

April 2024 • Issue #562

AMSTATNEWS

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

CAUCUS OF INDUSTRY REPRESENTATIVES DETAILS YEAR



ALSO:

A Conversation with
Dean Follmann of NIAID

Papers Wanted for *JASA* Special
Issue on Statistical Science in AI



SDSS

SYMPOSIUM ON DATA SCIENCE & STATISTICS

RICHMOND, VA • JUNE 4–7, 2024

BEYOND BIG DATA: BRIDGING THE GAP BETWEEN THEORY AND PRACTICE

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

**REGISTRATION
OPEN**

KEY DATES

Early Registration Deadline

April 30, 2024

Regular Registration

May 1 – June 7, 2024

Housing Reservation Deadline

May 14, 2024

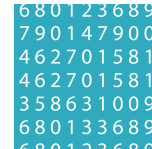
Innovative sessions focus on the following six tracks:



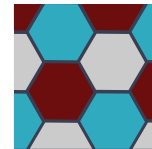
STATISTICAL DATA SCIENCE
(Formerly Machine Learning)



EDUCATION



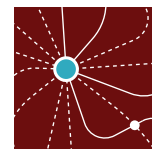
**SOFTWARE & DATA
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DATA VISUALIZATION



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Learn more at ww2.amstat.org/meetings/sdss/2024.

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APRIL 2024 • ISSUE #562

Executive Director

Ron Wasserstein: ron@amstat.org

Associate Executive Director

Donna LaLonde: donnal@amstat.org

Director of Science Policy

Steve Pierson: pierson@amstat.org

Director of Finance and Administration

Derek Curtis II: derek@amstat.org

Managing Editor

Megan Murphy: megan@amstat.org

Communications Strategist

Val Nirala: val@amstat.org

Advertising Manager

Christina Bonner: cbonner@amstat.org

Production Coordinators/Graphic Designers

Olivia Brown: olivia@amstat.org

Megan Ruyle: meg@amstat.org

Contributing Staff Members

Kim Gilliam

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

ASA GENERAL: asainfo@amstat.org
ADDRESS CHANGES: addresschange@amstat.org
AMSTAT EDITORIAL: amstat@amstat.org
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American Statistical Association



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

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NISS Graduate Student Network Fosters Collaboration, Excellence

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

- 30 **STATS4GOOD**
Wealth of Data Addresses Today's Mass Extinction

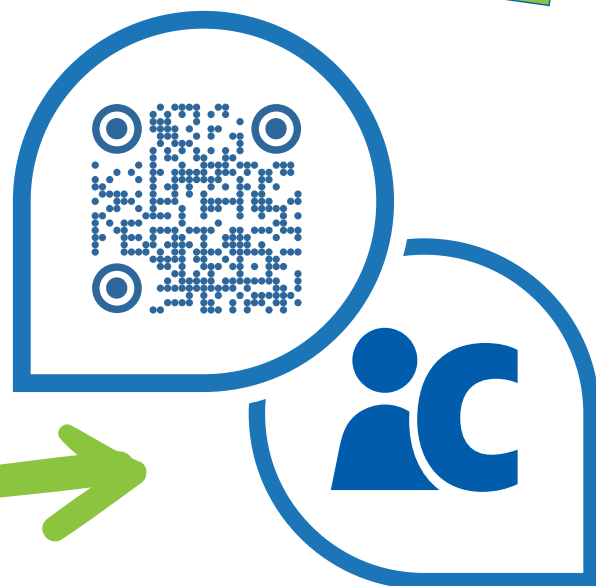
This column is written for those interested in learning about the world of Data for Good, where statistical analysis is dedicated to good causes that benefit our lives, our communities, and our world. If you would like to know more or have ideas for articles, contact David Corliss at davidjcorliss@peace-work.org.

Looking to the Past to Predict the Future

To celebrate Math and Statistics Awareness Month, the American Statistical Association created a poster and related infographic for teachers to use in their classrooms. They focus on our theme this year, *Looking to the Past to Predict the Future*, and how statistics and math are used in the science of prediction. Check the poster out in this month's centerfold and find the infographic at www.amstat.org.

ASA Community Has New Look

Have you logged into the ASA Community lately? Not only does it look great, every ASA chapter, section, and committee has a dedicated home, as well as many special interest groups. Also, all members are automatically a member of the ASA Connect forum, our open conversation for all things statistics and data science. Log in to check it out: <https://community.amstat.org/resources>.



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From Inspiration to Impact: **MENTORING MATTERS**

As statisticians and data scientists, we navigate the ever-present realm of uncertainty. We have a robust collection of powerful statistical tools, which we use to provide valuable insights. We also face moments of uncertainty in our personal and professional journeys and rely on mentors to guide our paths. The impact of a mentor empowers us to reach our full potential.

By tradition, incoming ASA Board members participate in the November board meeting to learn from those who came before them. I had the opportunity to reflect upon how fortunate I have been to have the support of Kathy Ensor, Dionne Price, Ji-Hyun Lee, and past and present members of the board. My educational and career journey is also filled with inspiring mentors, which is why strengthening and expanding mentoring in our community is one of my initiatives.

Female Mentors in My Career

This month, I want to share a bit about my journey and specifically acknowledge women who have helped me along the way in honor of Women's History Month, which just passed. My maternal grandmother, Hemlata, was an early role model for breaking stereotypes. She earned a BS in mathematics in 1940s Indian society.

My parents' commitment to helping the disadvantaged suffused the environment in which I considered my future. My father recognized computer science as "the future" and encouraged me to apply to US colleges to pursue it. A scholarship brought me to Albright College, where Petee Jung—the only female professor in the mathematics department—bolstered my confidence to pursue a dual degree in mathematics and computer science.

Helen Walker, the first female president of the ASA, eloquently captured the association's essence

in her 1944 president's address during the 104th Meeting of the American Statistical Association, titled "The Role of the American Statistical Association":

The conscious purpose of the Association must be to facilitate every way possible the most informed, effective, intelligent application of statistical methods to those problems in government, in jurisprudence, in public administration, in the sciences, in business, commerce, industry, education, finance, for which the evidence that should be taken to account is stochastic in nature.

While investigating graduate programs, I realized I wanted to work on multidisciplinary collaborations with the potential to affect lives. I studied statistics at Penn State, which housed many collaborative centers. The same desire has been a guiding force throughout my career and informs my goals for the ASA.

In my career since graduate school, I have been fortunate to follow exceptional female leaders. I was hired by Sally C. Morton, head of and the first female statistician in the RAND statistics group. Sally has had a career with incredible impact, evidenced by her many leadership roles in statistics, education, research, and national policy—including her service as ASA president and her promotion of women in statistics.

Another peer mentor who has influenced my journey is Susan Paddock, a colleague at RAND for more than 20 years. Now chief statistician at NORC and vice president of the ASA Board of Directors, Susan is recognized as a statistical thought leader with a deep commitment to cross-functional collaborations that bring out the best in both individuals and teams.



Madhumita (Bonnie) Ghosh-Dastidar

Have Input?
Let us hear it at
bit.ly/3PD3Oad.

Strengthening the ASA Culture of Mentoring

Mentoring ties directly into the ASA Strategic Plan by developing the next generation of ASA leadership and building the value proposition of ASA membership. Each year, we recognize sustained commitment to mentoring through the ASA Mentoring Award. Many chapters, sections, and committees have established successful mentoring programs, as well. These efforts are especially important as we emerge from the pandemic and find new ways to build and maintain connections.

In January, I described my commitment to fostering ongoing mentoring programs and creating new opportunities. The goals of my mentoring initiative are to increase the diversity and breadth of our field. I have formed a working group that includes early-, mid-, and late-career individuals with varied backgrounds led by co-chairs Ruth Etzioni and Carolyn Rutter.

Ruth is the Rosalie and Harold Rae Brown Endowed Chair in Biostatistics at the Fred Hutchinson Cancer Center, where she focuses on generating evidence to inform medical decisions by individuals, providers, or policymakers. She was recognized with a National Cancer Institute Outstanding Investigator Award for her evaluation of clinical and population-level impact of novel cancer diagnostics. She also co-leads the Seattle StatGROWS (Generating Research Opportunities Within Statistics) summer undergraduate internship program to increase awareness of and interest in careers in statistics and data science.

Carolyn is a biostatistician at the Hutchinson Institute for Cancer Outcomes Research who evaluates the effectiveness and cost-effectiveness of cancer screening and identifying and addressing disparities in colorectal cancer incidence and survival. She has a demonstrated passion for early- to mid-career mentoring. Mid-career is an especially

critical stage, at which many structured supports fall away and women leave careers in STEM.

As a first step, the working group is conducting an environmental scan to understand what successful programs are doing and identify potential gaps. This will involve getting the ASA community's input through data collection and focus groups. This information will then be compiled into a 'best practices' document or briefing.

Through conversations I have had with ASA members, I know there is a need to add mid-career to the mix of early-career-focused programs. We also need to carefully consider both the scalability of mentoring models and evaluation of mentoring outcomes.

I have asked the working group members to be both visionary and practical in their recommendations—with specific action items provided for consideration. We will disseminate results of the scan throughout the ASA so implementation can begin with pilot studies and outcomes assessment.

Stay tuned, and please help the mentoring working group as they reach out for information. You can also use the feedback form on the ASA Community input page at <https://community.amstat.org/communityinput/home> to convey your ideas.

