Celebrating WOMEN IN STATISTICS AND DATA SCIENCE

ALSO:

2021 ASA Board of
Directors Candidates

Giving Day Raises $80k;
GivesBack Leadership
Team Makes Plans

DID YOU KNOW?

SAS/STAT® 15.1 OFFERS BRAND NEW CAPABILITIES.

SAS/STAT 15.1 **HIGHLIGHTS**

Bayesian generalized linear mixed models.

Causal graph analysis.

Regression for time-to-event data based on restricted mean survival time.

Counterfactual analysis using quantile regression.

Semiparametric proportional hazards model for interval-censored data.

Recent SAS/STAT **ADDITIONS**

Casual mediation analysis.

Compartmental models for pharmacokinetic analysis.

Fast quantile process regression.

Cause-specific proportional hazards analysis for competing-risks data.

Variance estimation by the bootstrap method.

support.sas.com/statistics

§sas.

**POWERFUL ANALYTICS.
REAL RESULTS.**

AMSTATNEWS

MARCH 2020 • ISSUE #513

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.

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

features

columns

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

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

MSAM 🌐

Pssssst!
Mathematics and Statistics Awareness Month Is APRIL

The ASA's focus for #mathstatmonth this year is K–6 education. There will be a contest and, of course, our virtual science fair.

You can also look forward to our annual Mathematics and Statistics Awareness Month poster in the April issue of *Amstat News*.

February *Significance* Takes Look at Measurement Error

When we observe the world, we sometimes make mistakes. In the February issue of *Significance* (*https://rss.onlinelibrary.wiley.com/toc/17409713/2020/17/1*), Michael Wallace explains the potentially severe consequences of measurement error and how statistics can help bring us a little closer to the truth.

Wallace's article, "Analysis in an Imperfect World," is the February 2020 cover story, out now in digital format.

Also in this issue:

- With just weeks to go until the decennial United States Census, Joseph J. Salvo, Annette Jacoby, and Arun Peter Lobo explain why proxy respondents, administrative records, and imputation are no substitute for a high rate of self-response.

- Jason Oke and Tom Fanshawe expose four simple biases that can change our understanding of cancer survival rates and skew comparisons made between countries.

- In US federal courts, defendants are often encouraged to plead guilty in exchange for lighter sentences. But not all of those taking a plea might have been found guilty had their cases gone to trial. Michael O. Finkelstein and Bruce Levin estimate the scale of the problem.

Significance is online at *www.significancemagazine.com*.

A little about **Rising Undergraduate Women in STATISTICS and DATA SCIENCE**

Audrey Bertin
Smith College
Graduation: 2021
Major: Statistical and Data Sciences
Minor: Public Policy

Who I'd invite to a dinner party:
1. Florence Nightingale
2. Mollie Orshansky
3. Katherine Johnson

How I'd describe the feeling of solving a statistics/data science problem:
1. Rewarding
2. Satisfying
3. Thrilling

Dream Job: Data journalist, writing about important and meaningful stories/ideas—preferably those where sharing the information will better the lives of people or connect with them emotionally—at a major newspaper or journalism site (e.g., *The New York Times, ProPublica, or FiveThirtyEight*).

Tanaisha Arora
University of California, Irvine
Major: Data Science

Who I'd invite to a dinner party:
1. Jessica Utts
2. Michelle Nuno

How I'd describe the feeling of solving a statistics/data science problem:
1. Skepticism/Disbelief
2. Amazement
3. Excitement (to share the approach/solution)

Dream Job: A data engineer, optimizing the training of models using techniques like parallelization and distributed computing and working on efficient retrieval of data from data storage systems. However, after getting my hands dirty in industry, I am dead set on going to grad school for statistics and would eventually want to work on developing statistical models to solve everyday problems with solutions that lie in the proper analysis of data.

Sarah Zimmermann
Duke University
Graduation: 2018
Major: Statistical Science

Who I'd invite to a dinner party:
1. Melinda Gates
2. Michelle Obama

How I'd describe the feeling of solving a statistics/data science problem:
Hungry for more

Dream job: Every day, I daydream about data and think more people should do the same. My dream job is spending my days creating data visualizations, specifically data comics, in hopes of providing more data and statistical accessibility to all audiences.

Ziwei "Crystal" Zang
Smith College
Graduation: 2020
Major: Mathematics
Minor: Statistics and Data Science

Who I'd invite to a dinner party:
1. Jaya Satagopan
2. Stephanie Hicks

How I'd describe the feeling of solving a statistics/data science problem:
1. Excited
2. Frustrated
3. Amazed

Dream job: Principal investigator of a computational lab in a cancer center

---

LOOK INSIDE

for our Women in History Month poster celebrating rising undergraduate Women in Statistics and Data Science

member news

Follow us on Twitter
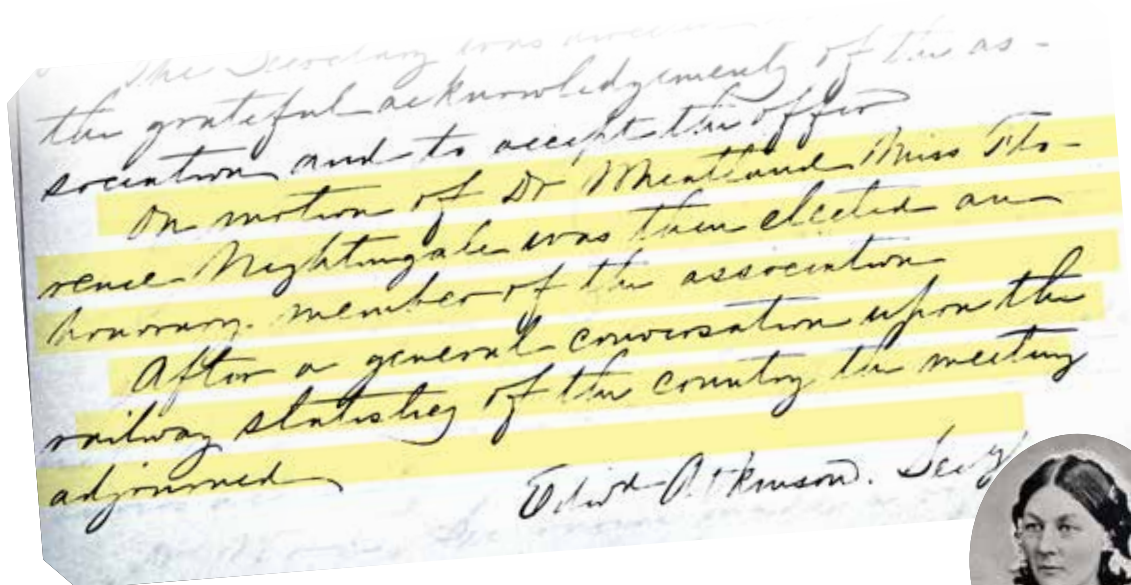*www.twitter.com/AmstatNews*

Join the ASA Community
http://community.amstat.org

Like us on Facebook
www.facebook.com/AmstatNews

Follow us on Instagram
www.instagram.com/AmstatNews

October 16, 1874: ASA Board confirms Florence Nightingale as elected honorary member of the ASA

What Will Be Your Legacy?

"Each generation stands on the shoulders of those who have gone before them …" So begins a quote by Stephen Hawking, and it captures the gratitude I have for the women who preceded me and continue to be a source of inspiration. I would add to this sentiment that support comes not only from past generations but from my contemporaries. I want to take the opportunity in this Women's History Month President's Corner to share some reflections about ASA women who have made an impact and continue to inspire me.

My reflections begin with the first female fellow of the Royal Statistical Society and honorary ASA member, Florence Nightingale. It is a testament to her legacy that we will celebrate the 200th anniversary of her birth with events happening around the globe.

On her birthday—May 2, 2020—the International Statistical Institute (ISI) will begin a celebration of the International Year for Women in Statistics and Data Science. In his February message (*https://isi-web.org*), ISI President John Bailer describes this special celebration that will culminate at the World Statistics Congress in 2021.

Also in 2020, the RSS—in collaboration with the Health Foundation—will award the inaugural Florence Nightingale Award for Excellence in Healthcare Data Analytics.

Of course, ASA members have the opportunity to recognize her contributions by hosting a local Florence Nightingale Day event to inspire young women and men to pursue a career in statistics and data science.

The theme for JSM 2020, "Everyone Counts: Data for the Public Good," would resonate with Kate Holladay Claghorn, whose passion for social justice was central to all her work. She was born in 1864 and experienced many 'firsts' in her lifetime (*https://en.wikipedia.org/wiki/Kate_Claghorn*), including being named the first female fellow of the ASA in 1918 (see image below from *Proceedings of the 80th Annual Meeting of the American Statistical Association*, December 27–28, 1918).

Wendy Martinez

Since the chairman of the Committee on Fellows was unavoidably detained from the meeting, and since no other member of the committee was able to present the results of the final deliberations of the committee at the business session, the Association, on motion by Mr. Rossiter, authorized the Secretary to receive a list of the fellows elected by the committee for inclusion in the roll of fellows of the Association. The names are as follows: Kate H. Claghorn, John Cummings, William A. Hathaway and Horace Secrist.

She worked at the US Census Office, the New York Tenement House, and, in 1912, joined the faculty at the New York School of Social Work (or School of Applied Philanthropy at the time). She wrote articles and books, with perhaps the best known being *The Immigrants' Day in Court*.

Our community has a rich history of supporting statistical literacy and statistics education. The association's first female president, Helen M. Walker (*https://magazine.amstat.org/blog/2016/12/01/sih-hwalker*), was a staunch advocate for statistics education, especially for nonstatisticians. This is particularly meaningful to me, as one of our ASA 2020 initiatives will focus on encouraging statistical thinking for our youth.

You may also recognize her name in connection with the Helen Walker Society, which is the first major ASA giving society (*www.amstat.org/ASA/Giving/HWS.aspx*). It is through donations to the Helen Walker Society and on ASA Giving Day that we can achieve much for our profession by supporting important programs in education, leadership, and more.

A name, arguably as well known in the statistics world as Florence Nightingale, is Gertrude Cox. We celebrate her 'firsts,' including her election as the first woman member of ISI (1949) and her service as the first female department head at North Carolina State College (1941) (*www.ams.org/journals/notices/201903/rnoti-p317.pdf*). In 1956, she became the third woman to serve as president of the ASA. Her legacy lives on through the Cox Scholarship, which is sponsored by the ASA and Caucus for Women in Statistics. This scholarship started in 1989 with the goal of encouraging women to pursue careers in statistics.

The American Statistical Association was founded when five members acted on a goal to promote the profession. This legacy of service continued when Bhramar Mukherjee and Amanda Golbeck got together at the Women in Statistics and Data Science Conference and made a plan to propose two lectureships named after women. Golbeck later commented, "Establishing a new named lecture slot at the JSM for the (Elizabeth L.) Scott Lecture and (F. N.) David Lecture is another significant step forward in advancing the statistics profession. It adds a face to the profession's ongoing and growing commitment to diversity and inclusion.

The first was the David Lecture, which was given by Susan Ellenberg of the University of Pennsylvania (2019). The first Scott Lecture will be presented at JSM 2020. These prestigious lectures are included as part of the COPSS (Committee of Presidents of Statistical Societies) set of awards (*https://community.amstat.org/copss/home*) and were established through the leadership and commitment of the ASA, CWS, ISI, Statistical Society of Canada, and International Biometric Society.

I am happy the ASA has done so much over the years to foster diversity and inclusion in both our association and our profession, and I take comfort knowing we will continue to do so in the future.

Moving to the present, I want to acknowledge two contemporary women who have been wonderful role models and mentors: Karen Kafadar (2019 ASA president) and Lisa LaVange (2018 ASA president). It is fun to note (and interesting to me!) that 2019 was another year of firsts for our association, as it was the first time three ASA presidents in succession were women.

The women I've mentioned are not the only people—women and men—who have inspired me. There is not enough room in this issue to describe them all. I encourage each of you to remember those who've inspired you in all aspects of your life—personally and professionally—and think about how you might inspire those who will come after us. What will be your legacy?

Staff Spotlight: **Kim Gilliam**

Kim's All-Time Favorites

Authors: William Styron, J.D. Salinger, and John Irving

Destination: Maine

Music: Acoustic anything

Season: Fall

Accessory: Boots—no matter what the season

Beer: IPA

Meal: Seafood

Necessity: Coffee—hands down.

I prefer mountains over the coast, lake life over city life, and backcountry camping over a hotel stay. #leavenotrace!

Hello! My name is Kim Gilliam, and I'm thrilled to be the newest member of the ASA marketing and communications team. I began my career in the nonprofit space more than 25 years ago—just as Yahoo was emerging as a top search engine and a few moons before I'd buy my first Nokia. Willingly dating myself here….

My first job out of college was as a junior editor at the American Meat Institute, and then I went on to help launch a professional issues magazine for the American Physical Therapy Association. The highlight of my career so far was a cover assignment on paralympians and their physical therapists at the 1996 Paralympic Games in Atlanta, Georgia. Amazing.

I just completed a six-year stint at an association consulting firm in their comm shop, writing blogs, producing a weekly podcast, and managing their social media platform. And prior to that, I spent a few years on Capitol Hill, working for an environmental lobbyist—with a focus on nuclear waste remediation.

Environmentalism plays a big role in my family, and we're working toward more sustainable lifestyle habits with the goal of making a whole lot less trash! In our ongoing effort to reduce our carbon footprint, we've found developing a "zero waste" approach can be a challenge. Work in progress! #repurpose, #reduce, #recycle

My daughter, Marley, is studying environmental informatics at Virginia Polytechnic Institute, aka Virginia Tech and home of the Hokies. My husband, Chris, works for a company specializing in "smart software" technology that makes mobility safer, more efficient, and environmentally friendly. Good stuff! Hayley, my oldest, works with animals—adoption, care, and nutrition (pushing package-free treats and homemade recipes). Rounding out the household is our West Highland terrier, Boomer, who just turned 16. The little guy is still spry and full of mischief.

The ASA is headquartered in my hometown of Alexandria, Virginia. A third-generation Alexandrian and proud graduate of T.C. Williams High School #rememberthetitans, 22314 has been my stomping ground for quite some time. Let me brag a bit on my beloved city—Alexandria was voted among the "Top 3 Best Small Cities in the US" in the *Condé Nast Traveler* Readers' Choice Awards (2019) and honored among "The Most Magical Christmas Towns Across the World (Alexandria #7)" by *O, The Oprah Magazine* (2019). So, if you find yourself at ASA HQ, I'd be happy to give you a tour—and a stop at The Fish Market for a schooner and the best clam chowder you'll ever taste.

I cannot believe my good fortune in being hired by the ASA and look forward to meeting you during the many events that take place throughout the year. I'm grateful to have found a new home and am excited for this new chapter in life. ∎

2021 ASA Board of Directors CANDIDATES

BOARD OF DIRECTORS **PRESIDENT-ELECT** 2021

Kathy Ensor
Noah G. Harding Professor of Statistics and Director of the Center for Computational Finance and Economic Systems, Rice University

Director, Kinder Urban Data Platform for the Greater Houston Area

It is an exhilarating time to be a statistician, and I am honored to be a candidate for president of the ASA. As we move into an era where data are the new gold, our profession's skills, talents, intellect, and energy become increasingly important. We are now able to capitalize fully on our strong foundations in the age of ubiquitous data and extensive computational resources. We live and breathe this excitement in our daily lives, passing this enthusiasm along to the next generation of statisticians and data scientists.

Areas for the ASA's immediate attention are leadership, advancing the ASA's data science footprint, and engaging in the new frontier of urban analytics.

Leadership: Members of our profession hold strategic leadership positions across industry, government, and academia. Training in statistics naturally develops a foundation for leadership in large part due to the interdisciplinarity of our profession. In 2018, the ASA founded the Leadership Institute, and it needs to be enhanced—not forgotten.

Data Science: Our field has seen an explosion of new methods in statistics and data science, integrating the best of statistical thinking and practice. Forward-looking universities rely heavily on, *and invest in,* their statistics departments to build top data science programs. The ASA has an opportunity to work with university leaders and government agencies to articulate the value statisticians bring to the data science leadership table.

Urban Analytics and Data Privacy: Urban analytics requires new statistical paradigms and a willingness to engage local, state, and federal governments; NGOs; and communities. Central to this focus are growing issues of data privacy and the changing landscape of availability and use of data. The ASA must take a leadership role to understand the changes and expertly address their impact. This area opens an opportunity for the ASA to foster greater involvement of local chapters with their communities.

