BONNIE GHOSH-DASTIDAR
Elected 2024 ASA President

Jenny Thompson Elected Vice President

ALSO:

Keep Your Receipts: How Early-Career Statisticians Can Navigate Conferences

ASA Announces David R. Cox Foundations of Statistics Award

THE ASA BIOPHARMACEUTICAL SECTION REGULATORY-INDUSTRY STATISTICS WORKSHOP

Registration is Open!

September 20–22, 2022 • Rockville, MD

Bethesda North Marriott Hotel and Conference Center

ATTEND

Early Registration Ends
August 16

Hotel Reservation Deadline
August 29

PARTICIPATE

Student Travel Grant Deadline
July 8

Best Poster Competition Deadline
August 31

The workshop will return in person to the nation's capital in 2022! Check out key dates for registration and plan to join fellow statistical practitioners from the biopharmaceutical arena.

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

Statistics Post-Pandemic: Paving the Scientific Path to Treatments, Vaccines, and Diagnostics

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

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*.

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

George Rodriguez offers advice for college students considering extending their educations. **Page 18**
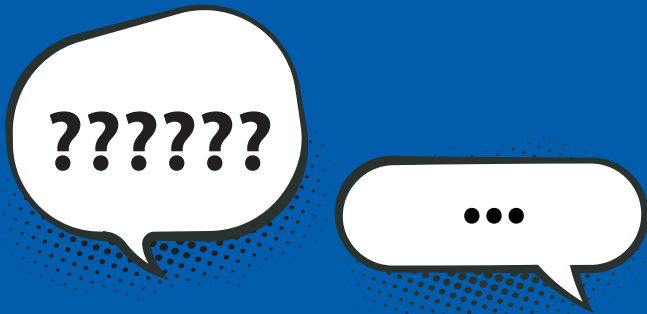
Cartoon Caption Contest

The Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) offers a cartoon caption contest every month. The contest is open to all who use or enjoy statistics, including students, instructors, and professionals.

The deadline is the last day of each month. View past winners and enter this month's contest on the CAUSE website at *www.causeweb.org/cause/caption-contest*.

A panel of educators evaluates the submitted cartoon captions based on their value to teaching statistics.

Student and Early Career Travel Fund

The ASA Student and Early Career Travel Fund is supported by member contributions with the goal of encouraging students and early-career professionals to become engaged in the statistical community through participation in ASA-sponsored professional meetings. The selection of students to support is based on both merit and financial need.

For details, visit *www.amstat.org/your-career/awards/student-and-early-career-travel-fund*.

departments

The Committee on Career Development has exciting networking events planned for JSM 2022! **Page 22**

member news

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Next Steps: Recommendations from the Anti-Racism Task Force

Learning from our members was how 2020 ASA President Wendy Martinez described the goal of the Anti-Racism Task Force. In this month's column, I want to share with you how we met that goal and how we will move forward. The task force, which was co-chaired by Adrian Coles and David Marker, had the following three primary objectives:

- Develop recommendations for ASA infrastructure and policy that will help drive positive cultural change within the ASA and remove structural barriers to justice, equity, diversity, and inclusion

- Develop recommendations that ensure the communications and activities of the association's groups align with its position on justice, equity, diversity, and inclusion

- Propose mechanisms for the association to inform the public about how statistics and data science can contribute to—or, if used responsibly, help fight against—racial and ethnic bias in society

The task force's final report was presented to the ASA Board at its April meeting, and Adrian and David were guests on the *Practical Significance* podcast. This topic is so important that I wanted to amplify their voices in this column by highlighting excerpts from the podcast.

Members of the task force worked for more than 18 months so, at the beginning of the podcast, Adrian and David reflect on the insights they gained.

Adrian: Even before I share my insights and some of my own personal reflections, I do want to acknowledge the rest of the team. Anything we've been able to accomplish as a task force is only due to the hard work and commitment of all those professionals who signed up to be part of this journey.

As a member of a historically marginalized community, this work has reminded me that grace and action can coexist. There are some of us who may be a bit farther down the road when it comes to racial progress and, more broadly, justice, equity, diversity, and inclusion in general. However, there will always be the need to go

PRACTICAL SIGNIFICANCE

Listen to Episode 17 of *Practical Significance* and hear Adrian Coles and David Marker discuss recommendations from the ASA Anti-Racism Task Force. *https://bit.ly/3b9wjeb*

Katherine Ensor

back up. Those who are advancing a bit slower, and that requires grace, that's okay. And so, in this setting, when we're talking about our professional association, grace is necessary.

David: Let me start by seconding Adrian's comment about the wonderful task force that we had and the way we worked together really nicely.

I think one of the biggest findings that came out of this for me was that there's just this incredible breadth to our profession. It's involved in so many activities that affect not only our professional lives, but our roles in society. And that provides a wide range of potential anti-racist applications.

The executive summary of the report provided an overview of the recommendations:

- **Governance, Structure, and Operations**: The association should revise the constitution, bylaws, strategic plan, code of conduct, and data-collection policies to embed its value for racial-ethnic equity into its governing framework and organizational structure.

> # The ASA is not only well-situated to lead, but I think it must lead.
> ## —David Marker

- **Communications and Publications:** The association should create a more inclusive publications process and diverse team; publicly acknowledge and take accountability for the presence and impact of racism in the association's past; and better convey its commitment to justice, equity, diversity, and inclusion on outward-facing communications platforms.

- **ASA Events and Partnerships:** The association should continue to prioritize partnerships with organizations that have demonstrated a shared value for racial-ethnic equity and ensure that participation in association-sponsored/organized events are free of racial-ethnic bias.

- **Funding and Institutional Support:** The association should fully support initiatives intended to create positive outcomes for members of historically underrepresented racial-ethnic groups and to grow this segment of its membership.

- **Awards and Recognition:** The association should create policies and programs to ensure all groups, particularly historically underrepresented racial-ethnic groups, have fair and equitable access to participation in the association's award and recognition experience.

- **External Influence:** The association should influence the development of policies that prioritize racial-ethnic equity; racial-ethnic equity in statistical education and research; and the responsible, ethical, and anti-racist use of statistics and data science.

Adrian provided more insight into the Governance, Structure, and Operations recommendation.

Adrian: I think, first and foremost, we understand that how we govern ourselves and how we describe the way we want to govern ourselves—our documents and other components of that governing framework—would be a major contributor to the culture established within the organization. As we continue to lean into this value for diversity, equity, and inclusion—particularly along racial and ethnic lines—we recognize it is important to make sure our governing framework captures that value. Having this value clearly reflected in the constitution, the strategic plan, and all our governing documents is going to be a huge part of the journey ahead to reach our anti-racism vision.

David was incredibly involved in thinking about the external influence portions of the report. He shared these comments about why they are important.

David: It's very easy for a professional organization like the ASA to focus on the internal side of things. The nourishing of a next generation of statisticians, data scientists, and biostatisticians is vitally important, but statistics, biostatistics, and data science have such a large impact on society that we really need to address the effect we can and should have through the use of statistics.

The ASA is not only well-situated to lead, but I think it must lead. There isn't anyone else who is going to address this.

In closing, I would like to acknowledge and thank previous presidents Wendy Martinez and Rob Santos, as well as the boards they led, for moving this important effort forward. We want to continue to "learn from our members," so please read the report at *https://bit.ly/3zNCoHo* and offer feedback. We will only be successful in moving forward if our entire community is involved.

Kathy B. Ensor

ASA GivesBack Leadership Team
A Panel Discussion
Stories from the fields

DR. LETETIA ADDISON
DR. FIGARO LORESTO JR.
DR. ALLISON LEANAGE
DR. ARINJITA BHATTACHARYYA
DR. SERENE JIANG
MS. ALISON TURNER
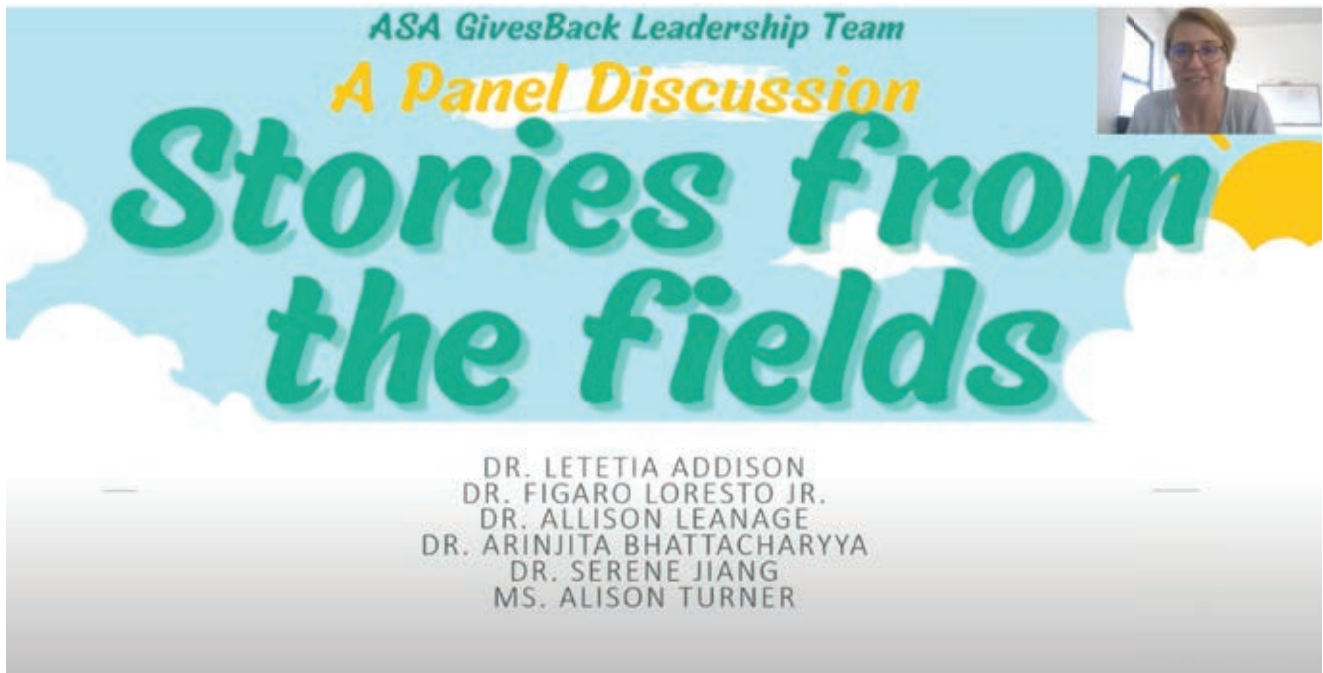
ASA GivesBack: Stories from the Fields

ASA GivesBack is part of the professional development arena of the American Statistical Association. It's an organization in which young professionals having a background in and love for statistics come together to give back to the statistics field. They learn, share, and care for each other and want to reach out to students, graduates, early-career professionals, and any statistics enthusiasts.