Our careers and life journeys are unique but, for many of us, they retain the indelible footprints of our mentors. These mentors have not only enhanced our individual growth, but also shaped the societal perceptions and norms of our profession. The stories of the remarkable women I've written about here—indeed of all mentors—testify to the enduring power of mentorship in creating a brighter and more equitable future for all. Which mentors will you honor?

M. Ghosh Dastidar

MY ASA STORY

Mark Daniel Ward, Professor and Executive Director of The Data Mine



I love working with the American Statistical Association. I am always looking for new ways to contribute to the ASA's broad reach and impact.

I became a professor of statistics at Purdue in 2018 and an ASA Fellow in 2021. Mary

Ellen Bock (who hired me at Purdue) and Rebecca Doerge (who was an excellent leader at Purdue) encouraged me to get involved in the ASA while I was on the tenure track. George McCabe also encouraged me to get involved in the larger activities of the statistics discipline.

My ASA friendships and partnerships are some of my most treasured, especially because the ASA has enabled me to work across many institutional boundaries and with colleagues from many types of organizations.

Although this is "My ASA Story," I want to emphasize we have a stellar team at the ASA, Purdue, and our countless partner organizations. (The danger of naming names is I will surely omit hundreds of people!) I am especially thankful to Donna LaLonde and Kristin Mohebbi at the ASA and co-PIs Kathy Ensor, Monica Jackson, and Talitha Washington for enabling The National Data Mine Network.

On our team at The Data Mine, Jessica Jud has played a leading role. Our National Science Foundation-funded program enables 300 undergraduate students from minority-serving institutions to work on research projects with faculty members or corporate partners, as well as learn data science methodologies that support their research experiences. Several of our students discussed their research at the 2023 Joint Statistical Meetings in Toronto.

I'm also especially proud of the work done by the ASA's Justice, Equity, Diversity, and Inclusion Outreach Group members. I played a tiny role in launching this group, but there is a large team of colleagues at both the ASA and from academia and industry who now support and sustain this wonderful initiative.

Several years ago, Jessica Utts and I coordinated an NSF grant that allowed several universities to create or sustain their research experiences with undergraduate (REU) students in statistics. Some of

these programs evolved into REU sites. These opportunities for students were only possible because of the ASA's ability to coordinate multi-institutional initiatives that have broad impact.

My ASA friendships and partnerships are some of my most treasured ...

I have also played a small role on the ASA's Committee on Membership Retention and Recruitment, which is devoted to initiatives that enable early-career statisticians and data scientists to become deeply engaged with the ASA and continue their membership for many years after school. A common theme among the ASA activities I have participated in is enabling others to grow in their careers, not only as students but during early-career stages.

At present, The Data Mine is planning to work with approximately 2,200 undergraduate and graduate students during the 2024–2025 academic year. We also plan to have more than 100 corporate partner projects for students to choose from. These partnerships range across all areas in which statistics and data science are used. Maggie Betz, Rebecca Sharples, and I just published an article in WIREs Computational Statistics titled "The Data Mine Model for Accessible Partnerships in Data Science."

We endeavor to expand this model to many more companies and a similarly broad range of college and university profiles. I firmly believe in the value of students learning how to work not only on statistical modeling but also on cloud computing, full stack development, containerized environments, digital twins, large language models, and predictive analytics. Moreover, I love for students to learn directly from domain experts about how data science concepts are used in practice. As ASA members, it is perhaps more important than ever to identify ways for companies and universities to work together to provide early-career opportunities for students. I hope to work even more closely with the ASA in the future on innovative ways to build such partnerships. ■

Papers Wanted for JASA Special Issue on Statistical Science in AI

Call for Papers
Find the JASA
submission site at
bit.ly/3TAInIS or by
scanning the QR code.



Editors of the *Journal of the American Statistical Association* are seeking papers for a special issue dedicated to exploring the intersection of statistical theory, methods, and applications with core problems in artificial intelligence, popularly called AI. This issue aims to map the evolving landscape of innovative statistical research inspired and motivated by the rapid developments in AI and pioneer integrated statistical AI methods to advance scientific discovery and trustworthy AI.

Wanted are original research papers that address the following key aspects:

- **Identification of Core AI Problems:** Papers should clearly outline a core problem in contemporary AI in which statistics can play a critical role. This could include, but is not limited to, issues related to modern AI-related study design, deep learning, reinforcement learning, representation learning, federated learning, transfer learning, generative AI algorithms, neural network, data quality and privacy, ethical considerations, interoperability, interpretability, and scalability.
- **Statistical Contributions to AI:** The focus should be on how statistical theories and methodologies can offer unique insights into or solutions to the identified AI problems and empower AI methods and tools to advance real-world science. Contributions should be grounded in statistical rigor and demonstrate a clear link to addressing the AI challenges and their practical applications.
- **Innovative Statistical AI Theory, Method, and Applications:** Each submission should

Special Issue Editors

Jianqing Fan

Xihong Lin (guest editor)

Susan Murphy (guest editor)

Annie Qu

Dylan Small

not only highlight the intersection of statistics and AI but also propose specific contributions to statistical theory, methodology, and application within the chosen area. This could include new statistical models, inventive analysis methods, novel approaches to existing statistical techniques, or innovative data analysis and statistical AI applications aimed at addressing real-world problems AI endeavors to solve.

Submission Guidelines

- Manuscripts must be original and not under review by other journals.
- Submissions should follow the journal's formatting and submission guidelines.
- Authors should click on "Special Issue on Statistics in AI" in the type of manuscript category for submission.
- Manuscripts should be submitted by December 31.

Questions can be emailed to Annie Qu at aqu2@uci.edu. ■

MSAM 2024: Looking to the Past to Predict the Future

Valerie Nirala, ASA Communications Strategist

Mathematics Awareness Month began in 1986 as Mathematics Awareness Week with a proclamation by President Ronald Reagan. Beginning in 2017, Mathematics Awareness Month became Mathematics and Statistics Awareness Month to recognize the unique and important contributions from the statistics discipline. The goal is to increase public understanding of and appreciation for mathematics and statistics.

To celebrate MSAM, the American Statistical Association created a poster and related infographic for teachers to use in their classrooms. They focus on our theme this year, *Looking to the Past to Predict the Future*, and how statistics and math are used in the science of prediction. ASA members with expertise in climate science, sports analytics, finance, and epidemiology share public data sets, data visualization tools, and key factors to consider when making predictions in their areas. Find the poster in the middle of this issue and download the infographic from www.amstat.org.

The ASA will also host its Virtual Science Fair for K–12 students. Participants will work independently or as part of a team, spend the month investigating an interesting topic, and



submit a short video highlighting their process and results. Get the details at bit.ly/3wUhEOK.

Finally, ASA members Sarah Pagni, Shruti Jain, and Matthew Finkelman put together a contest called Predict 5 in which contestants predict answers to five questions on different topics and events taking place in April. Although the time to make predictions is over, visit bit.ly/3VmZoaW to follow along. We will announce the winners in early May.

We encourage members of our community to organize their own activities for MSAM. Events could include workshops, competitions, exhibits, lectures, or something even more creative like making a meme or Zoom background. Visit the MSAM website at ww2.amstat.org/mathstatmonth for resources and ideas for publicizing the event. There are also posters from previous years and much written about the history of MSAM.

Share your MSAM activities on social media using #MathStatMonth. And keep an eye out for the winners of our Predict 5 contest! ■

Balderdash, Claptrap, Clerihew: Lesser Takes Another Turn for the Verse

In honor of April being both National Poetry Month and Mathematics and Statistics Awareness Month, The University of Texas at El Paso's Larry Lesser composed the following poems in the quirky form known as clerihew:

William Sealy Gosset
turned on the faucet,
sampled the beer:
law of error got clear.

Sir Ronald Fisher
tested a mixture
of milk and tea:
did milk precede?

Reverend Thomas Bayes
learned probability's ways:
a minister, not friar,
he used what came prior.

William Playfair
made charts you display there:
a British spy with zeal
who stormed the Bastille.

Jerome Cornfield—
his fame was more sealed
by proving the answer
that smoking brings cancer. ■

Teaching During COVID Leads April *JSDSE*

Nick Horton, *Journal of Statistics and Data Science Education* Editor

The onset of COVID-19 had a direct and continuing impact on the educational sector, with institutions, instructors, students, and parents scrambling to adapt to a variety of online or hybrid educational models. The April issue of the open-access *Journal of Statistics and Data Science Education* leads off with the following three papers that describe approaches to teaching during the pandemic:

- “Teaching Statistics: A Technology-Enhanced Supportive Instruction (TSI) Model During the COVID-19 Pandemic and Beyond,” by Serina Al-Haddad, Nancy Chick, and Farshid Safi
- “Teaching Students to Read COVID-19 Journal Articles in Statistics Courses,” by Lu Ye and Yu Jin
- “Challenges and Successes of Emergency Online Teaching in Statistics Courses,” by Analisa Flores, Lauren Parker Cappiello, and Isaac Quintanilla Salinas

The issue also includes an editorial that addresses ways educators have grappled with the pandemic and an announcement of a new Taylor & Francis collection of open-access articles titled “Teaching Data Science and Statistics and the COVID-19 Pandemic.”

