapers, there were reports that the BRAIN whitepaper was circulated widely at the National Institutes of Health (NIH) and one of the BRAIN funding opportunity announcements (FOA) noted the whitepaper as having inspired ideas in the FOA.

In 2015, the board issued a Statement on the Role of Statistics in Data Science, saying statistics—along with computing and database management—is foundational to data science. The aim of the statement, which has been viewed nearly 15,000 times, was to help "reinforce the relationship of statistics to data science and further foster mutually collaborative relationships among all key contributors in data science." As one part of the broader effort in this regard, *Amstat News* has been running Q&As with representatives of new master's and doctoral programs in data science and analytics to "highlight the programs that are cross-disciplinary and engage statisticians." Collectively, the pieces have been viewed 45,000 times.

Statistics Improving the Science

The ASA Committee on Funded Research (CFR) has been active in highlighting the role statisticians and statistics can play, especially in improving federally funded research. In 2017, they issued two guides—one for nonstatisticians to improve the science in their funding proposals and one for statisticians to serve effectively on funding review panels. The CFR also urged a meeting of an ASA group with the leadership of the NIH Center for Scientific Review (CSR), which oversees the consideration of proposals for more than \$20 billion in NIH extramural research funding. That meeting led to a 2016 article in the CSR publication *Peer Review Notes*, "Statisticians Share Insights for Applicants and Reviewers."

Another ASA visit to NIH to discuss data science, led by former ASA president Marie Davidian—who also led the CSR visit—eventually led to a group headed by Nancy Reid publishing a piece in *PLOS Computational Biology*, "Ten Simple Rules for Effective Statistical Practice," that has been viewed more than 235,000 times.

P-Values

While the ASA science policy office has not played a role in the ASA's recent *p*-value work, I include it as likely the ASA's most influential work in bettering science. The messages of the 2016 statement—viewed more than 360,000 times and cited more than 2,400 times as of November 2019—quickly rippled throughout the scientific community, sparking wide discussion about the use of the *p*-value. These discussions escalated to research entities, federal agencies, and journals (including *The New England Journal of Medicine*).

Reproducibility and Rigor of Science

The rising profile for statistics over the last 10 years has been helped by the rise of big data, data science, and the concerns for reproducibility in science. Statisticians have played a lead role in these discussions through the *p*-value discussions and more broadly. In early 2017, an ASA-organized group provided recommendations to funding agencies for supporting reproducible research.

Nominations for Federal Committees/Boards, Awards, and Other Honors

The ASA is active in supporting nominations to federal statistical advisory committees and boards because of the valuable role statisticians can play on such committees in informing policy and because it helps raise the profile of the profession. The ASA's nominations more broadly have been enhanced through the creation of the External Nominations and Awards Committee. ■

STATS4GOOD

Data for Good: The Year in Review

Data for Good was wonderful to be involved in during 2019. The year was full of new resources, networking opportunities, and shared enthusiasm that comes from so many important projects making an impact for the greater good. The beginning of the new year provides the opportunity to look both backward at what the D4G community has accomplished and forward to the opportunities and challenges ahead.

Data for Good has seen rapid growth in so many areas—projects, volunteers, new organizations, student activities, and visibility both within and outside the world of statistics. From traditional leaders such as Statistics Without Borders and DataKind to new groups and even international growth (e.g., Data for Good Canada, <https://dataforgood.ca>), new opportunities are all around.

One ASA resource launched this year that can make an impact is the Leader HUB (<https://bit.ly/2PgKDnS>). This website provides a central location for a wealth of information. Links helpful for Data for Good projects include the chapter visitation program for guest speakers, strategic initiative grant applications, information for student groups, and a template for presentations. ASA strategic initiative funding can reach the larger community via events and hackathons.

The Joint Statistical Meetings in Denver featured many paper and poster presentations, as well as networking opportunities. Visit the online program at <https://bit.ly/2tcbcd8> to access presentations and other materials.

One special event at JSM each year is the announcement of the Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society. The 2019 recipient is Joseph Gastwirth for his foundational work in legal statistics, which is vital in statistical work for justice, civil rights, and fighting discrimination.

Also at JSM, I was glad to attend the meeting of the ASA LGBTQ+ Advocacy Committee as an ally. Groups such as this one make such a difference in under-represented and marginalized communities.

Both Gastwirth's groundbreaking work in legal statistics and advocacy groups remind us Data for

Get Involved

Plans for JSM 2020 are well underway! With this year's theme of *Everyone Counts: Data for the Public Good*, D4G will be at center stage. JSM offers unsurpassed opportunities to network with coworkers and meet new friends. You can keep up to date with developments by visiting the JSM 2020 website at <https://bit.ly/38zaxLd>.

One great opportunity is the 2020 Data Challenge Expo. Teams develop their own projects, all working with the same data set, and present their results at JSM. Awards are given for top entries from students and professional researchers. This year's theme is climate change, using data from the Global Historical Climatology Network. You can find details on the data expo website at <https://bit.ly/2qQ3a0Q>. Abstracts will be accepted until February 4. More information and resources are available from the ASA Advisory Committee on Climate Change Policy (<https://bit.ly/2rFWvqq>).



With a PhD in statistical astrophysics, **David Corliss** leads a data science team at Fiat Chrysler. He 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.

Good is more than papers and presentations. Direct service to individuals is an important channel.

With tremendous growth, there have also been a few growing pains. Having more volunteers has led to the need for more people who can lead projects. Design of experiments, project organization and management, and communication skills—especially with nonstatisticians—are in demand. As we look forward to 2020, these leadership skills will be important areas for development.

One challenge all statisticians face today results from the increasingly political and polarized environment in America—a development with considerable impact on statistical use and practice. Statistical science and methods have been in the news a great deal in the past year, and not always



Joseph L. Gastwirth, with 2019 ASA President Karen Kafadar, accepts the 2019 Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society at JSM in Denver.

in a good way. For many of us, dealing with political controversy is now a substantial and growing part of our work. Data for Good advocacy is often at the center of these politicized conflicts—involved in some of the most controversial questions of the day—including climate change and environmental issues, immigration policy, and the census. Examples of direct challenges to statistics in policy and advocacy include dismissing out of hand sound scientific analysis, uprooting and fragmenting the USDA analytics group, government data going dark or just not being collected, and a growing false equivalency between science fact and fiction. We can meet challenges based more in politics than science by focusing on the science itself—solid, objective, and well-documented—while remaining aloof to political questions. Our statistical results must not be subject to partisan influence, even in the midst of controversy; they must be a solid foundation of science amidst the storms of politicized debate.

In 1903, H. G. Wells wrote in *Mankind in the Making* (using words now often much reduced), “The time may not be very remote when it will be understood that for complete initiation as an efficient citizen ... it is as necessary to be able to compute, to think in averages and maxima and minima, as it is now to be able to read and write.” That day is here. As the impact of Data for Good on public policy continues to grow, an ability to work and clearly communicate with lay persons and professional scientists is needed to achieve the greater good.

As 2019 draws to a close, I would like to express my deep appreciation for the staff at *Amstat News*, especially Megan Murphy for her patience and many good thoughts about how this column can highlight distinguished projects, address issues and challenges, and grow to better serve the Data for Good community. I especially want to thank you, our readers, for your interest, comments and suggestions shared at events, and (most of all) the good you do for so many using statistics to better our world. ■

STATtr@k

What Supports the Big Tent for Statistics and Data Science?



Katherine Monti, an ASA Fellow and vice president, was previously the Council of Chapters Representative to the ASA Board. She has served the ASA in other capacities as well, including chairing the Committee on Fellows, Advisory Committee on Continuing Education, and Biopharmaceutical Section. Additionally, she was active in the Boston Chapter, including serving as president.

The ASA is the big tent for statistics and data science, but it isn't always clear how that tent is held up. New members, and even some not-so-new members, of the ASA understandably have confusion about how the ASA is organized. While the ASA website has all the pieces of information (<https://bit.ly/2PDGM3c>), it can be daunting to figure out how the pieces fit together. I've heard questions such as the following:

- "Why does the ASA have three presidents?"
- "How can I be elected to an ASA committee?"
- "What's the difference between a chapter and a section?"

These and other questions reflecting a knowledge gap about our association were the inspiration for this article

So, what are the poles holding up the big tent of statistics and data science? And how can you help hold up this oh-so-impressive tent? Read on!

ASA Organizational Structure

The Big Picture

The ASA is governed by a board of directors, and supporting the work of the board are a number of committees, each with a particular focus. The ASA also has chapters and student chapters, which are location-defined groups of statisticians, and sections, which are groups of statisticians who join together around topic areas. Additionally, the ASA has four affiliated "outreach groups," statisticians having a common interest that does not fit within the chapter or section structure. These various groups form poles of our big tent.

The board members, committee members, and chapter and section officers are all volunteers, without whom the ASA would dissolve. However, this army of hundreds of dedicated volunteers relies heavily on the ASA's professional staff for essential support. The staff helps the volunteers run conferences large and small, facilitates the production of statistical journals, addresses numerous topics of interest to statisticians, provides an array of opportunities for statisticians to exchange ideas, supports our strategic plan, and sees that the business of the organization gets done. The office staff serves as the vital center pole of our big tent.



2017 ASA President Barry D. Nussbaum speaks during a mini-conference at the University of Alabama at Birmingham in November 2017. The event was hosted by the Alabama Chapter of the ASA.

Chapters

Let's start with chapters (<https://bit.ly/2rFZYVY>), which offer an easy entry into becoming active in the ASA for many statisticians and data scientists. Chapters are geographically defined units of the ASA, designed to organize local meetings, provide networking and professional development opportunities, and support local community initiatives.