Each of the six ASA GivesBack team members comes from a different background or culture. They recently conducted a panel discussion in which they talked about ways their jobs are engaged in giving back to public health, society, and drug development, as well as helping to diversify the field. During the discussion, they also focused on several misconceptions that predominate in their fields and suggested ways to break those myths.

The GivesBack team is also committed to philanthropic activities and will be hosting a food drive at JSM in Washington, DC. Drop off a nonperishable food item in the bins outside the EXPO or at the GivesBack community table. All donations will go to the Capital Area Food Bank.

To learn more about the GivesBack team and their activities, stop by their community table or reach out on Facebook, Instagram, and Twitter (@ AsaGivesback). ∎

MORE ONLINE
View the GivesBack panel discussion on YouTube at *https://youtu. be/2l0r3DYXqWU*.

BASS XXIX Heads to NC in October

The 29th meeting of the Biopharmaceutical Applied Statistics Symposium (BASS XXIX) will be held in person October 24–26 at the Hilton Garden Inn, Southpark in Charlotte, North Carolina.

One-hour tutorials on diverse topics pertinent to the research, clinical development, and regulation of pharmaceuticals will be presented by speakers from academia, the pharmaceutical industry, and the US Food and Drug Administration. BASS will also offer a poster session.

Lisa LaVange, chair of the biostatistics department at The University of North Carolina Gillings School of Global Public Health will deliver the keynote address.

Popular features of BASS include a short course (virtual, October 27) and the FDA/industry/academia session.

Committee on Career Development

Amstat News is spotlighting ASA committees and their activities. This month, we feature the Committee on Career Development and ask Elizabeth Mannshardt a few questions about the committee's purpose and goals.

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

The ASA Committee on Career Development's mission is to provide support and information about career decisions to statisticians. CCD's motto is "Helping Statisticians Achieve Success"—which I think encompasses many types of career support. This includes professional development outside of traditional technical skills such as communication, networking, and developing your online presence, as well as considerations for the wide variety of career types and opportunities. CCD also provides information and resources across the ASA for professional development and mentoring. CCD sponsors and cosponsors events such as webinars and technical portfolio development, as well as workshops and sessions at the annual Joint Statistical Meetings each year, and CCD partners with other ASA organizations to provide resources for our community of statisticians and data scientists.

MORE ONLINE
Join the committee's email list at *https://bit.ly/3ttewoJ* to learn about upcoming events and opportunities.

Why did you accept the positions of committee chair and co-chair?

I have always been passionate about professional development and mentoring. Working with CCD offers an opportunity to help develop initiatives and platforms to address the ASA community's needs. There are so many aspects to career development beyond the technical—building your brand as a professional, power skills such as communication, and how to make an impact while defining your own unique career path. Mentors have been so incredibly important in my own journey. I am grateful for this opportunity to give back by helping design and offer events that provide value and guidance to our professional community.

How often does the committee meet to plan activities?

The Committee on Career Development meets monthly

MORE FROM CCD

Resources
https://bit.ly/3NWHWDX

Mentoring Resources
https://community.amstat.org/ccd/asamentoring

Webinars
https://bit.ly/3xdPXgg

Portfolio Project
https://bit.ly/3aMRJ0h

Networking at JSM
https://bit.ly/3O9J3zs

JSM Diversity Workshop and Mentoring Program
https://bit.ly/3HbvSMd

and coordinates via emails and shared documents. The CCD has three subcommittees: **JSM and Mentoring**, led by Daniel Elchert; **Webinar and Podcast**, led by Seonjin Kim and Christina Nurse, with Shelley Liu as a new member this year; and **Portfolio Technology Adoptions**, led by Matthew Krachey and Philip Waggoner, with Esther Pearson having helped to shape this initiative from the beginning. And, of course, we are extremely grateful for the assistance of the ASA's Donna LaLonde, who helps us keep logistics running smoothly, and Mark Otto, who serves as our liaison to the ASA president's membership committee.

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

We have already had some great events in 2022, including the CCD's Distinguished Career Webinar in January. The webinar was part of CCD's series, "Along Your Career Path in Statistics in Data Science," which also features topics such as job searching and considerations for promotions. All three speakers shared advice about pursuing what you are interested in, as well as allowing your professional path to be affected by personal decisions. They agreed there is not one best career choice or path—each person will find their own best fit.

Another initiative is the Portfolio Project. About the project, CCD Vice Chair Christina Nurse said, "In the age of this new digital and remote working environment, the portfolio webinar helped people portray their work in an efficient and effective way online."

I am thrilled about the CCD Guided Networking Session at JSM, which has become a capstone event for the committee. With the goal of helping students and early-career statisticians, the session provides an opportunity for them to practice meeting and greeting in a friendly environment. Mid- to late-career professionals can sign up to volunteer as mentors at *https://bit.ly/3ztCeVu*. According to Nurse, "The upcoming JSM networking event will be super informative and a great way to meet people!"

CCD is also cosponsoring a few other JSM events. Look for the free pre-JSM workshop, "How to Get the Most Out of Conferences and JSM," on July 28 from 6:00 p.m. – 7:30 p.m. ET (register at *https://bit.ly/3QcHzXg*), as well as the JSM First-Time Attendee Orientation and Reception August 7 at 12:30 p.m.

I am also looking forward to the panel, "From the Horse's Mouth: How Mentoring Shaped My Career and How It Can Shape Yours, Too!," cosponsored by CCD and hosted by the ASA's Committee on Minorities in Statistics with the Justice, Equity, Diversity, and Inclusion Outreach Group. The panel will be held during the Diversity Workshop and Mentoring Program.

Finally, I am excited about a new CCD initiative under development to raise awareness of and encourage discussions about imposter syndrome. CCD also aims to continue its webinar series, "Along Your Career Path in Statistics and Data Science," with topics such as changing careers and nontraditional career paths.

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

CCD events are always free and open to anyone. ASA membership is not required, but we hope CCD events encourage you to join the ASA. We also welcome ideas from the community. ∎

SIGNIFICANCE HIGHLIGHTS

June Issue Looks at Using Social Media to Measure Subjective Well-Being

How do people feel about their lives and the societies in which they live? Are they happy, hopeful, or concerned about the future?

Surveys can help answer these questions, of course. But, in the June 2022 issue of *Significance*, Stefano M. Iacus and Giuseppe Porro argue for using social networks and sentiment analysis to let citizens speak for themselves.

Also in the June issue, we publish an analysis by Karen Lamb, Jessica Kasza, Sophie Calabretto, Rushani Wijesuriya, and Linda McIver looking at authorship by gender in *Significance*. Their conclusion: Too few of our featured experts are women, and this needs to change.

Plus:

- Wordle, a word puzzle game, is a viral phenomenon. But who plays it better: humans or machines? Mary J. Kwasny investigates.

- The COVID-19 pandemic led many US colleges to drop requirements for admissions tests. Daniel Robinson and Howard Wainer consider what the consequences of this decision might be—for students and universities.

- For many years, women astronomers were not permitted to use the world's biggest telescopes. Elizabeth L. Scott used this story to get people to pay attention to her statistics on the status of women in academia, as Amanda L. Golbeck explains.

- Sam Gilbert, author of *Good Data: An Optimist's Guide to Our Digital Future*, argues for the benefits of data openness and data-driven advertising.

Access the digital version of Significance at *www.significance magazine.com/654*. Print issues will be mailed to subscribers soon.

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

Bonnie Ghosh-Dastidar

Jenny Thompson

BONNIE GHOSH-DASTIDAR
Elected 2024 ASA President

Jenny Thompson Elected Vice President

Madhumita (Bonnie) Ghosh-Dastidar, a senior statistician at the nonprofit RAND Corporation and head of the RAND Statistics Group, was elected the 119th president of the American Statistical Association. She will be the first Asian-American female president and second Asian-American president of the ASA and serve a one-year term as president-elect beginning January 1, 2023; her term as president becomes effective January 1, 2024.

The ASA membership also elected Katherine (Jenny) Thompson, senior mathematical statistician of the Associate Directorate for Economic Programs at the US Census Bureau, as ASA vice president. Thompson's term begins January 1, 2023.

As president, Ghosh-Dastidar's platform will focus on three leadership principles of community, collaboration, and opportunity. One of her goals is to strengthen collaborations across ASA sections, chapters, and interest groups. She believes ongoing activities and events such as mixers, hackathons, and conferences are important ways

to engage and attract new and current members. Ghosh-Dastidar also wants to continue the ASA's efforts to engage with other societies. "I believe that we need to work together across disciplines and silos to tackle the biggest challenges of our day," she said.

Raised in Kolkata, India, in a family that encouraged boys and girls to dream, Ghosh-Dastidar's commitment to service was inspired by her parents' dedication to helping the disadvantaged in their community. As a first-generation immigrant working in a leading statistics group in the US, she knows opportunity can change people's lives and career trajectories. "The support I received has made me passionate about paying it forward by creating opportunity for early-career colleagues and students," she acknowledged. Ghosh-Dastidar is passionate about advocating for statisticians to take on roles beyond that of skilled technicians—as thought leaders on teams and in organizations, on panels and in policymaking, and in how statistics are communicated by the media.

At RAND, Ghosh-Dastidar works on environmental interventions, behavioral interventions for HIV-positive patients, and population health. Current projects include multiple NIH-funded natural experiment evaluations of the effect of neighborhood-level improvements on residents' diet, sleep, and cardiovascular health, as well as carefully examining the role of depression in treatment outcomes for HIV-positive individuals. Her prior experiences include being lead statistician for large-scale surveys on sexual assault and assessment in the US military and the first Singapore mental health study to assess national prevalence.