See *ensor.rice.edu!*

The ASA announces the selection of candidates for the 2020 election. The winning candidates' terms will begin in 2021. Voting begins at 12:01 ET March 30 and ends at 11:59 p.m. PT on May 1.

BOARD OF DIRECTORS **PRESIDENT-ELECT** 2021

Daniel Jeske
Professor of Statistics and Vice Provost of Administrative Resolution, University of California, Riverside

As a candidate for president of the ASA, my vision focuses on initiatives that will help our members with their careers. When we help our members achieve, we help our discipline prosper and we help the ASA flourish.

I know that many of you want to be meaningfully involved with the ASA. Our involvement with the ASA gives us a platform to make an impact. If I am elected, I will make it easy for you to participate in one or more initiatives and, together, we will have an impact. We have heard that TEAM stands for "Together Everyone Achieves More." Let's Do This Together!

My term on the ASA Board of Directors (2014–2016) provided me the opportunity to lobby for the ASA to fund chapters. That effort resulted in the current program where chapters are annually reimbursed for up to $1,000 for pre-approved expenses. My current ideas for initiatives fall into three areas: Community and Opportunity, Career Development, and Conferences and Technology. On my campaign website (*www.danielrjeske.com*), I discuss specific ideas for impacting these areas. Please take a look at those ideas, which address data literacy, teaching materials, ASA representation, ASA-sponsored research, ASA journals, career skills, and use of technology.

For the past 17 years, my career has been at the University of California, Riverside, where I have served as professor, department chair, and now as a vice provost. Prior to that, I worked at AT&T Bell Laboratories while serving as an evening lecturer at Rutgers University. Along the way, I have done some statistical consulting. Please visit my website to learn more about my background.

In closing, I pledge to bring optimism, efficiency, and an "all in" approach to my work as the ASA president. It will be a great responsibility, but also a great honor to serve you in "Promoting the Practice and Profession of Statistics." My vision is purposefully ambitious, and the ace up my sleeve is YOU! Let's Do This Together!

BOARD OF DIRECTORS **VICE PRESIDENT** 2021–2023

Amarjot Kaur

Executive Director and Head Respiratory and Immunology (Statistics), Merck Research Laboratories

The ASA community has been an integral part of my statistical journey and has given me great opportunities to grow and enrich my professional experience. I feel honored to be a candidate for ASA vice president.

Collaborate to meet current challenges: We are witnessing great technological advances, where we are tasked to make sense out of big data for making sound decisions and predictions. Strengthening our collaborations across disciplines in integrating statistical thinking with mathematics, computer science, and other sciences will yield richer results. I have spent [a] major part of my career collaborating across diverse functional groups in making a positive impact for human health. We make progress when we get out of our comfort zone and learn something about areas of collaboration, to not only answer questions but also help frame them.

Communicate effectively to make impact: We can make impact only when our stakeholders understand our statistical viewpoint. Our collaborators will buy into statistical thinking only when they get it. I have directly worked with nonstatisticians and understand the importance of effective communication in furthering medical research. We must continue to improve our ability to explain statistical concepts in the simplest manner to those not familiar with statistical terminology. This is particularly important when working across multiple disciplines to solve big data problems collectively.

Diversity is our strength: Diversity is important for broadening our ideas and is personal to me. The diverse groups in the ASA membership will continue to benefit with our steadfast commitment in nurturing their interest.

Engaging younger generation and mentoring: Statistics touches everyone in some shape or form but still many are not familiar with statistics as a profession. Engaging and mentoring [the] younger generation can help them see statistics as a versatile and rewarding career.

If elected, it would be my honor to serve you.

BOARD OF DIRECTORS **VICE PRESIDENT** 2021–2023

Matilde Sanchez-Kam
Associate Director of Analytics and Informatics, Office of Biostatistics, Center for Drug Evaluation and Research, US Food and Drug Administration

It is a great honor to be nominated for vice president of the American Statistical Association. I initially became a member of the ASA as a Penn State graduate student in 1993. My active service to the ASA has spanned over 20 years. My active involvement began in 1998 and progressed into leadership roles in the New Jersey Chapter, Statistical Consulting Section, and Biopharmaceutical Section.

If elected, I would like to focus on moving forward the following initiatives:

a) Attract new members to join the ASA

b) Collaborate with other external statistical organizations and within the ASA among sections

c) Help ASA members to stay relevant professionally

With the start of the new decade, the 2020s, the field of statistics is undergoing a major revolution. The ASA should look at ways to make the association more attractive to the new generation of statisticians and data scientists.

At present, I serve as co-chair of the Outreach and Collaboration Committee (OCC) within the ASA Biopharmaceutical Section. The goal of the OCC is to engage with other statistics professional societies with synergistic objectives and interest, as well as with other ASA sections. I think it would be worthwhile to encourage increased collaboration and knowledge-sharing among the different ASA sections, committees, and chapters. Each section would be encouraged to appoint a liaison to the ASA who will be responsible for exploring activities of ASA committees to bring relevant ASA initiatives to each section's membership. Active section participation in the ASA's student-focused initiatives will showcase statistics as a profession which would in turn help with the recruitment of new ASA members.

I would also like to explore ways to help statisticians to stay relevant in the workforce. No matter where you are in your career, staying relevant professionally will be a big part of your success. I will support providing opportunities to our membership to keep their skills current and in-demand in order to stay competitive in the job market.

BOARD OF DIRECTORS COUNCIL OF **SECTIONS REPRESENTATIVE** 2021–2023

Kate Calder

Professor and Department Chair, Department of Statistics and Data Sciences, The University of Texas at Austin

I am honored to be nominated for the position of Council of Sections Governing Board representative to the ASA Board of Directors. Through my experience in leadership roles in various ASA sections, I have observed and worked to influence the many ways the ASA contributes to the betterment of statistical education, practice, and science. The association brings together professional statisticians and students from across the world and provides a voice to advocate collectively on matters of fundamental importance to scientific discovery and public policy.

In recent years, the ASA has impactfully advocated for the proper use of p-values and for increased rigor in animal research, as well as lobbied Congress on issues ranging from climate change to forensic science. Beyond its important advocacy work, the ASA supports its membership by providing professional development and mentoring opportunities. I am personally grateful for the positive impact the association has had on my career, and I would welcome the chance [to] serve in a more significant capacity.

The ASA has maintained its relevancy for nearly two centuries by embracing opportunities for growth that presented with the changing times. Looking to the future, it is imperative for the ASA to continue its tradition of adaptability. It should actively welcome and support the career development of those who may not primarily self-identify as statisticians, but who provide valuable perspective and who can enhance and amplify our collective voice. In particular, the ASA needs to explore creative ways to attract data scientists, many of whom are newly entering the workforce without graduate study or have graduate-level training in fields other than statistics. By enhancing its diversity and breadth in this way, as well as in terms of the demographics of our membership—a core theme of the ASA's Strategic Plan—the association will be well-poised to continue its impactful work in the decades to come.

BOARD OF DIRECTORS COUNCIL OF **SECTIONS REPRESENTATIVE** 2021–2023

Natalie Rotelli
Manager, Design Hub Analytics,
Eli Lilly and Company

People often ask me what the ASA has to offer. Oh, where do I begin?

The ASA provided me with a community that shares both my passions: advocating statistics and people. Membership allowed me access to a like-minded tribe eager to find solutions to important issues. Conversely, these interactions have afforded me insight from those with backgrounds wholly unlike mine, enriching my perspective. As a computational statistician in Eli Lilly's Advanced Analytics group tackling innovative clinical designs and now leading a team of data scientists, my ASA involvement has allowed me to stay abreast of the ever-evolving technological advances and focus on appropriate applications of statistics.

The ASA has been generous with me. How have I returned the favor? My first home within the ASA was the Section for Statistical Programmers and Analysts (SSPA). I started by volunteering in any way I could and later led sessions/panels/ roundtables. As I progressed from Council of Section (COS) representative of the SSPA to vice chair and chair of the COS Governing Board (COSGB), my impact grew. I was featured in a *This*IsStatistics video advocating for the field, actively supported initiatives to grow section and interest group health, and led impact and leadership workshops for the COS. I have shown flexibility in both advancing with the times and staying grounded with our central objectives.

How will I contribute to this role? I am thrilled about this chance to impact the ASA in a different way. As the COSGB representative to the BOD, I would be able to meld my deep understanding of COS with the initiatives of the board. I would leverage my fresh perspective as a minority woman plus experience on D&I initiatives to enhance diversity and breadth of the ASA. I am eager to share fresh idea[s] for the K–12 objective gleaned from volunteering in countless job fairs representing stats.

Thank you. I am deeply honored to be considered for this role. Together, we can expand the influence of the ASA. I am so excited!

BOARD OF DIRECTORS COUNCIL OF **CHAPTERS REPRESENTATIVE** (REGION 1) 2021–2023

Alexandra Hanlon

Professor of Practice, Department of Statistics, and Director, Center for Biostatistics and Health Data Science, Virginia Tech

Co-Director, CTSA iTHRIV Biostatistics, Epidemiology, and Research Design, Methods Core

It is an honor and a privilege to be nominated as a Council of Chapters Representative to the Governing Board ("board") of the American Statistical Association. If elected, I will work enthusiastically with the board to achieve the ASA's mission of promoting the practice and profession of statistics. In accordance with our strategic plan, we will continue to work toward enhancing the diversity and breadth of the ASA and increasing the visibility of and ensuring the future of the profession of statistics.

To promote data-driven decision-making and policies, I will work with the board as a collaborative statistician with experience and commitment to team science and placing practicing statisticians at the decision-making table. I will continue to advocate for cohesive partnerships among methodologists, collaborating statisticians, data scientists, and content experts. I also look forward to promoting the practice of statistics through bringing visibility to career opportunities through the AP Statistics classrooms across the country. I will advocate statistical literacy through curricular initiatives. These initiatives will help us realize our vision of greater awareness of the value of data and statistical methodology to drive discovery and inform decisions.

I am deeply grateful to the ASA for what it has done for me personally and professionally. Over the years, my engagement with the ASA at both the chapter and national levels has kept me active and informed, broadened my perspective, kept me energized and refreshed, expanded my network of colleagues and friends, provided me with continued educational opportunities, offered me mentorship opportunities, sharpened my communication and leadership skills, and taught me the value of service and community engagement. I will always be a cheerleader for our association. I look forward to continuing my service with the ASA, regardless of the outcome of this election.

Michael Larsen

Professor and Chair, Mathematics and Statistics, Saint Michael's College

ASA members and others have significant contact with the ASA through its chapters. Chapters provide opportunities for continuing education, outreach, support of K–12 education, mentoring, and social activities. On the Council of Chapters Governing Board (COCGB), I will listen to individuals from many chapters; disseminate best practices and creative ideas; and work to ensure operation of chapters consistent with ASA policies, strategic plans, and presidential initiatives.

Since graduate school, I have been a member of local chapters, currently the Boston Chapter. Through my diverse experience, I have some perspective on challenges and opportunities for the ASA.

Having progressed from lecturer to full professor, from research university to liberal arts college, and from small town to big city to a place in-between, I have interacted with the ASA and the statistics profession in many ways. My interests have evolved as I have worked in survey sampling, in clinical trials, as a consultant, and in education. The ASA represents a large, diverse community and needs to provide opportunities and leadership for all members. No one approach will be sufficient to encourage new and retain existing members. Efforts toward public awareness, public policy impact, and companion communities—including data science—need to be creative, well executed, and inclusive.

In 2016–17, I served as president of the Washington Statistical Society. In the Survey Research Methods Section, I held elected positions, including chair. I am an elected fellow and served on the Fellows Committee. I have had a long association with *CHANCE* magazine and have served on editorial boards of ASA and IMS journals. I have been a member of National Academy of Sciences review panels, a member of the National Institutes of Health Biostatistical Methods and Research Design study section, and organized many sessions for the Joint Statistical Meetings.

I look forward to serving the members of the ASA on the COCGB and the board of directors.

BOARD OF DIRECTORS **PUBLICATIONS REPRESENTATIVE** 2021–2023

Ranjan Maitra

Department of Statistics, Iowa State University

The information age has been characterized by the ubiquity of cheap digital storage, multi-core miniaturized computational architectures, and efficient digital networking. This data-rich environment provides both opportunities and challenges for the statistician, with every discipline feeling the need to engage and others the desire to appropriate. Our focus then needs to be on strategies that address these challenges without compromising on our discipline's reputation for quality. This is the primary task that I see for myself as the publications representative.

Despite recent improvements, our discipline is afflicted by inordinate review times that put us at a disadvantage, especially when the competition is against sometimes loosely refereed but timely conference proceedings. We can take a few actions. An initial model that I was instrumental in getting started is the Rapid Research Article category of *Statistical Analysis and Data Mining* that guarantees all authors a timely (30-day) peer-reviewed accept/reject decision if their papers conform to set page limits. Another possibility is to consider, if the authors so desire, transferring reviews of a rejected manuscript from one ASA journal to another as long as authors have addressed shortcomings. Further, while the ASA has done commendable work in reproducibility of results and accessibility of data, we need to make sure that this process is consistent with large data also stored in persistent repositories.

Our profession and editorial boards should be representative of the membership. For instance, we could design a policy that democratizes editorial board appointments by distributing the responsibilities among more stakeholders than overburdening a few. Several modern areas of our discipline (e.g., imaging) may benefit from publication outlets. We also need to look into encouraging more free open-access journals. These are some of my thoughts as I seek to serve our profession through a position on the board.

Bin Nan

Professor and Director of the Master Program of Data Science, Department of Statistics, University of California, Irvine

Adjunct Professor, Department of Biostatistics, University of Michigan
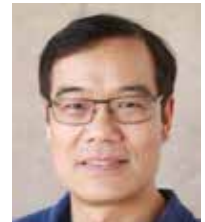
It is a great honor to be nominated. I would be excited to serve on the ASA Board as publications representative. We are in a unique, fast-changing era that our profession is facing emerging opportunities and new challenges, as well. With the successes of deep learning in many application areas, there is a great need of statistical understanding of the effective algorithms.

There has been extensive discussion on how we should position us in the evolving field of data science. The recent debate on statistical roles in reproducible scientific research leads us to think deeper about our own field of statistics and the statistical education at all levels. Our outstanding and prestigious journals play a major role in helping us enhance the diversity and breadth of our association, increase the visibility and ensure the future of our profession. We should continue to take advantage of the opportunities provided by technology, which include the ability to provide faster and broader access to developments in the field, and continue to improve the review processes.

I very much look forward to the opportunity to serve the ASA members via supporting not only publications, but also all the ASA activities and initiatives broadly so to make greater impacts to our society and beyond.