The larger chapters organize multiple meetings and activities per year, while smaller chapters may meet only once a year. The calendars depend on the interest and enthusiasm of the local members. Chapters largely organize themselves, run their own election of officers, and manage their own programs.

Various resources to help chapters are available. If your chapter would like to have an outside speaker come give a talk or a short course, the Council of Chapters Traveling Courses (<https://bit.ly/2LOqWRU>) provide such an opportunity at a few chapters each year. Additionally, the Committee on Membership Recruitment and Retention (<https://bit.ly/2PevIdC>) developed a speaker's bureau, a list of speakers who are willing to travel short distances to give talks at chapters or other groups. Interested in giving a talk to a school group or college group promoting interest in statistics? There is online material available to help with such a presentation:

- What Is Statistics? – <https://bit.ly/35hcuxG>

Your Questions Answered

Does the ASA do anything else?

Oh yes. For starters, check out the ASA's efforts to advocate for members and scientific issues in Congress and elsewhere: <https://bit.ly/2Ep5jDK>. For details about all the activities and resources the ASA has to offer, set aside some time to cruise around www.amstat.org.

What other societies are affiliated with the ASA?

Casualty Actuarial Society

The Caucus for Women in Statistics

International Biometric Society (ENAR and WNAR)

International Chinese Statistical Association

International Indian Statistical Association

Institute of Mathematical Statistics

International Society for Bayesian Analysis

International Statistical Institute

Korean International Statistical Society

Royal Statistical Society

Statistical Society of Canada

Additionally, there are three joint committees with other organizations addressing different aspects of education: the Mathematics Association of America, American Mathematical Association of Two-Year Colleges, and National Council of Teachers of Mathematics.

Am I too inexperienced (or too old) to start participating?

No! If you are a student, get involved in a student chapter if there is one or your local chapter. You can start joining sections of interest and get involved early. Too old? You have wisdom to share, so share it. If you are mid- or late-career, or even if you are retired, you can start contributing even if you didn't volunteer earlier in your career.

How much time will it take if I volunteer?

That depends on which activities you get involved with. For example, the president of a small chapter has less to coordinate than the president of a large chapter. Some volunteer positions take at most a few hours a month, while some take

a larger proportion of time for a short duration of each year or in spurts throughout the year. If you are worried about the time commitment, feel free to ask in advance. Hundreds of volunteers manage to incorporate ASA efforts into their schedules, so don't dismiss the opportunity too quickly.

Is volunteering worth it?

Volunteering for the ASA can become a rewarding part of your career, but more than that, volunteering allows you to network with other professionals, have new experiences, and make new friends. Volunteer activities may help you develop leadership skills that translate into the workplace. Some workplace institutions may even expect service to a statistical organization as a necessary factor in promotion. And you may be nominated to be an ASA Fellow someday, at which point it is best to have some ASA involvement on your CV. Importantly, most volunteers get enormous satisfaction from their efforts and new professional relationships. So, yes, volunteering can definitely be worth it!

- *ThisIsStatistics* – <https://thisisstatistics.org>
- *ThisIsStatistics* PowerPoint presentation – <https://bit.ly/2PfH7iT>

Want some swag to hand out to the students at such an event? The staff can help you out. Email Jack Joyce at jack@amstat.org.

One excellent way to become involved in the ASA is to join a chapter (dues are minimal) and raise your hand to volunteer on a local level. Depending on where you live, you might be interested in joining more than one chapter. Another way to get involved is to join the Speaker's Bureau and have the opportunity to speak at nearby institutions.

Organizationally, the chapters are grouped into three geographic regions, each with two districts. The districts are arranged to have roughly the same number of chapters and members, with the map reviewed periodically and revised as necessary. Some chapters serve multiple states, (e.g., the Boston Chapter serves all of Massachusetts, as well as Rhode Island, Vermont, New Hampshire, and Maine), while other states have multiple chapters (e.g., Ohio has Cincinnati, Cleveland, and Columbus).

The chapters are coordinated by the Council of Chapters (COC), which is composed of representatives from each chapter. The COC's officers are elected in the ASA's spring elections according to the

governance document of the council's charter (<https://bit.ly/38As4Ao>), while the chapter's individual officers are elected according to the chapter's own constitution.

Most of the ASA chapters have been around for decades, but student chapters are a relatively new creation, starting in 2014 and exploding to nearly 100 schools now. The student chapters are more informally run and are identified with a specific institution. Your school doesn't have one? Get involved and start one yourself—it's not hard to do! See <https://bit.ly/2YFvDmz>.

Sections

Sections are organized by topic (e.g., biopharmaceuticals, nonparametric statistics, survey sampling, statistical education, marketing), not geography. There are 29 sections and eight interest groups. An interest group is generally a newly formed entity that can mature into a section if there is enough interest as exhibited by sufficient and sustained participation. See a list of sections and interest groups at <https://bit.ly/2PFTiE> and details at <https://bit.ly/2PApVOE>.

Sections are the mainstay of the Joint Statistical Meetings (JSM), the major statistics conference of the year held every summer. Each section is allotted between one and four invited sessions in the program, with the allotment being a function of factors such as the membership of the section, attendance at JSM, and the number of submissions received; some additional slots are competitive, so a section may "win" an extra invited session some years.

Besides invited sessions, other opportunities for section involvement at JSM include sponsorship of topic-contributed sessions, contributed paper sessions, speed sessions, poster sessions, roundtable discussions, and short courses.

Some sections have JSM-related awards, such as a "best contributed paper" award and/or a "best student paper" award. Apart from JSM, some sections offer educational webinars at times throughout the year, and some sections even sponsor an additional conference apart from JSM. No doubt about it, sections are a big pole holding up the ASA's tent.

It's easy to join a section: pay the (minimal) dues and *voilà*, you are a member. You will then receive the section's newsletter (for sections that distribute one) and other information of interest. If you want to become more involved, reach out to the section leaders (<https://bit.ly/2sigPOG>) and, once again, raise your hand.

If you are able to go to JSM, attend the section's mixer. Some sections need other hands on deck at the meetings, so offer to help.

Once you become active in the section, you may be interested in running for office. Elections are held with the general ASA elections in the spring, with section members voting for their section leadership.

Sections are governed according to the Council of Sections (COS) charter (<https://bit.ly/2EokA85>).

Committees

There are dozens of committees, all run by volunteers, that accomplish a lot of the "work" of the ASA. There are so-called "council" and "non-council" committees, with the Education Council, Membership Council, and Professional Issues and Visibility Council (each chaired by one of the ASA's vice presidents) including 27 committees. There is also an Awards Council, which includes a committee for selecting the recipient(s) of ASA non-Fellow awards, and a number of non-council committees, including the ASA Board of Directors, JSM program committees, and committees to manage publications. See <https://bit.ly/2RJXbWf>.

Each committee has a charge from the board that defines its focus. Sometimes that focus is directed, but committees have leeway in how they carry out their charge. For example, the Committee on Minorities in Statistics now runs a significant mentoring program and coordinates the annual StatFest for historically under-represented undergraduates (<https://bit.ly/2spHdWA>). The Committee of Applied Statisticians developed a series of webinars on collaboration skills (available at <https://bit.ly/2E9KYck>), and as mentioned above, the Committee on Membership Retention and Recruitment developed the Speaker's Bureau. In each case, these efforts reflect not only the charge of the committee, but also the imagination, energy, and talents of past and current committee members.

Committee members are appointed, not elected. For those interested in becoming involved in the ASA for the first time, take a look at the "council" committees, particularly those aforementioned 27 committees. Those committees are perhaps the ones most accessible to someone relatively new to participating in the ASA. Most have nine members, three of whom are appointed every year for a three-year term. Although committee members can be reappointed for a second three-year reappointment term, most committees have at least one or two new appointments every year. Anyone interested in serving on any of those committees is invited to contact the chair (or any other member) of the committee, including the council chair and/or vice chair, to express interest. Alternatively, one can register interest at <https://bit.ly/35iGbuf>.

Some committees are so active they are happy to have volunteers who support them without being official committee members. If you are interested in appointment to a committee, one way is to join as a "friend" of the committee—nothing like "showing up for work" as a friend to get noticed and recommended for appointment!



Olivia Brown/ASA

The 2019 ASA Board wishes the association a happy 180th birthday for a video taken at JSM in Denver. From left, Ron Wasserstein, Katherine Halvorsen, Amarjot Kaur, Wendy Martinez, James Lepowski, Julia Sharp, Richard De Veaux, Karen Kafadar, Scott Evans, Anamaria Kazanis, Mark Glickman, Lisa LaVange, David Williamson, Don Jang, and Cynthia Bocci.

How do you know which committee might pique your interest? Look at the committee's charge and search the ASA website to see what the committee has been doing. The committee chairs and co-chairs are also great sources of information about how to become involved.

Outreach Groups

While chapters are organized by geographical region and sections focus on topics in statistics, outreach groups serve statisticians with common interests outside of those categories. Currently, there are four such groups: the Caucus of Academic Representatives; International Community of Russian-Speaking Statisticians; Isolated Statisticians; and Statistics Without Borders. See <https://bit.ly/2run9m9> for details.

Board of Directors

Per the ASA constitution, "the Board of Directors is the policy-making and legislative body of the Association." Every year, ASA members vote to elect members to serve three-year terms on the board. The person who wins the office of president-elect will serve one year in that position, the following year as president, and the third year as past president. Each position has different responsibilities but, at any given time, there is one person serving as president.

In the spring elections, the membership also elects a vice president, a representative from the COC, and a representative from the COS, each of whom also are elected to serve three-year terms. On a rotating schedule, an international representative and publications representative are also elected to serve three-year terms. The board also includes two non-voting members: the secretary (ex officio, the ASA executive director) and an appointed treasurer.