The following papers published in the issue explore other timely topics:

- “Causal Inference Is Not Just a Statistics Problem,” by Lucy D’Agostino McGowan, Travis Gerke, and Malcolm Barrett

- “What Should We Do Differently in STAT 101?” by Jeff Witmer
- “Coding Code: Qualitative Methods for Investigating Data Science Skills,” by Allison S. Theobald, Megan H. Wickstrom, and Stacey A. Hancock
- “Personalized Education Through Individualized Pathways and Resources to Adaptive Control Theory-Inspired Scientific Education (iPRACTISE): Proof-of-Concept Studies for Designing and Evaluating Personalized Education,” by Sy-Miin Chow, Jungmin Lee, Jonathan Park, Prabhani Kuruppumullage Don, Tracey Hammel, Michael N. Hallquist, Eric A. Nord, Zita Oravec, Heather L. Perry, Lawrence M. Lesser, and Dennis K. Pearl
- “A Review of the Use of Investigative Projects in Statistics and Data Science Courses,” by Allison Davidson
- “Active-Learning Class Activities and Shiny Applications for Teaching Support Vector Classifiers,” by Qing Wang and Xizhen Cai
- “Obtaining and Applying Public Data for Training Students in Technical Statistical Writing: Case Studies with Data from U.S. Geological Survey and General Ecological Literature,” by Barb Bennie and Richard A. Erickson

These articles and more can be found at www.tandfonline.com/journals/ujse21. ■

Registration Open for Symposium on AI in Pharmaceutical Medicine

David Madigan, Northeastern University, and Demissie Alemayehu, Pfizer

Early registration is open for the 2024 Annual Symposium on Risks and Opportunities of AI in Pharmaceutical Medicine, casually called AIPM 2024, a unique and timely platform for statisticians, data scientists, regulators, and other professionals to do the following:

- Address the challenges and opportunities of AI in pharmaceutical medicine and medical research
- Foster collaboration among industry, academia, regulatory agencies, and professional associations
- Propose recommendations with policy implications for proper implementation of AI in promoting public health

The symposium, which can be attended in person or virtually, will take place June 10–11 at the Northeastern University campus in Boston with the theme *Generative AI in Medical Research and Drug Development: Hype or Reality?* Highlights include a panel discussion by experts in the field and a keynote address by Patrizia Cavazzoni, director of the Center for Drug Evaluation and Research at the US Food and Drug Administration.

The symposium is jointly sponsored by Pfizer, Northeastern University, and the American Statistical Association.

Details about the symposium can be found at <https://aipm.provost.northeastern.edu>. Visit bit.ly/490oijR to register.

NIJ to Support New Research in 2024

Steve Pierson, ASA Director of Science Policy

The National Institute of Justice is the scientific research, development, and evaluation agency of the US Department of Justice. It provides objective, independent, and evidence-based knowledge and tools to support criminal justice and other agencies and initiatives. It also assesses programs, policies, and technologies, sharing its research through conferences, reports, and the media.

Each year, NIJ identifies needed topical research in the physical and social sciences, solicits proposals from universities and other research institutions to conduct that research, and awards grants to fund the selected proposals.

In fiscal year 2024, NIJ will support an array of new research to enhance knowledge of contemporary crime and justice issues through science. A representative sample of coming research project areas includes the following:

- The impact of technologies on forensic science applications
- The National Institute of Justice's Graduate Research Fellowship Program
- Effectiveness of strategies to increase use of evidence-based policies and practices
- Improvements in measuring community perceptions of public safety

Data-driven science is at the heart of NIJ's work. Since 1978, the institute has helped construct an archive of hundreds of data sets from projects funded through grant programs. It partners with two other Office of Justice Programs agencies—the Bureau of Justice Statistics and Office of Juvenile Justice and Delinquency Prevention—to support the National Archive of Criminal Justice Data.

NIJ Priorities

NIJ priorities include the following:

- Fostering rigorous and inclusive research to promote safer communities and more equitable justice systems
- Elevating studies that apply a racial equity lens

- Emphasizing evaluations of technology implementation in the field
- Encouraging interdisciplinary research that includes both quantitative and qualitative inquiries
- Ensuring research evidence translates into actionable information to promote change in the field

Representative 2024 Research Solicitations

Graduate Research Fellowship Program

The solicitation will invite applications for doctoral research related to preventing and controlling crime and ensuring the fair and impartial administration of criminal or juvenile justice in the United States.

Effectiveness of Strategies to Increase Use of Evidence-Based Policies and Practices

The solicitation will seek proposals for rigorous demonstration and research projects that further the impact of existing crime and justice research evidence.

Research on the Impact of Technologies on Forensic Science Applications

The solicitation will seek proposals to study how technologies affect criminal justice systems or how implementation of forensic laboratory programs or practices affect outcomes. NIJ is interested in evaluating technologies, methods, and processes to understand their impact on forensic backlog reduction, capacity enhancement, cost/benefit, resource development, and case closure efficiency.

Research on Measuring Community Perceptions

The solicitation will seek applications for research on and demonstration projects of improved approaches for measuring community perceptions of public safety-related issues in survey methods and associated sampling designs and analysis of existing data sources. NIJ is interested in improved methods to produce representative estimates across intra-city areas that are cost-effective, frequently deployable, and scalable for use in municipalities of various sizes.

Other 2024 NIJ solicitations subjects include the following:

- Evaluation of Bureau of Justice Assistance State Crisis Intervention Program
- Evaluation of Office of Justice Programs Community-Based Violence Intervention Initiative
- Field-Initiated Action Research Partnerships
- Longitudinal Research on Delinquency and Crime
- National Baseline Study (flagship of NIJ's Violence Against Indian Women Program)
- National Juvenile Court Data Archive
- Novel Psychoactive Substance Discovery, Education, and Reporting Center
- Process and Implementation Evaluation of the Bureau of Justice Assistance Safer Together Program
- Research and Development in Forensic Science for Criminal Justice Purposes
- Research and Evaluation for the Testing and Interpretation of Physical Evidence in Publicly Funded Forensic Laboratories
- Research and Evaluation of Services for Victims of Crime
- Research and Evaluation on 911, Alternative Hotlines, and Alternative Responder Models
- Research and Evaluation on Corrections
- Research and Evaluation on Desistance from Crime
- Research and Evaluation on Drugs and Crime: Money Laundering, Firearms, and Human Trafficking Nexus
- Research and Evaluation on Firearms Violence and Mass Shootings
- Research and Evaluation on Hate Crimes
- Research and Evaluation on Policing
- Research and Evaluation on School Safety
- Research and Evaluation on the Administration of Justice: Prosecution Practice, Justice, Case Tracking, and Workforce
- Research and Evaluation on Violence Against Women
- Research on Juvenile Justice and Delinquency Prevention Topics
- Research on Multidisciplinary Teams
- Research on School-Based Hate Crime
- Research on the Abuse, Neglect, and Financial Exploitation of Older Adults
- W.E.B. Du Bois Program of Research on Reducing Racial and Ethnic Disparities in the Justice System ■

Proposals Wanted for Joint Bayesian Statistics Event

Organized by the Brazilian Chapter of the International Society of Bayesian Analysis, the 7th Latin American Meeting on Bayesian Statistics will be held at the Federal University of Minas Gerais in Belo Horizonte, Brazil, December 2–6. This is a joint event with the 17th Brazilian Meeting on Bayesian Statistics.

Statisticians, data scientists, researchers, and professionals are invited to share their expertise and contribute to defining the future of statistical science.

Submission for proposed thematic sessions is open until April 30. Proposals must be submitted at forms.gle/U8xfifMnv6JJSFLx9 and include the following:

- Name and email of the session chair
- Session title and description
- Name and email of 3–4 speakers
- Title and summary of the talks to be presented

More information and submission for contributed oral and poster presentations—open until May 15—can be found at www.even3.com.br/cobal-ebec-2024.

Recognizing the ASA's Longtime Members

Each year, the ASA recognizes all members reaching a milestone of 35, 40, 45, and 50 years of membership. All members who joined 35 years ago or more are also extended an invitation to a reception at the annual Joint Statistical Meetings. If you believe you should appear in the list below and don't see your name, please email asainfo@amstat.org to correct your record.

50+ YEARS

Robert Abbott	Kenneth Berk	Yogendra Chaubey	Joseph Duncan
Abdelmonem Afifi	Jose Bernardo	Janet Cherry	George Duncan
Robert Agnew	Donald Berry	Joan Chmiel	Douglas Dunn
Alan Agresti	U. Narayan Bhat	Joseph Chmiel	Benjamin Duran
Dennis Aigner	Peter Bickel	William Cleveland	Robert Easterling
Jack Alanen	Lynne Billard	Robert Clickner	Brenda Edwards
Arthur Albert	Christopher Bingham	Timothy Coburn	Bradley Efron
Mukhtar Ali	William Blackwelder	Steven Cohen	Janet Elashoff
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Computer and Information Science, Internships, Biological Infrastructure Top NSF Q&A

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

This month's program officers are Yulia Gel of the Division of Mathematical Sciences in the NSF Directorate for Physical and Mathematical Sciences and Alfred Hero of the Division of Computing and Communication Foundations in the NSF Directorate for Computer and Information Science and Engineering.

The awardee responses are from Leah Johnson of Virginia Tech, an award recipient of the NSF Biological Science Directorate.



DIRECTOR

Alfred Hero is program director in the Division of Computing and Communication Foundations in the NSF Directorate for Computer and Information Science and Engineering. He is on leave from the University of

Michigan, where he is the John H. Holland Distinguished University Professor of Electrical Engineering and Computer Science and R. Jamison and Betty Williams Professor of Engineering. Hero was founding co-director of the Michigan Institute for Data Science from 2015–2018, helped launch the Society for Industrial and Applied Mathematics' *Journal on Mathematics of Data Science*, and served on the editorial board of the *Harvard Data Science Review* until 2022. From 2011–2020, he was a member of the Committee on Applied and Theoretical Statistics of the US National Academies of Science, Engineering, and Medicine and chaired the committee from 2018–2020.