Thompson begins her tenure as ASA vice president after many years of dedicated service to the association. She has served as chair of the Government Statistics Section (as well as the Council of Sections representative) and was the program co-chair for ICES-VI. She is currently the statistics co-editor-in-chief of the *Journal of Survey Statistics and Methodology*.

Thompson is a survey statistician with more than 30 years of professional experience. Her practical and theoretical experience covers all areas of sample survey design, including sample selection, estimation, variance estimation, analysis, statistical data editing, imputation, and quality control. She was elected an ASA Fellow in 2017.

Thompson's top three priorities for her tenure are to promote the Ethical Guidelines for Statistical Practice in a variety of accessible forums; encourage the publication of statistical methods and applications in peer-reviewed journals; and expand diversity in the field through educational initiatives, scholarships, and increased opportunities for conference attendance and participation—in person or remotely.

The ASA membership also elected the following board members:

- **Jana Asher,** Assistant Professor of Statistics, Slippery Rock University, as the Council of Sections Representative to the ASA Board

- **Melinda Holt,** Professor of Statistics and Associate Dean, Sam Houston State University, as the Council of Chapters Representative to the ASA Board

- **Ingrid Van Keilegom,** Professor of Operations Research and Business Statistics, KU Leuven, as the International Representative to the ASA Board

- **Thomas Love,** Professor, Biostatistics and Evaluation Unit, Center for Health Care Research and Policy, Case Western Reserve University, as Chair-Elect of the Council of Sections Governing Board

- **Jo Wick,** Associate Professor of Biostatistics and Data Science, KU Medical Center, as Chair-Elect of the Council of Chapters Governing Board

ASA SECTION OFFICERS

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Chair-Elect 2023
Claire Bowen
Program Chair-Elect 2023
David Dahl
Council of Sections Representative 2023–2025
Stephanie Hicks

Statistical Consulting Section
Chair-Elect 2023
Robyn Ball

Publications Officer 2023–2025
Christina Mehta

Executive Committee at Large 2023–2025
Margaret Stedman

Section on Statistics and Data Science Education
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Kelly McConville
Communications Officer 2023–2025
Sara Stoudt
Council of Sections Representative 2023–2025
Amelia McNamara
Executive Committee at Large 2023–2025
Alana Unfried
Samantha Robinson

Statistics in Defense and National Security Section
Chair-Elect 2023
Abby Nachtsheim
Program Chair-Elect 2023
Sarah Burke
Publications Officer 2023–2024
Snigdhansu Chatterjee

Statistics and the Environment Section
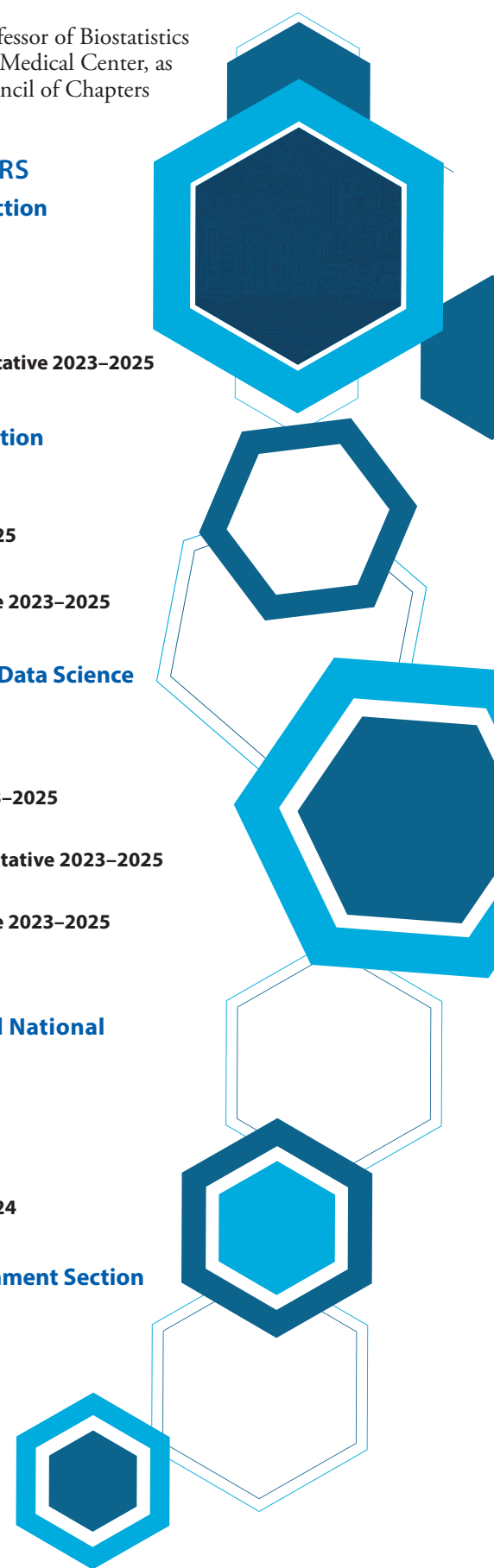**Chair-Elect 2023**
William Christensen
Program Chair-Elect 2023
Soutir Bandyopadhyay
Treasurer 2023 (Rotates to Secretary in 2024)
Lyndsay Shand

Statistics in Epidemiology Section

Chair-Elect 2023
Diana Miglioretti
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Fei Ye
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Ran Tao

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Jaime Speiser

Lifetime Data Science Section

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Program Chair-Elect 2023
Pamela Shaw, *Kaiser-Permanente*

Statistics in Marketing Section

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Elea McDonnell
Program Chair-Elect 2023
Jeremy Yang
Secretary/Publications Officer 2023–2024
Alice Li
Council of Sections Representative 2023–2025
Dan McCarthy

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Laura Yee
Program Chair-Elect 2023
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Xiaofeng Wang

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Adam Ciarleglio

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Lingzhou Xue
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Program Chair-Elect 2023
Luis Mestre

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Ryan Lekivetz
Charter Revision

Risk Analysis Section

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Indranil Ghosh
Program Chair-Elect 2023
Jessica Kim

Social Statistics Section

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Dylan Small
Program Chair-Elect 2023
Monika Hu
Publications Officer 2023–2024
Claire Kelling

Statistics in Sports Section

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Program Chair-Elect 2023
Nate Sandholtz

Survey Research Methods Section

Chair-Elect 2023
Don Jang
Program Chair-Elect 2023
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Treasurer 2023–2024
Rebecca Andridge,
Publications Officer 2023–2024
Hanyu Sun
Education Officer 2023–2024
Julia Soulakova

Teaching of Statistics in the Health Sciences Section

Chair-Elect 2023
Melinda Higgins ∎

Erin Chapman, Software Development Engineer

This series features ASA members who share their ASA stories. Our mission is to collect authentic and meaningful accounts of member experiences. If you have a story you would like to share, email the ASA's marketing and communications coordinator, Kim Gilliam, at kim@amstat.org.
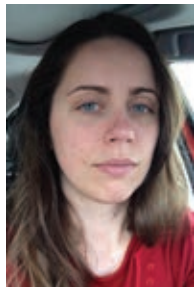

Erin Chapman

My ASA story starts a little oddly. In fact, I was part of an ASA outreach group before I was an actual member. In the fall of 2020, I received an invitation to join the Justice, Equality, Diversity, and Inclusion (JEDI) Outreach Group. To date, I had been my own one-person band advocating for diversity and inclusion, so I jumped at the opportunity. The more I got involved with JEDI, the more intrigued I became with everything the ASA does. It didn't take long for me to become a member and more heavily involved in the organization.

Beyond the great learning opportunities—whether it be conferences, webinars, or just mailing list discussions—the ASA gave me so many more opportunities to volunteer.

When I was in elementary school, a local professor came and tutored me twice a week in math, which was key to keeping my interest. I had great teachers who advocated for me to continue doing my coursework as independent study or going to the university for math. I know I was lucky to have those opportunities and I owe it to the next generation of mathematicians to pass it on.

Judging at the International Science and Engineering Fair last spring was one such opportunity. While it was a hectic weekend, I got to meet some great students doing amazing work. I got to speak to a young woman from Australia who was studying the flammability of native plants so that perhaps the recommendation to clear cut 100 feet from your house could be changed without raising your fire risk. Not only was her statistical analysis sound, but I also had a deputy fire marshal husband in the background who was very excited because she understood fire science and was using the right terminology.

Not long after that, the ASA Committee on Statistics and Disabilities was re-formed and I volunteered to liaise between CSD and JEDI. I had been attending all the CSD meetings and soon discovered they were an officer short; I volunteered to take the slot for very personal reasons.
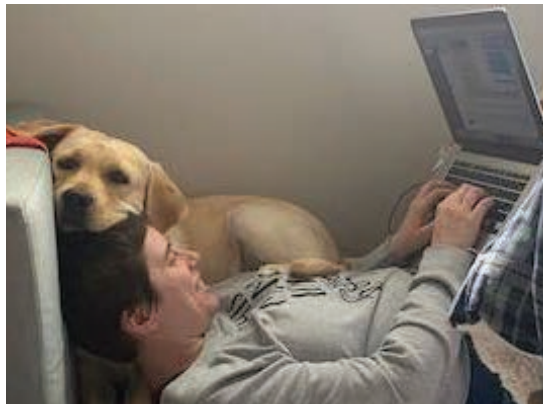
Erin Chapman snuggles with her service dog, Valor.

The federal government has a list of 12 highly targeted disabilities. These are a specific subset of disabilities that cause individuals to face significant barriers to employment primarily due to myths, fears, and stereotypes. I have four of the disabilities on the list: autism spectrum disorder (level II with obsessive-compulsive disorder tendencies), difficulty hearing, significant psychiatric disorders (chronic and complex post-traumatic stress disorder with dissociative symptoms, persistent depressive disorder with major depressive episodes (severe), and unspecified dissociative disorder), and significant disfigurement.