ASA 2020 ELECTIONS – **CANDIDATE LIST**

BAYESIAN STATISTICAL SCIENCE
Chair-Elect 2021
Amy Herring, *Duke University*
Herbie Lee, *University of California, Santa Cruz*

Program Chair-Elect 2021
Veronica Berrocal, *University of California, Irvine*
Abel Rodriguez, *University of California, Santa Cruz*

Secretary/Treasurer 2021–2022
Adrian Dobra, *University of Washington*
Xiaojing Wang, *University of Connecticut*

BIOMETRICS
Chair-Elect 2021
Dipankar Bandyopadhyay, *Virginia Commonwealth University*
Sebastien Haneuse, *Harvard University*

Secretary/Treasurer 2021–2022
Andrew Spieker, *Vanderbilt University*
Xian Jin Xie, *University of Iowa*

Council of Sections Representative 2021–2023
Briana Stephenson, *Harvard University*
Brian Segal, *Flatiron Health*

BIOPHARMACEUTICAL
Chair-Elect 2021
Alan Hartford, *Takeda Pharmaceuticals*
Bill Pikounis, *Johnson & Johnson*

Program Chair-Elect 2021
Elena Polverejan, *Janssen Pharmaceuticals, Inc.*
Freda Cooner, *Amgen*

Secretary 2021–2023
Inna Perevozskaya, *GlaxoSmithKline*
Yun Wang, *US Food and Drug Administration*

Council of Sections Representative 2021–2023
Hiya Banerjee, *Novartis*
Mark Levenson, *US Food and Drug Administration*

BUSINESS AND ECONOMIC STATISTICS
Chair-Elect 2020
Erica Groshen, *Cornell University*
Bart Hobijn, *Arizona State University*

Program Chair-Elect 2021
Tyler McCormick, *University of Washington*
Xiaofeng Shao, *University of Illinois at Urbana-Champaign*

Secretary/Treasurer 2021–2022
Jason Faberman, *Federal Reserve Bank of Chicago*
Daniel Kowal, *Rice University*

STATISTICAL COMPUTING
Chair-Elect 2021
Jun Yan, *University of Connecticut*
Jonathan Wesley Lane, *Activision*

Program Chair-Elect 2021
Linglong Kong, *University of Alberta*
Pradeep Mohan, *SAS Institute*

Council of Sections Representative 2021–2023
Ching-Ti Liu, *Boston University*
Samantha Tyner, *Bureau of Labor Statistics*

STATISTICAL CONSULTING
Chair-Elect 2021
Joseph Rigdon, *Wake Forest School of Medicine*
Xiaoyue Maggie Niu, *Penn State University*

Publications Officer 2021–2022
Edward L. Boone, *Virginia Commonwealth University*
Dhuly Chowdhury, *RTI International*

Council of Sections Representative 2021–2023
Xiaoming Sheng, *University of Utah*
Jessica Kohlschmidt, *The Ohio State University Comprehensive Cancer Center*
Naomi Brownstein, *Moffitt Cancer Center*

Executive Committee at Large 2021–2023
Abu Minhajuddin, *The University of Texas Southwestern-Medical Center at Dallas*
Robert Podolsky, *Beaumont Health*

STATISTICS AND DATA SCIENCE EDUCATION
Chair-Elect 2021
Ann Cannon, *Cornell College*
Rebecca Nugent, *Carnegie Mellon University*

Council of Sections Representative 2021–2023
Kumer Das, *University of Louisiana at Lafayette*
Ananda Jayawardhana, *Pittsburg State University*

Executive Committee at Large 2021–2023 (two positions)
Matthew Beckman, *Penn State University*
Alison Gibbs, *University of Toronto*
Hunter Glanz, *Cal Poly – San Louis Obispo*
Chris Malone, *Winona State University*

STATISTICS IN DEFENSE AND NATIONAL SECURITY
Chair-Elect 2021
Ansu Chatterjee, *University of Minnesota*
Yulia Gel, *The University of Texas at Dallas*
Karl Pazdernik, *Pacific Northwest National Laboratory*

Program Chair-Elect 2021
Matt Avery, *Institute for Defense Analyses*
Justin T. Newcomer, *Sandia National Laboratories*

Publications Officer 2021–2022
Robert Bassett, *Naval Postgraduate School*
Sarah Elise Roberts, *Johns Hopkins University Applied Physics Laboratory*

STATISTICS AND THE ENVIRONMENT
Chair-Elect 2021
Candace Berrett, *Brigham Young University*
Elizabeth Mannshardt, *US Environmental Protection Agency*

Program Chair-Elect 2021
Trevor Hefley, *Kansas State University*
Emily L. Kang, *University of Cincinnati*

Treasurer 2021
Katie Banner, *Montana State University*
John Tipton, *University of Arkansas*

Council of Sections Representative 2021–2023
Debashis Mondal, *Oregon State University*
Ali Arab, *Georgetown University*

STATISTICS IN EPIDEMIOLOGY
Chair-Elect 2021
Michael Daniels, *University of Florida*
Veronica J. Berrocal, *University of California, Irvine*

Program Chair-Elect 2021
Bo Lu, *The Ohio State University*
Qing Pan, *The George Washington University*

Council of Sections Representative 2021–2023
Colin Fogarty, *Massachusetts Institute of Technology*
Doug Landsittel, *University of Pittsburgh*

STATISTICS IN GENOMICS AND GENETICS
Chair-Elect 2021
Mingyao Li, *University of Pennsylvania Perelman School of Medicine*
Michael Wu, *Fred Hutchinson Cancer Research Center*

Program Chair-Elect 2021
Lin Chen, *The University of Chicago*
Matthew N. McCall, *University of Rochester School of Medicine and Dentistry*
Ching-Ti Liu, *Boston University*

Council of Sections Representative 2021–2023
Iuliana Ionita-Laza, *Columbia University*
Jingyi Jessica Li, *University of California, Los Angeles*

GOVERNMENT STATISTICS
Chair-Elect 2021
Simone Gray, *US Centers for Disease Control and Prevention*
Lyndsay Shand, *Sandia National Laboratories*

Program Chair-Elect 2021
Minsun Riddles, *Westat*
Stephen Campbell, *National Institute of Standards and Technology*

Secretary/Treasurer 2021–2022
Yumiko Siegfried, *Westat*
Emily Molfino, *US Census Bureau*

Publications Officer 2021–2022
Zach Seeskin, *NORC at the University of Chicago*
Kathi Irvine, *US Geological Survey, Northern Rocky Mountain Science Center*

STATISTICAL GRAPHICS
Chair-Elect 2021
Ed Mulrow, *NORC at the University of Chicago*
Heike Hofmann, *Iowa State University*

Program Chair-Elect 2021
Jordan Rodu, *University of Virginia*
Carson Sievert, *RStudio*

Secretary/Treasurer 2021–2022
Natasha Sahr, *Novartis Pharmaceuticals*
Shawn Santo, *Duke University*

HEALTH POLICY STATISTICS
Chair-Elect 2021
Haim Bar, *University of Connecticut*
Yuanjia Wang, *Columbia University Mailman School of Public Health*

STATISTICS IN IMAGING
Chair-Elect 2021
Ian Dryden, *University of Nottingham UK*
Ciprian Crainiceanu, *The Johns Hopkins University*
Debashis Mondal, *Oregon State University*

Program Chair-Elect 2021
Sebastian Kurtek, *The Ohio State University*
Simon Vandekar, *Vanderbilt University*
Dehan Kong, *University of Toronto*

Council of Sections Representative 2021–2023
Elizabeth Sweeney, *Weill Cornell Medicine*
Inna Chervoneva, *Thomas Jefferson University*

STATISTICAL LEARNING AND DATA SCIENCE
Chair-Elect 2021
Ali Shojaie, *University of Washington*
Yichao Wu, *University of Illinois at Chicago*

Program Chair-Elect 2021
Glen Wright Colopy, *Cenduit LLC*
Eric F. Lock, *University of Minnesota*

LIFETIME DATA SCIENCE
Chair-Elect 2021
Douglas Schaubel, *University of Pennsylvania Perelman School of Medicine*
Tony (Jianguo) Sun, *University of Missouri*

Program Chair-Elect 2021
Jing Ning, *MD Anderson Cancer Center*
Kevin He, *University of Michigan*

Treasurer 2021–2023
Yu Cheng, *University of Pittsburgh*
Adin-Cristian Andrei, *Northwestern University*

STATISTICS IN MARKETING
Chair-Elect 2021
Alan Montgomery, *Carnegie Mellon University*
S. Sriram, *University of Michigan*

Program Chair-Elect 2021
Michael Trusov, *University of Maryland*
Liye Ma, *University of Maryland*

Secretary/Publications Officer 2021–2022
Arun Gopalakrishnan, *Rice University*
Alice Li, *The Ohio State University*

Chair-Elect 2021
Norberto Pantoja-Galicia, *US Food and Drug Administration*
Xuefeng Li, *US Food and Drug Administration*

MEDICAL DEVICES AND DIAGNOSTICS
Program Chair-Elect 2021
Jin Wang, *Abbott Medical Device*
Tracy Bergemann, *Medtronic*

MENTAL HEALTH STATISTICS
Chair-Elect 2021
Samiran Ghosh, *Wayne State University*
Pilar Lim, *Janssen Research & Development*

Program Chair-Elect 2021
Alessandro De Nadai, *Texas State University*
Samprit Banerjee, *Weill Medical College, Cornell University*

NONPARAMETRIC
Chair-Elect 2021
Lan Wang, *University of Minnesota*
Davy Paindaveine, *Université Libre de Bruxelles*

Program Chair-Elect 2021
Yichao Wu, *University of Illinois at Chicago*
Long Nguyen, *University of Michigan*

Treasurer 2021
Rui Song, *North Carolina State University*
Howard D. Bondell, *University of Melbourne*

Publications Officer 2021–2022
Lingzhou Xue, *Penn State University*
Esra Kurum, *University of California, Riverside*

PHYSICAL AND ENGINEERING SCIENCES
Chair-Elect 2021
Lulu Kang, *Illinois Institute of Technology*
Wenxuan Zhong, *University of Georgia*

Program Chair-Elect 2021
Bledar Alex Konomi, *University of Cincinnati*
Jonathan Stallrich, *North Carolina State University*

STATISTICAL PROGRAMMERS AND ANALYSTS
Chair-Elect 2021
Whitney Worley, *University of Central Arkansas*
William Coar, *Axio Research*

Program Chair-Elect 2021
Jeanhee Pak, *Eli Lilly and Company*
Gabriel Odom, *Florida International university*

QUALITY AND PRODUCTIVITY
Chair-Elect 2021
Xinwei Deng, *Virginia Tech Department of Statistics*
Oscar Munoz, *Accenture*

Program Chair-Elect 2021
Meng John Zhao, *Eli Lilly and Company*
Lisa M. Moore, *Sandia National Laboratories*

RISK ANALYSIS
Chair-Elect 2021
Aleksandr Kotolyan, *dot818*
Indranil Ghosh, *The University of North Carolina at Wilmington*

Program Chair-Elect 2021
Sujay Datta, *University of Akron*
Alexander Alekseyenko, *Medical University of South Carolina*

Council of Sections Representative 2021-2023
Chris Sroka, *New Mexico State University*
Ananda Jayawardhana, *Pittsburgh State University*
Wensong Wu, *Florida International University*
Xiaosong Li, *Penn State Altoona*

SOCIAL STATISTICS
Chair-Elect 2021
Aleksandra (Sesa) Slavkovic, *Penn State*
Dylan Small, *University of Pennsylvania*

Program Chair-Elect 2021
Elena Erosheva, *University of Washington*
Julia N. Soulakova, *University of Central Florida College of Medicine*

Publications Officer 2021–2022
Quentin Brummet, *NORC at the University of Chicago*
Vivian C. Wong, *University of Virginia*

STATISTICS IN SPORTS
Chair-Elect 2021
Paul Sabin, *ESPN*
Nick Wan, *Cincinnati Reds*

Program Chair-Elect 2021
Andrew Swift, *University of Nebraska at Omaha*
Benjamin S. Baumer, *Smith College*

Council of Sections Representative 2021–2023
Sarah Morris, *Datalys Center for Sports Injury Research and Prevention*
Michael Schuckers, *St. Lawrence University*

SURVEY RESEARCH METHODS
Chair-Elect 2021
Jean Opsomer, *Westat*
Asaph Young Chun, *Statistics Research Institute*

Program Chair-Elect 2021
Xinlei (Sherry) Wang, *Southern Methodist University*
Jana Asher, *Slippery Rock University of Pennsylvania*

Treasurer 2020–2021
Jessica Kohlschmidt, *The Ohio State University*
Marcus Berzofsky, *RTI International*

Publications Officer 2021–2022
Snigdhansu Chatterjee, *University of Minnesota*
Dan Liao, *RTI International*

Council of Sections Representative 2021–2023
Zhengyuan Zhu, *Iowa State University*
Stas Kolenikov, *Abt Associates*

Education Officer 2021–2022
Pushpal Mukhopadhyay, *SAS Institute, Inc.*
Daniell Toth, *Bureau of Labor Statistics*

TEACHING OF STATISTICS IN THE HEALTH SCIENCES
Chair-Elect 2021
Heather Hoffman, *The George Washington University*

Jacqueline Milton, *Boston University* ■

Giving Day Raises $80k; GivesBack Leadership Team Makes Plans

Amanda Malloy, ASA Director of Development

Malloy

It continues to be my honor and privilege to work on behalf of such wonderful members and an organization making such an impact on our society. In 2019, we raised more than $233,000 for ASA programs and initiatives, including donations from 991 individuals. Every dollar advances our mission to promote the practice and profession of statistics. Thank you for another great year!

The "Inspired Johnson and Johnson Statistician" and "Anonymous Biostatistician" who matched a total of $11,000 in donations were key to the success of the ASA's second annual Giving Day. Working together, we raised more than $80,000! We are grateful to each of the 303 donors and those who encouraged fellow ASA members to contribute.

This year, friendly competition added to the fun of ASA Giving Day. There were 43 chapters that participated in the chapter challenge, and 69 universities joined the university challenge. The chapter challenge winner was determined based on percentage of membership who donated, and the university challenge winner was determined based on the total amount raised. Runners-up in the chapter challenge were the Northern Illinois and Philadelphia chapters. Harvard and UCLA were runners-up in the university category.

ASA GivesBack

ASA GivesBack is a program that allows members to give back to the community, network with peers and mentors, and hone leadership skills. It is led by a talented team of early-career and student members who are focused on promoting a culture of philanthropy and fostering a sense of community at the ASA.

The leadership team is planning a GivesBack volunteer event to take place in 2020 that will have a community service focus. The team will be reaching out to members and chapters to help organize local events, so stay tuned. They are also already starting the planning process for a fundraiser to support ASA programs. All ASA members are welcome to join the group and get involved in giving back.

The 2020 ASA GivesBack leadership team includes Dooti Roy (chair), Andrew Dumit (cochair), Michelle Hsu (fundraising lead), Carlon Zephirin (GivesBack lead), and Emily Dodwell (member at large).

From local communities to public policy, the work of the ASA makes an impact. Your membership, time, and donations are helping us build a world that relies on data and statistical thinking to drive discovery and inform decisions.

For more information about ASA development initiatives, contact ASA Director of Development Amanda Malloy at *amanda@amstat.org*.

Giving Day Challenge Winners

Chapter Challenge

Washington Statistical Society

University Challenge

The University of North Carolina

THANK YOU to everyone who donated in 2019, making it another record-breaking year!

$500 to $999

Sue Ellen Berryman

Cynthia J. Bocci, PhD

Christy Chuang-Stein

B. Christine Clark

Justin Fisher

Peter P. Gaccione

Mitchell H. Gail

Joseph L. Gastwirth

William F. Heiland

Susan M. Hinkins

Nicholas Horton and Julia Riseman

Jon and Patricia Kettenring

Dennis W. King

James M. Lepkowski

Qian Li

James Stephen Marron

Christopher Miller

Jerry Moreno

Kannan Natarajan

Margaret A. Nemeth

Leonard Oppenheimer

Barbara J. Robles

Frank W. Rockhold

Robert L. Santos

David W. Scott

Carol B. Thompson

Bill Wilkinson

Sarah and Richard Zink

$100 to $499

David B. Allison

Albert F. Anderson

Arlene S. Ash

Jonathan Auerbach

Alfred H. Balch

Andrew Lewis Baughman

Jessica A. Behrle

Valbona Bejleri

Amit Bhattacharyya

Carol Bigelow

Christopher Bingham

Richard M. Bittman, PhD

Dennis Boos

John E. Boyer

James E. Breneman

William C. Bridges Jr.

Charles R. Buncher

Bart E. Burington, PhD

Jeffrey S. Buzas

Statsols

Joseph C. Cappelleri

Ivan Chan

Jie Chen

Zhengming Chen

Cong Chen

Constance F. Citro

Cynthia Z.F. Clark

Charles H. Clemens Jr.

George W. Cobb

James J. Cochran

Michael P. Cohen

David H. Collins

Richard S. Conway Jr.

Bruce A. Craig

Francis C. Dane

Linda Danielson

Bann-Mo Day

Floyd E. Demmon III

Chunqin C. Q. Deng

Jay L. Devore

Marie Diener-West

Philip M. Dixon

Fred C. Djang

Thomas W. Dobbins

Stephen Richard Donaldson

Kevin Ward Drummey, PhD

Kirk A. Easley

Brenda Kay Edwards

Stephen F. Elston

Hans Engler

Robert E. Fay

Ronald S. Fecso

Ben Fitzpatrick

Rongwei Fu

Brian R. Gaines

Turkan K. Gardenier

John S. Gardenier

Martha M. Gardner

Andreas Vasilios Georgiou

Katherine Giacoletti

Dr. Howard Seth Gitlow, PhD

Mark Glickman

Melody Goodman

Nancy M. Gordon

G. Jay Graepel

Mary W. Gray

Gerry W. Gray

Timothy A. Green, PhD

Gerald J. Hahn

Charles B. Hall

Alexandra L. Hanlon

Richard M. Heiberger

Edward Herranz

Klaus Hinkelmann

John P. Holcomb Jr.