ALFRED HERO

Q: What is the Communications and Information Foundations program, and what is its scope?

A: Communications and Information Foundations, referred to as CIF, is a program within the Computing and Communications Foundations Division of the Computer and Information Science and Engineering Directorate at NSF. It supports foundational research on the theoretical underpinnings of information acquisition, transmission, and processing in communications and information processing systems and applications. At its core, CIF is interested in mathematical exploration of novel problem formulations rooted in such applications.

Q: What kind of research proposals does CIF fund out of its core program?

A: Successful CIF proposals often introduce an innovative methodological approach to a compelling application domain, and they always include a substantial mathematical analysis of the method and/or its performance.

CIF has funded novel methods and analyses in areas such as compressive sensing, learning theory, privacy and fairness, decentralized optimization, and information theory. These proposals place their theoretical contribution in the context of impact on communications, signal processing, and image processing applications, which have included areas such as error control coding and data compression, network security, sensor networks, computational chemistry, signal processing on graphs and networks, and computational imaging in medicine and astronomy.

These are just a sampling of research areas CIF has supported, and we are open to novel potentially transformative ideas in other areas. Many successful CIF proposals involve statistical modeling and analysis.

Q: Does the CIF program support PIs whose primary appointment is in a statistics department?

A: Yes. CIF and THE Division of Mathematical Sciences have co-funded collaborative proposals involving PIs from statistics, for example in mathematics of deep learning under the cross-cutting NSF MoDL and SCALE MoDL programs. Furthermore, several of the projects funded by the CIF core program include PIs in statistics—in addition to PIs in computer science, applied math, electrical engineering, and other related fields.

We welcome proposals from researchers in the statistics community who have exciting ideas within the scope of CIF.

YULIA GEL

Q: What interdisciplinary internship programs exist for graduate students at NSF?

NSF offers multiple interdisciplinary internship opportunities for graduate students but we will focus on the Mathematical Sciences Graduate Internship (MSGI) Program and Non-Academic Research Internships for Graduate Students (INTERN).

Mathematical Sciences Graduate Internship

MSGI is the program under the auspices of the NSF Division of Mathematical Sciences. The goal of MSGI is to enrich the training of graduate students in the mathematical sciences by offering an opportunity to participate in internships at federal national laboratories and research facilities. The internships are aimed at students who are interested in understanding the application of advanced mathematical and statistical techniques to real-world problems, regardless of whether the student plans to pursue an academic or nonacademic career.

This program is administered by the Oak Ridge Institute for Science and Education. Each year, the institute publishes a list of participating national labs and short descriptions of projects. Candidates then need to submit their applications through the institute's system by the deadline.

If selected, the MSGI applicant will receive a stipend of \$1,200 per week for living expenses during the 10-week summer internship. In addition, travel reimbursement of inbound and outbound costs up to \$2,000 is available for participants who live more than 50 miles one way from the assigned hosting site.

US citizenship is not required for participation in the program. However, depending on the internship assignment, US citizenship or permanent residence may be required.



DIRECTOR

Yulia Gel is on leave from The University of Texas at Dallas. This is her third year as a rotator program director of the statistics program of the Division of Mathematical Sciences in the NSF Directorate for Physical and Mathematical Sciences.

Non-Academic Research Internships for Graduate Students

The INTERN program is the NSF initiative that involves multiple directorates and divisions. It is open to master's and doctoral students in statistics, mathematics, or other disciplines who have completed at least one academic year in their graduate program and are making satisfactory progress toward the completion of their degree.

In contrast to the MSGI program, the INTERN program is administered by NSF as a supplement to an active NSF award. That is, the PI/co-PI of an active NSF award (e.g., PhD adviser or other mentor of a graduate student) may request supplemental funding for one or more graduate students to gain knowledge, skills, and experiences that will augment their preparation for a successful long-term career through an internship in a nonacademic setting.

The active NSF award can be administered by DMS or another participating NSF directorate or division. In turn, nonacademic settings are broad, ranging from national labs to museums, nonprofit organizations, industry, and even start-up companies.

The PI/co-PI needs to submit a two-page summary that describes the internship, the student's résumé, a letter of collaboration from the hosting organization, and budget and other required documents through Research.gov. PIs are encouraged to discuss with the cognizant NSF program director activities that are synergistic with the NSF project scope.

The total amount of funding requested must not exceed \$55,000 per student per six-month period. Funds can be used to support travel, tuition and fees, health insurance, and relocation costs for the graduate student. Additionally, up to \$2,500 may be used for the PI or graduate research fellow's adviser to travel to work with the host organization in co-mentoring the student during the internship. The supplement funding will provide up to six months of support for an internship, and the INTERN project does not need to be performed throughout summer. The target date to submit the INTERN supplement request is April 15 for each fiscal year.

In addition to the more general INTERN program, NSF runs multiple inter-agency INTERN initiatives such as Research Internships for Graduate Students at Air Force Research Laboratory, Geothermal INTERN joint with the US Department of Energy Office of Energy Efficiency and Renewable Energy, and Graduate Research Internships in Forensic Science and Criminal Justice Contexts. See the detailed description and all specific conditions of each INTERN program at www.nsf.gov/eng/eec/intern.jsp.



AWARDEE

Leah R. Johnson is an associate professor in the department of statistics at Virginia Tech. She earned her PhD at the University of California, Santa Cruz in 2006. Her research interests are in statistical ecology,

vector-borne diseases, and methodology for inference in complex models of biological systems. She was a recipient of an NSF CAREER award in 2018.

Johnson was recently funded through the NSF Division of Biological Infrastructure for “CIBR: VectorByte: A Global Informatics Platform for Studying the Ecology of Vector-Borne Diseases,” a five-year collaborative grant. The project has three PIs/institutions, the other two being Sadie J. Ryan (University of Florida) and Samuel Rund (University of Notre Dame). They also have an unfunded collaborator, Samraat Pawar (Imperial College London). The total award amount across the three locations is approximately \$2 million.

The main goals of this project are to build a centralized open-access data platform called VectorByte (www.vectorbyte.org), provide open-access tools to explore and use the data, and enable training workshops. Thus, funding supports multiple postdocs and graduate students, database building, training workshops, and tool development.

Johnson has been submitting proposals for approximately 10 years to DMS, DBI, and the Division of Environmental Biology. She regularly serves on NSF review panels or ad hoc reviews for the three divisions.

LEAH R. JOHNSON

Q: What will the proposal accomplish?

In this project, we are establishing a global open-access data platform to support the study of disease vectors.

Yearly, vector-borne diseases account for 17% of human infectious diseases and billions of dollars in crop and livestock losses. To better prevent and predict outbreaks of vector-borne diseases requires that information and data on interactions of vectors with their environments over space and time be combined. However, efforts to do this have been hindered by the isolation of data collected on vectors, difficulty in data accessibility, and disparate data formats.

This project will follow FAIR data principles to bring biological trait and abundance data for human and non-human disease vectors into a centralized repository. It will also provide analysis tools and training to a wide audience of researchers and practitioners.

If an NSF non-DMS entity partially or fully funded the award, please describe your approach to that entity so others might learn from it.

For an applied statistician like me, I have found cross-cutting or broad calls are often better fits for much of my collaborative work. So, a few years ago when I was invited to sit on a panel for the Division of Biological Infrastructure, I jumped at the chance. At the time, I was unfamiliar with the division or any of its programs. I learned a lot about opportunities under this call during that time and across subsequent panels. Sitting on panels is useful generally if you are submitting proposals to NSF, and even more so for calls you're less familiar with. Program officers love to have volunteers, so let them know you're willing!

What advice do you have for others applying for NSF funding?

Although it can be a bit intimidating at first, setting up a time to talk to the program officers about whether your ideas fit into a particular call is enormously useful. There is already a lot of stochasticity in the grant review process. Making sure your grant is a good fit increases your odds substantially. Nearly all my successful proposals started with a conversation with a program officer.

Additionally, making sure to take the time to make your project easy to read/follow is important. Your reviewers read a lot of proposals, and they are unlikely to be familiar with your exact area of research. Clear writing with goals and objectives that are easy to understand will also improve your odds. ■

A Conversation with Dean Follmann of NIAID

Chris Franck, Virginia Tech



Dean Follmann

I met Dean Follmann during a visit to the Biostatistics Research Branch of the National Institute of Allergy and Infectious Diseases. A former student invited me to spend the day there and give a talk in March 2023. I was astonished during my visit, as I figured the group would be specific in focus and hugely preoccupied with COVID. But instead of a

narrowly focused group deep into their own weeds, I met the most incredible collection of statisticians.

There were textbook authors, theoreticians, application-oriented methodologists, statistical consultants, adjunct college professors, and even a National Institutes of Health program officer.

They advise researchers about grants and design and review clinical trials. They analyze data. They publish academic papers. The group is broadly focused on allergies and infectious diseases, including COVID, but they do a lot of different types of statistical work, even more than I have mentioned here.

Everybody was super friendly, and I found the many conversations I had extremely engaging. It was sort of the perfect day of statistics. I grew curious to learn more about Dean, who leads the group and coordinates the many complexities of such a work environment, so I asked him for a follow-up interview, which I present here.

When and how did you discover the statistics field?

I started out studying psychology. After a while, I grew dissatisfied with that. There were a lot of theories but not a lot of evidence or proof to determine which was right. As I was taking psychology classes, I also took a statistics class. At first, I really hated statistics, because I didn't understand it. They had a big X and a little x, and they meant different things. I thought, "What's up with that?"