I went to college unaware of the level of discrimination I would face. A few months into freshman year, when the medical director noticed my diagnosis at an appointment, I was told someone like me didn't belong at that school and I had to face a hearing to stay there. I faced issues with employers if I needed an accommodation or someone saw or heard something. Between college and my first job afterward, I learned I needed to mask my disabilities. It's incredibly tiring to do so and, now that I work with a service dog, no longer possible.

I decided it's good for others to know who I am in the hopes it relieves some of the stigma for them. I don't want anyone to have to hide who they are. I want to be a visible part of the ASA community, so it's clear this is a welcoming group where you don't need to worry about rejection. Being on the CSD and helping set up JEDI has helped give me the platform and the voice to do so. This is me and my ASA story. ∎

Keep Your Receipts: How Early-Career Statisticians Can Navigate Conferences

Boyi Guo is a PhD candidate in biostatistics at the University of Alabama at Birmingham and an incoming postdoctoral fellow at Johns Hopkins University.

Sarah Samorodnitsky is a PhD candidate in biostatistics at the University of Minnesota in the Twin Cities.

One of the largest statistics conferences, the Joint Statistical Meetings, is coming back (in person) next month. While JSM provides a great opportunity to reconnect the whole professional statistics community, it can be an overwhelming experience, particularly for early-career statisticians and first-time participants. Following are suggestions for maximizing conference experiences for early-career statisticians, including students and recent graduates.

Tip 1: Budget Your Finances

The first step in preparing for a conference trip is to evaluate the financial situation. National conferences can be costly due to conference registration, travel, and lodging expenses. Hence, finding sponsorship is essential. Common sources include training grants, advisers' discretionary funds, department and university travel support, conference programs (e.g., the JSM Diversity Workshop and Mentoring Program, *https://bit.ly/3aTJkIC*), and other statistics interest groups (e.g., the Caucus for Women in Statistics, *https://bit.ly/3txp2eq*). Graduate student organizations at your university may also award travel funds to students who apply. Some lesser-known support comes from collaborators and faculty who are not immediate beneficiaries of your trip. Often, faculty are supportive and willing to help if financially capable.

In these situations, we advise preparing a travel justification (e.g., oral presentation, educational program) and budget when *proactively* reaching out. In addition, be familiar with the funding policies, including what and how much are covered for reimbursement and the deadline of the reimbursement submission (so you don't eat homemade PB&Js for every meal only to find out about hundreds of dollars in dining allowance afterward—please don't ask us why we have such specific examples).

Tip 2: Budget Your Time

As previously mentioned, budgeting your finances is necessary. But have you considered how to budget your *time* and *effort* for the conference trip? For example, if you are immediately heading into finals week after a conference, exhausting yourself by attending eight hours of scientific programs for three days straight and enduring an additional day of traveling may not be worthwhile. Instead, be mindful of the conference's timing within your schedule.

Consider viewing the program in advance to prioritize the sessions you are most interested in. Many conferences, including JSM, offer sessions across many scientific topics but also on professional development; teaching practices; coding skills; and promoting diversity, equity, and inclusion in statistics. We suggest balancing your schedule with scientific and nonscientific activities.

Professional conferences usually offer career services, mentoring workshops, and mixers. These are great opportunities to jump-start your professional career. Meanwhile, don't overlook the roundtable discussions. They are an interactive and effective medium to gain knowledge and build relationships. Do not feel impeded as an early-career statistician;

your unique experience and perspective will contribute, even your questions.

We also recommend allocating time for socializing and leisure. Such activities (e.g., JSM Dance Party on August 9) and city and food tours may appear wasteful of your time but will help you recover physically and mentally. Besides, exploring a new city could help you decide on your next professional destination. Be aware that some organized events (normally discounted for early-stage professionals) can incur some costs that should be accounted for in your financial budget.

Tip 3: Identify Your Expectations

With a budget in hand, it's time to outline your expectations and goals. We advocate setting expectations within a general theme, such as developing your professional skills and connections. While conferences are dominated by exciting scientific presentations, they may not be optimized for didactic purposes. Expect to become inspired during the conference and return home with a list of papers and topics to investigate further.

On the other hand, conferences provide a great platform to connect with others (especially other early-career statisticians) in the field with whom you can seek advice or exchange scientific ideas, leading to possible future collaboration.

Another general suggestion is to set "low" but realistic goals. As motivated individuals, it is easy to set aggressive goals to take full advantage of the valuable opportunities. It is also easy to forget how stressful the conference experience can be (e.g., seeing thousands of people in a maze-like venue for the first time in two years, meeting your statistics idols or the leaders of your dream institution, or feeling imposter syndrome). Adjusting your expectations can prepare you mentally and ease you into your conference.

Tip 4: Network, Network, Network

An important part of professional conferences is connecting and networking. This can be a daunting task. Conferences typically offer structured networking events. For example, there will be several mixers and receptions (*https://bit.ly/39jNoBL*) at JSM, including the First-Time Attendee Orientation and Reception on August 7, Opening Mixer on August 7, and Student Mixer on August 8.

We also recommend mentoring programs, roundtable discussions, and program planning committees as potential opportunities. In these settings, people share similar backgrounds and/or passions, and it's easier to bond. An example is the JSM Diversity Workshop and Mentoring Program (*https://bit.ly/3Qkuqv5*), which connects statisticians at all career stages from historically underrepresented backgrounds.

We also suggest structuring your networking in a purposeful way, which can generate short-term rewards. For example, proactively reach out to those who work in your targeted research field or institution, the professionals who are in the career path you are interested in, and even other attendees to ask for shadowing opportunities during the conference. By this point, you can already celebrate as you've begun networking and making a professional impression.

Remember, being respectful and thoughtful in your initiations and asking insightful questions will show your commitment. As a general principle, we recommend preparing a short bio that introduces you professionally, an elevator pitch to showcase your idea or passion, and an updated résumé/CV to share easily.

Tip 5: Get Involved

Last, we recommend getting involved in conference program planning, if possible. This can include chairing a presentation session or organizing a session of your choice. While this can feel intimidating, it is an opportunity to showcase a topic of interest to you.

We also recommend joining an ASA section, where you can make and deepen your connections with others in your subfield.

There are also several ASA committees that sponsor conference events and facilitate community, like the ASA LGBTQ+ Advocacy Committee (*https://bit.ly/39oX9hK*) and ASA Committee on Minorities in Statistics (*https://community.amstat.org/cmis*). These are effective ways to instill even more purpose into your conference travel and help you engage with the broader statistics community.

There are many other equally important topics we do not have space to discuss, such as finding your support group or structuring a short talk. These are not easy topics to navigate and sometimes follow a collection of unwritten norms and processes, referred to as *the hidden curriculum*. Don't be afraid to reach out for help and suggestions from mentors, advisers, and conference organizers. We hope our suggestions help you prepare for your future conference trips. Oh, and keep your receipts. ∎

First CIRS/SWB Webinar Draws Large International Crowd

Alexandra M. Schmidt, McGill University, and Sloka Iyengar, American Museum of Natural History

After the creation of the ASA Nigerian Student Chapter last year, the Committee on International Relations in Statistics began promoting an initiative to engage and connect statisticians from different corners of the world. CIRS is a multidisciplinary team of global statisticians and data scientists who are leading shared initiatives with the goal of linking statistical professionals, societies, and other organizations.
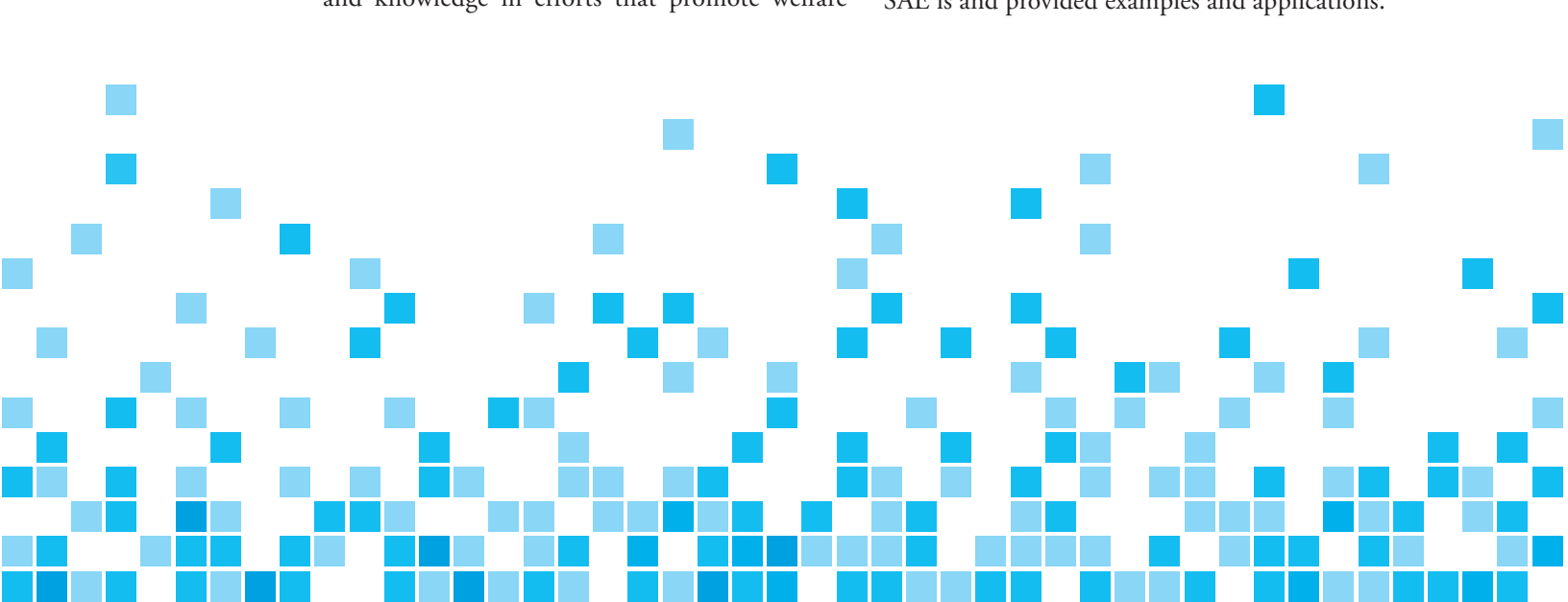
To reach statisticians and data scientists at all career levels, CIRS launched a bimonthly webinar series to introduce statistical topics of broad interest to an international audience. Although registration is required, the webinars are free. Each session is planned to last one and a half hours and the statistician leading the session provides an overview of the topic, currently used software, and suggestions for further reading.