The three-year terms start January 1 of the following year. There is a nominating committee each year that reviews suggested nominees and selects potential candidates to run for office; two candidates are usually on the ballot for each position. These candidates tend to be long-term members who, through volunteer efforts in chapters or sections or on committees, have demonstrated their effectiveness and willingness to serve.

Those interested in more information can review the documents governing the operation of the board and the ASA—namely the constitution and bylaws—as well as the strategic plan, all of which can be found at <https://bit.ly/38B5gm7>.

ASA Staff

The ASA is a busy organization! Keeping the whole show running is the ASA staff, headed by Executive Director Ron Wasserstein. (Perhaps we should call him the ringmaster for this big tent?) Ron and his staff provide a liaison to each committee, each council, and every major activity of the ASA. They help run meetings; coordinate publications; support communications; organize initiatives; support ASA interests in public policy; and facilitate activities for chapters, sections, and professional development. They manage memberships, facilitate advertising, negotiate contracts, drum up contributions, and pay the bills. They make sure issues are addressed in a timely manner, and they do so efficiently, effectively, and professionally. We, the volunteers, would undoubtedly flounder in disarray without the leadership and assistance provided by the staff.

Central Activities

Now a bit about some of the central activities, all of which provide different opportunities for member involvement.



Olivia Brown/ASA

JSM is the annual meeting of the ASA, attended by more than 6,500 statisticians every year.

Publications

While not a separate administrative entity, the ASA's publications are a huge part of the organization. The ASA publishes or co-publishes 17 journals. Overall, thousands of articles every year are submitted to the journals for consideration by the volunteer editors, associate editors, and a small army of reviewers. Reviewers (volunteers again) are selected based on their expertise in an area.

The jointly owned journals have their own management committees, the chair of which serves on the Committee on Publications along with a representative appointed by the editorial board of each wholly owned journal, three at-large representatives appointed by the president-elect, and the publications representative elected to serve on the board of directors. As with other committees, appointments are for three-year terms, but the journal editors are appointed for five-year stints.

The ASA also supports three magazines: *Amstat News*, the monthly membership magazine; *CHANCE*; and, in collaboration with the Royal Statistical Society, *Significance*. *CHANCE* and *Significance* publish short, applied articles aimed at a general audience.

Papers from JSM are published in the proceedings, free with your registration but available for purchase for those not attending. A long list of excellent teaching materials, largely but not entirely aimed at K–12 education, are also available—and some of them are free!

Check out <https://bit.ly/35kgeCA> for details about publications.

Meetings

JSM is the annual meeting of the ASA, attended by more than 6,500 statisticians every year. The important role of the sections in this meeting was

noted above, but sections aren't alone. The partner associations (<https://bit.ly/38w4M0F>), COC, committees and interest groups, and others organize and sponsor sessions at JSM. These groups, as well as each section, have a representative on the JSM Planning Committee, which coordinates the selection and timing of the presentations. Other important contributors to JSM are the Advisory Committee on Continuing Education (which organizes the short courses) and the ASA staff (which makes it all work). Kathleen Wert, the ASA's director of meetings, explains more about JSM and how to participate in a short video at <https://bit.ly/2qLi0Gu>.

The ASA also sponsors or cosponsors (sometimes with sections) other conferences and workshops (<https://bit.ly/2tdRXYL>) and, of course, numerous smaller meetings and workshops are organized and held at chapter events. As noted above, chapters organize their own meetings. All these meetings provide even more opportunities for participation.

ASA Community

As a member of the ASA, you can join the online ASA Community to share ideas with others in chapters, sections, and outreach groups of interest, as well as the ASA community at large. The blog provides an informal way to get help or advice, share news of interest, post information about an upcoming event, or otherwise interact with other statisticians online. If you have a question to ask or information to share, you can post in the relevant community. Start at <https://community.amstat.org/home>.

There is so much going on within the ASA it is almost dizzying, as is evident on www.amstat.org. My hope is this article will help some of you navigate more comfortably under the Big Tent of Statistics and Data Science that is the ASA. ■

ASA to Cosponsor AI in Clinical Drug Development Symposium in May

The Pfizer/ASA/Columbia University Symposium on Risks and Opportunities of AI in Clinical Drug Development will be held May 18 from 8:30 a.m. to 4:30 p.m. at the Columbia University School of Social Work. The event is jointly sponsored by Pfizer Inc., the American Statistical Association, and the Statistics Department and Data Science Institute at Columbia University.

Our world increasingly relies on data and computing to create knowledge, make critical decisions, and better predict the future. Data science has emerged to support these data-driven activities by integrating and developing ideas, concepts, and tools from computer science, engineering, information science, statistics, and domain fields. Data science now drives fields as diverse as biology, astronomy, material science, political science, and medicine—not to mention vast tracts of the global economy, key government activities, and quotidian social and societal functions.

The pharmaceutical enterprise has been slower to respond, especially to the rapid developments in AI, but tectonic shifts are underway in approaches to the discovery, development, evaluation, registration,

monitoring, and marketing of medicines for the benefit of patients and the health of the community.

The purpose of this symposium is to provide a forum for experts from various stakeholders—including the pharmaceutical industry, regulatory agencies, and academia—with the aim of advancing the use of artificial intelligence (AI) in drug development and deployment.

While there is much discussion about the potential of AI and modern machine learning tools to transform the drug development paradigm, there is a growing recognition of the paucity of research about the inevitable pitfalls and unintended consequences of the digital revolution in this area of application. As we move toward personalized and truly evidence-based medicine, the use of AI and machine learning to optimize drug deployment raises a whole different set of challenges.

This forum is, therefore, expected to serve as a platform for distinguished statisticians, data scientists, regulators, and other professionals to address the challenges and opportunities of AI in pharmaceutical medicine; to foster collaboration among industry, academia, regulatory agencies, and professional associations; and to propose recommendations with policy implications for proper implementation of AI in promoting public health.

For more information and to register for the workshop, visit www.amstat.org/aipm2020. ■



ASA Statistical Computing and Graphics Award

The Statistical Computing and Statistical Graphics sections invite nominations of individuals or teams for the 2021 ASA Statistical Computing and Graphics Award, which recognizes innovation in computing, software, or graphics that has had a significant impact on statistical practice or research. The prize carries with it a cash award of \$5,000 plus an allowance of up to \$1,000 for travel to the Joint Statistical Meetings (JSM), where the award is presented.

Nomination packets must be submitted by email to Jun Yan, the awards chair for the two sections, at jun.yan@uconn.edu by May 31. Yan will also answer questions about the submission process.

Qualifications

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

The nominee should be a member of the ASA. Statistical Computing and Graphics Award Committee members will review the nominations and make the final determination of who, if anyone, will receive the award. Sitting members of the awards committee or executive committees are ineligible.

Nominations

Nominations should be submitted as a complete packet, consisting of the following:

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

Recent Winners of the Statistical Computing and Graphics Award

Luke Tierney (2019)

Bill Cleveland (2016)

Robert Gentleman and Ross Ihaka (2010)

- The nominee's curriculum vitae
- A minimum of three (and no more than four) supporting letters, each no longer than two pages

Selection Process

The committee will consist of the chairs and past chairs of the Statistical Computing and Statistical Graphics sections, who will meet during JSM 2020 to select the recipient(s) of the award. ■

Jerome Sacks Award

Nominations are being sought for the 2020 National Institute of Statistical Sciences' (NISS) Jerome Sacks Award for Outstanding Cross-Disciplinary Research. The prize recognizes sustained, high-quality, cross-disciplinary research involving the statistical sciences. An award of \$1,000 will be presented during the National Institute of Statistical Sciences' reception at the Joint Statistical Meetings (JSM) in Philadelphia, Pennsylvania, August 1–6.

To nominate an individual, submit the following information in one PDF document to

sacksaward@niss.org by April 30:

- Nomination letter (maximum of two pages)
- Supporting letters from two individuals (other than nominator)
- The nominee's most current CV

For more information, including a list of previous award winners, visit <https://bit.ly/2PJnaKN>.

Questions about the award or nomination process can be sent to sacksaward@niss.org. ■

ASA/ACM/AMS/IMS/MAA/SIAM Science and Technology Policy Fellowship

The ASA/ACM/AMS/IMS/MAA/SIAM 2020-2021 Science and Technology Policy Fellowship focuses on data science and related expertise such as machine learning, data visualization, and causal inference to meet legislative and policymaking challenges. Fellows serve one year in a federal agency or on the staff of a senator, representative, or congressional committee beginning September 2020. Learn about the executive and legislative processes and lend statistical and scientific expertise to public policy issues.

Individuals who are US citizens and have a PhD in statistics, data science, mathematics, or a closely related field are encouraged to apply. The ASA seeks candidates reflecting the diversity of our society. Applications are due by February 1, 2020, and

require a candidate statement, biographical sketch, and three letters of reference.

Visit the website to apply (<https://bit.ly/35lxAXB>).

This project is funded by a grant from the Alfred P. Sloan Foundation. ■

ASA Fellow Award

The designation of ASA Fellow has been a significant honor for nearly 100 years. Under ASA bylaws, the Committee on Fellows can elect up to one-third of one percent of the total association membership as fellows each year.

Individuals are nominated by their ASA-member peers. To be selected, nominees must have an established reputation and have made outstanding contributions to statistical science. The Committee on Fellows evaluates each candidate's contributions to the advancement of statistical science and places due weight on the following:

- Published works
- Position held with employer
- ASA activities
- Membership and accomplishments in other societies
- Professional activities

To be eligible for nomination, a person must be a current member of the ASA who has held continuous membership from March 1, 2017, to February 29, 2020.