David J. Holtschlag

Jeffrey H. Hooper

J. Stuart Hunter

Michael M. Ikeda

Peter B. Imrey

Telba Z. Irony

Don Jang

Ananda A. Jayawardhana

Amara K. Jayewardene

Daniel Jeske

Booil Jo

Dallas E. Johnson

Karen Kafadar

Henry D. Kahn

Sarah J. Kalicin

Anamaria Segnini Kazanis, PSTAT

Jerry Keating

Mimi Y. Kim

David L. Kimble

STATKING Clinical Services

Elizabeth S. King-Sloan

Gary G. Koch

Uwe Koehn

Thomas A. Krizanosky

Brenda Kurland

Robert Kushler

Philip T. Lavin

Sergei Leonov

Martin L. Lesser

Helen Walker SOCIETY

Thank you to Helen Walker Society members who contributed $1,000 and above in 2019.

John M. Abowd

Mohamed Redha J. Al Lawati

Stan Altan

John Angle

David Banks

Mary Ellen Bock

Patrick J. Cantwell

Alicia L. Carriquiry

John L. Czajka

Marie Davidian

Richard De Veaux

Jonas and Susan Ellenberg

Katherine B. Ensor

Christine A. Franklin

Varghese George

Richard F. Goldstein

Sat Gupta

Susan Halabi

Susan Harris

Brian A. Harris-Kojetin

Allen H. Heller

Fred and Karen Hulting

Barry W. Johnson Jr.

Daniel Kasprzyk, PhD

Elizabeth Kelly and Robert Ryne

Arthur B. Kennickell

Thian S. Kheoh

Michael H. Kutner

Mary J. Kwasny

Nan Laird

James M. Landwehr

Lisa M. LaVange, PhD

Cynthia Long and John Stites

Juanita Tamayo Lott

Wendy Martinez

Robert L. Mason

Madhu Mazumdar

Xiao-Li Meng

Laura J. Meyerson

Katherine Monti

David Morganstein

Sally C. Morton and Kurt P. Kearcher

Jeri Metzger Mulrow

Edward J. Mulrow

Bengt Muthen, PhD

Anna and Edward Nevius

Barry Nussbaum

Robert T. O'Neill

Van L. Parsons

Paula K. Roberson

Robert N. Rodriguez

James L. Rosenberger

John P. Sall

Jaya M. Satagopan

Fritz J. Scheuren, PhD

Larry Z. Shen

C. Frank and Ann Shen

William and Patricia Smith

Dolores Silva Smith

Steven M. Snapinn

Stanton Communications, Inc.

Jessica M. Utts

Sean E. Walker

Ron and Sherry Wasserstein

Leland Wilkinson

Linda J. Young

Bing Zhang

Memorial Gifts

Gifts were made in fondest memory of the following individuals:

Dr. Helen Abbey

John C. Angle Jr.

Neil Blaylock

Gertrude Cox

Stephen Joyce Feinberg

Peter Hall

Kenneth Hess

Joseph Heyse

Dr. Eun Sul Lee

Lingzi Lu

Ed Miller, PhD

Fred Mosteller

Professor Ingram Olkin

Dan Sargent

John and Nancy Scott

Bob Short

Tom Short

Herb Spirer

Swayam Srivastava and NS Venkatesan

Dr. Lowell Wine

Lawrence S. Wrightsman Jr.

Tribute Gifts

Gifts were made in honor of the following:

Office of Biostatistics, CDER,FDA

ASA Chicago Chapter

Jerome Cornfield

Judy Davidson

Dr. Melvin V. Foster

Tom Griffiths

John Hartigan

ASA Leadership

Barry Nussbaum

Steve Pierson

Xingdi Shi and Hanling Shi

Judith Singer

Ron Wasserstein

John Willett

Matthew Witman

*Additionally, 255 donors made anonymous gifts

Dennis K. J. Lin

Roderick J. Little

Guanghan Frank Liu

Stephen W. Looney

Maria Lorenzi

Thomas A. Louis, PhD

Thomas E. Love

Ruixiao Lu

David W. Lyon

Greg Maislin

Amanda Malloy

Neela D. Manage

David J. Mangen

Dennis R. Mar

Olga Marchenko

David Marker

Rochelle W. Martinez

Joseph M. Massaro

Cristiana Mayer

Deborah G. Mayo

George P. McCabe

Donald E. McClure

Leslie Ain McClure

John McKenzie

Becky McNeil

Kenneth B. McRae

Cyrus R. Mehta

Michael Meredith, PhD

Renee H. Miller

George A. Milliken

Geert Molenberghs

Motomi Mori

Dr. Christopher H. Morrell

Donald F. Morrison

Ernest Moy

Bhramar Mukherjee

Daniel J. Mundfrom

Arline M. Nakanishi

Wayne B. Nelson

Rebecca Nichols

Isaac Nuamah, PhD

Theophilus Ogunyemi

Jean D. Opsomer

Keith Ord

Robert A. Oster, PhD

Mark Otto

Eun Sug Park

Richard John Patz

Roxy Peck

Jane F. Pendergast, PhD

Guangbin Peng

Darwin H. Poritz

David A. Pyne

Adrian E. Raftery

Meredith M. Regan

Kenneth J. Resser

Martin G. Ribe

Winston A. Richards

Matthew A. Riebel

John W. Rogers

Harry M. Rosenberg

Charles M. Rowland

V. A. Samaranayake

Abdul J. Sankoh

Mrs. Serap Sankoh, PhD

Nathaniel Schenker

Mark D. Schluchter

Christopher Schmid

Paul L. Schmidbauer

John Schoenfelder

John D. Schoolfield

Jack Schuenemeyer

Marilyn M. Seastrom

Gary M. Shapiro

Iris M. Shimizu

Patrick E. Shrout

Richard Sigman

Douglas G. Simpson, PhD

Bonita M. Singal, PhD, MD

Joan Skurnick

Brian W. Sloboda, PhD

Richard L. Smith

Jeffrey A. Smith

Daniel L. Solomon

Nancy L. Spruill

Lynne Stokes

Dennis E. Sweitzer

Winson Taam

Ronald A. Thisted

William Thomas

David J. Thomson

Tammy Tom

Alan Tupek

Theresa L. Utlaut, PSTAT

Weining Volinn

Donna L. Watts

Sanford Weisberg

James P. Whipple

William H. Williams, PhD

Kathryn A. Williams

G. David Williamson

Haviland Wright

Dongfeng Wu

Frank Yoon

Bin Yu and Kening Shen

Qian Zhou

> $100

Robert A. Agnew

Baris Akgoz

Mr. Philip J. Ambrosini

Roya Amjadi

Michael Amrein

Jana McCaulley Anderson

Dallas W. Anderson

Matthew Anderson

Masakazu Ando

Corey Andreasen

Alexander Andronov

Gerald K. Arnold

Steve Ascher

Jana Asher

Oluwagbohunmi Adetunji Awosoga, PhD

Geraldine E. Baggs

Robert S. Baker

Sudipto Banerjee, PhD

Jarrett Jay Barber

THANK YOU

Chris M. Barker

Laurie K. Barker

Kyle Barriger

Ronald P. Barry

Bruce A. Barton

Alvin Beltramo

Kara K. Bennett

Alan E. Berger

Veronica J. Berrocal

Manjushri V. Bhapkar

Utpal Kumar Bhattacharya

Julia L. Bienias

Herbert L. Bishop Jr.

Matthew Byron Blagburn

Ricardo Bolado

Claire McKay Bowen

Tucker Briggs

Ed Brizendine

Naomi Brownstein

Nancy E. Brucken

Jan Bruha

Rebecca A. Buchanan

Anthony Joseph Buono

Patricia L. Busk

Marc E. Buyse

Howard J. Cabral, PhD

Brian Scott Caffo

Jianwen Cai

Mary E. Carlson

Keumhee Chough Carriere

Robert Carroll

Robert H. Carver

Emily Casleton

Chandan Ananda Chakraborty

Grace Chan

Richard J. Charnigo Jr.

Inna Chervoneva

Su Bang Choe

Krishna Kiran Chotneeru

Ashik Chowdhury

Adam J. Ciarleglio

Ashley Clark

Sandra Pryor Clarkson

David R. Cline

Avital Cnaan

Jamie Elizabeth Collins

Katherine M. Condon

Charles F. Contant Jr.

Terry Cox

Radu Craiu

John Craycroft

Dana Creanga

Catherine M. Crespi

Yuehua Cui

Harry Michael Cullings

Mark Y. Czarnolewski

Mingo Ndiwago Damian

Rosemary Milewski Danaher

Nairanjana Dasgupta

Dr. Jeffrey Davidson

Lelys Bravo

Dripto Debroy

Paul N. DeLand

Yihao Deng

Yves Deville

James J. Dignam

Rositsa Borislavova Dimova

Adam Dixon

Peter Dolan

Rickie J. Domangue

Sharon Doner-Feldman

Edward M. Drozd

Amy Dryman

Joel Dubin

Bonnie P. Dumas

Susan L. Durham

Will Eagan

Keith R. Eberhardt

Derek Brooks Edington

Daniel Elchert

Patricia A. English

Arturo Erdely

Carol J. Etzel

David Fairley

Victor A. Farutin

Gilbert W. Fellingham

Lindsay Fitzgerald-DeHoog

Jack Follis

Julie A. Fondurulia

Richard Forshee

Thomas Fullerton

Neal Fultz

Bobby L. Gaddis, P.E.

Joel Galang

Nina Galanter

Jan Galkowski

Stuart A. Gansky

Jonathan Adam Gelfond

Robert Gentleman

Hanna Gerlovin

Robert Gerwien, PhD

Elizabeth R. Gieseking

Brenda Wilson Gillespie

Phil D. Gilliland

Jeanine Gnang

Prem K. Goel

Thomas Gollery

Joel B. Greenhouse

John Vic Grice

Michael John Grosskopf

Wenxiao Gu

Michael Haber

Sylvia Halasz

James L. Hall

Dr. T. Simin Hall

Stefan M. Hantel

Jaroslaw Harezlak

E. James Harner

Bradley A. Hartlaub

Rachel Mackenzie Hartmeier

Elaine Marie Hays

William D. Heavlin

Donald R. Hedeker, PhD

Albert Noble Hendrix

Jay Herson

Ann Hess

Milton C. Heuston

Elizabeth Goodwin Hill

Susan G. Hilsenbeck

Joan F. Hilton

Lauren Rose Hippeli

David C. Hoaglin

Roger W. Hoerl

Frederick K. Holdbrook

Myles Hollander

Darren Homrighausen

Hwanhee Hong

Sarah Hopson

Merrell I. Hora

Brian Y. Horiuchi

Michelle C. Hsu

Liangyuan Hu

Gabriel Huerta

Lurdes Y. T. Inoue, PhD

Dr. Philip W. Iversen

William C. Iwig

William E. Jackson III

Eugenie Jackson

Peter Jaehnig

Imededdine Jerbi, PSTAT

Lixia Jiao

Thomas T. John

Kjell D. Johnson

Jamey Johnston

Monica Johnston

Douglas H. Jones

Borko D. Jovanovic, PhD

Dr. Nina Kajiji

John D. Kalbfleisch

John David Keighley

Obafemi Ade Keshinro

Deepak B. Khatry

John Knorr

Sarah Hurwicz Kogut

Melissa Kovacs

Laura Salter Kubatko

Lee E. Kucera

Luca La Rocca

Bonnie Ladaga

Zhou Lan

Margaret F. Land

Jerald F. Lawless

Dr. Kerry L. Lee

Carl Lee

Dong-Hee Lee, PhD

Kelvin K. Lee

Tommy W. Lee

Anna Legedza

Eric S. Leifer

Brian G. Leroux

Sally A. Lesik

Yun Li

Jerry J. Li

Lihong Li

Ming Li

Xianfen Li

Lingyu Li

Hai Lin

Ernst Linder

Bruce Liska

Nianjun Liu

Gang Liu

Alejandra Cristina Livingston

Clifford Long

Jeffrey A. Longmate

Stanley E. Lunde

Charles Luswata

Timothy Lutz

Dalisay S. Maligalig

Binod Manandhar

Elizabeth Mannshardt

Hossein G. Mansouri

Dr. Elizabeth H. Margosches

Angel R. Martinez

Joe Matsuoka

Robert A. Matthews

Kathleen M. McDonald-Johnson

Phoebe McLaughlin

Donald J. McMahon

THANK YOU

Dr. James McMahon

Grace Medley

Amanda Mejia

Robin Mejia

Juan C. Mejia

Kathleen A. Mellars

Karen Messer

William L. Mietlowski

Mary-Jane Mietlowski

Steven P. Millard

Dr. Charles Miller

Jack Miller

Shirley E. Mills

Kyle Monahan

Carl N. Morris

Yi Mu

Terrence E. Murphy

Dr. Charles B. Nam

Ronald Charles Neath

Fassil Nebebe, PSTAT

Elliott Nebenzahl

Magdalena NiewNiewiadomska-Bug

Nicole Nixon

David Butcher Nolle

Jaime G. Nunez

Onyedimma C. Nwachuku

Robert L. Obenchain

Frederic Oke-Agbo II

Thomas H. Oliphant

Elizabeth Oliver

James O'Malley, PhD

Yusuke Ono

Megan Orr

Edgar A. Ortiz

George Ostrouchov

Megan Othus

Michelle Ouellette

Ian Thomas Parke

Robert P. Parker

Giovanni Parmigiani

Dr. Paul L. Patterson III

James W. Peck

Raymond C. Peck

Dr. Edsel A. Pena

Gene Anthony Pennello

Victor Perez Abreu

Jamis Perrett

Edward B. Perrin, PhD

Lan Pham

Phung Pham

Charles C. Phelps III

Luigi Pieri

Stanley Pogrow

Martha Dusenberry Pohl

Josh Wentworth Walden Pohlkamp-Hartt

Philip J. Press

Bertram Price

Dionne L. Price

Karen L. Price

Louis H. Primavera

Philip C. Prorok

William Robert Prucka

Laureano Jesus Rangel

Edward C. Ratledge

Ray Redd

Carol K. Redmond

George F. Reed

William Reichmann

Louis Rizzo

Elise Roberts

Rosemary Roberts

Edwin L. Robison

Dr. Richard A. Rode, PhD

Russell H. Roegner

Deborah B. Rolka

Bob Rosenfeld

Alan Roshwalb

Pascale Rousseau

William T. Rule II

Estelle Russek-Cohen, PhD

Mary Margaret Ryan

Leah E. Sahely

Juan Carlos Salazar-Uribe

Alan J. Salzberg

Sourav Santra

Roger M. Sauter, PhD

Alassane Savadogo

Benjamin Scheich

Paul R. Schneeman

Steven J. Schwager

Cory Mitchell Sechrest

David Sechrist

Stephen J. Senn

Venkatraman E. Seshan

Lynne Seymour

Mohammad Shakil, PhD

Mostafa Shams Esfand Abadi

Julia L. Sharp

Arkady Shemyakin

Irwin J. Shiffer, PhD

Matthew Stephen Shotwell

Lei Shu

Satya R. K. Siddani

Jonathan M. Siegel

Eric R. Siegel

Pedro Luis Do Nascimento Silva

Susan Simmons

Brandy R. Sinco

Harvey A. Singer

Richard A. Smiley

Ekaterina Smirnova

David McCulloch Smith

Stephanie A. Smullen

William A. Sollecito

Edward Jay Sondik

Xiaoyu Song

Rhona Souers

Remy Ryan Spoentgen

Ms. Susan E. Spruill, PSTAT

Christopher J. Sroka

William J. Stager

Nancy Stambler

Marco Steenbergen

Lonnie Kent Stevans

Susan LeRoy Stewart

John M. Stickler

Elizabeth Stone

Daniel Stram

Charles Leslie Strecker

Donald P. Strickert, PhD

Mark C. Strong

Guoqin Su

Michael Sullivan III

Dr. David W. Sullivan

James J. Swain

Peter Swanson

Ruth Ellen Swanton

Dionne Swift

Fulvio Tabacco

Julie Tackett, MPH

Daniel Joseph Tancredi, PhD

Yuxiao Tang

Aleksandra Taranov

Donald Taves, PhD, MD

Jeremy M. G. Taylor

Maxim A. Terekhov

Yves Thibaudeau

Hoben Thomas

Daniel Ray Thompson

K. Wallace Todd

Margot H. Tollefson

Robert D. Tortora

Hsiao-Hui Sophie Tsou

Hiroe Tsubaki

Leo T. Upchurch

Esa Ilkka Uusipaikka

Jeffrey E. Vaks

Jennifer H. Van Mullekom

Simon Neil Vandekar

Peter Vanney

Zachary Thomas Vaskalis

Steve Verrill

Timothy W. Victor

Carl Norwood von Ende

W. Duncan Wadsworth

Brandie D. Wagner

Roger Walker

Nancy Wang

Tao Wang

Hansheng Wang

Xiaoyu Wang

Michael T. Weaver

Herbert I. Weisberg

Peter H. Westfall

Andrew A. White

Linda C. Whitehand

Devin Willey

Kristopher Williams

Alexandria Williams

Colin Williams

Jeffrey A. Witmer

Michiko I. Wolcott

Joel Wolfrath

Rebecca Wong

Wayne Woo

Tom Woteki

Lang Wu

Colin O. Wu

Bin Xing

Robert A. Yaffee, PhD

Yongping Yan

Lisa H. Ying

Marian Y. Y. Yong

Guanglei Yu

Ann Graham Zauber

Ari Zervos

Hongmei Zhang

Yuxin Zhang

Fangqiu Zhang

Zuoshun Zhang

Hongyu Zhao ∎

Employment Opportunities, Advice the Focus of NISS **Career Fair Series**

Glenn Johnson, Christy Chuang-Stein, and James Rosenberger

Looking for advice for best advancing a statistics career? What types of job opportunities exist for statisticians/data scientists/analysts in various organizations? What are the skills and experiences that would best prepare someone who is about to begin a career as a statistician or data scientist? What are the current hiring prospects?