I struggled through it, and then I decided a statistics minor would be a nice addition to a bachelor's degree in psychology. And then I had

a professor named Richard Kryscio, who taught me regression analysis, and everything just kind of clicked. Suddenly, I could really understand what the equations meant by relating them to plots and geometry. This ignited a curiosity in me, and I just wanted to keep learning more.

That one class really turned it on to me. I could see things differently and see that there was more and more I could do and more and more I could learn. I then went to Carnegie Mellon, which I loved and gave me the foundation to go anywhere.

You currently serve as the chief of the Biostatistics Research Branch at the National Institute of Allergy and Infectious Diseases. Can you tell us about that job?

Yeah. So, I have two hats. The first is as the branch chief and the second is as a working statistician. I'll talk about the working statistician part first. The NIH [National Institutes of Health] has been a great place to work for me. I have a very supportive boss who gives a lot of leeway and allows for a lot of creativity. I also have many collaborators.

Various projects come up, and I always think about the best way to approach them in a solid and straightforward way. But I also always wonder if there is a better way. Is there a cool approach that could be developed that would be statistically interesting and fill a knowledge gap? I collect these little ideas, and they get turned into my research. More specifically, there are a lot of tasks we do. We collaborate, design studies, do analysis of small data sets, review protocols, provide advice, etc. Different collaborators will want to know about a statistical method or whether a design is sound, things like that.

I view our mission at NIH in a broad sense, which is to improve human health. We collaborate with researchers around the country and at different universities, as well as with different institutes, depending on where projects lead. Within NIAID [National Institute of Allergy and Infectious Diseases], there are divisions, and there's an intramural division, which is rather like a university where you have people working in different departments, doing basic research or applied research. We collaborate with intramural researchers to design



Chris Franck is an associate professor in the department of statistics at Virginia Tech.

studies, develop new assays, analyze clinical trial data, and so on. The other part is extramural research, which is the part of NIH that funds outside groups to do research. These outside groups will propose studies that go through scientific review here.

We'll also participate in ongoing studies that require independent monitoring. And so we get involved in the setting up of committees to do that, and we need to understand the statistical aspects of monitoring. When I was first at NIH, I spent a lot of time working on the statistical issues related to monitoring test statistics over time. So, that leads to standardizing test statistics so they behave like Brownian motion and leads to boundaries that control the type I error rate. There's a lot of interesting math related to that.

You mentioned the other hat you wear is as the director of the biostatistics group. How do you balance research and administrative duties? How has this changed over the course of your career?

I try to avoid administrative work. I'm more interested in mentorship. I like to work on projects with people in the group. We have a bunch of people in the branch, and I want to give them opportunities to do what they want to do.

While we do a variety of things, including monitoring clinical trials, we also have people who are interested in the ethics of clinical trials. We have a person in the group who's interested in developing biostatistical capacity in Sub-Saharan Africa. Some members are interested in helping train Sub-Saharan African statisticians. And we also have a member of the group who's developing research capacity to do overseas trials in outbreak settings. They set up a data coordinating center that ran a trial identifying the first treatments for Ebola virus disease. That's all sort of aligned with improving public health, and I'm supportive of that.

And, like different people in the group, I want to sort of play matchmaker, give them opportunities they are interested in. I think that's a major part of what I do—and to be available and listen to what people say. And, you know, try to create a good environment for people. My job is to line up the right project or opportunity with the right people.

It sounds like there is a lot going on in your group! What skills are needed in an environment like this?

We have collaborators who work on infectious disease and immunology. Skills you really need are good technical statistical training, including the theory behind the

software programs you might run or the analyses you might do. You need the ability to extend things and develop new methodologies.

Being able to communicate is very important in this institute, as well. We work with a lot of scientists who need to understand what we're doing, and so being able to communicate on their level is critical. This requires statisticians to understand immunology, vaccinology, infectious diseases, and biology.

I think there are opportunities and flexibility in this group, so ideally you want people with some initiative who can make the most of this environment. You also want people who fit in and complement the group.

What is a typical day like for statisticians at NIAID?

Let me give you a few examples. Some days, there will be a big meeting, for example, a data safety and data safety monitoring board meeting where an independent group will come together and look at data from an ongoing clinical trial. So, on a day like that, you would spend a chunk of time beforehand reading reports, trying to understand what's going on or whether there are issues that need to be addressed. Then, at the meeting, you will discuss the data and maybe make recommendations to modify the trial or have everything continue as it is.

People in the group also go to FDA [US Food and Drug Administration] advisory committee meetings where the format is similar. You prepare for several days for a controversial issue related to a drug that's going up for licensure. So, this committee will meet, and we'll discuss the pros and cons, the strength of evidence for the drug benefit versus maybe a safety signal, and then answer specific questions related to that. That's a kind of typical day. I would say they're not super common, but they're not uncommon, either.

We also do methodological work. Right now, I'm obsessed with how hazard functions relate to frailty, so I'm reading books and papers but mostly thinking about equations and writing things on the board, typing LaTeX, and then running some R code to get clues about how these things behave. And talking to other branch members with similar interests. Obsessions like this happen every so often, and it's pretty great while they're around. That is another kind of typical day.

The third type of typical day involves data analysis, so running and debugging code and writing a report based on that, briefing collaborators, and iterating.

Finally, there are meetings. Not a ton of those, but there are some meetings.

I think there's opportunity here to be influential, maybe more so than other places. I feel there are situations in which statisticians should lead teams, situations in which we should be the ones driving the science. Typically, statisticians talk about giving the results of their analyses to decision-makers. I think sometimes we need to be the decision-makers.

You have an impressive publication record. I see you have a paper called “Efficacy and Safety of the mRNA-1273 SARS-CoV-2 Vaccine” with almost 10,000 citations since 2021. What has it been like on the front lines of biostatistical work related to COVID?

It has been surreal and amazing. You know, I work at the National Institute for Allergy and Infectious Diseases, so we study infectious diseases. And then COVID hit and there was an incredible amount of work to get done. We were involved in the early treatment and vaccine studies, which continued throughout the pandemic. We had to set up everything very, very quickly. There was no time to fret, basically, which was kind of liberating. I specifically was involved in the Operation Warp Speed vaccine trials. They moved at an incredible pace, and we had to wrestle with all sorts of decisions one after another after another.

For example, we originally planned to follow placebo and vaccine people for two years to see how well and how long the vaccine worked. But that didn't really make any sense because the volunteers on placebo should get the vaccine as soon as its efficacy was established, since they had shown through their contributions in the trial that the vaccine was efficacious.

While it seems placebo vaccination destroys the opportunity to learn how long the vaccine works, it actually doesn't. The simplest way to understand this is that even if the placebo group has received the vaccine in a randomized trial, you still have a fine randomized contrast between those who just got vaccinated versus those who were vaccinated a while ago. So, if the event rate is higher in those who were vaccinated a long time ago, the vaccine must be losing efficacy. That was the basic intuition that led to a formal statistical method.

Normally, when I have an idea like that, I develop it thoroughly, maybe taking a year to work it out completely. With COVID, I quickly realized that wasn't going to work, so we ended up engaging a big group of clinicians, statisticians, and vaccinologists who were involved in Operation Warp Speed so we could have a united voice on this particular topic. Moving so fast and engaging a large heterogeneous group was new and awkward for me, but the situation required it.

I felt what our group was doing in response to the pandemic was important. It was scary at times, but there was a lot of energy. I feel we fed off each other and our camaraderie provided support for each other. I feel the group did a fantastic job in response to COVID-19—I felt like we were built for that moment.

Do you still collaborate with that team?

Yeah, it's interesting. The paper you cited is the seminal paper that evaluated the Moderna vaccine, and I continue to work with that team three years out. We're analyzing data from the trial and thinking of new analyses and experiments that can be performed. We respond to how the virus changes, but, more broadly, to have different methods that will suit other vaccines. I now work on Ebola virus vaccines, and some of the things I've learned from COVID apply to Ebola. At some point, COVID-related work will be mostly in my rear-view mirror, but it is taking a while. I met some great scientists and want to continue those connections as best I can.

One final thing about COVID. One of my jobs is to provide advice to NIH leadership. At the start of the pandemic, I got a terse email basically saying, “Here's a study. What's going on?” I wasn't sure what to do, so I made this little rule: Give your best answer in 23 hours. This lets me prepare something, sleep on it, and then make sure I'm good with it.

When these requests arrive, I drop everything. I read the study and usually read other papers to understand what methodology they were using so I can explain the study well. But I feel it's my role to go beyond that and come up with insight or larger context.

One of the last requests was to evaluate a study in Boston Public Schools in which a mask mandate was changed to a local decision. You could look at the COVID rate before and after the masks were lifted in the schools, so it was a kind of natural experiment. For the larger context, I went online and read the high-school newspapers from Waltham and Chelsea to try to glean clues about behavior related to masking and if this might cause biases. Waltham lifted the mandate rather quickly, while Chelsea kept the mandate.

The Waltham article included interviews with students with some for and others against the lifting. Chelsea was different. I ended up reading a report about how the Chelsea area was hit first and worst and how overcrowding, pollution, chronic diseases, and social mixing from jobs contributed to COVID having a major impact on the Chelsea community. Not surprising, the high school kept the mandate. I didn't end up explicitly using this in my response, but I knew the context better, which made me confident about my analysis. ■

Caucus of Industry Representatives Details Year

Ginger Holt and Steve Sain

The American Statistical Association has often been referred to as the “Big Tent” for statistics and data science and has long supported the broad and varying interests of its membership. The numerous sections and interest groups are organized around specific subject areas, and the different chapters represent geographic and regional communities. Outreach groups, on the other hand, help support members with common interests. The newly formed Caucus of Industry Representatives, referred to as CIR, is one of these outreach groups.