Nominations may be submitted online until March 1 at <https://bit.ly/34jmKAN>. ■

Ellis R. Ott Scholarship

Ott Scholarship Governing Board

Lynne Hare

J. Stuart Hunter

Tom Murphy

Dean V. Neubauer

Robert Perry

Susan Schall

Ronald Snee

J. Richard Trout

Neil Ullman

The Statistics Division of the American Society for Quality has \$7,500 scholarships available to support students enrolled in, or accepted into enrollment in, a master's degree or higher program with a concentration in applied statistics and/or quality management. This includes the theory and application of statistical inference, statistical decision-making, experimental design, analysis and interpretation of data, statistical process control, quality control, quality assurance, quality improvement, quality management, and related fields, though the emphasis is on applications as opposed to theory.

During the last 23 years, scholarships totaling more than \$345,000 have been awarded to 60 students.

Qualified applicants must have graduated in good academic standing in any field of undergraduate study and be studying at US or Canadian institutions; online programs are excluded. Scholarship awards are based on

demonstrated ability, academic achievement, industrial and teaching experience, involvement in student or professional organizations, faculty recommendations, and career objectives.

Application instructions and forms should be downloaded from <https://bit.ly/2RVAM8N>. Forms are due by April 1.

For more information, contact Lynne B. Hare at 55 Buckskin Path, Plymouth, MA 02360 or lynne.hare@comcast.net. ■



HAVE YOU MOVED?

Log in to your ASA account
and update your address at
<https://goo.gl/SMJvXh>.

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

Program	Deadline	Nominations	Questions
Karl E. Peace Award	February 1, 2020	awards@amstat.org	Joseph E. Cavanaugh joe-cavanaugh@uiowa.edu
W. J. Dixon Award for Excellence in Statistical Consulting	February 15, 2020	awards@amstat.org	
Harry V. Roberts Statistical Advocate of the Year Award	February 15, 2020	awards@amstat.org	
Waller Awards	February 15, 2020	awards@amstat.org	
Samuel S. Wilks Memorial Award	February 15, 2020	awards@amstat.org	
W. J. Youden Award in Interlaboratory Testing	February 15, 2020	awards@amstat.org	
Statistics in Physical Engineering Sciences Award	February 20, 2020	Ming Li, mli@alumni.iastate.edu	
Gertrude M. Cox Scholarship	February 23, 2020	awards@amstat.org	
Edward C. Bryant Scholarship Trust Fund	March 1, 2020	awards@amstat.org	
Causality in Statistics Education Award	March 1, 2020	educinfo@amstat.org	
Excellence in Statistical Reporting Award	March 1, 2020	awards@amstat.org	
ASA Fellows	March 1, 2020	awards@amstat.org	
ASA Mentoring Award	March 1, 2020	awards@amstat.org	Wendy Martinez martinez.wendy@bls.gov
Outstanding Statistical Application Award	March 1, 2020	awards@amstat.org	
Statistical Partnerships Among Academe, Industry, and Government (SPAIG) Award	March 1, 2020	awards@amstat.org	Pamela D. McGovern pam.mcGovern@nass.usda.gov
Biopharmaceutical Section Scholarship Award	March 15, 2020	community.amstat.org/biop/awards/scholarship	
Founders Award	March 15, 2020	awards@amstat.org	Wendy Martinez martinez.wendy@bls.gov
Government Statistics Section Wray Jackson Smith Scholarship	April 1, 2020	awards@amstat.org	Kevin Konty kkonty@health.nyc.gov
Links Lecture Award	May 1, 2020	awards@amstat.org	Barry W. Johnson barry.w.johnson@irs.gov
Health Policy Statistics Section Achievement Awards	September 15, 2020	hpssawards2020@gmail.com	
Lester R. Curtin Award	October 15, 2020	awards@amstat.org	
Deming Lecturer Award	October 15, 2020	awards@amstat.org	
Lingzi Lu Memorial Award	October 15, 2020	awards@amstat.org	
Monroe. G. Sirken Award in Interdisciplinary Survey Methods Research	December 15, 2020	awards@amstat.org	Aaron Maitland amaitland@cdc.gov

University of Pennsylvania

Center for Clinical Epidemiology, Biostatistics, & Informatics

13th Annual UPenn Conference on Statistical Issues in Clinical Trials

April 29, 2020

Cluster Randomized Clinical Trials (CRTs): Challenges
and Opportunities

Website and Registration Opens: January 1, 2020

www.cceb.med.upenn.edu/events/13th-annual-conference-statistical-issues

METHODS

David Murray, PhD (NIH)	Overview: Innovations in Design and Analysis of Group or Cluster Randomized Trials
Victor DeGruttola, ScD (Harvard)	Using network-and individual-level information in design and analysis of clustered trials
Luke J. Keele, PhD (University of Pennsylvania)	Complexities Caused by Noncompliance in Cluster Randomized Trials
James P. Hughes, PhD (University of Washington)	Current issues in the design and analysis of stepped wedge trials

APPLICATIONS

Lawrence H. Moulton, PhD (Johns Hopkins University)	Randomization: Beyond the Closures Principle
Ira Longini, PhD (University of Florida)	The ring vaccine trial design for the estimation of vaccine efficacy and effectiveness during infectious disease outbreaks
Deborah J. Donnell, PhD (University of Washington)	Challenges for implementing CRTs: from Hawthorne effect to measurement bias
Weili He, PhD (AbbVie)	Practical considerations in utilizing cluster randomized trials in medical research

PANEL DISCUSSANTS

Karla Hemming, PhD	University of Birmingham
David Murray, PhD	National Institutes of Health
Michael Proschan, PhD	National Institutes of Health
Jeffrey Roberts, MD	US Food and Drug Administration
Alisa Shields-Stephens, PhD	University of Pennsylvania
Monica Taljaard, PhD	Ottawa Hospital Research Institute

Winston A. Richards



Winston Richards (left) returned to his birthplace of Trinidad in October to award the Winston A. Richards Prize in Statistics to Ariel Stewart. Ariel had the best II and III performance in statistics.

On his 75th birthday, Winston A. Richards celebrated at the University of the West Indies (UWI) in Trinidad with a talk titled, "My Life as a Statistician," and took part in the graduation ceremony, during which he awarded this year's Winston A. Richards Prize in Statistics to Ariel Stewart.

This award, which comes with a cash prize, was presented October 24, 2019. It is given to a student who has the best II and III performance in statistics.

A professor emeritus at The Pennsylvania State University, Richards was born and raised in Chandernagore Settlement, Trinidad, and returns every year to present the prize bearing his name.

For more information about the ceremony and Richards, visit the UWI website at <https://bit.ly/2EjiC8A>. ■

Obituary

Donald Ward King

Donald Ward King, age 87, passed away peacefully in his sleep Sunday, November 17, 2019, in Madison, South Dakota, with family at his side. He was diagnosed a few weeks before with acute myeloid leukemia.

Don was born during the Great Depression on July 18, 1932, in Cheyenne, Wyoming, one of five sons born to James Arnold King and Mary Elizabeth (Ward) King.

Don's father went to work for the US Department of Agriculture as a statistician for the Agricultural Statistics Board (now the National Agricultural Statistics Service (NASS)), moving the family to Iowa, where Don spent much of his childhood. His father and brothers were avid hunters and often traveled to South Dakota for the pheasant hunting season. Don had many happy memories of these hunting expeditions and always spoke glowingly of the beautiful South Dakota plains and big skies. His family frequently returned to Wyoming for family gatherings and vacations.

Don contracted polio as a child while his family was living in Ames, Iowa. He was admitted to a Sister Kenny hospital clinic in Des Moines, Iowa, for treatment. Sister Kenny clinics used what was, at the time, a controversial and revolutionary approach to polio treatment, opting for hot packs and gentle movement of paralyzed limbs instead of the splints, braces, and iron lungs in general use at the time for treating the disease. Don responded well to the Sister Kenny treatment and, after some months, was able to return home with little residual effect. He went on to become an accomplished four-sport athlete in high school and a two-sport athlete (basketball and track) in college, as well as a highly skilled jet pilot and flying instructor.

Don enrolled at the University of Wyoming to begin his undergraduate degree but took a break after two years to enlist in the Marines and become a pilot. For the Marines, Don flew the WWII Hellcat planes, but he wanted to fly the more powerful Navy jets. He became highly skilled and accomplished flying Grumman F9F-5 and F3D jets on and off Navy aircraft carriers stationed in the ocean. He was scheduled to be deployed to Korea when one of the many truces took effect and the Navy assigned him instead as a flight instructor and relocated him to Beeville, Texas, and the Gulf of Mexico.

After his military service, Don returned to the University of Wyoming, completing his BS in 1959 and his MS in



MORE ONLINE
Read Don's full obituary
at <https://bit.ly/36yLE06>.

1960, both in statistics. Following his academic work, he was tapped by one of his professors, Ed Bryant, along with another master's student, Jim Daley, to co-found Western Statistics, Inc., eventually known as Westat, Inc. Westat became and is still today one of the world's leading private-sector statistical survey research organizations. The corporation is a half-billion-dollar operation with more than 2,000 employees in nine regional US offices and six countries overseas, with three additional subsidiary companies.

After Westat, Inc. was acquired, Don served as a high-level executive in a series of connected companies, eventually leaving to start his own company, King Research, Inc. His company achieved prominence for information systems evaluations and return-on-investment studies, especially of federal and state government and nonprofit organizations, including public libraries and statewide library systems. In 1992, Don retired from the business world to concentrate on writing, lecturing, and service, working extensively pro bono with Carol Tenopir from the University of Tennessee-Knoxville.

In 2016, the University of Wyoming bestowed on Don an honorary doctoral degree, noting his contributions as a world-renowned statistician and information science pioneer.