What better way to answer these questions than gather veteran statisticians who are willing to share their personal experiences? Over the past several months, the National Institute of Statistical Sciences (NISS) has been doing just that. These experienced senior statisticians who represent a variety of research, business, health care, government, and other sectors have answered the questions above in a series of virtual career fairs that were recorded and are now available to the public. NISS is making the recordings available to help students consider their career options and advisers guide their students. The recordings are also of value to individuals who are considering a career change across different employment sectors.

The recordings, slides, and links can be found on the NISS website at *www.niss.org/meet-recordings.*

Recent NISS Virtual Career Fairs

On September 26, 2019, NISS held its first fair, "Virtual Career Fair for NISS Affiliates," which featured a range of businesses both large and small. **Tim Hesterberg** (senior statistician at Google), **Dan Holder** (executive director of biostatistics and research decision sciences at Merck), **Yanling Zuo** (lead statistical designer of Minitab Statistical Software), **Fang Chen** (director of the advanced statistical methods department at SAS), and **Steve Cohen** (vice president of statistical and data sciences at RTI International) were all speakers.

A second career fair was held December 6, 2019, titled "Opportunities in Banking & Marketing Sectors Highlighted in Virtual Career Fair." It featured career opportunities for statisticians/data scientists/analysts in non-health care industries and was moderated by **Esra Kurum** (University of California, Riverside). Speakers were **Victor Lo** (Fidelity Investments), **Daniel Tu** (Citizens Bank), and **Danny Jin** (Epsilon).

"NISS Government Career Fair Outlines Opportunities for Statisticians!" took place January 8 and featured senior statisticians who talked about the unique requirements and opportunities for statisticians and data analysts within government agencies. This fair featured **Wendy Martinez** (director of the Mathematical Statistics Research Center, Office of Survey Methods Research, Bureau of Labor Statistics), **Jonah Wong** (mathematical statistician, Methodology and Standards Council, Staff Recruitment and Retention, US Census Bureau), **Jeff Bailey** (branch chief of the Summary, Estimation, and Disclosure Methodology Branch at the National Agricultural Statistics Service), and **Nathan Cruze** (mathematical statistician at the National Agricultural Statistics Service).

After comments from each of the representatives, the moderators opened the floor to address the many questions from the attendees. This gave panelists a chance to weigh in on topics such as differing challenges and support for data scientists vs. statisticians, the importance of the ability to program and communicate effectively, and the benefit of networking.

A central goal of NISS is to help connect and support statisticians. While attending the live career fairs is a benefit for NISS affiliates only, the recordings are made available to the public one month after each event.

Up Next

NISS has plans for additional career fairs. A second government career fair is in the works for late March and will possibly include representatives from the Food and Drug Administration; National Heart, Lung, and Blood Institute; National Cancer Institute; and Centers for Disease Control and Prevention. In addition, a spring career fair to focus on positions in academia is being planned.

Representatives from traditional, biostatistics, and small liberal arts colleges are being sought to provide insight into tenure-track positions, research positions, teaching positions, and analytic positions in statistical centers that support collaborative networks.

If your institution is interested in becoming a NISS affiliate, fill out the form at *www.niss.org/affiliates/become-affiliate.* ∎

MORE ONLINE
The recordings of these sessions are made available to the public one month after each career fair event. Find them as well as slides and links on the NISS website at *www.niss.org/meet-recordings.*

New *CHANCE* Editor Introduces Herself

Amanda Peterson-Plunkett, senior statistician at the National Security Agency, has accepted the position of interim executive editor of *CHANCE* magazine (*https://chance.amstat.org*) for one year. Here, she answers a few questions about herself and her plans for the publication this year.

Tell us a little about yourself. What or who inspired you to study statistics?

I began my career with a BS and MS in applied mathematics, starting out as a modeling and simulation analyst for a Department of Defense contractor. After joining the National Security Agency a few years later, I saw how useful statistics could be and I wanted to learn more. The NSA sponsored me to continue my education, sending me back to graduate school to earn a PhD in statistics.

For 15 years, I've been at NSA, working challenging problems and leading applied data projects (communicating statistical analyses to mostly nonstatisticians). Currently, I wear two hats: as a researcher in a data science division and as an adjunct professor of statistics at the National Cryptologic School. Outside of work, I'm involved in R-Ladies of Baltimore, a local chapter of a global organization to promote gender diversity in the R programming community.

CHANCE Magazine is on Twitter. Be sure to follow @ChanceStatsMag!

Peterson-Plunkett's first issue of *CHANCE* mailed in mid-February.

Why did you accept the position of interim executive editor of *CHANCE* magazine?

CHANCE holds a special place in the hearts of subscribers; it has a long history (going back to 1988) of informing and entertaining a general audience in a statistical application-based context. I wanted to continue that tradition. I see this role as an opportunity to inspire the next generation of statisticians.

As *CHANCE* magazine editor, do you have specific plans (such as special issues) for the publication this year?

We are planning for a special issue on privacy later this year. It's such a hot topic right now in this era of widespread use of consumer data. The other three issues will be open to topics submitted by the contributors. Instructions for submitting an article can be found at *https://chance.amstat.org/contact/submit-an-article.*

How do you see the magazine evolving under your direction?

We created a Twitter account to connect with readers and contributors. Be sure to follow @ChanceStatsMag! We also have a new column called Machine Learning Machine, by Adam Ciarleglio of The George Washington University. I'm also excited to welcome a few new editors: Justin Jacobs, an NBA researcher in Houston, Texas, will be editor of our sports column; Maria Tackett of Duke University, who will be joining Mine Çetinkaya-Rundel as co-editor of the Taking a Chance in the Classroom column; and Diane Uschner from The George Washington University as editor. ■

Bayes Factor Highlighted in February Issue of *TAS*

Daniel Jeske, Editor, *The American Statistician*

The February 2020 issue of *The American Statistician* is available online and features 14 articles and one letter to the editor. Recall that one of the benefits of ASA membership is free access to the online issues of *TAS*.

The General section has three articles. The first examines the asymptotic behavior of the Bayes factor for comparing two models. Considerations to dependent data and mis-specified models are included. The results provide a practical extension to the use of Bayes factors. The second article provides an easy-to-use algorithm for generating correlation matrices that have specified eigenvalues. Applications for the algorithm are discussed. The third article proposes two methods for constructing confidence intervals for a bivariate correlation coefficient when the underlying joint distribution is unknown. The tools used are generalized pivot quantities and empirical likelihood.

The Statistical Practice section has two articles. The first is concerned with the problem of binary responses in spatial modeling. Properties of, and relationships between, various models are explored. The second paper offers a detailed discussion on two-tailed p-values, with particular attention to situations in which the null distribution is asymmetric. A modified p-value is introduced that purports to provide a measure of evidence for a null hypothesis.

There are three articles in the Teacher's Corner. The first discusses an R Shiny app that implements a game for teaching response surface modeling. Detailed suggestions as to how to integrate the app into classrooms are provided. The second paper provides multiple examples that help to understand when the distributions of $X/(X+Y)$ and $Y/(X+Y)$ are identical. The examples have pedagogical value for some concepts taught in mathematical statistics classes. The third article revisits the conditionality principle. The scaled uniform distribution provides an interesting illustrative example.

The Data Science section has two articles. The first describes a data science program offered at The Johns Hopkins University. The program consists of nine four-week courses and has had more than 4 million initial enrollments over the past three years. The second article offers suggestions for teaching data science at the undergraduate level. The approach taken uses a rich variety of computational tools.

An article in the Interdisciplinary section looks into ordinal item response models. The impact of a particular constraint in the parameter space is investigated and a case study with customer ratings data is presented.

An article in the History Corner presents graphical depictions and interpretations of Norman L. Johnson's proposed (1949) families of transformation functions.

The Short Technical Note section has two articles. The first shows that least squares estimators have a certain type of loss function robustness by demonstrating they are optimal with respect to a general divergence loss function. The second article contributes to an ongoing discussion on how standardization affects collinearity diagnostics, with a particular focus on variance inflation factors.

The February issue concludes with a Letter to the Editor, which investigates the sharpness of an upper bound on Bayes factors.

For more information about *The American Statistician*, visit *www.tandfonline.com/toc/utas20/current.* ∎

Promote the competition in your statistics department or workplace. Download the official poster at *www.significancemagazine.com/files/writing-comp-poster.pdf.*

Submit Article to *Significance* for Chance to Be Published

I f you read *Significance,* you are definitely interested in stories about statistics and data science and fascinated by what data can tell us about the world we live in. So, how would you like to write one of those stories for the magazine?

If you are an early-career researcher, now is your chance. Our 2020 writing competition, jointly organized with the Young Statisticians Section of the Royal Statistical Society (RSS), is open for entries.

The competition is for two categories of people: students studying statistics or related subjects for a first degree, master's, or PhD and graduates whose last qualification in statistics or related subjects (whether first degree, master's, or PhD) was not more than five years ago.

To enter, send your best statistical writing in the form of a magazine article (1,500 to 2,500 words) on any subject you like. Successful submissions from past years were based on original analyses produced specifically for the competition. This does take work, but it often results in a unique and compelling article.

You might also write about work you have done as part of your studies or during your career. However, if these articles draw on previously published work, you must ensure the competition submission is sufficiently different in terms of style and structure. Remember, *Significance* is a magazine, not an academic journal.

You can also write about the work of others, but this must be in the form of a critique or wider overview of a subject area.

A list of published articles from previous years' competitions can be found at *www.significancemagazine.com/613.*

The competition is open until 11:59 p.m. on May 29. Three finalists will be selected in June, with the winner announced in July. The winning article will be published in the October issue and online at *significancemagazine.com.* Runners-up may also be published online or in print at the editor's discretion.

Finalists will be invited to give presentations based on their articles at a special session of the Royal Statistical Society International Conference, to take place September 7–10 in Bournemouth, United Kingdom (*http://bit.ly/2OMErU1*).

How to Enter

Email your submission as a Word or PDF file to *significance@rss.org.uk.* Make sure to include the competition entry form, which can be found at *www.significancemagazine.com/640*, along with submission details. ∎

UM Biostatistics Readies for 70th Anniversary

Rod Little and Bhramar Mukherjee, University of Michigan

"Roses are red, UM's blue and maizy, Biostat's 70, let's party like crazy!"

~ *Symposium theme*

The University of Michigan Department of Biostatistics is celebrating its 70th anniversary, having been founded as the university's department of public health statistics in 1949. To celebrate, the department is organizing a symposium, titled "Biostatistics, Data Science, and Genomics," in Ann Arbor May 15–6.

Events will include a career forum on May 15 at 4:30 p.m., followed by a poster session and mixer. May 16 will include a varied series of talks, followed by a mixer and banquet in the evening that includes after-dinner speaker Tom Nichols, musical entertainment, and a skit.

Speakers and panelists will be distinguished alumni and past faculty of the department, including Rebecca Andridge, DuBois Bowman, Michael Epstein, Debashis Ghosh, Lang Li, Mingyao Li, Xihong Lin, Qi Long, Bhramar Mukherjee, Tom Nichols, Mark Reppell, Jason Roy, Brisa Sanchez, Paul Scheet, Brian Segal, Yu Shyr, Robert Strawderman, and Nabihah Tayob.

Registration is free, with a fee for the mixer and banquet. To register and receive up-to-date information, visit *https://sph.umich.edu/biostat/anniversary-registration.html.*

Submissions Wanted for *Teaching Statistics* Special Issue

S ubmissions are being sought for a special issue of *Teaching Statistics,* which will be published in 2020 as an e-book and titled *Teaching Data Science and Statistics: Senior School or Introductory Tertiary.*

Edited by Helen MacGillivray, Robert Gould, and Jim Ridgway, a variety of chapters are planned, with a small number of invited chapters, but most oriented to classroom-ready ideas, case studies, and/or materials embodying good teaching practice. Each of the latter types of chapter should focus on one or more aspects of statistical data investigations and data science.

Authors will find valuable guidance in Unit 1 of the framework of the International Data Science for School Project (IDSSP, *www.idssp.org*). Case study approaches should embody classroom-ready implementation, with a rich data context including a number of variables.

Chapters should be between 2,000 and 4,000 words, and no more than 5,000 words, including references, figures, and any appendixes. Resources such as data, code, notes for teachers/instructors, and videos may be placed in an online repository. Authors also may wish to provide short, dynamic videos.

Teaching Statistics is published by Wiley on behalf of the Teaching Statistics Trust. It is intended for all those who teach statistics to students aged up to 19 years. The emphasis is on good practice in teaching statistics and statistical thinking in any context. *Teaching Statistics* seeks to inform, enlighten, stimulate, guide, correct, inspire, entertain, and encourage. *Teaching Statistics* is a refereed journal, with double-blind reviewing. ∎

MORE ONLINE
Visit Wiley online to view an issue at *https:/onlinelibrary. wiley.com/ journal/14679639.*

For more information, contact the *Teaching Statistics* editor at *h.macgillivray@qut. edu.au.*

Pfizer/ASA/Columbia University Symposium on
Risks and Opportunities of AI in Clinical Drug Development

May 18, 2020
8:30 a.m. – 4:30 p.m.
Columbia University School of Social Work

Join distinguished **statisticians, data scientists,** and **regulators** as they address the challenges and opportunities of advancing the use of artificial intelligence in drug development and deployment.

REGISTRATION
Includes breakfast and lunch
Regular – $150
Student – Complimentary

For more information, see *www.amstat.org/aipm2020* or contact *meetings@amstat.org.*

This symposium was made possible with the generous support of Pfizer Inc., Columbia University, and the American Statistical Association.

Meet
Emilda B. Rivers,
Director of the National Center for Science and Engineering Statistics

Emilda B. Rivers is the director of the National Center for Science and Engineering Statistics (NCSES), the principal statistical agency housed as a division within the National Science Foundation (NSF)'s Social, Behavioral, and Economic Directorate. NCSES serves as a clearinghouse for information about the US science and engineering enterprise, often in a global context.

Prior to her appointment as NCSES director, Rivers was the NCSES deputy director. She previously led the center's largest program area: the Human Resources Statistics Program. She has also worked for the US Census Bureau and US Energy Information Administration.

In 2017, Rivers was named by *Forbes* as one of 25 Women Leading Data and Analytics in the US Government. She graduated top of her class in mathematics from South Carolina State University and has a Master of Science degree from the University of Maryland, College Park.

What about this position appealed to you?

The opportunity to serve an organization that I love, carry out a mission I believe in, and follow my passion of connecting people with the statistical information they need to make decisions.

NCSES has an incredible staff, a unique position within NSF, and a future full of possibilities. As the National Science Foundation's independent statistical agency, NCSES embraces new ideas, innovation, and research to provide policy-relevant policy-neutral information. As one of the principal federal statistical agencies, the center continually strives to maintain credibility and trust with our diverse statistical and scientific communities.

Leading NCSES appealed to my passion of communicating the value of NCSES statistics as our nation and world meet a variety of opportunities and challenges related to scientific research, statistics and methodology, R&D performance and funding, and the education and employment of scientists and engineers. Additionally, the Evidence Act creates a platform for statistical agencies to demonstrate value, and NCSES has a larger role than ever in supporting evidence-based decision-making.

Describe the top 2–3 priorities you have for the National Center for Science and Engineering Statistics.