For added visibility, CIRS partnered with Statistics Without Borders to advertise the first webinar. SWB aims to improve decision-making and knowledge in efforts that promote welfare through the proper application of statistical principles and best practices where access to such resources is limited. In the recent past, SWB has started to use networking and knowledge-sharing sessions to increase engagement between its members.

The idea to collaborate on the webinar series emerged from a meeting between CIRS chair Carolina Franco and SWB chair Matthew Brems to discuss ways in which CIRS and SWB can work together toward their common goals of international outreach and education. SWB joined CIRS in promoting the initiative to more than 10,000 people. ASA support was provided by Director of Strategic Initiatives and Outreach Donna LaLonde, who helped set up the registration page and provided a Zoom link that supported a large audience.

The first webinar took place May 11. Franco, principal statistician at NORC at the University of Chicago, gave a lecture titled "An Introduction to Small Area Estimation (SAE)." She explained what SAE is and provided examples and applications.

Shirin Golchi   Carolina Franco

More than 150 participants attended from Armenia, Brazil, Costa Rica, France, Mali, Peru, Turkey, and other countries. They were engaged, asking questions and raising good points for discussion. For instance, attendees asked about future trends in SAE, what makes for good auxiliary data, how to handle the sampling weights in the presence of informative sampling, and what to do about missing data. The recording of the session and slides are available on CIRS's website at *https://bit.ly/3zAJPla*.

The second webinar will be on July 20 at 12 p.m. EDT. The session—led by Shirin Golchi, assistant professor in the department of epidemiology, biostatistics, and occupational health at McGill University—is titled "An Introduction to Bayesian Inference." Register at *https://bit.ly/3xLRJH9*.

The third webinar, "An Introduction to Bayesian Disease Mapping" led by Alexandra M. Schmidt from McGill University, will be in September.

> The idea to collaborate on the webinar series emerged from a meeting between CIRS chair Carolina Franco and SWB chair Matthew Brems to discuss ways in which CIRS and SWB can work together toward their common goals.

Suggestions for potential topics can be sent to Alex Schmidt at *alexandra.schmidt@mcgill.ca*, Carolina Franco at *franco-carolina@norc.org*, or Sloka Iyengar at *slokaiyengar1@gmail.com*.

To become a "friend of the ASA Committee on International Relations in Statistics," contact Franco. Friends of the committee receive occasional emails about topics of international interest such as webinars, job opportunities, volunteer opportunities, and news.

Become part of SWB for free by filling out the SWB volunteer intake form at *https://bit.ly/3HkpNNK*. ■

ASA representative Cora Neal, left, from Weber State University and first-place winner Angela Chen of Durham, North Carolina, stand together on the 2022 ISEF stage in Atlanta, Georgia. Chen won for her Earth environmental sciences project.

Council of Chapters Gives Special Awards at ISEF 2022

The 2022 Regeneron International Science and Engineering Fair was held virtually April 29 – May 9 and in person May 9–13 in Atlanta, Georgia. ISEF is the world's largest scientific competition, with millions of high-school students around the world competing for one of approximately 1,400 spots. These spots are awarded to students who have advanced from local and regional fairs based on the quality of their projects.

All students had virtual "booths" with online displays including a quad chart summary and a 12-slide PowerPoint presentation, while in-person

> More than 50 statisticians from ASA chapters and sections volunteered their time to judge 1,409 science projects competing for the ASA Special Award in Statistics.

students also had traditional project boards on display in Atlanta.

More than 50 statisticians from ASA chapters and sections volunteered their time to judge 1,409 science projects competing for the ASA Special Award in Statistics. Three projects were selected from Round 3 based on the best use of statistical thinking.

Angela Chen

And the Winners Are …

The first-place award of $1,500 went to **Angela Chen** of Durham, North Carolina, for her Earth and environmental sciences project using wavelet analysis and random forests to identify the key climate variables predicting the timing and location of future California wildfires.
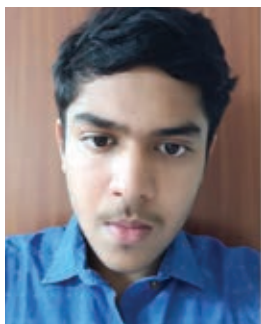
The second-place award of $1,000 went to **Zara Hommez** of Irvine, California, for het computational biology and bioinformatics project using Cox regression and machine learning to identify key comorbidities and demographic variables associated with early death from COVID-19 in Brazil.

Zara Hommez

Rushank Goyal

The third-place award of $500 went to **Rushank Goyal** of Gwalior, India, for his translational medical science project using quantum machine learning and transcriptome profiles to identify biomarkers for 10 cancers.

In addition to cash prizes, each winner and six honorable mentions received a free one-year student membership in the ASA.

During the ceremony, ASA representative Cora Neal from Weber State University delivered a one-hour symposium, "Best Practices for Incorporating Charts and Statistics in Your Project." Neal also presented the award to Chen. The second- and third-place winners participated virtually.

As is tradition, Harold Dyck—along with Christina Mehta of Atlanta and Yoonsung Jung of Houston—delivered 54 statistics and data science textbooks to the ISEF students. Volunteers from the Southern California Chapter will package and mail the books to the students who participated virtually.

The ASA also sponsored a dinner for the statistics judges. Those attending the celebration included Georgia Chapter judges Christina Mehta, Melinda Higgins, and Rob Krafty; Southern California Chapter judge Harold Dyck; and Houston Chapter judge Yoonsung Jung. ■

STAT*tr@k*

PROS, CONS, AND NEUTRALS

OF GRADUATE SCHOOL

George Rodriguez is a senior principal materials data scientist. He earned his MS in statistics after earning his PhD in chemistry from the University of Rochester.

The thoughtful four-part *Amstat News* series titled "To Get a PhD or Not To Get a PhD?" told interesting stories by ASA members about how their choices in graduate degrees affected their professional experiences. These pieces provide anecdotal perspectives from which to draw collective wisdom when deciding between the MS and PhD.

Accordingly, we should expand this conversation to assist those considering whether to attend graduate school or join the workforce without advanced academic training. This debate is typically limited to listing pros and cons. However, I will elaborate on these considerations here and recast a few arguments from both sides as neutral. I hope this alternative approach provides undergrads with a different foundation for decision-making as they approach their post-collegiate plans.

As a senior technical professional, I am often asked to meet with undergraduate interns who are considering what to do after college. I approach these conversations with the intention of giving a balanced point of view. Yet, I routinely come down strongly on the side of the extended educational commitment.

Admittedly biased, this view is based on a closer examination of the pros and cons, which allows me to conclude that some arguments against graduate school become inconsequential in the long run and others apply to both the graduate school experience and joining the workforce without a higher degree. Accordingly, these points should not be labeled as pros or cons, but as *neutral* considerations. Still, the consequence of this relabeling is a stronger case in favor of advanced degrees.

Pros

Graduate school is a unique place to *expand technical expertise* near similarly minded people guided by professional educators motivated to help learners thrive. Although professional training for working people is available in the form of short courses, these abbreviated learning experiences can feel like drinking from a fire hydrant, as they don't allow the slow-burn time necessary for proper assimilation of difficult material. The almost explosive speed by which formal online graduate education options (e.g., Coursera, edX) have appeared in recent years suggests a growing preference for *bone fide* university course work as training.

In addition to the opportunity to extend academic training prior to competing in the workplace, graduate school allows more *time for personal growth in a nurturing environment*. The vagaries encountered in entry-level positions offered to those with only a bachelor's degree do not afford

young people the best atmosphere for the rapid growth necessary in early career stages.

Easier and faster *access to leadership positions* is rarely mentioned in this debate, yet it is an important aspect of a fulfilling career. Joining the workforce with postgraduate degrees provides a higher likelihood you will be involved in *intellectually challenging work*, have *greater independence* throughout your career, and be *closer to organizational decision-making* than those who chose to enter at the bachelor's level.

Yearly surveys by professional societies provide strong evidence that those with master's and PhD degrees will generally earn *higher salaries* and retain *higher earning potential* throughout their careers. Furthermore, graduate degrees are the foundation of a *stronger résumé* and *higher professional status* (i.e., leadership opportunities).

Cons

The major negative in the graduate school debate is cost. First, there is the immediate *cost of paying for graduate school*. This financial burden is particularly painful if one is already loaded with undergraduate student loans.

Master's students are more likely to deal with cost since many PhD programs provide stipends through grant-supported research or teaching assistantships. These financial resources cover enrollment and provide for living expenses. Although modest, this income often means additional debt is not incurred. It is also worth noting that student loan payments are suspended while attending graduate school.

Second, the time it takes to complete higher degrees is *time you are not earning a full salary*. However, the typical higher earnings that come with higher degrees will allow individuals to catch up with those who begin working right out of college.

The takeaway is that although cost is certainly an important consideration, particularly for non-funded master's degrees, it is not strong discouragement in light of the long-term financial outcome.

There is one negative aspect of graduate school not often mentioned. That is the years one spends *living like a grad student*. This uniquely focused lifestyle means getting by with nominal pay, which translates to comparatively limited choices of vacations, cars, and diet. My culinary experience based on creative variations of Ramen noodles comes to mind.

However, many say their graduate school years were the happiest time of their educational experience, despite the dismal financial situation. University resources are still available to graduate

> **Many say their graduate school years were the happiest time of their educational experience, despite the dismal financial situation.**

students, socializing does happen, and even marriage and children don't necessarily have to be postponed.

Neutrals

Three reasons commonly given against graduate school (cons) are the *lack of a job guarantee* after graduating, *hassles of the application* process, and *hard work* comprising advanced education.

However, there are no guarantees of getting a job, regardless of your degree. The application processes to graduate school or industrial/government employment are similarly stressful. And why would it be harder to spend a few years in advance training than to compete for professional advancement without a master's or PhD degree? Accordingly, the consternations associated with the above three reasons are similar, no matter which path one takes. So, I consider these neutral arguments.