Don was recognized with a long list of additional awards during his lifetime, including the Distinguished Alumnus of the University of Wyoming, Career Achievement Award, from the Association of Research Libraries; *D-Lib Magazine* as one of the most-cited authors in its publications; "Pioneer of Science Information" from the Chemical Heritage Foundation; Honorary Fellow from the National Federation of Abstracting and Information Services; Special Recognition from the Special Libraries Association; Distinguished Lecturer by the National Bureau of Standards (now NIST); and the Watson-Davis Award, Research Award, and Award of Merit (the society's highest honor) from the American Society for Information Science and Technology.

Don was preceded in death by his infant daughter, Amy, and his first wife, Martha (Thompson) King.

Don is survived by his wife, José-Marie Griffiths, and six daughters and their families: Lisa Hopper; Kelly Loudermilk; Sara (Tim) Born; Mary (Hal) Quayle; Erin (Sean) O'Donovan; Rhiannon; 14 grandchildren; and three great-grandchildren.

Don requested that his ashes be distributed at sea, in recognition of the honor he had serving his country in the US Marines and Navy. The family is hoping to coordinate this with the activities of the *USS South Dakota* (SSN-790), a nuclear-powered Virginia-class submarine in service with the United States Navy. Don, Griffiths, and their daughter, Rhiannon, attended the official commissioning of the submarine earlier this year in Connecticut.

Memories and tributes to Don can be posted at www.ellsworthfh.com or donald-w-king.forevermissed.com.

Cutting-Edge Content, Focused Discussion, Passion Define BBSW

Contributed by Jing Huang

For the second year in a row, the Bay Area Biotech-Pharma Statistics Workshop (BBSW, www.bbsw.org/bbsw-2019) was successful in providing statisticians, data scientists, and other colleagues with a venue to connect, learn, and grow.

This year, two events were added on the day before the workshop. One was a short course taught by Rebecca Hubbard from the University of Pennsylvania, titled “Analysis of Big Healthcare Databases.” This course was sponsored by the ASA Council of Chapters through the program of traveling courses and co-hosted by BBSW and the Bay Area Chapter (SFASA), a close strategic partner of BBSW.

The other event was the Biotech-Pharma R User Meetup attended by around 70 people. Experienced R users Alan Dipert, QingHua Song, and Michael Lawrence shared tips and knowledge about Shiny, R tools for AI, and how to establish a collaborative culture through inner sourcing.

The workshop started with opening remarks by Imola Fodor of Genentech and the chair of BBSW 2019. She shared the history of BBSW and this year’s theme: innovation and leadership.

Fodor’s welcome was followed by a keynote address by Jeff Helterbrand of Genentech, titled “The Future of Data Science in Biotech-Pharma.” He began with an overview of data science development over the last 60 years in the biotech-pharma industry, then touched on the importance of FAIR (Findable, Accessible, Interoperable, and Reusable) data, and ended with a discussion about leadership in the digital era and why analytical leaders such as statisticians are critical.

Two invited sessions followed, one on complex innovative designs and the other on informing personalized health care with real-world evidence (RWE). In a talk titled “Using Natural History Data as a Comparator in an Ultra-Orphan Disease Indication,” Peter Slasor of BioMarin discussed technical and regulatory challenges BioMarin faced with RWE data in getting drug approval.

The afternoon keynote was presented by Steven Goodman, a world-renowned statistician and professor of medicine at Stanford University. He discussed what type of critical thinking is necessary to develop truly useful biomarkers and diagnostic tools.

Next up were lightning talks, which focused on emerging technologies. Session Chair Ray Lin gave an overview, connecting these up-and-coming technologies and highlighting each one’s relevance

Supporting Organizations

ASA Biopharmaceutical Section (<https://bit.ly/35wss2U>)

ASA Bay Area Chapter (www.sfasa.org)

Bay Area Entrepreneurs in Statistics (<https://bit.ly/2YIJjNC>)

Center for Innovative Study Design at Stanford University (<https://stan.md/2RNC2uj>)

DahShu (www.dahshu.org)

to advancing precision health. Next, Marina Sirota from the University of California, San Francisco, provided an overview of computational drug discovery. Shirley Wu from 23andMe described that company’s data-driven approach and the power of billions of data points.

Day one concluded with a banquet accompanied by a panel discussion on leadership and career development. It was moderated by Whedy Wang of Theravance Biopharma. Panelists were Merrill Birkner of 23andMe, Mike Crager of Genomic Health, Fodor, Jing Huang of Veracyte, Corsee Sanders of Juno Therapeutics, and Richard Simon of the National Cancer Institute.

The second day began with Part II of the innovative design talks. A presentation by Yi Liu of Nektar provided a perspective on sample size estimation in adaptive designs by using the return of investment as the guiding principle. It was followed by another invited session on biomarker and machine learning.

Liang Fang of MyoKardia hosted the annual leadership forum luncheon, during which several biometrics leaders participated in a discussion about setting leadership goals for the BBSW community.

The afternoon session involved a panel discussion on collaboration at the intersection of statistics, bioinformatics, and data science moderated by Tara Maddala, a well-known biotech leader. Panelists from academia and industry shared their perspectives on skills to master in an era driven by data science and the unique advantage of statistical training. It was followed by the second half of the lightning talks.

Around 300 people attended the workshop and more than 20 companies helped sponsor the event. The secret sauce to BBSW’s success has three key ingredients: cutting-edge technical content, focused discussion on leadership strategies, and synergistic passion from all participants. ■



Clockwise from left: Nai-Wei Chen, Felix Owusu, Benjamin Bortey, Ellen Barnes, Karry Roberts, Mary Coffey, Rob Kushler, Rob Podolsky, David Corliss, and Lance Heilbrun

Detroit Chapter

The Detroit Chapter kicked off its initial “Numbers and Networking” social event for chapter membership October 4. Rob Podolsky, chapter president, organized the get-together based on the ASA chapter mentoring workshop he attended. Podolsky said the training advised to start small with community outreach and let the events develop over time, with the primary goal being to increase membership participation.

Numbers and Networking took place at a brew pub in the Detroit suburbs, providing a change of pace from the usual chapter meetings in a conference room with a presenter. Members were invited to meet their fellow Detroit-area statisticians, data scientists, analysts, and programmers.

The chapter provided appetizers, and members purchased their own beverages. The evening was fun, with members who aren’t regularly at the chapter meetings turning out. Plans include more events in varying locations, depending on membership response.

Physical and Engineering Sciences

Bobby Gramacy, SPES Chair, and Ming Li, SPES Award Committee Chair

Although the SPES community has historically focused on industrial statistics, design, quality, and reliability, we are increasingly pivoting toward

modern methods in learning and high-performance computing in statistical methodology, with diverse applications throughout the applied sciences, particularly the blossoming area of (industrial) information technology. If you are interested in advancing ideas combining data science, machine

learning, or big data methods with applications in industry and applied science, consider getting more involved in SPES activities.

For instance, you might plan a workshop that specifically connects big data or machine learning to industrial statistics and related areas. Or you might organize an invited session at one of our annual meetings: JSM (<https://bit.ly/2rNn4Kn>); Spring Research Conference (<https://bit.ly/2LUiWyX>); and Fall Technical Conference (falltechnicalconference.org).

There is also the SPES-sponsored Marquardt Memorial Industrial Speakers Program (<https://bit.ly/35fxgd3>). This program provides funding for industrial statisticians to visit universities and discuss their work, as well as opportunities in the area, and to promote industrial statistics and opportunities to the larger statistics community.

Feel free to email SPES Chair Bobby Gramacy at rbg@vt.edu to discuss your ideas.

Call for SPES Award Nominations

The SPES Award is bestowed upon a distinguished individual or individuals for their innovative use of statistics to solve a high-impact problem in the physical and engineering sciences. In even-numbered years, the award is presented for distinguished work performed during the previous two years by a collaborative team of statisticians and practitioners in an industrial, manufacturing, or research organization. Nominations are due by February 20, 2020. For more information, visit <https://bit.ly/2YKgbWa>. ■

Teaching Statistics in the Health Sciences

The Teaching Statistics in the Health Sciences Section is accepting nominations for the following two major awards in 2020:

Outstanding Teaching Award

This award recognizes an outstanding statistics educator and mentor in the health sciences. <https://bit.ly/36CBgER>

Young Investigator Award

This award recognizes a promising “young investigator” for her/his promise as a statistics educator or in conducting statistics education research in the health sciences. A young investigator is defined as a current graduate student or a recent graduate who has received her/his terminal degree no more than seven years ago and who is in a position with rank below associate professor and does not hold tenure (or equivalent classification). <https://bit.ly/2qPfeiN>

The first award carries a \$250 cash prize, while the second carries a \$500 cash prize.

The deadline for nominations is May 15, 2020. Any inquiries and all award nominations should be submitted to tshs.asa@gmail.com. Information will also be posted on the section blog, which can be found at <https://bit.ly/2rLTSTT>. ■

GSS Mentoring Roundtable Brings Positive Feedback

Elizabeth Mannshardt, 2019 GSS Chair

The Government Statistics Section (GSS) hosted a mentoring roundtable at JSM 2019 designed to encourage diverse participation and engage young professionals and students via interaction with more advanced-career members of the GSS community. Feedback was overwhelmingly positive from both mentee participants and GSS mentors.