I am working on the following three priorities:

Bringing NCSES to "the table" to showcase the data and resources we can (and do) contribute to our domestic and international statistical and scientific communities. The Evidence Act and Federal Data Strategy provide a framework that has served as the foundation for federal statistical agencies since their inception—maximizing the public use of the data we collect. There are many exciting opportunities within this "new" framework. The President's Management Agenda outlines several cross-agency priority goals, including leveraging data as a strategic asset, which strongly encourages agencies to liberate data within the legal requirements of protecting confidentiality and privacy. One of NCSES's core activities is the education and training of researchers in the use of large-scale nationally representative data sets, which aligns with the administration's priorities. We are charged with ensuring openness and

> You can have the greatest staff and the greatest data, but if people cannot see themselves reflected in our data, we are not being effective.

transparency in federal statistics, which includes access to statistical micro-level data. NCSES is at the forefront of several efforts to provide restricted-use data in secure settings to data users who meet stringent data security requirements.

Exploring innovative approaches to increase data relevance, trust, and confidence in NCSES statistics. NCSES is interacting with our communities to convey mutual benefits and demonstrate nimbleness in addressing data gaps and conveying reliability of NCSES data analytics. To address declining response rates, data quality, and timeliness, we must continue to innovate our processes throughout the survey cycle. We are exploring the use of administrative records or alternate data sources to supplement or replace survey data, such as continued exploration for using business records and perhaps transaction data to supplement our business research and development survey.

Expanding NCSES products to include data visualizations and new topics of interest, specifically the skilled technical workforce and measuring innovation. You can have the greatest staff and the greatest data, but if people cannot see themselves reflected in our data, we are not being effective.

What do you see as the biggest challenge(s) for NCSES?

Growing a staff of ambassadors who are skilled not only in collecting and analyzing data but also in communicating the value of data (a common challenge for statistical agencies). In this era of "big data," users can get metrics from a wide variety of sources. It is our responsibility, as a statistical agency, to provide high-quality, accurate data and the narrative around data needed for interpretation.

NCSES is full of experts who know the strengths and limitations of the data. As our nation and the world produces massive amounts of information, NCSES's greatest challenge is continually finding effective ways to communicate the value of data on the US science and engineering enterprise, often in a global context.

What kind of support from the statistical community do you look for?

As a small principal statistical agency, we heavily rely on partnerships. First, from the community, we need individuals trained in data science, data architecture, and data engineering. We need help recruiting these people with these skill sets into the federal statistical service.

Second, we need help maximizing the utility of our data. We do not have the resources to be all things to all people, so we rely on our partners to use our data to answer their research or policy questions. Our partners help us get the data in the hands of decision makers such as graduate schools and R&D policymakers (domestic and international). We cannot reach the whole spectrum of data users without partnerships.

Third, there is a shift from survey data to administrative data as primary sources for many statistics. Our international partners have been working on this for a while, and as the US system makes this shift, we rely on our international partnerships for lessons learned.

Prior to your tenure, what do you see as the biggest recent accomplishment of the agency?

We set the bar high for our surveys, reports, and congressionally mandated reports. In particular, the voluminous *Science and Engineering Indicator's Report* (*Indicators*) produced for and under the guidance of the National Science Board (NSB) was no longer sustainable in content and process. NCSES partnered with the NSB to narrow the scope of the report, which describes the state of the US science and engineering enterprise in a global context. NCSES "reimagined" the approximately 1,500-page print-focused report to a more digestible format of nine thematic reports of fewer than 50 pages each designed for a digital platform. NCSES also created data tools and a user-friendly website for *Indicators*. Reception of the "reimagined" *Indicators* has been positive.

NCSES successfully created a community around this product by communicating value to a wide range of stakeholders, including journalists, congressional staffers, and government officials at the State Department; Office of Science, Technology, and Policy; and Congressional Research Service, to name a few. This is one example of NCSES's resilience and tenacity to accomplish its mission, despite only being a staff of about 50 people. ∎

Celebrating WOMEN IN STATISTICS AND DATA SCIENCE

In honor of **Women's History Month,** we are once again celebrating more than 20 ASA women who work in statistics and data science. We have also included some trailblazers. These accomplished women were chosen because they inspired and influenced other women in their field. Read their biographies and find out why they chose statistics, who influenced them, and what they have accomplished.

To read more about these extraordinary women, visit *https://magazine.amstat.org/ statisticians-in-history/whs_2020.*

GAYLE S. BIELER worked part time from her home for more than 15 years, until she became inspired by data science and the happenings in the Obama administration. That is when she took a risk and started something new. Six years later, she is leading a team of 24 talented data scientists at RTI.

SHEILA MACDONALD BIRD'S father played mental arithmetic games with her when she was a child, which sparked her enthusiasm for math. And even though she has won numerous awards and her work has led to statistical guidelines for contributors to medical journals, some of her most enjoyable days have been spent absorbed in designing studies—especially when analysis leads to new insights with important implications for public health.

CLAIRE MCKAY BOWEN was raised on a small farm in Idaho, where she was encouraged to explore and question the world around her. Eventually, she pursued a degree in mathematics and physics, but what intrigued her most in the research projects was statistical analysis and how it was applied to solve real-world problems. She received several fellowships and the Gertrude Cox Women's Scholarship, going on to earn a doctorate in statistics. She is now the lead data scientist for privacy and data security at the Urban Institute.

CYNTHIA CLARK'S mother was a chemist prior to WWII and her father was an agricultural loan officer and bank director, so studying mathematics and science was not unusual for a girl in her home. She pursued mathematics until it was clear to her there were better career opportunities in statistics for a woman. A longtime leader in the official statistics community, she is the executive director of the Council of Professional Associations on Federal Statistics.

DIANNE COOK was the center half on her small high-school field hockey team that beat all the larger high schools to become the state hockey champion. Sports—both watching sports and playing sports—exposed her to basic statistics. Where she really learned how to do data analysis, however, was at Iowa State University, where she, Hadley Wickham, and Heike Hofmann entered a data analysis competition—the first of many to come.

After earning her undergraduate degree in American studies, **L. ADRIENNE CUPPLES** married and worked for several years. But in 1968, she decided to take math courses at night school "just for the heck of it." She is now professor of biostatistics and epidemiology at Boston University School of Public Health. For the past 30 years, she has been involved in genetic epidemiology in neurological diseases, mentored many students on their doctoral research, and won numerous awards.

GABRIELA DE QUEIROZ initially studied electrical engineering but fell in love with statistics after spending a semester in the US. She went on to complete her master's in epidemiology and then became a data scientist, intrigued by how statistics and computer science were being used together in industry. Her great passion for sharing knowledge and connecting with people inspired her to create R-Ladies, a group that focuses on bringing more diversity into the R community. She recently started AI Inclusive, whose mission is to increase the representation and participation of gender minority groups in artificial intelligence.

EMILY B. FOX began studying neuroscience, but was swayed by engineers at MIT to study electrical engineering—and was drawn to signal processing. Her interest in the topic was refined into a focus on statistical signal processing during a junior year abroad at Cambridge University. She is an associate professor in the Paul G. Allen School of Computer Science and Engineering and department of statistics at the University of Washington and the Amazon Professor of Machine Learning.

In high school, **RANDI GARCIA** loved math—and her math grades showed it. But when it came time to decide a college major, she chose to study psychology and women's studies. Fortunately, she was quickly introduced to statistics and data analysis via her psychology courses and her love for math made a giant comeback. She now has her dream job at Smith College, where she teaches courses in both statistical and data sciences and psychology.

JOYEE GHOSH had to choose between taking a statistics or biology course in high school. Because the thought of dissecting frogs terrified her, she chose statistics. Today, she is an associate professor in the department of statistics and actuarial science at the University of Iowa. When students ask her for career advice, she tells them they should follow their heart, work hard, and take things as they come.

USHA GOVINDARAJULU was inspired by her father to pursue biostatistics—which combined her love for biology and statistics. Her research in cardiac device safety recently generated three first-author publications and, when FDA statisticians saw her research presented during the Joint Statistical Meetings, she was asked to advise them on her methods. Her research has also been featured on the radio program "Public Health Minute."

LESLIE MCCLURE wandered through different majors during her first two years of college, before realizing she was taking math classes "just for fun." Eventually, she earned her PhD in biostatistics. As a biostatistician, she loves to help others do better science through her statistical expertise, while furthering her own field. She enjoys spending time with her family, writing a blog (*https://statgirlblog.wordpress.com*), and running when not being a department chair or clinical trials statistician.

CLAUDIA PERLICH was born near Leipzig, East Germany. Her father—having worked on replicating the IBM 360—foresaw that computer-related skills would be in demand, so—on his advice—Claudia studied computer science. Today, she is an adjunct professor at NYU's Stern School of Business and a senior data scientist at Two Sigma. Among the aspects of data science she appreciates most is the subtle skill of trying to find what she calls the "little quirks" in a data set. "It's like doing detective work," she says.

Like Katherine Johnson in the film "Hidden Figures," **ANNIE MAE TURNER TAYLOR RANDALL** loved and excelled at math. A trailblazer in her own right, Randall was a mathematical statistician at the National Institutes of Mental Health in the Theoretical Statistics and Mathematics Branch. She was responsible for the calculations behind the book *Human Aging*, published in the late 1960s and still used today for behavioral and biological studies. She has received numerous letters of commendation from multiple sources, including the University of Pennsylvania and National Academy of Sciences.

SHERRI ROSE grew up in poverty and violence. Adjusting to college life was a struggle, but she was laser-focused on her courses in hopes of finding a path to a stable future. In fact, she was part of the first group of undergraduates in the Summer Institute for Training in Biostatistics (SIBS) at Boston University, which solidified her determination to earn a PhD. She is now associate professor at Harvard Medical School and co-director of the Health Policy Data Science Lab.

An internationally renowned statistician and social scientist, **JUDITH D. SINGER'S** scholarly interests focus on improving the quantitative methods used in social, educational, and behavioral research. She is primarily known for her contributions to the practice of multilevel modeling, survival analysis, and individual growth modeling—and to making these and other statistical methods accessible to empirical researchers. She is senior vice provost for faculty development and diversity and James Bryant Conant Professor of Education at Harvard University.

ALEKSANDRA (SEŠA) SLAVKOVIC was born and raised in Čačak, Serbia, where she enjoyed mathematics but also sports, music, and dance. In fact, while a student at Duquesne University, she was supported by the Tamburitzan Scholarship and performed with this unique and culturally diverse performance ensemble. Aleksandra met Steve Fienberg, who recruited her to the doctoral program in statistics, while she was pursuing a master's in human-computer interaction at Carnegie Mellon. She is now professor of statistics and associate dean for graduate education at the Penn State Eberly College of Science.

During her undergraduate degree at Smith College, **ELIZABETH A. STUART** knew she wanted to "save the world through math," but she had no idea what that meant. After college, she worked as a research assistant at Mathematica Policy Research, which is where she discovered statistics as a way to link her interests in public policy, the social sciences, and mathematics. She now works at the interface of statistical methods and public health, with expertise in methods for estimating causal effects. She is professor of mental health, biostatistics, and health policy and management and associate dean for education at Johns Hopkins Bloomberg School of Public Health.

ALYSON G. WILSON'S interest in statistics grew out of a summer internship in the clinical statistics department of Burroughs Wellcome, a pharmaceutical company in North Carolina. This was the first time she understood how math could be applied to real-world problems. Today, she is a professor in the department of statistics and associate vice chancellor for national security and special research initiatives, and her work has contributed to improving the use of data and quantitative methods in defense.

JANET WITTES was leaning toward a major in biochemistry at Radcliffe College until faculty mentor John Edsall noted her preference for inference and guided her to statistics. In 1970, with two toddlers in tow, Wittes and her husband—physician Robert E. Wittes—moved to Bethesda, Maryland, where she worked part time as a postdoctoral researcher with Jerome Cornfield at The George Washington University and he served in the USPHS Commissioned Corps as a Yellow Beret. She founded a consulting firm, Statistics Collaborative, in 1990 and remains its president.

STEPHANIE ZIMMER grew up near Charlotte, North Carolina, and developed an interest in statistics when she took AP Statistics in high school while attending the North Carolina School of Science and Mathematics. After finishing her studies at Iowa State, she joined RTI International in Durham, North Carolina, as a research statistician. There, she works on many projects, including surveys of prisoners, prisons, law enforcement agencies, and victims. She enjoys mentoring other statisticians in her group, particularly in learning R.

Two More Schools Create Master's, Doctoral Data Science/Analytics Programs

The proliferation of master's and doctoral programs in data science and analytics continues, seemingly due to the insatiable demand of employers for data scientists. *Amstat News* started reaching out several years ago to those in the statistical community who are involved in such programs to find out more. Given their interdisciplinary nature, we identified programs involving faculty with expertise in different disciplines—including statistics, given its foundational role in data science—to jointly reply to our questions.

WASHINGTON UNIVERSITY SCHOOL OF MEDICINE

Charles Gu is an associate professor in the division of biostatistics and an associate professor of genetics at Washington University. His research interests include high-dimensional data analysis, maching learning, and translational bioinformatics. He is the course master for a bioinformatics course.

Lei Liu is a professor in the division of biostatistics at Washington University. His biostatistical and data science interests include survival analysis, longitudinal data analysis, spline regression, personalized medicine, and maching learning. He is the course master for a biomedical data mining course.

Master of Science in Biostatistics and Data Science (MSBDS)

https://biostatistics.wustl.edu

Year in which first students graduated: 2019

Number of students enrolled: 3

Partnering departments: Division of Biostatistics

The MSBDS program is housed in the School of Medicine and is a 42-credit, 18-month program with summer matriculation in July. The majority of students are full-time traditional, though it is also open to research staff on campus who can only enroll part time. Students choose between a 6-credit (final two semesters) internship or thesis. All students are eligible to apply for research assistantship positions after the first summer semester.

Describe the basic elements of your data science/analytics curriculum and how the curriculum was developed.

Our MSBDS program comprises three important data science training elements: a one-semester course on introduction to bioinformatics; two one-semester courses on biomedical informatics (fundamentals and methods); and a one-semester course on biomedical data mining.

We expect our matriculating cohorts will have a balanced undergraduate training in math, statistics, and computer programming. However, it's our experience that—almost without exception—students have a rather heterogeneous mixture of the skills, especially in computing and statistics. To address this issue, students enroll in three summer courses following orientation: two courses on statistical computing (SAS and R) and one on biostatistics. This way, all will be at a relatively similar starting point when they start the fall semester.

The curriculum has evolved from our earlier Master of Science in Biostatistics (MSIBS) program established in 2011, which evolved from our original Genetic Epidemiology Masters of Science (GEMS) launched in 2002. Bioinformatics training was included from the beginning, created in response to the rising tide of "big data" of genomics. The new Master of Science in Biostatistics and Data Science (MSBDS) degree was built upon the other two programs (GEMS and MSIBS) by incorporating some of their foundational courses.

What was your primary motivation for developing a master's data science/analytics program? What's been the reaction from students so far?

We were motivated to respond to the demands of our students, their employers (many of whom are

also our colleagues), and our faculty who all have more frequently encountered emerging big data needs. For example, many students working as RAs often have to deal with some kind of genomics/bioinformatics data analysis, even though they have had limited training. By adding the two biomedical informatics courses and a biomedical data mining course to the already existing introduction to bioinformatics and fundamentals of genetic epidemiology courses, we believe students will be more well-rounded and able to tackle data science work related to biomedical research. In practice, master's students in biostatistics may need less coursework in statistical methods but more coursework in data management.

How do you view the relationship between statistics and data science/analytics?

Statistics is to data science like a parent is to his/her child: You see a lot of resemblance of the parent in the child, but the child will live his/her own life. It takes another parent to bring the child to life and, in this case, it actually took two or more (i.e., computer science and a domain science). Just like several other scientific branches, traditional statistical methods have been developed to analyze data of a smaller scale to achieve a balance of accuracy and efficiency. However, with the emergence of bigger and more complicated data, new statistical and computational approaches are needed to answer the call. Big data and small data, are all part of data science. Statistics should go hand in hand with informatics, computer science, and other disciplines to make a big world of data science.

What types of jobs are you preparing your graduates for?

We aim to prepare our students for a variety of biomedical data science–related jobs and anticipate many will continue to find jobs in academic research or continue with further education. However, we would like to see more graduates secure positions in industry. In addition to (bio) statisticians, students can also find jobs as data analysts, bioinformatician, and business analysts. If the students' research assistantship opportunities are any indication, the constant and growing demand for biomedical research assistance leads us to believe the future looks bright for our graduates.

What advice do you have for students considering a data science/analytics degree?