I have seen opportunities for *networking* described as a reason to attend graduate school (pro) since universities attract academics or industrial researchers for sabbaticals or seminars. However, many industrial and government workplaces also bring representatives from various sectors for technical or legal consultations, presentations, and collaborations.

For example, my worksite hosts weekly seminars, which allow us to engage speakers in one-on-one discussions. These presenters have included Turing and Nobel Prize winners.

Additionally, companies and government agencies encourage and pay for participation in professional societies like the American Statistical Association or Society for Industrial and Applied Mathematics, which provide ample opportunities for networking. So networking is part of both graduate and professional experiences and therefore a neutral argument.

The decision to complete postgraduate degrees or join the workforce straight from college requires careful considerations that go beyond a simple list of pros and cons. In balance, however, postgraduate education before competing in the workplace is almost surely well justified. ■

JSM 2022: A World of Innovation in Data for Good

With JSM taking place August 6–11 in Washington, DC, the focus for this month's column is helping Data for Good practitioners get the most out of the meetings. JSM marks a long-awaited return to meeting in person. Highlights will include keynote presentations, roundtables, networking, and lots and lots of great papers.

JSM's theme for 2022 is *Statistics: A Foundation for Innovation*, making it the perfect place for your innovations in Data for Good!

There are so many events taking place at JSM that a little planning can go a long way. The search engine in the conference program (*https://bit.ly/3NQsN75*) is excellent and the best way to find the events that interest you most. It defaults to a basic search using title or activity number—in other words, what you probably want to use the search to find, not what you already know. There is an advanced search tool that is better for finding what you want. You can also search by author, affiliation, or keyword. In my experience, a lot of authors don't do keywords well, so it's often helpful to search using both keyword and session title. In the case of papers and posters, you will want to grab the session number and check out the other presentations in the same session. You can find these by clicking on the session number to the left of the title in the list produced by the search engine. Click on the blue "Add to My Program" button to add presentations and events to your personal conference schedule.

One of the best ways to find content is to search for the ASA section, committee, or other group sponsoring a session. The Social Statistics, Statistics and the Environment, and Health Policy Statistics sections; the Justice, Equity, Diversity, and Inclusion Outreach Group; and the Scientific Freedom and Human Rights, Professional Ethics, and Statistics Without Borders committees always have great D4G content. You can get

Get Involved

In opportunities this month, I'm asking people to take a look at the JSM search engine and reach out to authors. This applies to anyone, but especially people who will not be attending the Joint Statistical Meetings. You can still search the program, reach out to authors, and find new methods to learn. The JSM search engine is one of the most valuable resources the ASA offers to support D4G projects throughout the year. Have another look and be inspired.

a complete list of sections and interest groups at *https://bit.ly/3Hl6tQm* and committees at *https://bit.ly/3NQRu39*. Searching first by the section, committee, or other sponsoring organization can really help find the content you want most.

This year, highlights include a blue-ribbon panel sponsored by several groups on incorporating ethical thinking into research and innovation (Activity #48) and a panel from Statistics Without Borders on innovative practices developed for project collaborators (#240).

Advocacy with Data for Good often requires work on policy to turn statistical practice into beneficial action. Examples include #18, "New Models, Diagnostics, and Considerations in Evaluating Intervention and Policy Effects, and #523, "Eliminating Cholera in Haiti: Combining Dynamic Models with Data to Inform Vaccination Policy."

Case studies that include policy action are some of the most helpful presentations because the solutions presented can be applied to many kinds of problems. This quality makes methodological sessions useful for D4G. For example, #286, "Small Area Estimation

David Corliss is lead, Industrial Business Analytics, and manager, Data Science Center of Excellence, Stellantis. He serves on the steering committee for the Conference on Statistical Practice and is the founder of Peace-Work.

AUGUST 6–11

JSM 2022
WASHINGTON, DC

STATISTICS: A FOUNDATION FOR INNOVATION

and Survey Methods Sampler," will have methods that can be used in many D4G studies.

Another great opportunity at JSM are the speed sessions. Each of these sessions feature 18–20 presentations just five minutes in length. This makes them great for getting ideas for your next project—be sure to follow with the authors of interesting papers.

JSM also offers roundtable discussions, which are available for an additional fee. These small group discussions allow registered attendees to learn about a topic presented by an expert in the field before participating in discussion and Q&A to develop a deeper understanding of the topic. D4G roundtables include one on gun violence research design by James Rosenberger, identifying hidden ethnic biases in mental health studies by Douglas Samuelson, and scientific integrity in statistical context by Christopher Marcum of the White House Office of Science and Technology Policy. I will also be leading a roundtable discussion about getting involved in Data for Good.

Remember that JSM is much more than presentations. Attend the keynotes and go to group and section meetings. Participate in discussions and Q&As at presentations and talk with the authors. Visit the ASA committee and outreach group tables. Network with colleagues and make new connections. We tend to think of the presentations first, but the best part of JSM and other conferences is the people. Interact with others at the event and gain inspiration for your next project. Make JSM 2022 your *foundation for innovation in Data for Good*! ∎

MORE ONLINE
Get the details about JSM at *ww2. amstat.org/jsm*.

Search the JSM program at *https:// bit.ly/3xvypML.*

Committee on Career Development Plans Pre-JSM Networking Events

The ASA CCD will host a workshop, titled "How to Get the Most Out of Conferences and JSM," July 28 from 6:00 p.m. – 7:30 p.m. ET. During this free virtual event, first-time Joint Statistical Meetings attendees will practice professional networking with members of the ASA CCD and interact with colleagues in small group settings. These tips and tricks are applicable to many conferences and professional events, so you do not have to be registered for JSM 2022 to attend. Register at *https://bit.ly/3zCiBux*.

Also, the ASA CCD will host an in-person networking event at JSM 2022, titled "Networking Like a Pro: A Guided Networking Session." This event will take place August 7 from 2:00 p.m. – 4:00 p.m. and feature statisticians and data scientists from academia, the federal government, and the private sector. Attendees will gain expert perspectives on how to build professional relationships.

Featured statisticians include **Dionne Price**, ASA president-elect; **David Morganstein**, former ASA president and former vice president of Westat; and **Montserrat Fuentes**, president of St. Edward's University. Attendees must be registered for JSM 2022 to attend.

VOLUNTEERS WANTED

The ASA CCD needs mid- to late-career professionals from academia, industry, and government to attend the JSM networking event, "Networking Like a Pro: A Guided Networking Session," and provide students and early-career statisticians opportunities to practice networking. Sign up to volunteer at *https://bit.ly/3O0tz1b*.

Finally, as part of JSM's Diversity Workshop and Mentoring Program at JSM (*https://bit.ly/3HwFMIM*), the ASA CCD is co-hosting a panel, titled "From the Horse's Mouth: How Mentoring Shaped My Career and How It Can Shape Yours, Too!" The panel will be held at 8:00 a.m. on August 8 and feature statisticians discussing how mentoring positively affected their careers. The ASA CCD is co-hosting this panel with the ASA's Committee on Minorities in Statistics and the ASA's Justice, Equity, Diversity, and Inclusion Outreach Group. ■

Register for WSDS 2022 Today

The Women in Statistics and Data Science Conference will convene in person to celebrate women in statistics and data science and bring together leaders from academia, government, and industry. The program committee aims to provide a unique environment conducive to women sharing and growing their knowledge, influence, and community.

The program will combine technical, educational, and professional development sessions with diversity and networking activities. Technical talks and educational workshops will highlight the work of rising stars and senior women, as well as showcase burgeoning areas in statistics and data science.

All activities—designed to appeal to women at any career stage and those who strive to understand the complexities and challenges faced by women in the workplace—will balance speakers across academia, government, and industry.

Awards are available to help students and early-career professionals attend. To be eligible, applicants must be either students enrolled in a terminal degree program in biostatistics, statistics, or data science or have completed a master's or doctoral degree program in biostatistics, statistics, or data science within

the last five years (2017–2022). Applications must be received by 5:00 p.m. ET on August 22, 2022. Submit your application at *https://bit.ly/3tH0iAt.*

Registration is open. For more information and to view the program, visit *https://bit.ly/3QnXQbP.* ∎

Key Dates

AUGUST 22
Awards Applications Due

AUGUST 25
Early Registration Deadline

AUGUST 26
Regular Registration (increased fees apply)

SEPTEMBER 3
Housing Deadline

OCTOBER 6–8
WSDS in St. Louis, MO

influence   community   knowledge

Modernizing Government Statistics for the 21st Century

The demands for information have shifted dramatically in recent years. Understanding what is happening—on average at the national, provincial, or city level—is nice but no longer sufficient. Understanding the flows of goods, services, and labor requires a higher level of detail. Understanding the differential impacts of health, economic, or labor changes on subpopulations is essential to social cohesion and to our societal and economic well-being. In order to develop policies that support those who are most vulnerable—those who are disproportionately affected by the rising cost of living—we require access to far more detailed and timely information.

The data ecosystem has expanded enormously in recent years, and the responsible use of new data sources is allowing us to see sooner and act faster. Data needs to be collected and processed quickly if it is to be useful. It's no longer enough to conduct surveys and look in the rear-view mirror at what happened. Citizens expect near-real-time information and predictive models to help decision-makers plan our future. Integrating data is the next step. That enables us to better understand the complex interactions between societal, economic, and environmental factors, and then to design policies that have greater impact. It helps us to redefine how we see and react to phenomena, to better understand root causes, and to be more aware of both intended and unintended consequences.

Currently, 40 percent of Statistics Canada's programs are based in whole or in part on data available from administrative and alternative sources. Satellite data, regulatory data, point-of-sale scanner data—just to name a few types drawn from the wells of public and private sector data holdings alike. This is data we have evaluated, processed, and deemed fit for purpose. It is subject to the same statistical rigor; scientific method; and ethical, privacy, and disclosure controls as all the information in the agency's care.

Surveys of citizens and businesses are at the core of how we collect information. But our agency has also been incorporating administrative and regulatory data from other government entities for more than a century now. It's not a new development.

The reason Statistics Canada can responsibly integrate data from different sources is because we have invested in remaining current and relevant as a national statistical office. We are committed to staying ahead of changes in society and technology by experimenting, learning, adapting, and partnering.