Nancy Murray

“They were all personable and shared their more human aspects of their stories with us. I walked away with advice for applying to government positions, a better understanding of the advantages and disadvantages of working in the government, and leadership tips.” – Nancy Murray, Emory University



Katherine Allen

“The mentors were very informative, particularly in regards to advice on finding careers and securing jobs in government.” – Katherine Allen, North Carolina State University



Wendy Martinez

“I had a wonderful time! It was interesting to hear about what the mentees are hoping for with their careers and also to hear about the experiences of the other mentors. It made me realize that we all come to our place in life, education, and careers in different ways, bringing home the point that there is no one “right” way. ... The students were great. I was impressed by their reasons for attending the session and how carefully they listened and participated in the session.” – Wendy Martinez, Bureau of Labor Statistics



Stephanie Shipp

“I know I found that I learn as much, if not more, by being a mentor and by participating in the session. ... I hope we succeeded in honoring Steven Spielberg’s quote: “The delicate balance of mentoring someone is not creating them in your own image but giving them the opportunity to create themselves.” – Stephanie Shipp, University of Virginia



Barry Nussbaum

“It was fun being a participant at the mentoring roundtable. We indeed had a very open conversation.” – Barry Nussbaum, US Environmental Protection Agency (retired)

To participate in the GSS mentoring roundtable at JSM 2020, visit the GSS Professional Development Mentoring page at <https://bit.ly/2PmSPDb> or contact 2019 GSS Chair Elizabeth Mannshardt at mannshardt@stat.ncsu.edu. ■

calendar of events

The following events are the latest additions to the ASA's online calendar of events. Announcements are accepted from education and not-for-profit organizations only. To view the complete list of statistics meetings and workshops, visit www.amstat.org/dateline.

* Indicates events sponsored by the ASA or one of its sections, chapters, or committees

» Indicates events posted since the previous issue



2020

March

24–27—SIAM Conference on Uncertainty Quantification (UQ20), Garching, Germany

For details, visit <https://bit.ly/35yvwfi> or contact Jade Daniels, 3600 Market St., Philadelphia, PA 19104; (215) 382-9800; daniels@siam.org.

April

»*29—13th Annual UPenn Conference on Statistical Issues in Clinical Trials: Cluster Randomized Clinical Trials: Opportunities and Challenges, Philadelphia, Pennsylvania

For more information, contact Jonas Ellenberg, 423 Guardian Drive, Suite 617, Philadelphia, PA 19104; (215) 573-3904; jellenbe@pennmedicine.upenn.edu.

May

5–7—SIAM Conference on Mathematics of Data Science (MDS20), Cincinnati, Ohio

For more information, contact Adrienne Ali, 3600 Market St., Philadelphia, PA 19104; (215) 382-9800; ali@siam.org.

»8–10—The 8th Workshop on Biostatistics and Bioinformatics, Atlanta, Georgia

For details, visit <https://bit.ly/2LYkbbxi> or contact Yichuan Zhao, 1342, 25 Park Place, Atlanta, GA 30303; (404) 413-6446; yichuan@gsu.edu.





»*18—Pfizer/ASA/Columbia University Symposium on Risks and Opportunities of AI in Clinical Drug Development, New York, NY

For more information, contact Stephen Porzio, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.

June

»1-5—NSF-CBMS Regional Research Conference: Parallel Time Integration, Michigan Technological University, Houghton, Michigan

For details, visit <https://bit.ly/2PU3XGi> or contact Benjamin Ong, Michigan Tech University, Houghton, MI 49931; ongbw@mtu.edu.

*3-6—2020 Symposium on Data Science & Statistics, Pittsburgh, Pennsylvania

For more information, visit <https://bit.ly/2qXcekt> or contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.

»15-18/2020—10th International Workshop on Applied Probability (IWAP2020), Thessaloniki, Greece

For more information, visit <https://bit.ly/36F6ew0> or contact George Tsaklidis, Aristotle University of Thessaloniki, University Campus, 54124, Thessaloniki, Greece; +302310997964; tsaklidi@math.auth.gr.





21–23—The Fifth Workshop on Higher-Order Asymptotics and Post-Selection Inference (WHOA-PSI), St. Louis, Missouri

For details, visit <https://bit.ly/2PoXnbX> or contact Todd Kuffner, 1 Brookings Drive, Campus Box 1146, Saint Louis, MO 63130; kuffner@wustl.edu.

22–26—International Statistical Ecology Conference (ISEC2020), Sydney, Australia

For more information, visit isec2020.org or contact David Warton, School of Mathematics and Statistics, UNSW Sydney, International 2052, Australia; +61405781724; isec2020@unsw.edu.au.



24–27—5th International Workshop on Functional and Operatorial Statistics (IWFOs 2020), Brno, Czech Republic

For details, visit iwfos2020.sci.muni.cz or contact David Kraus, Kotlářská 2, Brno, International 611 37, Czech Republic; david.kraus@mail.muni.cz.

25–27—Open Problems in Parametric Likelihood-Based Inference, St. Louis, Missouri

For details, visit <https://bit.ly/2M0uSzj> or contact Todd Kuffner, 1 Brookings Drive, Campus Box 1146, Saint Louis, MO 63130; kuffner@wustl.edu.



July

5–10—International Biometric Conference (IBC), Seoul, South Korea

For more information, visit <https://bit.ly/2M1nAvj> or contact Kristina Wolford, 1120 20th St. NW, Suite 750, Washington, DC 20036; (202) 712-9049; conference@biometricsociety.org.

6–10—International Conference on Robust Statistics (ICORS 2020), Vienna, Austria

For details, contact Peter Filzmoser, Wiedner Hauptstr. 8-10, Vienna, International 1040, Austria; 43-1-

58801-10560; P.Filzmoser@tuwien.ac.at.

August

*1–6—2020 Joint Statistical Meetings, Philadelphia, Pennsylvania

For more information, contact ASA Meetings, 732 North Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.





6–8—26th ISSAT International Conference on Reliability and Quality in Design, Miami, Florida

For more information, visit <https://bit.ly/36J08dQ> or contact Conference Secretary, PO Box 281, Edison, NJ 08818; rqd@issatconferences.org.

October

»9–11—International Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC-2020), Greensboro, North Carolina

For details, visit <https://bit.ly/38LyNtq> or contact Sat Gupta, Department of Mathematics and Statistics, 317 College Ave., 116 Petty Building, Greensboro, NC 27455; (336) 554-4608; sngupta@uncg.edu.

November

»4–6—Big Data Meets Survey Science (BigSurv20), Utrecht, The Netherlands

For more information, visit <https://bit.ly/34oxsWg> or contact Peter Lugtig, Padualaan 14, Utrecht, International 3584CH, The Netherlands; +31 30 2537761; info@bigsurv20.org.

Prasad Karantha, VI Floor, Health Science Library Building, Manipal Academy of Higher Education, Manipal, International 576104, India; +91 9980100886; kmprasad63@gmail.com.

17–19—International Conference on Linear Algebra and Its Applications (ICLAA 2020), MAHE, Manipal, India

For more information, visit <https://bit.ly/2S1izXd> or contact Manjunatha Prasad Karantha, VI Floor, Health Science Library Building, Manipal Academy of Higher Education, Manipal, International 576104, India; +919980100886; kmprasad63@gmail.com. ■

December

15–17—28th International Workshop on Matrices and Statistics (IWMS 2020), MAHE, Manipal, India

For details, visit <https://bit.ly/34ugdCK> or contact Manjunatha



California

■ The USC Marshall School of Business, Data Sciences and Operations Department invites applications for a non-tenure track (teaching) position. Candidates should have a PhD in operations management, statistics, information systems or a related discipline, or be assured of its completion by fall 2020. Apply online <https://bit.ly/2YRyf0y>. EOE

■ Assistant, associate, full regular/in residence professor the appointee chosen for this position will be responsible for independent research, collaborative research, teaching, mentoring, and service. University of California, Davis, School of Medicine, Department of Public Health Sciences is seeking to fill one or two open rank faculty positions in the regular and/or in-residence series. As an assistant, associate, or full regular/in residence professor of biostatistics. <https://bit.ly/2qW4qzq>. EOE

Florida

■ The Health Informatics Institute at the University of South Florida invites applications for an open-rank research faculty position in biostatistics. The Institute is NIH-funded as a 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 of analytics. Apply to position 22377 or 22378 at Careers@USF.edu. EOE

Georgia

■ The Department of Mathematics and Statistics at Georgia State University invites applications for a senior (associate or full professor) faculty position in Applied Statistics and Data Science with an anticipated start date of August 2020. The candidate will develop and lead the Department's applied statistics program. The successful applicant will guide the department faculty through

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>.

significant curriculum change and development. Submit applications directly to www.mathjobs.org. Georgia State University, a Research University of the University System of Georgia, is an EEO/AA Employer and does not discriminate against applicants due to race, ethnicity, gender, veteran status, or on the basis of disability or any other federal, state or local protected class.

Indiana

■ Faculty positions (rank commensurate with experience/qualifications), Department of Biostatistics/Indiana University School of Medicine, Indianapolis, IN. Duties: statistical research, teaching, collaborative research. PhD in biostatistics, statistics or related field, excellent communication skills required; Practical experience preferred. Competitive salary/excellent benefits. Submit CV, research/teaching statements, 3 references to: <https://bit.ly/34sWUd7>. Indiana University is an EEO/AA employer, M/F/D/V.

Kansas

■ Department of Mathematics, University of Kansas invites applications for a non-tenure track Visiting Assistant Professor position in statistics to begin August 18, 2020. PhD or ABD in math, statistics or related field. For a complete announcement and to apply online, go to <https://bit.ly/38GwU1c>. At least four recommendation letters should be submitted electronically to <https://bit.ly/2PPucxQ>. Initial review began December 2, 2019. KU is an EO/AAE. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex (including pregnancy), age, national origin, disability, genetic information or protected Veteran status.