With most of the ASA’s membership coming from industry, the CIR seeks to provide a forum for surfacing issues related to industry statisticians and data scientists, as well as to facilitate interaction between industry leaders in much the same way as the Caucus of Academic Representatives serves the academic community. Outreach of the CIR will, for example, include collaboration with the Caucus of Academic Representatives, Section on Government Statistics, ASA Leadership Institute, and other ASA groups and sections.

The caucus plans to have yearly meetings for members in conjunction with other ASA conferences, as well as a yearly workshop. The workshop topic will focus on specific member needs such as continuing education, soft skills development, forming collaborations across and within industries, and mentorship. This year’s meeting will be held at the Symposium on Data Science and Statistics in Richmond, Virginia, on June 7.

Taken from industry leaders in statistics and data science, members will support and advance the caucus, and membership will span managers of statistics and data science teams to individual contributors to those who are the only (or one of a few) statisticians or data scientists in their organizations. Membership qualifications include the following:

- **Demonstrated leadership in one or more of the following areas:**
 - People manager or functional head in a statistics or data science organization that informs company-level decision-making
 - Thought leader for a particular area, domain, or topic in data science/statistics
 - Strategist for making data science/statistics investments at an organization

- Technical leader through mentoring, influencing, and/or growing others in the practice of data science/statistics
- Owner of data science/statistics function in an organization
- **Some affiliation with the practice of statistics/data science in industry such as the following:**
 - Company data scientist/statistician in industry, including NGOs and nonprofit organizations
 - Independent data science/statistics consultant partnering with industry
 - Research scientist in academia working on problems with industrial applications
 - National lab or research organization employee working on industrial applications
- **Assent to upholding the ASA Ethical Guidelines for Statistical Practice (www.amstat.org/your-career/ethical-guidelines-for-statistical-practice)**

Additional considerations include the following:

- Diversity of representation across many dimensions, including industry vertical, geography, and individual demographics
- Alignment of individual’s statement of interest with CIR near-term charge, goals, and initiatives

Current Leadership

Officers—who serve a three-year term—include a chair-elect, chair, past chair, and secretary/treasurer, as well as representatives across industry sectors (manufacturing, finance, technology, health care, pharma, nonprofits, and consulting) and geography (represented by the ASA districts). If you are interested in serving in one of the vacant positions below, fill out the form at <https://form.jotform.com/zzlalo/clr-application>.

- **Chair:** Ginger Holt, Databricks
- **Chair-Elect:** Steve Sain, Jupiter Intelligence
- **Secretary/Treasurer:** *Vacant*
- **Industry Representative (Pharmaceutical and Biotech):** Amarjot Kaur, Merck, and Ruixiao Lu



- **Industry Representative (Technology):** Theresa Utlaut, Intel
 - **Industry Representative (Health Care):** Kelly Zou, Viatrix
 - **Industry Representative (Consulting):** Chris Barker, Statistical Planning and Analysis Services
 - **Industry Representative (Financial Activities):** *Vacant*
 - **Industry Representative (Manufacturing):** *Vacant*
 - **Industry Representative (Nonprofit):** *Vacant*
 - **ASA Liaison:** Donna LaLonde
- Increasing collaboration between statisticians and data scientists across industries
 - Knowledge sharing
 - Served in an advisory role for the following:
 - ASA Board's decision about the ASA's participation in a data science accreditation process
 - Determination of information to collect in the ASA's survey of bachelor's and master's graduates of (bio)statistics departments
 - ASA External Nominations and Awards Committee on additional criteria to use for increasing recognition of statisticians and data scientists in industry
 - Organized a JSM 2024 invited panel session: "AI and ML in Business and Industry"
 - Participated in discussions for ongoing ASA activities that directly apply to ASA CIR members such as the following:
 - Soft skill role play course development
 - Cross-organizational collaboration within an industry
 - Shared knowledge and started a collaboration with ASA President Bonnie Ghosh-Dastidar about the following topics:
 - Continuing education
 - Cross-organizational collaboration
 - Marketing or outreach (building awareness of contributions of statisticians/data scientists in industry)

The leadership team has been meeting regularly and working to formalize the membership qualifications and process, identify initiatives to invest in, and select meeting and workshop topics and material. The caucus held a webinar-style town hall early on, during which participants showed enthusiasm for the caucus. An initial survey highlighted key focus areas, including increasing collaborations and cross-disciplinary engagement, networking, and connections; learning and sharing (including improving technical skills); career development (especially career paths and internships for students); and advocacy for the profession.

First-Year Accomplishments

In its inaugural year, the ASA CIR accomplished several items to shape its mission and identify initiatives to invest in. These include the following:

- Formed membership and leadership qualifications and added specificity to meetings, purpose, and goals for the caucus
- Formed executive committee and officers
- Some members became ASA expert sources/media ambassadors to represent the ASA in communications with journalists seeking information and insights from statisticians and data scientists
- Accepted general members
- Held a town hall to solicit input on most important needs of industry statisticians and data scientists, which were the following:
 - Continuing education, technical and soft skills

If you are passionate about making the ASA an even more supportive environment for statisticians and data scientists in industry, the caucus leadership welcomes your input and participation. For more information, visit the caucus website at <https://community.amstat.org/caucusofindustryrepresentatives/home>. Questions can be emailed to caucus chair Ginger Holt at ginger.holt@databricks.com. ■

JEDI Leaders on Leadership: A Conversation with Kimberly Sellers and Talithia Williams

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

The Conference on Statistical Practice in February included a panel session on data-driven leadership featuring outstanding African American female leaders in statistical science.

The panel was organized and moderated by Emma Benn of the Icahn School of Medicine at Mount Sinai. Panelists included Kimberly Sellers from North Carolina State University and Talithia Williams from Harvey Mudd College. Monica Jackson from American University was also scheduled to be on the panel but was unable to attend.



Kimberly Sellers

Sellers is chair of the statistics department at North Carolina State. An expert on count data, she is the author of a book about the Conway-Maxwell-Poisson Distribution, a generalization of Poisson to account for over- and under-dispersion. Her interest in statistics began early in life. Encouraged by parents with graduate degrees, she was still in elementary school when she read *Black Issues in Higher Education* with her father and decided to seek a PhD in statistics. She went on to become the first African American woman to lead a statistics group at Georgetown. In 2020, when the ASA Diversity Working Group led by Julia Sharp and the developing Special Interest Group on Diversity, Equity, and Inclusion came together to form JEDI, Sellers served as chair.

Talithia Williams is a mathematics professor and associate dean for research and experiential learning at Harvey Mudd College, a private liberal arts college in California with a focus on STEM research and education. With a background including work at NASA and the National Security Agency, Williams' research interests are in spatio-temporal data and analysis. The first Black woman to receive tenure at Harvey Mudd, she has become well known for public engagement, especially the TED talk "Own Your Body's Data," which went viral in 2014. She also hosted a NOVA series on PBS and narrated another, continuing her distinguished leadership in public outreach on mathematics and statistics. Her Falconer Lecture, "Not So Hidden Figures: Unveiling Mathematical Talent," at the Mathematics Association of America's MathFest in 2017 offered guidance for encouraging students—especially from under-represented groups—to develop skills in mathematics.



Talithia Williams

For these prominent JEDI leaders, finding role models early on was important. Sellers paid attention to how many African American women earned PhDs in statistics—a tiny number—and looked forward to becoming one herself. While there were few role models to be found when Sellers was growing up, their number continues to grow.

For these prominent JEDI leaders, finding role models early on was important. Sellers paid attention to how many African American women earned PhDs in statistics—a tiny number—and looked forward to becoming one herself. While there were few role models to be found when Sellers was growing up, their number continues to grow.

The panelists emphasized the importance of people who were not only role models but also mentors, who encouraged their work and did not require them to prove themselves over and over again, as is often the case for under-represented groups in the sciences.

Both panelists talked about the early-career demands of getting published, finding grants, and having many students—a traditional academic framework that can leave little room to pursue leadership objectives. Advancement was made through a succession of leadership roles not officially in leadership, such as leading their own statistics group, ASA committee work, and public engagement.

Williams talked about running for the board of the Society for the Advancement of Chicanos/Hispanics and Native Americans in Science to get a set of ideas into the group and then found she was elected. This was early in her career, just four

Join JEDI

The JEDI Outreach Group is committed to fostering JEDI principles and mentorship in statistics and data science. Interested in joining the JEDI Outreach Group? Visit the website at <https://datascijedi.org> for details or fill out the form at <https://datascijedi.org/get-involved> to become a member.

years after completing her PhD. She thought she didn't have much to contribute at that time but soon became a powerful force for positive change. Her experience shows how it is possible to be transformational at any career stage.

Sellers and Williams also talked about traditional models of leadership with an emphasis on “keeping the trains running.” While these tasks are necessary, too much focus on them can actually become a barrier to transformational leadership. When asked by an audience member how to manage so many roles, Williams offered a key insight: When people ask you to take on new things, ask what support they will give and what current tasks can be given to others. Work-life balance is important, and true leadership isn't just about taking on new things—it's about new opportunities that drive real change.

Another important dimension of transformational leadership is mentoring, both having a mentor at all career stages and being a mentor for others. The panelists emphasized how this can extend beyond statistics departments and teams to include other sciences that may not be as data driven as statistics.