Start early and think over the nature and type of data science career you will both enjoy and are good at doing. The nature of your ideal DS jobs is related to the domain science component of your MSBDS degree. The earlier you think these over, the sooner you can decide on and take relevant classes at the undergraduate level. In any case, take some classes to hone your computing skills.

Regarding a degree in data science versus computer science, statistics, or a domain science, the primary determining factor should be your intellectual interest and capability. At the risk of being overly simplistic, the major difference between CS and DS is whether the model is assumed known, between statistics and DS is the scale of data, and between a domain science and DS is whether you create your own data or analyze others'.

Essentially, data science graduates should have more knowledge in informatics and data management compared to the traditional biostatistics master's students and more coursework in statistical methodology than CS students.

Describe the employer demand for your graduates/students.

As previously stated, we foresee more students getting jobs in industry and also believe there will continue to be strong demand for graduates in academic research. The program will also prepare graduates for higher studies (PhD, MD, etc.).

Do you have any advice for institutions considering the establishment of such a degree?

It is the prime time to get into the field and start one's own program in DS. As a new science, there are tremendous amounts of theoretical and methodological problems that require persistent work of many great minds. It is a good time for a top-tier school to make meaningful contributions to the development of this new field. To do so, the school must not simply see this (creating such a DS degree) as a new revenue source, but rather as an opportunity to advance the science. Therefore, the creation of a new DS program must be accompanied by enhanced/strengthened faculty activities devoted to DS research and teaching.

It is also a good time to create (or start to create) institution-wide databanks. DS is a discipline that relies and thrives on other people's data.

Revamping university-wide curriculum for a DS degree may seem an overkill. However, it may be necessary to organize a campus-wide curriculum taskforce to streamline and coordinate course offerings between different schools and departments to eliminate waste of efforts and fully use strengths of different programs.

BOWLING GREEN STATE UNIVERSITY

Robert Green is an associate professor of computer and data science. He served as a research assistant professor at the University of Toledo from 2012–2013, before joining the department of computer science. While his core research expertise is in computational intelligence and high-performance computing, his research record crosses disciplinary boundaries with publications in cloud computing, power system reliability, intrusion detection, and optimization.

PhD in Data Science, MS in Data Science

www.bgsu.edu/graduate/graduate-programs/data-science.html

Year in which first students are expected to graduate: PhD in Spring 2022, MS in Fall 2021

Number of students enrolled: 11

Partnering departments: Computer Science, Mathematics and Statistics, Applied Statistics and Operations Research

Program format: In person

The MS is 30 credit hours with a required project. The PhD has a 60- and 90-credit hour path, including qualifying and preliminary exams. Practicum of some type (industrial or research) is required. The 90-credit hour path includes earning an MS degree.

Describe the basic elements of your data science/analytics curriculum and how the curriculum was developed.
The graduate college, along with the three partnering departments, jointly developed the curriculum as informed by faculty, research, and the respective advisory boards of each department. We consulted with data science practitioners in industry and with Burtch Works regarding their study of data science. Information was also gathered from the MS in analytics program at BGSU. The curriculum is fundamentally 33 percent applied statistics, 33 percent math/statistics, and 33 percent computer science.

Students entering the program are expected to have the following background:

- Differential, integral, and multivariate calculus

- Linear algebra

- Senior-level introduction to probability

- Senior-level statistics

- Programming skills in high-level languages such as C, C++, Java, and Python

- Data structures

- Algorithms

- Computer science knowledge

What was your primary motivation for developing a master's and doctoral data science/analytics program? What's been the reaction from students so far?
Fundamentally, there is a significant need for the program both from an industrial and academic perspective. A variety of sources have been consulted with regarding the market need for this program. According to *Fortune*, Indeed.com's chief economist, Tara Sinclair, said the number of job postings for data scientist grew 57 percent for the first quarter of 2015 compared to the year-ago quarter. And searches for data scientists grew 73.5 percent for the same period. A search for PhD data scientist positions on January 24, 2018, resulted in 4,646 positions. On the same day, a search for PhD statistics positions only resulted in 3,857 positions. (A search for PhD computer science position resulted in 8,517 positions.)

A report by International Data Corporation in 2015 observed the following potential for big data analytics and the need to analytics professionals:

- Shortage of skilled staff will persist. In the US alone, there will be 181,000 deep analytics roles in 2018 and five times that many positions requiring related skills in data management and interpretation.

- Over the next five years, spending on cloud-based big data and analytics solutions will grow three times faster than spending for on-premise solutions.

- Adoption of technology to continuously analyze streams of events will accelerate as it is applied to Internet of Things (IoT) analytics.

A report, *The Burtch Works Study: Salaries of Data Scientists,* by the Burtch Works Executive Recruiting was released in April 2016. The report was based on a sample of 374 data scientists for the 12-month period ending in March 2016. The report has the following key findings:

- Ninety-two percent of the data scientists in the sample have an advanced degree; 44 percent hold a master's degree, and 48 percent hold a PhD.

- The median salary of an entry-level job for a data scientist with a PhD is $100,000.

- Demand for data scientists has been increasing as more organizations jump on board the data bandwagon, and while the supply has been improving, it still lags far behind.

Student reactions so far have been strongly positive. Our students have mixed backgrounds, with a majority of them coming from a strong statistics background. These students tend to struggle in their first year getting up to speed on computer science–related work. The opposite is true of those with strong computer science backgrounds. There are few candidates who have a well-balanced background covering all areas, though the department of computer science will begin offering an undergraduate specialization in computational data science in fall 2020 that will do just this.

How do you view the relationship between statistics and data science/analytics?

Statistics is essential and foundational in data science, but it is not the entire picture. The data scientist must have a mixed skill set in math, statistics, and computer science to succeed. A statistics PhD student with a few CS courses or some experience with R is not automatically a data scientist; one needs deeper knowledge and experience with computer science to develop one's own algorithms, make them run fast, and understand the ecosystem of computer science to be able to get the code deployed and running without interruption.

What types of jobs are you preparing your graduates for?

While we have not had any graduates yet, we assume our PhD students will move on to either academia and industry and that our MS students will go to industry or into a PhD program. Master's graduates who go into industry will likely take jobs that have titles such as data scientist and data engineer.

What advice do you have for students considering a data science/analytics degree?

For true data science, you need to be very strong in one area of math/statistics, applied statistics, and computer science and competent in the other two. You also need to be ready to collaborate. Every data scientist has their own expertise and is stronger in one of these three areas, so collaborative and complementarity are adjectives we seek to maintain.

What many students find difficult about studying data science is that you need to embrace two very different disciplines with different mindsets—statistics with its mathematical nature and rigorous thinking about sampling and testing and computer science with its fast pace, the need to be comfortable with everything happening on a computer, discrete puzzle-like tasks, and the need to collaborate with Git and other such tools.

Do you have any advice for institutions considering the establishment of such a degree?

Be kind and realize your discipline is not the "end all be all" of disciplines. We all complement each other and bring important skills to the table.

Begin the process with the creation of a college, school, or department to administratively house the programs.

Work hard to actively include people on the core team from multiple departments, and even from multiple colleges. The program will be stronger for it. ∎

JSSAM Seeks Survey Methodology Editor Applications

The American Association for Public Opinion Research, American Statistical Association, and Oxford University Press invite applications for the position of co-editor-in-chief for survey methodology of the *Journal of Survey Statistics and Methodology (JSSAM)*.

JSSAM's objective is to publish cutting-edge scholarly articles about statistical and methodological issues for sample surveys, censuses, and administrative record systems. It aims to be the flagship journal for research on survey statistics and methodology.

Topics of interest include survey sample design, statistical inference, nonresponse, measurement error, the effects of modes of data collection, paradata and responsive survey design, combining data from multiple sources, record linkage, and disclosure limitation.

The journal's co-editors focus on survey statistics or survey methodology, respectively, on staggered terms. Michael Elliott serves as the editor for survey statistics, whose term runs through December 31, 2021. This opening is for a survey methodology editor to replace Tin Yan, who is currently serving in that capacity.

See the journal's website for information about its aims and scope (*http://jssam.oxfordjournals.org*) .

The new co-editor-in-chief will serve from July 1, 2020, through June 30, 2023, with the transition beginning in the spring of 2020.

Applications

Applications should be sent electronically to *journals@aapor.org* or *journals@amstat.org* and include a CV; the names of three references; and a letter of interest in the position including a brief statement of your vision for the publication, directions you would pursue, and contributions you would make if selected as editor. In addition, if you know of good prospective candidates, you are welcome to encourage them to apply.

The deadline for applications is April 15.

Details

JSSAM editors are encouraged to be active members of AAPOR and/or the ASA during their terms.

Papers submitted to *JSSAM* are refereed using a single-blind review system.

The *JSSAM* editors, working with the editorial coordinator, manage the review process. The editors also work with the production editor to create each issue and ensure timely production and publication.

The survey methodology co-editor will be responsible for handling approximately 60–90 manuscript submissions per year, with the assistance of a group of associate editors who are selected by the co-editors. The two co-editors have editorial responsibilities in their respective topic areas and collaborate on areas of shared responsibility for the journal. Editors are provided with an online manuscript submission and tracking system and given training in the use of the system. The system allows the editors to examine new submissions and assign reviewers easily, as well as to generate reports.

JSSAM editors-in-chief represent the journal on the ASA's Committee on Publications.

Editors may prepare short articles about each issue's highlights, which are published in *Amstat News* (either in print or online), and write an annual editors' report. ■

SDSS
SYMPOSIUM ON
DATA SCIENCE & STATISTICS

SDSS is designed for data scientists, computer scientists, and statisticians who analyze and visualize complex data.

Innovative sessions focus on the following tracks:

MACHINE LEARNING

DATA VISUALIZATION

SOFTWARE & DATA SCIENCE TECHNOLOGIES

PRACTICE AND APPLICATIONS

COMPUTATIONAL STATISTICS

EDUCATION

REGISTRATION IS OPEN

PARTICIPATE

E-Poster Abstract Submission:
Closes March 10, 2020

ATTEND

Early Registration Deadline: April 7, 2020
Housing Reservation Deadline: May 12, 2020
Regular Registration Deadline: June 6, 2020
Onsite Registration: June 3–6, 2020

Learn more at *ww2.amstat.org/sdss*.

BEYOND BIG DATA: COLLABORATION IN SCIENCE, INDUSTRY, AND SOCIETY

PITTSBURGH, PA • JUNE 3–6, 2020

ASA

STATS4GOOD

Data for Good Social Media Content: Step by Step

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.

Last month, we had a chance to talk about the roles video on social media can provide for communicating our work in Data for Good to a wide audience—increasing awareness about organizations, teams, and projects; sharing best practices; and helping connect people with projects. This second article in the two-part series offers a process for developing D4G content. I offer design tips, technical details for creating video, and ideas for using social media resources to promote your work.

The first step in resource development is design, and that begins with careful consideration of the audience you want to reach. Applying principles of human-centered design to understand the people you want to reach and how they access information will go a long way toward creating resources that are easy to use, answer the most important questions people have, and ultimately drive more use of the resources you create by providing useful content.

One common mistake is trying to one piece serve all needs for all people. Instead, start by carefully considering the specific people you want to reach and how they prefer to access information. Websites, pages, blogs, and videos support different needs. Multiple messages and audiences demand different content. The best social media resources are tailored to deliver a specific message to a specific group of people determined in advance, leveraging the type of content they prefer to use.

The most-consumed social media content are music videos—so much so that it creates in peoples' minds many of the ground rules that apply to other kinds of content. Mass consumption to a general audience, often used to increase public awareness, can be delivered in small packages—a short read such as posts on a social media site or 3–5 minutes of video. Long posts don't get read much. Long videos are best for detailed instructions on a technical topic. Long reads? Unfortunately, these are little used. Where a large volume of technical material is needed, break it up into small, easy-to-consume sections that stand on their own. Many .pdf files describing R packages do a good job of this. Find the most helpful ones and develop a similar writing style.

While video content is consumed the most, it's possible to get started without a lot of expensive equipment. Creating a slide show video is a great way to start. Begin with a slide show deck—just a few slides that can be covered in a few minutes. These can introduce your organization or be used as a conversation starter on a particular subject. For example, my own first video used a couple of fact sheets with summary statistics on immigration turned into seven slides, plus a title slide and a thank you at the end. It runs just under four minutes. Find some good videos and study their technical and design choices. Rehearse presenting the deck as if to a group of people.

Best practices for presenting at a conference often apply. Carefully consider your target audience. Many people find it best to present from summary notes—not going without any text but not a full script, either—to provide more natural-sounding content. Present once or twice to a real person to get their comments.

Get Involved

The theme for JSM this year is Everyone Counts: Data for the Public Good. Is there a Data for Good event you would like included in the program? Event submissions will be accepted through April 2 at *ww2.amstat.org/meetings/jsm/2020/meetingrequests.cfm*.

Also, with spring on its way, now is a great time to use statistical science to support your local community garden. There are so many wonderful organizations across the country doing so much good in their local communities. Like most small organizations, community gardens often have raw data to support analysis but not the scientific resources to make the best use of it. Using statistics to foster data-driven program development and decision-making is a great way to make an impact on your community.

Once the video is rehearsed, use your computer to record the sound. Work in a quiet, well-lit, and relaxed location where you will not be interrupted. Find the recording feature in the software used to make the slides, start recording, and just go through the slide deck as you rehearsed it. When complete, save the video and sound together as an .mp4 file. Play back the recording, take notes, and record the video again. Often, just a couple of iterations are needed to get a basic video with good quality.

Next, email the video to friends to get their thoughts, or even just post the video and only tell a couple of people to get their feedback. With this input, make a final video and upload it.

YouTube accepts videos for free up to a certain file size—try to set the image detail, resolution, and sound quality to end up comfortably under this limit. YouTube is more than a destination; it's one of the best places to get technical help for uploading videos.

Creating and sharing social media content is an important way to support Data for Good activities and reach a wider audience. The cost to start is low and a little care and patience go a long way toward producing the content people want most. ∎

STAT*tr@k*

More Than Just Statistics: The Vast Leadership Potential of Statisticians and Data Scientists

Jeanne Li graduated summa cum laude from Colorado State University with a BS in psychology. After completing her first MA in psychology from the University of California, Santa Barbara, she earned her second MA in statistics and graduated first in her class. She has been working as the research statistician at Santa Barbara Cottage Hospital since 2016, applying her statistical knowledge and collaborating with clinicians and computer scientists in biomedical research.

As data becomes more readily available and problems are increasingly tackled by data analytics, statisticians and data scientists are becoming ever more essential to our firms. We have the know-how to transform data into actionable insights. But it's not just our quantitative skills that contribute to our organizations' success—we are in fact capable of much more than first meets the eye. Our statistical thinking can enhance our job performance and make us exceptional candidates for leadership roles for which we are traditionally overlooked.

Uncertainty

If I had to summarize what statisticians study and practice in one word, I'd say "uncertainty." We do not just report where the central location of the data is (represented by mean, median, mode, etc.), but the spread of the data (using standard deviation, interquartile range, etc.). We are acutely aware that the world is full of uncertainty, and that's what makes life so interesting and our profession so valuable.

What we might overlook is that this keen appreciation and understanding of uncertainty transcends the traditional work we perform and prepares us for leadership. We embrace possibilities by maintaining an open mind to alternative viewpoints and solutions. We tend not to speak in absolutes, but rather to evaluate situations based upon multiple factors.

This creates an admirable sense of humility in a statistician, which is a rare and desired quality in leaders. It is important, however, to strike a balance between expressing humility and exuding confidence. This is especially important if you're in your early career, as you're still on your way and earning buy-in and trust. Going overboard with humility may put you in an unfavorable position. You might not feel comfortable boasting about your credentials (I know I certainly feel this way), but think of establishing your bona fides as a means to bringing your unique values to collaboration. As you gain latitude, you can telegraph humility more freely.

For instance, statisticians are often accused of saying "it depends" too much. The truth is, more often than not, it does depend. But we can definitely convey our message better by explicitly explaining what we mean by that. One approach is to try to reference a few possible scenarios wherein you'd draw varying conclusions. This would help your audience appreciate your critical thinking skills, as well as the larger message about our field: uncertainty.

Low-Probability Events Do Occur, Albeit at a Low Rate

We understand how randomness works and recognize low probability events do occur, albeit at a low rate. We expect the interval within which the average falls (confidence interval) would be much smaller than the interval within which an individual value falls (prediction interval). Furthermore, we are prepared to encounter observations outside the prediction interval, as they do indeed occur, however infrequently. This knowledge sharpens our ability to evaluate

information in perspective and helps us keep a level head when dealing with the unexpected. Tending not to make snap judgments based on isolated occurrences is another crucial quality in leaders, strengthening the argument for statisticians in such positions.