Maryland

■ The Emmes Company in Rockville, MD, a full-service Contract Research Organization, has openings for PhD-level statisticians to serve on and lead multi-disciplinary project teams supporting clinical research with great public health impact across a range of disease

areas. Requirements: Solid background in statistical methods with a PhD in biostatistics/statistics/epidemiology, strong oral and written communication skills, and leadership potential. Apply directly online at www.emmes.com. EOE

Massachusetts

■ Mclean Hospital/Harvard Medical School. Biostatistics Faculty position, assistant professor level in psychiatric biostatistics program. Responsible for developing collaborations with McLean investigators and participating in statistical consultations. Doctoral degree in biostatistics or a statistics-related field required; publication record in methods or applications; 2+ years post-PhD collaborative research experience preferred. Send CV, research interests statement: Garrett Fitzmaurice, Search Chair Email: gfitzmaurice@mclean.harvard.edu. It is the policy of McLean Hospital to affirmatively provide equal opportunity to all qualified applicants for employment and existing employees without regard to their race, religion, color, national origin, sex, age, ancestry, protected veteran status, disability, sexual orientation, gender identity or expression, pregnancy or a condition related to pregnancy including, but not limited to, lactation or the need to express breast milk for a nursing child, or any other basis that would be in violation of any applicable law or regulation.

■ Boston University Goldman School of Dental Medicine invites applicants for a biostatistician faculty position, Open rank. Responsibilities: teaching, mentoring, data analysis. Requirements: earned PhD (Biostatistics/Statistics), proficiency with SAS/SPSS/Stata, and experience as a course leader/developing course(s), grant writing/publications, and mentoring. Employment begins July 1, 2020. Address materials (CV, teaching statement, cover-letter, 3 professional references) to Dr. Belinda Borrelli, Search Committee Chair. Email to Ms. Case (Case@bu.edu). EOE

Michigan

■ University of Michigan's Survey Research Center (<https://bit.ly/38GwMyK>) within the Institute for Social Research invites applications from outstanding candidates with a demonstrated interest in innovative survey methodology for a position in the Research Professor ranks. Candidates will be able to pursue their own research interests, teach courses, and mentor students For a full description of the position and application instructions visit: <https://bit.ly/2PUo3jZ> Apply to: <https://bit.ly/38MriCr>. EOE

Tennessee

■ Faculty Positions, Department of Biostatistics, St. Jude Children's Research Hospital invites applications for three faculty positions at the Assistant or Associate Professor level. Candidates must have a PhD in Biostatistics or

Statistics and a record of peer-reviewed publications. The selected candidate will be expected to have continued independent statistical research motivated by biomedical collaborations. Learn more at: <http://bit.ly/biostats-sj>. EE/AAE

Texas

■ The Department of Mathematical Sciences in the School of Natural Sciences and Mathematics at The University of Texas at Dallas invites applications for tenure-system faculty positions at the Assistant Professor level. For a full job description, requirements, and to apply, go to <https://bit.ly/2RZbPcy>. The University of Texas at Dallas is an equal opportunity/affirmative action employer (M/F/D/V).

Visiting Assistant Professors



TEXAS A&M UNIVERSITY

Statistics

The Department of Statistics at Texas A&M University seeks two Visiting Assistant Professors positions for appointment beginning September 1, 2020. These appointments will be non-tenure track. Both positions are full time, 9-month appointments. Duties and responsibilities include teaching three courses per semester. Based on applicant preferences, the courses may be taught at either the graduate or undergraduate level, and multiple sections of the same course may be counted separately toward the teaching requirements if undergraduate service courses are taught.

The successful applicant must have a doctorate in statistics or biostatistics, and previous experience in teaching at the undergraduate level is preferred. Interested applicants should send a current cv and a two-page teaching statement and summary of teaching experience. To apply, please visit <https://apply.interfolio.com/70336>. Review of applicants will begin immediately. For questions, email inquiries to Dr. Samiran Sinha, Search Committee Chair, at hiring@stat.tamu.edu.

The Texas A&M System is an Equal Opportunity/Affirmative Action/Veterans/Disability Employer committed to diversity. Texas A&M University, the College of Science and the Department of Statistics are dedicated to the goal of building an inclusive and culturally diverse faculty and staff who are committed to teaching and working in an environment of academic freedom and equality of opportunity. Texas A&M University has a partner placement program and is responsive to the particular needs of dual career couples. The Department of Statistics is interested in candidates who can contribute to the diversity of the academic community through their research, teaching and/or service.

Application Materials Required: Cover Letter, Curriculum Vitae, Teaching Statement, Summary of teaching experience, Three professional references with contact information.

Tenured/Tenure-Track Faculty Position(s) Cornell University

Cornell University's School of Operations Research and Information Engineering (ORIE) seeks to fill multiple tenured/tenure-track faculty positions for its Ithaca campus. We welcome strong applicants in all areas of operations research and its interface with data science, in particular those in resonance with the Cornell College of Engineering Strategic Areas. A separate search in related areas is being conducted for our NYC campus within the Jacobs Technion-Cornell Institute. For the NYC position(s), we welcome strong applicants whose research aligns with one of the Jacobs Institute's three research hubs (connective media, health technology, and urban technology).

Requisite is a strong interest in the broad mission of the School, exceptional potential for leadership in research and education, an ability and willingness to teach at all levels of the program, and a Ph.D. in operations research, mathematics, statistics, or a related field by the start of the appointment. Salary will be appropriate to qualifications and engineering school norms.

Cornell ORIE is a diverse group of high-quality researchers and educators interested in probability, optimization, statistics, machine learning, simulation, game theory, and a wide array of applications such as health care, e-commerce, supply chains, scheduling, manufacturing, transportation systems, financial engineering, service systems and network science. We value mathematical and technical depth and innovation, and experience with applications and practice. Ideal candidates will have correspondingly broad training and interests.

A complete application should include a cover letter, CV, statements of teaching and research interests, statement of diversity, equity, and inclusion, sample publications, at least three reference letters, and, for junior applicants, a doctoral transcript. Applications for the Ithaca positions should be submitted on AJO at <https://academicjobsonline.org/ajo/jobs/14872>. For the NYC-based position, applications should be submitted on AJO at <https://academicjobsonline.org/ajo/jobs/14861>.

We urge candidates to submit the required material as soon as possible. Applications will be accepted until the positions are filled.

ORIE and the College of Engineering at Cornell embrace diversity and seek candidates who can contribute to a welcoming climate for students of all races and genders. Cornell University seeks to meet the needs of dual career couples, has a Dual Career program, and is a member of the Upstate New York Higher Education Recruitment Consortium to assist with dual career searches. Visit www.unyherc.org/home to see positions available in higher education in the upstate New York area.

Cornell University is an innovative Ivy League university and a great place to work. Our inclusive community of scholars, students and staff impart an uncommon sense of larger purpose and contribute creative ideas to further the university's mission of teaching, discovery and engagement. With our main campus located in Ithaca, NY Cornell's far-flung global presence includes the medical college's campuses in Manhattan and Doha, Qatar, as well as the new Cornell Tech campus located on Roosevelt Island in the heart of New York City.



Diversity and Inclusion are a part of Cornell's heritage. We are a recognized employer and educator valuing AA/EEO, Protected Veterans, and Individuals with Disabilities. We strongly encourage qualified women and minority candidates to apply.

■ Rice University has an opening for a non-tenure-track assistant teaching professor position in the statistics department, teaching introductory courses in statistics, data science and capstone based courses. Requirements: PhD degree in statistics or related disciplines. Strong applicants whose primary degree is not in statistics, biostatistics, econometrics, machine learning, data science or a related area will be considered with evidence of strong statistical training. Apply by January 15, 2020 to link <https://bit.ly/2sCk6Iv>. EOE

PhD Biostatistician, Assistant/Associate Professor (tenure-track) to work in Division of Clinical and Translational Sciences (DCTS), within Internal Medicine at The University of Texas

Health Science Center at Houston (UTHealth). Will work closely w/ multidisciplinary team of biostatisticians, epidemiologists and clinicians at UTHealth. Should have experience with NIH-style grants and manuscripts. Interested candidates should refer to the job posting at <https://bit.ly/2PMjk3K> (Requisition #190000G3) for more information. EOE

Vermont

■ Tenure track assistant professor in biostatistics. Department of Mathematics and Statistics, University of Vermont. Candidates are required to have a research focus on infectious diseases. The position involves a secondary appointment in the UVM Larner College of Medicine and being a junior


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Statistical Career Opportunities

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investigator in UVM's NIH-funded COBRE on translational global infectious disease research. All application materials must be submitted online at <https://bit.ly/34qsSXm>. EOE

Virginia

■ The George Mason University Department of Statistics invites applications for multiple tenure-track/tenured positions beginning fall 2020. Senior candidates with outstanding research, demonstrated funding, and excellent teaching will be eligible for tenured associate or full professor positions. See <https://bit.ly/2YV17Fl> for the complete ad and apply with position number F465AZ at <http://jobs.gmu.edu>. The review of applications began December 2, 2019, and will continue until the positions are filled. EOE ■



香港中文大學
The Chinese University of Hong Kong

Applications are invited for:-

Department of Statistics Professor / Associate Professor / Assistant Professor (Ref. 190002AA)

The Department of Statistics is now inviting applications for a professoriate position. The appointment rank will be determined by the qualifications and experience of the successful candidate.

Applicants should have (i) a PhD degree in statistics or a related field; and (ii) high-quality research output and a strong teaching track record in all areas of statistics and Risk Management Science.

Appointment will normally be made on contract basis for up to three years initially commencing August 2020, which, subject to mutual agreement, may lead to longer-term appointment or substantiation later. Outstanding candidates with substantial experience for Professor rank may be considered for substantive appointment forthwith.

Review of applications will commence from January 16, 2020, and will continue until the post is filled.

Further information about the Department is available at <http://www.sta.cuhk.edu.hk>.

Application Procedure

Applicants please complete the online application form and upload a cover letter, a full curriculum vitae, a statement of research and teaching interests, and copies of up to five recent publications preferably by January 15, 2020. Applicants should also provide names, addresses and e-mail addresses of three referees to whom the applicants' consent has been given for their providing references.