Several years ago, our agency embarked on an employee-led journey to modernize our operations. That journey got us to a place where we were able to respond to the urgent demands for data during the pandemic. We pushed ourselves to become more user-centric. To make our workforce more curious, able to take intelligent risks and become better connected. We scaled up our statistical capacity and infrastructure and implemented a significant set of new tools and processes for integrating data responsibly from multiple sources. We have also strengthened our governance system with external expert committees on ethics, trust, and privacy.

All this work has enabled us to play a leadership role in a competitive data market. Through it all, we kept our focus on answering the questions society puts to us. I believe that's the real value proposition of a national statistical office. It's not just about putting more data out there. It's trying to make sense of what's happening in society and showing how different parts of it are intricately connected.

If we don't do that, someone else will. The questions are only getting more sophisticated—and our answers more complex. For example, immigration used to be about counting how many people a country brings in. We now need to understand so much more: the skills they bring with them, their family structures, and how to integrate all that productively into society. Issues like these require us to find and weave together different sources of information on situations that are interconnected and evolving, in order to spin them into actionable insights for decision-makers. The traditional methods won't always get us there. That's ultimately why we're incorporating more alternative data.

We are also working toward acquiring and disseminating more disaggregated data, as they

Anil Arora has worked at Statistics Canada for more than 25 years, leading significant programs and transformations. He was appointed chief statistician of Canada in September of 2016. He has also served in policy and regulatory roles in the government of Canada at Natural Resources Canada and Health Canada. Arora has led substantive international initiatives, working with the United Nations and OECD, and received numerous awards for leadership.

play an important role in understanding the lived experiences of various populations groups, specifically those who are marginalized or have been less visible in our data historically.

Our federal government recognizes the importance of this work and recently made a major investment in our agency's Disaggregated Data Action Plan.

In my talk for CNSTAT [Committee on National Statistics] in May, I gave several examples of how we're combining data from multiple sources in our programs, in ways that might help level the playing field for society. Here I have space for one, housing, but urge you to view my talk for the examples on health, emergency and recovery benefits data, and health and equity.

The agency's Canadian Housing Statistics Program has been in development for five years and will grow as new data sources become available. This ambitious program links individual, "micro" data on properties with broader data on homeowner characteristics to provide a comprehensive portrait of Canada's housing market. Remarkably, that portrait is drawn *almost exclusively* from administrative data. We conduct a number of high-quality surveys on housing in many programs at the agency, but some critical questions cannot be answered this way.

For example, we would love to know the yearly trends on housing supply in rural regions. But it can be operationally prohibitive to survey these sparsely populated areas. We also want to know the extent of demand coming from those residing outside our country—where and what kinds of properties they own. But it's not feasible to send surveys all over California, China, and the Middle East to ask people there if they own a residential property in Canada.

Similarly, it would be difficult to design a sampling strategy to collect information on properties left undeveloped. To address housing supply issues, we need to go a step further and produce information on the availability and value of vacant lands across Canada. Often, it is just too costly or complex to provide answers to important questions through traditional survey means.

So, our housing program has developed a partnering model to acquire administrative data that helps fill these information gaps—ethically and efficiently. The data we acquire range from municipal property assessment files to land registry files to immigration and tax records. It comes to us in disparate forms from an array of municipal, provincial, federal, and private sources.

They are all run through our agency's ethical frameworks and quality management tools to ensure they meet our high standards. Then, we combine, triangulate, and analyze the data from different angles. And faster than you might think, we produce comprehensive, harmonized, and granular data and insights on the characteristics of Canada's housing stock and owners.

The generosity of our partners and the ingenuity of those running this program have helped liberate the agency. We can now go beyond answering basic questions like, "How many houses do Canadians have?" We can dig into the data and explore, "What does housing mean, at this point in time in the Canadian social, economic, and political landscape?" We can also go further and provide unique data on first-time homebuyers and the homeownership journeys of new Canadians, as well as on hot-button issues like housing investors and satellite families.

Thus, when policymakers come to us wondering about housing price increases, supply constraints, concentration and inequalities of homeownership,

EDITOR'S NOTE
This piece was adapted from a May 16 keynote presentation Anil Arora gave at a National Academies workshop. His slides and a video of his presentation, along with those of the other presenters, are available at *https://bit.ly/39y1xem*.

> Housing is the most important asset owned by many Canadians and one of the most critical and complex issues of our time.

and ownership by nonresidents of Canada, we can give them high-quality, timely answers thanks to administrative data. We can tell them how immigrant homeowners, despite earning lower incomes than Canadian-born owners, buy more expensive properties in certain provinces and how that relates to their desire to own newer homes in urban settings so they have broader access to services and job opportunities, which increases their social connections as well as lets them accumulate wealth through homeownership, which studies show is more important to them than other types of assets such as registered pension plans.

Housing is the most important asset owned by many Canadians and one of the most critical and complex issues of our time. It deserves and demands this kind of thorough exploration. Our outputs will also help policymakers explore housing affordability and equity as they grapple with fulfilling Canada's National Housing Strategy Act (*https://bit.ly/3xREzIs*), which recognizes adequate housing as a fundamental human right affirmed in international law.

This national housing strategy was formulated in 2016. It's a $40 billion plan that aims to ensure all Canadians have affordable housing that meets their needs by 2030. Against that ticking clock, researchers, community groups, policymakers, and journalists all come to Statistics Canada to understand the complex dynamics of our housing markets and track the country's progress toward meeting this goal.

The core data from our Housing Statistics Program will be made available to more than 4,000 municipalities across Canada by the end of 2022. As well, researchers will be able to access de-identified microdata files through our research data centers. We are also exploring generating synthetic housing data through algorithms to allow researchers a more granular understanding while protecting Canadians' privacy.

We have not yet exploited to their fullest extent the alternative data available to us. New methods may need to be introduced as we get a better understanding of the challenges we are facing, as has been done for traditional surveys over the years. One new challenge is that, in this digital and data-driven world, information is increasingly being monetized. That's happening even in the public sector, as government organizations seek to defray the costs of their operations. In these cases, we must take into consideration the business models of these organizations so as to coexist and not compete with the products they produce. At the same time, we remain committed to fulfilling our mandate as a national statistical office to produce data that serves the public good. I would argue that the utility of this data exceeds the nominal revenue it generates.

It is important that NSOs [national statistical offices] assert the unique value proposition of publicly owned data so that we are not constrained in acquiring and developing these data sources for the public good. They are vital to informing government policy and programs—and guiding decision-making right down to the individual citizen level.

Conclusion

Combining data sources has led to a renaissance among national statistical offices. The richer array of available data sources has increased our power to provide more timely and relevant information to policy- and decision-makers. It's also come with new challenges and opportunities, which I elaborate upon in my oral comments. In short, we're now delving into ethics, privacy, quality, equity, trust, and transparency like never before. We're working to make our governance mechanisms more robust. We're bringing in other disciplines, such as cognitive research, and putting more emphasis on them than before. We're augmenting our statistical toolkit. We're expanding our partnerships and should continue to do so on an international scale. This is the future.

We also have to stay current. We have to keep asking ourselves whether our instruments reflect what's happening in society now. Just because an indicator has been around for 100 years doesn't mean it'll survive the next 10 years. Look at how quickly the Consumer Price Index is evolving. We need to up our game, have equitable systems, bring in multiple dimensions, and put more weight on them than we have before. That's how we'll remain definitive in an environment where everyone thinks their version of the truth is the reality. ■

Claire Bowen, Ron Prevost Named to Census Scientific Advisory Committee

ASA members **Claire Bowen** and **Ron Prevost** were appointed to the Census Scientific Advisory Committee this spring.

Bowen is lead data scientist of privacy and data security at the Urban Institute and a 2021 Committee of Presidents of Statistical Societies Leadership Academy Winner. Her research focuses on developing and assessing the quality of differentially private data synthesis methods and science communication.

Claire Bowen

Prevost, a research professor with the Massive Data Institute at the Georgetown University McCourt School of Public Policy, is a technical expert for administrative records, big data, record linkage, and the statistical modeling of integrated data to improve the national statistical infrastructure.

According to the Census Scientific Advisory Committee website, "Members advise the

Ron Prevost

Census Bureau director on the uses of scientific developments in statistical data collection, survey methodology, geospatial and statistical analysis, econometrics, cognitive psychology, business operations, and computer science as they pertain to the full range of Census Bureau programs and activities, including census tests, policies, and operations."

Bowen and Prevost were both nominated by the American Statistical Association. Identifying such committees, as well as individuals who should be nominated to them, is the key charge of the ASA External Nominations and Awards Committee, chaired by Amit Bhattacharyya.

For more information about the Census Scientific Advisory Committee, visit *https://bit.ly/3NX3ekB*.

Learn more about Bowen at *https://bit.ly/3xPcpht* and Prevost at *https://bit.ly/39o8vCG*. ∎

Adji Bousso Dieng

The ASA Biometrics and Mental Health Statistics sections announce that **Adji Bousso Dieng** is the 2022 Annie T. Randall Innovator Award winner.

Dieng is an assistant professor in the department of computer science at Princeton University. She is recognized for her innovative statistical methods on artificial intelligence and probabilistic machine learning and her focus on societal impact as the founder and president of the nonprofit group The Africa I Know, which aims to positively change narratives about Africa and provide opportunities to young Africans in STEM.

The Annie T. Randall Innovator Award was established in 2020 in honor of Black female statistician Annie T. Randall to recognize early-career statistical innovators across all job sectors and with any level of educational attainment. ∎

Submitted by Ana Del Amo, Gerald J. Hahn Q&P Achievement Award Committee Chair

ASA member **Peter A. Parker** is this year's recipient of the Gerald Hahn Award.

Parker is a renowned NASA expert and recognized leader in the statistics field. His background as an engineer and knowledge of statistics brought a unique perspective to NASA, as he pioneered the use of response surface methods for calibration of multi-component force measurement systems. This innovation at NASA Langley harnesses the power of statistically defensible regression models, which inherently identify all possible interactions—a great improvement over the traditional one-factor-at-a-time approach that had been used for the previous 50 years.