This broad and thoughtful approach to decision-making can help you guide yourself and others through challenging situations. A new coworker of mine once had trouble setting up his personal drive on our computer network. This kind of uncommon, yet serious, workflow interruption can be upsetting for even seasoned employees. My advice to my coworker and anyone else in a similar situation is to understand that these incidents do occur, albeit at a low rate, and that we can mitigate such interruptions with knowledge of probability. Not surprisingly, by taking the appropriate steps, our IT department fixed the issue without much delay.
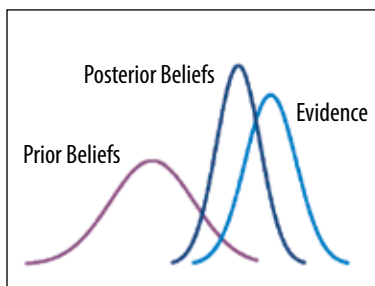
Bayesian statistics graph

Bayesian Statistics

I am a big fan of Bayesian statistics; to me, it is so much more than a statistical theory. In simple terms, Bayesian statistics equips people to make use of new evidence to refashion their current beliefs and interpretations. It provides one with a framework for mindful adaptability that can make us better collaborators and strong leaders.

At the very least, we can apply Bayesian thinking to our professional lives in a few important ways. First, we should seek out periodic feedback and be open-minded about implementing it. Frequent feedback coupled with your own evaluation can keep your perspectives up to date and help you make decisions based on the latest information. Next, be willing to acknowledge when you were biased, or even wrong, when presented with strong evidence. Take the opportunity to update your knowledge accordingly. On the other hand, expect that colleagues may be resistant to implementing the critical feedback you provide. The adoption of feedback and actual behavior change takes time, over a series of Bayesian updates; it usually is a gradual process that is rarely completed in a single instance. This kind of calculated humility is precisely the kind of rare but valuable leadership trait that can be unique to statisticians.

When an individual updates their knowledge in the Bayesian style, the new beliefs lie somewhere between their prior beliefs and the evidence they are presented with. Given this spectrum, properly weighing your prior beliefs versus the evidence becomes key. If you're confident about your prior knowledge, perhaps resultant of large data with little variance, you should assign it considerable weight. Likewise, if the new evidence is substantial and convincing—such as consistent feedback from multiple people—it deserves greater weight.

Granted, it takes experience to reach this level of judgment, but feedback and reflection will help you get there more quickly. The time you spend honing this ability will be well worth it, as it will make you a better statistician and likely a better leader.

Where You Excel

As a student of statistics, you appreciate that outcomes are not certain and that even the rarest of outcomes are possible. With your understanding of Bayesian statistics, you consider new or opposing viewpoints to keep your knowledge current and applicable to your firm's needs. Though professionals in any sector could reasonably heed the advice presented in this article, you are uniquely armed with the fundamental statistical knowledge to appreciate these strategies, which can align to make you a great leadership candidate. ∎

Obituaries

Colin R. Blyth
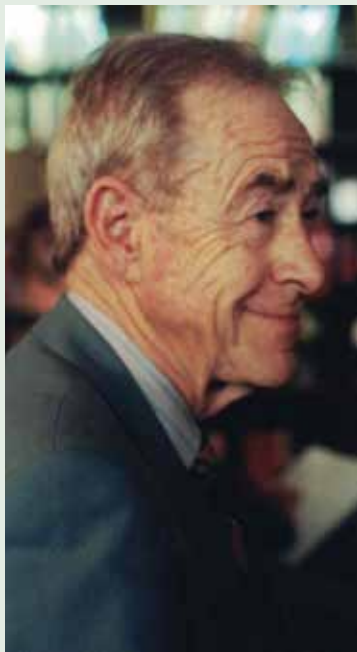
Colin R. Blyth at the Struwwelpeter Reconsidered conference held at the University of Minnesota, November 9–11, 1995

Photo credit: Marion Herzog-Hoinki

Canadian statistician Colin Ross Blyth died August 22, 2019, at the age of 96.

Born in Guelph, Ontario, on October 24, 1922, he studied at Queen's University, Kingston (BA, 1944), the University of Toronto (MA, 1946), and the University of California at Berkeley (PhD, 1950), where he was Erich Lehmann's first PhD student.

During his career, he held positions at the University of Illinois at Urbana-Champaign (1950–1974) and Queen's University (1971–1987) in addition to being a statistical consultant for the Illinois State Geological Survey (1952–1955). He contributed to the development of classical mathematical statistics with more than 30 research articles in mathematics, statistics, and geology journals. He was notably the first to show that the average of a random sample of normal measurements is an admissible estimator, and the method he used to prove this result bears his name. At Urbana-Champaign, he supervised five PhD students (G. Meeden, W. Nelson, R.N. Pillai, R.G. Staudte, M.T. Wasan), who had successful careers and gave him more than 30 academic descendants.

In recognition of his contributions to the profession, including as an associate editor for *JASA* (1967–1971), Colin was made a fellow of the Institute of Mathematical Statistics (1974) and the American Statistical Association (1975). He was also granted membership to Pi Mu Epsilon and Sigma Xi, both in 1949.

In his retirement, he combined his passions for music and languages to write *Gaelic Names of Pipe Tunes* in 1994; he also edited *Sullivan Ross Volume 1, A Restored Edition*, published in 2010, which provides a unique window on the (bagpipe and violin) music of rural Ontario from 1850 to 1900. Moreover, he composed many poems (e.g., "Kate o'Shanter," published in *Scottish Field* in 1993) and wrote verse translations of mid-19th century German children's classics: *Struwwelpeter Tales of Hoffmann* (1995); *Struwwelpeter 2000* (2000); and *Max & Moritz 2000* (2006).

He is survived by his wife of 64 years, Valerie Thompson, and their children, Mary Alice Snetsinger (Rob), Georgina Roche, Colin M. (Trish), Heather (Rob Smith), Alec (Lisa), and Donald, as well as nine grandchildren.

Richard (Dick) Hunn Jones

Dick Jones, professor emeritus of biostatistics at the University of Colorado (CU), passed away January 11, 2020. He was 85.

Before joining CU in 1975, Dick had already had an illustrious career in applied mathematics. He earned a BS in engineering science in 1956

and an MS in engineering mechanics in 1957, both from Penn State, before earning his PhD in applied mathematics from Brown University in 1961 under the mentorship of Ulf Grenander. His doctoral research topic was time series analysis, the area in which he worked most intensively and for which he was an internationally renowned researcher. Dick then held positions as assistant and associate professor of statistics at The Johns Hopkins University, followed by visiting associate professor of mathematics and then professor and chair of the department of information and computer science at the University of Hawaii.

Over the years, Dick's applications shifted from atmospheric research to medical research, but his thorough, scholarly approach—situated at the intersection of theory and application—of time series and longitudinal data methodologies is persistent throughout his publications, in particular in his well-known text, *Longitudinal Data Analysis with Serial Correlation: A State-Space Approach*, published in 1993 by Chapman and Hall/CRC. Dick was elected fellow of the American Statistical Association in 1976 in recognition of his scholarship, mentoring, and many contributions to the profession.

From 1975 to 1982, and again from 1985 to 2005, Dick was the director of the biometrics graduate programs (MS and PhD) at the CU Health Sciences Center campus. He transformed a small, fledgling program into a vigorous and vital one, emphasizing the faculty's collective strength in the areas of longitudinal data analysis and theory. He also personally mentored 16 MS theses and 13 PhD dissertations during this period. All told, Dick played a major role in the education and career advancement of nearly 100 students in the field of biostatistics alone. He also advised countless others in medical and other graduate programs at CU.

Dick also had an active life outside academia. He had sabbaticals in Japan, Buffalo, Seattle, and Australia and a leave of absence to be the acting director of the department of computer science at Groote Schuur Hospital, Cape Town, South Africa. He visited all seven continents and ran 14 marathons and many triathlons.

Dick leaves his wife, Julie Marshall; his children, Monica McNulty, Earl Marshall, and Katie Marshall; and two grandchildren. His colleagues and students are saddened by his loss and will forever be grateful for his strong and steady leadership, statistical brilliance, generous and welcoming hospitality, and enduring friendship.

Special Session Planned to Honor C.R. Rao
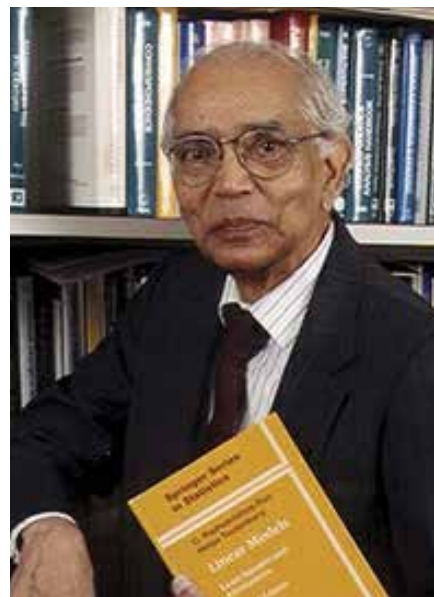
C. R. Rao

A special invited paper session is planned for JSM 2020 in Philadelphia to celebrate C.R. Rao's birth centenary. Following are the honored speakers:

- **David Cox,** University of Oxford

- **Donald Rubin,** Harvard University

- **Bradley Efron,** Stanford University

To attend, register for the Joint Statistical Meetings in May at *ww2.amstat.org/meetings/jsm/2020/registration.cfm.* ∎

section news

Biometrics

The Byar Award goes to **Yi Zhao** from Indiana University for "Multimodal Neuroimaging Data Integration and Pathway Analysis."

Travel awards for JSM 2020 go to the following:

- **Ting Ye** from the University of Pennsylvania for "Debiased Inverse-Variance Weighted Estimator in Two-Sample Summary-Data Mendelian Randomization"

- **Jacob Maronge** from the University of Wisconsin-Madison for "Generalized Case-Control Sampling Under Generalized Linear Models"

- **Yinqiu He** from the University of Michigan for "Asymptotically Independent U-Statistics in High-Dimensional Testing"

- **Lu Xia** from the University of Michigan for "A Revisit to De-Biased Lasso for Generalized Linear Models"

- **Dustin Rabideau** from the Harvard T. H. Chan School of Public Health for "Randomization-Based Confidence Intervals for Cluster Randomized Trials"

- **Jialei Chen** from the Georgia Institute of Technology for "Function-on-Function Kriging, with Applications to 3D Printing of Aortic Tissues"

- **Minjie Wang** from Rice University for "Generalized Convex Clustering Optimization and Feature Selection for Mixed Multi-View Data" ∎

DEPARTMENT *of*
**BIOSTATISTICS
EPIDEMIOLOGY &
INFORMATICS**

Perelman
School of Medicine
UNIVERSITY *of* PENNSYLVANIA

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 Closurization 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 Sheilds-Stephens, PhD	University of Pennsylvania
Monica Taljaard, PhD	Ottawa Hospital Research Institute

Survey Research Methods

SRMS is seeking webinar topics. If you have an idea for a webinar you would like offered or give, submit it to SRMS Education Officer James Wagner at *jameswag@umich.edu*. Informal proposals are welcome; we will discuss your idea and determine if a more formal proposal is warranted.

Our section provides free access to the *JSM Proceedings* for the entire history of the Survey Research Methods Section (1978–2018), as well as the Social Statistics Section (from which our section separated in 1978) from 1958–1977. We also provide proceedings from all five International Conference on Establishment Statistics (ICES) meetings (1993–2016). Note that some of these years are prior to the electronic proceedings available through the ASA (2009–Today); the section has scanned all earlier papers as a service to survey researchers. The section is currently working to add the 2019 proceedings papers. To access the proceedings page, click on Proceedings on the top of our section's homepage or go to *www.asasrms.org/Proceedings/index.html.*

SRMS has an active discussion board within the ASA Community (*https://community.amstat.org/home*). There were 19 posts in January. Members receive these posts in their electronic mailboxes, so they are a good way to reach your community. Exploring the rest of the ASA Community pages can also be rewarding.

Our section is also on Twitter with the handle @srmsasa (*https://twitter.com/srmsasa)*. We now have more than 500 followers. Look for a midweek tweet with upcoming news and events 2–3 times per month. Follow us and send us your news to share with the SRMS membership and survey researchers everywhere. ∎

Louisiana

■ Assistant/Associate Professor of Experimental Statistics. Louisiana State University A&M and the LSU Agricultural Center in Baton Rouge seek candidates for a 9-month tenure-track faculty position in the Department of Experimental Statistics. This will be a joint teaching/research appointment between two campuses: 70% teaching and consulting and 30% research. Visit the LSU Career site to view qualifications and full details: *https://bit.ly/2YZFWSk*, EOE.

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.

Michigan

■ University of Michigan's Survey Research Center (*www.src.isr.umich.edu*) within the Institute for Social Research invites applicants w/interests in innovative survey methodology, including familiarity w/new data sources and uses of big data for conducting social research and measurement, for an open rank research professor position. Candidates will be able to pursue their own research interests, teach, and mentor students. For full description and application instructions, visit *www.src.isr.umich.edu/careers/assistant-research-professor-associate-research-professor-research-professor*. The University of Michigan is an Affirmative Action/Equal Opportunity Employer. ■

AMSTATNEWS
ADVERTISING DIRECTORY

Listed below are our display advertisements only. If you are looking for job-placement ads, please see the professional opportunities section. For more job listings or more information about advertising, please visit *www.amstat.org*.

SOCIAL CHATTER

Who should you follow on social media?

Sections

Biometrics
@ASA_Biometrics

Biopharm
@ASABiopharm

**Medical Devices and
Diagnostics**
@ASA_MDD

Stat Computing & Graphics
@jointscsg

Survey Research Methods
@srmsasa

Social Statistics
@amstat_sss

Chapters

Philadelphia
@amstatphilly

Pittsburgh
@AmStatPgh

North Carolina
@NC_ASA

Georgia
@AmstatGeorgia

**Washington Statistical
Society**
@WashStat

Societies & Publications

**American Mathematical
Society**
@amermathsoc

**Caucus for Women in
Statistics**
@cwstat

CHANCE **Magazine**
@ChanceStatsMag

**Consortium for the
Advancement of
Undergraduate Statistics
Education**
@CAUSEweb

**Institute of Mathematical
Statistics**
@InstMathStat

**National Council of Teachers
of Mathematics**
@NCTM

**National Institute of
Statistical Sciences**
@NISS_DataSci

Royal Statistical Society
@RoyalStatSoc

Significance **Magazine**
@signmagazine

Stats Society of Canada
@SSC_stat

*This***IsStatistics**
@ThisisStats

Women in Statistics
@WomenInStat

ASA Staff

Amy Farris—Director of
Membership Development &
Marketing
@AmyFarrisASA

Kim Gilliam—Marketing &
Communications Coordinator
@kimgilliam66

Megan Murphy—ASA
Communications Manager
@AMSTAT_Megan

Regina Nuzzo—Senior
Advisor for Statistics
Communication and
Media Innovation
@ReginaNuzzo

Steve Pierson—Director of
Science Policy
@ASA_SciPol

Ron Wasserstein—ASA
Executive Director
@Ron_Wasserstein

Podcasts

Stats and Stories—
@statsandstories—
*A Podcast About the Statistics
Behind the Stories and the
Stories Behind the Statistics*

ASA Biopharm's Podcast—
@rczink—
*A podcast to discuss the
pharmaceutical industry and
upcoming conferences*

Pod of Asclepius—
@PAsclepius—
*Health care technology podcast
for the technical crowd*

FODS-2020: ACM-IMS Foundations of Data Science Conference

October 18 - 20, 2020 | Seattle, Washington

The Association for Computing Machinery (ACM) and the Institute of Mathematical Statistics (IMS) have come together to launch a conference series on the Foundations of Data Science. Our inaugural event, the ACM-IMS Interdisciplinary Summit on the Foundations of Data Science, took place in San Francisco in 2019. Starting in 2020 we will have an annual conference with refereed conference proceedings. This will be an interdisciplinary event bringing together researchers and practitioners to address foundational data science challenges in prediction, inference, fairness, ethics and the future of data science.

Key Dates

Submission: April 13, 2020
Notification: July 15, 2020
Camera-ready: August 1, 2020

https://fods.acm.org/

FODS-2020 Conference Co-chairs

Jeannette Wing
Columbia University

David Madigan
Columbia University

Contact:
fods2020@columbia.edu