The University only accepts and considers applications submitted online for the post above. For more information and to apply online, please visit <http://career.cuhk.edu.hk>.

Instructional Track Faculty Positions Available

Texas A&M University, College Station, Texas



TEXAS A&M UNIVERSITY

Statistics

The Department of Statistics at Texas A&M University seeks two Instructional Track Faculty positions for appointment of Instructional Assistant Professor or Instructional Associate Professor. These appointments will be non-tenure track. Both appointments will begin on September 1, 2020. Duties and responsibilities include teaching 2-4 courses in the MS Program for online and on-campus students and 2-3 undergraduate courses. Based on applicant preferences, the courses may be taught at either the graduate or undergraduate level, and multiple sections of the same course may be counted separately toward the teaching requirement if undergraduate service courses are taught. Both positions are full time, 9-month appointments and will participate in the course development for graduate and undergraduates as well as mentoring PhD students and Teaching Assistants.

The successful applicants must have a doctorate in statistics or biostatistics, and previous experience in teaching at the undergraduate level is preferred. Interested applicants should send a current cv and a two-page teaching statement and summary of teaching experience. To apply, please visit <https://apply.interfolio.com/70328>. Review of applicants will begin immediately. For questions, email inquiries to Dr. Samiran Sinha, Search Committee Chair, at hiring@stat.tamu.edu.

The Texas A&M System is an Equal Opportunity/Affirmative Action/Veterans/Disability Employer committed to diversity. Texas A&M University, the College of Science and the Department of Statistics are dedicated to the goal of building an inclusive and culturally diverse faculty and staff who are committed to teaching and working in an environment of academic freedom and equality of opportunity. Texas A&M University has a partner placement program and is responsive to the particular needs of dual career couples. The Department of Statistics is interested in candidates who can contribute to the diversity of the academic community through their research, teaching and/or service.

Application Materials Required: Cover Letter; Curriculum Vitae; Teaching Statement; Summary of teaching experience; and Three professional references with contact information.

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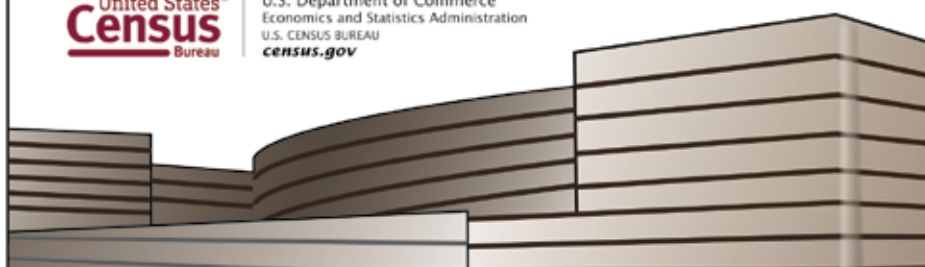
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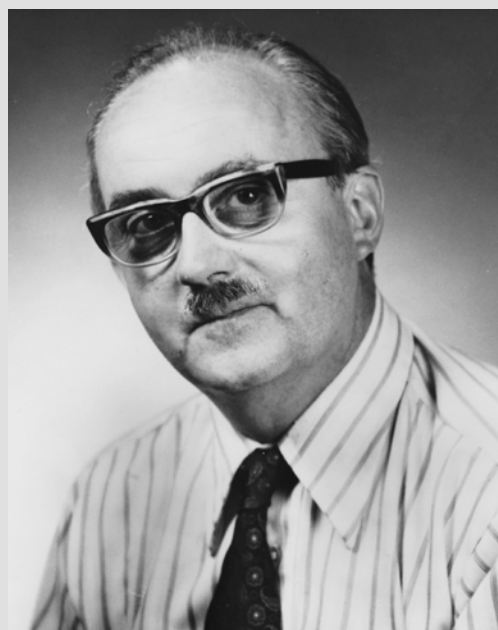
Himel Mallick

George Box— so that I can better understand the thought process behind the statement ‘All models are wrong, but some are useful’ :)

Ryan Carr

I would ALSO pick Box - but only because he was so brilliant as to write “All models are wrong, but some are useful” because – all models ARE wrong.

Tapio Nummi Box is an excellent choice, a brilliant applied statistician.



Louis Kipphen

Edith Abbott



NEXT MONTH: Do statisticians have a favorite random statistic? If so, what is it?



W Christensen • @wchristensen

Tough call, but if I had to pick off-hand, I'd want to interview William Gosset. Naturally, the ideal setting would be over drinks at Guinness

Caleb King • @ckingstats

I'd probably go with William Gosset as well. I get the impression anyone who calls themselves Student is quite the humble man. I'd like to know what he'd think of his contributions to statistics.



Alex Spiers •

@MrAlexSpiers

I would quite like to challenge Fisher about some of his less than palatable views... particularly his view that races might differ “in their innate capacity for intellectual and emotional development.”



NATIONAL CANCER INSTITUTE
Division of Cancer
Epidemiology & Genetics

Department of Health and Human Services
National Institutes of Health
National Cancer Institute
Division of Cancer Epidemiology and Genetics
Biostatistics Branch

Tenure-Track/Tenure-Eligible Investigator

The Biostatistics Branch (BB) in the Division of Cancer Epidemiology and Genetics (DCEG), National Cancer Institute (NCI), National Institutes of Health (NIH), Department of Health and Human Services (DHHS), is recruiting for a tenure-track/tenure eligible position to work on methods development and applications in a highly collaborative and data-rich environment with one-of-a-kind data and computational resources.

BB investigators develop novel analytical approaches from cutting-edge scientific challenges faced by epidemiological studies to identify and characterize environmental and genetic determinants of cancer risk, as well as clinical and cancer prevention studies. These challenges include choosing an efficient study and sampling design, integrative analyses of high-dimensional, time-dependent data such as data derived from electronic medical records, geographical/spatial statistics, biosensors, omic technologies to measure biomarkers, genomics, as well as designing validation studies and methods to evaluate and correct for measurement error in exposures and clinical outcomes.

The successful applicant will have opportunities to work on a wide range of analytical challenges because of the breadth and depth of our program. They will develop an independently initiated methodological research program that will focus on solving statistical challenges in cancer epidemiology and/or genetics.

Opportunities to hire postdoctoral fellows and computational support will be provided. Of particular interest are applicants focused on methodological and applications research in high dimensional and integrative data, spatial data analysis, and causal inference. We seek qualified applicants with all areas of statistical expertise in methods, including but not restricted to semiparametric and survival analysis including competing risks, functional data analyses, Bayesian and non-Bayesian computations, and network theory.

Applications will be evaluated on demonstrated potential to develop a creative, independent program of statistical research applicable to cancer epidemiology and genetics, and to collaborate effectively on epidemiologic studies. The ideal candidate will have the opportunity to build an innovative research program that takes advantage of the highly collaborative and data-rich environment of DCEG.

Applicants should have a doctorate in biostatistics, statistics or a related field and knowledge of the basic approaches used in cancer epidemiology. A record of publications demonstrating an ability to conduct independent research on statistical methods is required. Publications documenting collaborative research in epidemiologic, clinical, biomedical or biological sciences are highly desirable. The successful candidate should have strong communication skills to discuss scientific issues with non-statistician colleagues and to write scientific papers.

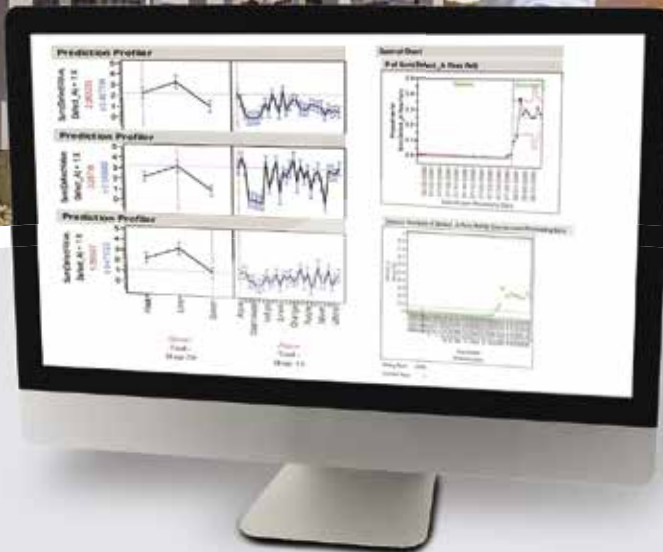
Selection for this position will be based solely on merit, with no discrimination for non-merit reasons such as race, color, religion, gender, sexual orientation, national origin, political affiliation, marital status, disability, age, or membership or non-membership in an employee organization. NIH encourages the application and nomination of qualified women, minorities and individuals with disabilities. NIH provides reasonable accommodations to applicants with disabilities. If you require reasonable accommodation during any part of the application and hiring process, please notify us. The decision on granting reasonable accommodation will be made on a case-by-case basis. This position is subject to a background investigation. Salary is commensurate with research experience.

Interested individuals should send a cover letter; curriculum vitae and bibliography; please include in your CV a description of your mentoring and outreach activities, especially those involving women and persons from racial/ethnic or other groups that are underrepresented in biomedical research, a brief summary of research experience, accomplishments and research interests and goals; copies of three publications or preprints; and three letters of reference to:

Ms. Linda Littlejohn
Division of Cancer Epidemiology and Genetics, National Cancer Institute
9609 Medical Center Drive, Suite 7E328, MSC 9775 • Bethesda, MD 20892-9775
Email: NCIDCEGOMR@mail.nih.gov

The review of applications will begin on or about February 29, 2020, but applications will be accepted until the position is filled. Please contact Dr. Paul Albert (phone 240-276-7593 or albertp@mail.nih.gov) for questions about the position.

Ed Hutchins, Cree Product Engineering Manager



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