Data-driven leaders can be the *vox datum*, the voice of the data itself. All JEDIs are called to be leaders, both in justice, equity, diversity, and inclusion and in using data to solve real-world problems and find the answers everyone needs. ■



STATtr@k

NISS Graduate Student Network Fosters Collaboration, Excellence

Megan Glenn and Randy Freret



Megan Glenn provides operations and media support for multiple National Institute of Statistical Sciences activities, particularly the Affiliates Committee and subcommittees, Ingram Olkin forums, Graduate Student Network, events management, databases, social media presence, advertising research workshops, and conferences through social media platforms.



Graduate Student Network members meet face-to-face in Washington, DC, during the Joint Statistical Meetings in August 2022.



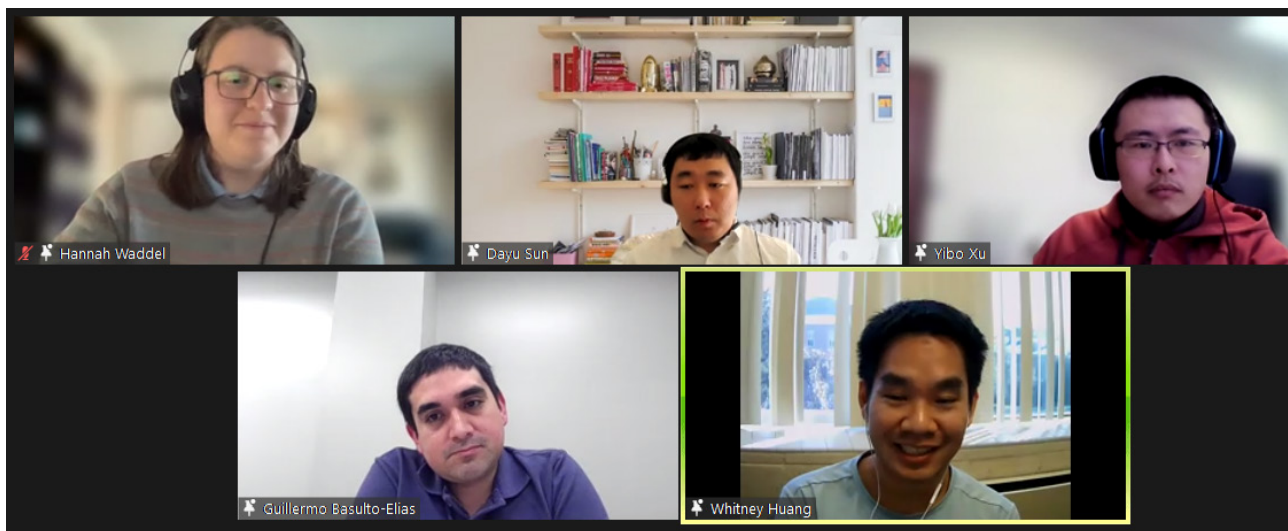
Randy Freret has worked in cities nationwide, from San Francisco, Los Angeles, and Atlanta to Richmond and Washington, DC, where he currently resides. He brings more than 25 years of administrative experience in law firm marketing, advertising and public relations firms, universities, and hospital administration.

The National Institute of Statistical Sciences has created a transformative experience for graduate students in statistical, biostatistical, and data sciences through its Graduate Student Network, referred to as GSN. The GSN, an integral part of the NISS Affiliates Program, is designed to bridge the gap between aspiring statisticians across various institutions, creating a dynamic community to continually address challenges and explore career opportunities.

At the heart of GSN is a commitment to building a supportive community in which graduate students can share experiences, network, discuss internships, and gain insights into their

academic and professional journeys. The network offers a range of avenues for active engagement, including social events, discussion boards, alumni meetings, workshops, tutorials, and webinars. GSN also hosts virtual meetups once a year and sends out emails to GSN members with news about upcoming events.

GSN is mentored by a steering committee consisting of faculty members and professional researchers from NISS affiliate institutions. The executive committee is comprised of current GSN members from NISS affiliate institutions and plays a crucial role in creating and shaping the network's activities and ensuring it remains relevant and beneficial to its members.



The Graduate Student Network hosted a virtual panel discussion for those wanting to learn about postdoctoral positions in statistics. Panelists, clockwise: Hannah Waddel, Dayu Sun, Yibo Xu, Whitney Huang, and Guillermo Basulto-Elias.

At the heart of GSN is a commitment to building a supportive community in which graduate students can share experiences, network, discuss internships, and gain insights into their academic and professional journeys.

4th Annual GSN Research Conference

The 4th Annual Graduate Student Network Research Conference will take place May 18–19 and showcase graduate student presentations and feature a keynote speaker. The conference aims to foster collaboration, knowledge exchange, and recognition of outstanding contributions to statistics and biostatistics. To learn more, visit bit.ly/NISSGradConf.

The network is an investment in the collective future of graduate students in statistical sciences nationwide. To join, you do not need to be a NISS affiliate, but you must be a member of a NISS affiliate institution to get the most benefit and participate in an active role. To become a member, visit bit.ly/49MwipK. Questions can be emailed to gsn@niss.org. ■

MORE ONLINE

To become a member of the Graduate Student Network, visit bit.ly/49MwipK.

Read about postdoc experiences at bit.ly/3wzOSD0.



David Corliss is the principal data scientist at Grafham Analytics. He serves on the steering committee for the Conference on Statistical Practice and is the founder of Peace-Work.

STATS4GOOD

Wealth of Data Addresses Today's Mass Extinction

Each year in April, Earth Day offers an opportunity to refocus on protecting this planet we share with all living things. This year, I want to talk about opportunities to address one of the most pressing challenges facing us today: The environmental impacts from climate change, habitat destruction, and other factors that have resulted in species of all types disappearing at an alarming rate.

The rapidly increasing loss of species constitutes a new mass extinction event that demands immediate action. Because of the essential role statisticians and data scientists play in tracking, forecasting, and guiding the response to this global crisis, data analysis of species loss was identified as a Top Challenge in Data for Good for 2024.

Arctic environments are among the areas most severely affected by climate change and other factors. As is often the case in Data for Good, there is

a wealth of raw data sources available and too few statisticians and data scientists engaged in exploring and analyzing them. One good source for data in the arctic comes from NOAA Fisheries, which focuses on programs and projects working to conserve ocean life and habitat.

At the ASA's Conference of Statistical Practice in February, I had the opportunity to sit down with Jason Gasper from NOAA and Jennifer Cahalan from the Pacific States Marine Fisheries Commission, who were presenting on random forest classification to study fishery data. They told me about NOAA's bottom trawl surveys, which capture data and monitor the health of marine populations in the Bering Sea and Gulf of Alaska. This critical environmental science program has a website (bit.ly/4ckwChm) with data reports that can support analysis. There are also opportunities for volunteers to assist on board (see bit.ly/492345k).

Getting Involved

To find more Earth Day opportunities, check out the United Nations Sustainable Development Goals (sdgs.un.org/goals), where you will find data, projects, potential colleagues, and resources. Also, the ASA's Government Statistics and Social Statistics sections are accepting applications for the 2024 Wray Jackson Smith Scholarship (bit.ly/4cm1Oy3), which provides \$1,000 for career development in government statistics. Applications are due by May 1.

Another important NOAA program uses areal photography to collect data on beluga whales, freshwater seals, and other marine mammals. A program designed to monitor the population of bowhead whales ended up collecting data on many species. In 2011, it was combined with other programs to form the Aerial Surveys of Arctic Marine Mammals project, which led to the creation of a publicly available longitudinal database (bit.ly/3VoyWhh) of animals observed by the aerial survey. Because the database contains so much data on marine mammals collected over many years, partnering with the project offers many opportunities in environmental research.

While populations of some marine mammals as apex predators are critical indicators of the health of an ecosystem, it's necessary to look at the bottom of the food chain also. Bees make up one of the most important populations in entire ecosystems but can be overlooked. Because they are affected by many of the environmental toxins people release into the environment, the APHIS National Honey Bee Survey is an invaluable resource for understanding bees and population health, as well as for tracking environmental toxins in general. The data and other resources are available through their online research portal (<https://research.beeinformed.org>) and organized by state using interactive maps.

Data is available on environmental toxins—especially pesticides—disease prevalence, and colony loss over winter.

Of course, genetic diversity involves more than animals. Plant species face the same challenges from anthropogenic climate change, habitat loss, and environmental toxins. Monoculture also reduces genetic diversity needed for healthy, resilient populations. The result of all these factors is that today's mass extinction is seen in plants, as well. An important example is seagrass meadows, which are being destroyed by rising sea levels. The United Nations Programme World Conservation Monitoring Centre maintains a freely available for non-commercial use global database (bit.ly/48V2J4p) on the distribution of seagrasses, providing essential data needed for research on this little-known tracer of climate change.

These are just a few examples of potential data to be used in projects to address the ongoing mass extinction. The United Nations Convention on Biological Diversity provides a framework for scientific research and action. These ideas can support new research, student projects, Earth Day hackathons, and conference presentations and posters. Statisticians and data scientists around the world can play a vital role in meeting the challenge of this existential threat to the global habitat. ■

Nominations Wanted for Jeanne E. Griffith Mentoring Award



Jeanne E. Griffith

Nominations for the 2024 Jeanne E. Griffith Mentoring Award will be accepted until May 15. The award winner will receive a \$1,000 honorarium, citation, and plaque.