Parker's successes illustrate the power of the emerging discipline of statistical engineering, with the focus of addressing how to apply statistics and statistical thinking to complex opportunities and problems. His greatest successes come from true interdisciplinary collaborations combining the best of engineering, science, and data analysis.

Parker has published numerous peer-reviewed papers in international statistics, quality, and interdisciplinary journals. He has also presented numerous keynote talks at engineering-, statistics-, and quality and productivity–related conferences.

With an impressive record of technical leadership, Parker is an exceptionally deserving recipient of the prestigious ASA Gerald J. Hahn Q&P Achievement Award. He will give the Q&P plenary address at the Fall Technical Conference.

Nominations for the 2023 award will open later in the year. ∎

Riffenburgh Award Honors Cross-Disciplinary Work

The Bob Riffenburgh award, honoring statistician Robert H. Riffenburgh, will recognize the transfer or extension of statistical methods developed for or used in one field of application into another where it has never or seldom been used. Its goal is to recognize that these statistical transfers broaden the range of statistical methods applied to various fields of science and encourage statistics users to seek innovative methods not commonly used in their field. It focuses largely, but not exclusively, on transfers into the field of medicine.

Riffenburgh says some of his most satisfying contributions to statistics were introducing previously unused statistical methods to applied fields. Notable examples include the Markov-chain system analysis and system modeling of fish schooling to marine biology, multiple discriminant analysis to sociology, AI-controlled robotic data devices to space exploration, and analysis of variance and change point detection in time series to physical oceanography.

A number of classified method transfers for the Navy followed in the next years. Then, there were several transfers from one medical field to another, starting with statistical logic and detecting survival patterns in disease progression, continuing up to bias correction in medical markers.

Through this award, Riffenburgh says he hopes to "motivate the continuation of cross-disciplinary work after I leave the planet."

The Riffenburgh award will be given every two years, and the recipient will receive a $4,000 cash prize. The first award will be presented at JSM 2023.

For more information, visit *www.amstat.org/your-career/awards/bob-riffenburgh-award*. ∎

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

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

ASA Announces David R. Cox Foundations of Statistics Award

The ASA is pleased to announce the creation of the David R. Cox Foundations of Statistics Award. Endowed by a gift from Deborah G. Mayo, professor emerita of philosophy at Virginia Tech, the award honors the contributions of Cox to the foundations of statistical inference, experimental design, and data analysis. It was established to recognize research and teaching that illuminate conceptual, theoretical, philosophical, and historical perspectives on statistical science and to advance understanding of comparative approaches to the interpretation and communication of statistical data.

The award will be for a paper, monograph, book, or cumulative research. Anyone who has made noteworthy contributions to statistics in the spirit of Cox's contributions as outlined above may be nominated. A prize of $2,000 will be given to the recipient of the award, who will present a lecture at the Joint Statistical Meetings.

Cox—a giant in statistics and recipient of the Guy medals in silver (1961) and gold (1973), the Kettering Prize and Gold Medal in Cancer Research (1990), and the International Prize in Statistics (2017)—passed away in January of this year. He would have been 98 years old on July 15.

Mayo is one of many researchers who was inspired by and collaborated with Cox (see *https://bit.ly/3O78wu4*). "The reason I am creating the David Cox Foundations of Statistics Award," Mayo explained, "is that his work offers a wealth of clarifying insights and novel solutions to central problems currently being wrestled with by statisticians, data scientists, philosophers of science, researchers in AI/ML, and across the landscape of the social and physical sciences. There is a tremendous amount yet to learn from him."

"We're excited to honor the memory of David Cox by recognizing outstanding work of members of the statistical community," said Ron Wasserstein, ASA executive director. "His towering intellect has inspired many advancements in our field. His mentorship and his ideas have empowered many careers. But what I recall most vividly is his humility. He loved to talk about ideas—but not about himself."

In a *Wall Street Journal* obituary, Cox is described as "one of the few rock stars in the world of statistics" (*https://on.wsj.com/3QzV8A1*). While he gained fame for his innovations in applied statistics (e.g., the Cox Model), he said, "Without some systematic structure, statistical methods for the analysis of data become a collection of tricks that are hard to assimilate and interrelate to one another. … It is important, even at a very applied level, to have some understanding of the strengths and limitations of such [foundational] discussions."

Initially, the award will be given biennially. However, the ASA will announce a matching gift plan to increase the endowment of the award so it can be given annually.

For a complete list of Cox's works, see *https://bit.ly/3n55SZI.* ∎

David R. Cox

We're excited to honor the memory of David Cox by recognizing outstanding work of members of the statistical community.

—Ron Wasserstein, ASA Executive Director

section**news**

Biopharmaceutical

Submitted by Sourav Santra

Finding a mentor has its challenges and, keeping that in mind, the Biopharmaceutical Section created a mentoring program in 2014 based on the mentoring blueprint created by the Committee on Applied Statisticians. More than 100 people have participated since the program's launch, and both mentors and mentees have expressed enthusiasm for the continuity of the program.

The goal of this program is to help members further enrich their professional experience through achieving personal and professional goals. This may occur through sharing of knowledge and experience between a professional practitioner and someone entering the profession. A constructive mentorship relationship can take many forms and may occur at any stage of one's career, with benefits for both the mentor and mentee.

The Biopharmaceutical Section is looking for mentors and mentees for the 2022–2023 program. Are you interested in becoming a mentor to a fellow biopharmaceutical statistician? Are you a potential mentee, or can you nominate a statistician who may be looking for a mentorship program? If so, email your contact information to *biopharmmentoring@gmail.com* with "Biopharmaceutical Section Mentoring Program" in the subject line.

We will provide hands-on resources for mentors and mentees to facilitate their interactions. Information related to the mentoring activities and resources are available via the Biopharmaceutical Section website at *https://bit.ly/3zG28FN*. ∎

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If you named **your pet using a statistical** method or term, what would it be?

We had so many pet names this past month, we wanted to share more.

Eric J. Daza, DrPh @ericjdaza
Pupperbound

recai.yucel.biostats @recai25991463
I think it would be bootstrap

Francisco Márquez @franmarq
Gauss

Dylan L Armbruster @dylanarmbruste3
Cox Proportional Hazard Model. But you can call him Rusty as well.

Ralph Winters @RDub2
I like Mini-Max

Adane FW @adane_tweets
I wish I had three puppies — to name them: Pearson, Spearman, and Kendall.

Vanessa McNealis @VMcnealis
Named my male rabbit after Basu's theorem. :)

Matt Koslovsky @KoslovskyMatt
Fail To Reject since she's adopted and irresistible. Probably end up calling her FTR for short.

Mine Dogucu @MineDogucu
Whisker

Ivan Jacob Agaloos Pesigan
@jeksterslab
A nice kitty named Mice (multiple imputation by chained equations).

Luis M Mestre @luis_mestre1
P-value but pvy for short :)

Leo Azzollini @LeoAzzollini
Age, Period, and Cohort. When they are in pairs they play nicely, but if you get all three together it gets really messy.

Jim Chapman, via Judy-Anne Chapman
Our cat name: $N(mew,1)$. Neighbor's dog's name: Random noise.

Adriana Crespo-Tenorio

Fish: Logit. Frog: Probit. Derpy dog: Tobit.

Matt Sosa

Gradient descendant, because its Mom would have been Gradient

David Corliss

I would name my cat meta-analysis as a combination of fixed and random effects.

Champ Tharakorn

Dog : Gini

The Gini coefficient is a metric that indicates the model's discriminatory power, namely, the effectiveness of the model in differentiating between "bad" borrowers, who will default in the future, and "good" borrowers, who won't default in the future. This metric is often used to compare the quality of different models and evaluate their prediction power.

Ozzy Ruiz

Fuzzy and Neuro-fuzzy

Elizabeth Oliver

My dog is named after Florence Nightingale David.

Monjur Rashed

Meanie (from MEAN), Demi (epiDE-MIology), Micro, Dom (DOMain), Bios (BIOStatistics), Corry (CORRelation), Sir Fisher (you know who), Randy (RANDom) and so on ....

John Gambino

Two-tail, and then watch people's faces.

Yessica Diaz Roman

Z-score

Navid Hedayati

Logistic Regression!

Rene F. Najera

Cochran–Mantel–Haenszel, or "CMH" for short.

Pennsylvania

■ The Wharton Department of Statistics and Data Science, University of Pennsylvania, is seeking full-time or part-time lecturers for the 2022–2023 academic year. Excellence in teaching is the primary criteria for the position. Applicants must have outstanding communication skills, along with a degree from an accredited institution; a PhD is preferred. Please visit our website to apply: *https://whr.tn/3OiBjeP*. Any questions may be sent to *stat.lecturer.hire@wharton.upenn.edu*. The University of Pennsylvania is an EOE. Minorities / Women / Individuals with disabilities / Protected Veterans are encouraged to apply.

Texas

■ The University of Texas School of Public Health at Houston (UTHealth) School of Public Health invites applications to fill an open-ranked tenure-track faculty position at the Houston Campus located in the Texas Medical Center. This position is available within the Department of Biostatistics and Data Science. Responsibilities include methodological/theoretical and collaborative research, teaching, mentorship of graduate students, and service. Apply at *http://p.rfer.us/UTHdoSDQe.*

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This month's Top 10 is 'Top 10 **Signs You Might Be a Statistician.**'

Amstat News introduces a new and typically "punny" offering by ASA Executive Director **Ron Wasserstein.** Each month, he will deliver a special Top 10—one that aired originally during a recent edition of the *Practical Significance* podcast. Enjoy!

Wasserstein

PODCAST

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

10
When asked, "How are you?", you respond, "Compared to what?"

09
When mathematical statisticians get carded, they show their IID.

08
When you have "seconds" at a meal, you say you did so just to measure variability.

07
You prefer to express your feelings in terms of a seven-day moving average.

06
You refer to your children as a cohort.

05
Your child's first words were, "correlation does not imply causation."

04
You use the phrase "degrees of freedom" as if everyone knows what that means.

03
You don't buy Powerball tickets unless the expected value is greater than the price of the ticket.

02
You don't think of Python as being a snake or R as being the letter after Q. Minitab is something you might have at a bar and C++ is an odd exam grade.

And the #01 sign you might be a statistician? You refer to dating as a phase three trial.

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