The award—established to honor Jeanne E. Griffith—recognizes and encourages mentoring junior statistical staff in the federal, state, or local government. It is awarded annually to a supervisor, technical director, team coordinator, or other statistical staff member nominated by a supervisor or coworkers for their efforts to support the work and develop the careers of junior staff.

Griffith died in August 2001 after working for more than 25 years in the federal statistical system. Throughout her career—and especially in her senior management positions at the National Center for Education Statistics and National Science Foundation—one of Griffith's priorities was to mentor and encourage younger staff at all levels to learn, grow, and recognize and seize career opportunities as they came along.

The award recipient will be selected for their efforts to support the work and develop the careers of junior staff. Preference will be given to nominees with a track record of mentoring government statisticians. Examples of mentoring activities include the following:

- Advising junior staff about creating career opportunities, improving networking skills, and gaining contacts for growth and development
- Counseling junior staff and providing resources to develop their technical writing, analysis, presentation, and organizational skills and knowledge

- Encouraging junior staff growth and career development by attending and orally presenting at meetings with higher-level officials or staff from other agencies, being active in professional associations, and attending training courses and conferences
- Motivating junior staff and building self-confidence by providing feedback, listening, and creating a caring and supportive environment
- Serving as a role model by building professional expertise, providing information and insights, balancing collegial and personal roles, and including everyone, regardless of rank, race, ethnicity, gender identity, or seniority

Members of the award committee will determine the award winner by the end of June. The nomination package can be emailed to Rick Peterson, ASA professional development and chapters and sections manager, at rick@amstat.org or mailed to the following address:

Jeanne E. Griffith Mentoring Award Committee
c/o The American Statistical Association
732 N. Washington Street
Alexandria, VA 22314-1943

Questions about the award should be emailed to Peterson or award committee chair Raji Sundaram at sundaramr2@mail.nih.gov. Visit the Government Statistics Section webpage at bit.ly/3x7PaB7 to view previous award recipients and sponsors and email Anna Nevius at nevius@comcast.net to cosponsor the award. ■

Significance Writing Contest

Are you an early-career statistician or data scientist with a talent for telling data-driven stories in an entertaining and thought-provoking way? If so, enter the competition for the 2024 Statistical Excellence Award for Early-Career Writing.

Early career means students studying for a first degree, master's, or PhD in statistics, data science, or a related subject and graduates whose last qualification in statistics, data science, or a related subject (whether first degree, master's, or PhD) was not more than five years ago.

Significance is published for a broad audience of readers, with varying levels of statistical expertise. To stand the best chance of winning, your article should have a friendly, engaging, and easy-to-read tone—think magazine, rather than academic journal.

The winning article will be published in the magazine, and the winners and runners-up will be invited to present their articles during the Royal Statistical Society Excellence Awards in London on July 10.

The deadline to enter is May 31. For submission details and to enter, visit the *Significance* website at bit.ly/43lR79a.

Health Science Awards

Annually, the Teaching of Statistics in the Health Sciences Section offers the Young Investigator Award, Outstanding Teaching Award, Distinguished Achievement Award, and Best Contributed Paper at JSM Award. Nominations are open for the following three:

Young Investigator Award

Recognizes a promising “young investigator” for their promise as a statistics educator or in conducting statistics education research in the health sciences. A young investigator is defined as a current graduate student or a recent graduate who received their terminal degree no more than seven years ago and is in a position with rank below associate professor and does not hold tenure (or equivalent classification).

Outstanding Teaching Award

Recognizes an outstanding statistics educator and mentor in the health sciences.

Distinguished Achievement Award

Recognizes a section member who has provided outstanding longtime service to the section and American Statistical Association.

The Outstanding Teaching and Distinguished Achievement awards carry a \$250 cash prize, while the Young Investigator Award carries a \$500 cash prize.

The deadline for nominations is May 1. Any inquiries and all award nominations should be emailed to tshs.asa@gmail.com. Visit bit.ly/4a9uirE for more information.

Wray Jackson Smith Scholarship

Awarded jointly by the ASA's Government Statistics and Social Statistics sections, this scholarship encourages promising young statisticians to consider a career in government statistics by providing up to \$1,000 for use in exploring any of a broad number of opportunities.

The scholarship is for students and others early in their careers who show an interest in government statistics. Applicants must have a bachelor's degree or equivalent level of education. Membership in the Government Statistics Section, Social Statistics Section, or ASA is not required.

Applications will be evaluated based on relevance of the proposed activity to government statistics, quality of the proposed activity, innovation/ingenuity of the proposed project, feasibility of completion of the activity, the applicant's career stage, and past performance as reflected in the letters of recommendation.

The scholarship was created to honor the memory of Wray Jackson Smith, a founding member of the Government Statistics Section and longtime contributor to federal statistics. Smith's federal career spanned four decades and included positions in the Office of Economic Opportunity, Office of the Assistant Secretary for Planning and Evaluation, and the Energy Information Administration. After retiring from the federal government in 1983, he continued to play a role in federal statistics from the private sector.

The deadline for applications is May 1. Apply for the scholarship at bit.ly/4cmIOy3.

Submissions Sought for Daniel H. Wagner Prize

The Daniel H. Wagner Prize for Excellence in the Practice of Advanced Analytics and Operations Research is awarded annually by INFORMS to recognize and reward quality and coherence of analysis used in practice. The award, given in memory of the late Daniel H. Wagner, was established in recognition of his career-long efforts to encourage application of strong mathematics to practical problems supported by clear and intelligible writing. It emphasizes the quality and coherence of the analysis used in practice, good writing, strong analytical content, and verifiable practice successes.

The competition is held each year at the INFORMS Annual Meeting. The award consists of a cash prize and citation plaque. Finalists receive certificates and their papers are published in the *INFORMS Journal on Applied Analytics* (formerly *Interfaces*).

The deadline for submissions is May 1 at 11:59 p.m. ET, and applications include the following:

- A 2–4-page abstract in English that provides evidence of mathematical development, solution, unique new algorithm, or series of coherent advances developed in conjunction with an application
- Written verification of success in practice (preferably on the letterhead of the organization that has benefited from the work)
- Written permission by the author(s) for publication of a previously unpublished, English-language paper in the INFORMS journal and assignment of copyright to INFORMS



- Written commitment, if selected as a finalist, to make a high-quality, in-person, 30-minute presentation at the 2024 INFORMS Annual Meeting in Seattle, Washington.
- Written commitment, if selected as the winner, to reprise the winning presentation at the 2024 INFORMS Annual Meeting in Seattle, Washington, and 2025 INFORMS Conference on Business Analytics and Operations Research in Indianapolis, Indiana.

The Wagner Prize was established by an endowment from Metron; Daniel H. Wagner, Associates; and Applied Mathematics. Its committee includes William J. Browning of Applied Mathematics, Allen Butler of Daniel H. Wagner Associates, James J. Cochran of The University of Alabama (chair), Kimia Ghobadi of Johns Hopkins University, Greg Godfrey of Metron, Andrea Arias Llorenty of BNSF, Konstantina Mellou of Microsoft, Aysu Ozel of Northwestern University, Vera Tilson of the University of Rochester, and Willem-Jan Van Hoeve of Carnegie Mellon University.

Learn more about the Daniel H. Wagner Prize and start the application process at bit.ly/3Pua5VE. Contact committee chair James Cochran at WagnerPrize@informs.org with questions. ■

section news

Survey Research Methods

The Survey Research Methods Section is sponsoring the course Data Integration in Surveys and Clinical Trials: Methods and Software at the 2024 Joint Statistical Meetings. The one-day course will cover the fundamental concepts, methods, and software implementation for integrating data from sources such as observational studies including nonprobability surveys and clinical trials. The course will feature live demonstrations to illustrate practical applications. It is tailored to learners in statistics and other quantitative disciplines from academic institutions, government agencies, research organizations, and the private sector.

In addition to JSM, Statistics Canada's 2024 International Methodology Symposium will take place in Ottawa from October 29 to November 1 and include workshops on the first day. This year's theme is "Shaping the Future of Official Statistics." Statistics Canada invites contributed papers that examine methodological challenges related to the production of official statistics in a modern era. Learn more at bit.ly/49SKMoe. ■

Do You Love Data? Help Us Measure America.

If you have a passion for data, join our team of experts at the U.S. Census Bureau. As a data analyst or statistician, you'll have the opportunity to work with some of the most comprehensive and diverse data sets in the world. Your insights and analysis will help shape decisions that impact millions of people around the country.

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Section on Statistical Computing Hosts Second Annual Mini-Symposium

The second annual mini-symposium, “Statistical Computing in Action,” sponsored by the American Statistical Association Section on Statistical Computing, was held online November 4, 2023. One hundred fifteen people registered for the conference in addition to three ‘watch parties’ at the University of California at Los Angeles, University of Connecticut, and Brigham Young University.

The nearly five-hour program kicked off with opening remarks from ASA Executive Director Ron Wasserstein and 2023 section chair Mine Çetinkaya-Rundel and included a keynote speech, data jamboree, lighting talks, and panel discussion. All segments of the symposium are available on the section’s YouTube channel: www.youtube.com/@statgraphics.

The symposium commenced with a keynote speech by Simon Urbanek, during which he offered insights into the potential of R in areas overlooked within the statistical community. His talk revolved around the adaptability of R in the realm of large-scale analytics and its role as a versatile analytics service. He also delved into key properties of R and explored its application to large datasets, addressing fundamental considerations such as in-memory versus streaming approaches and parallelization.

Notably, Urbanek extended the discussion to encompass evidence that R is remarkably efficient, even for moderately sized vectors and matrices, emphasizing the significance of data formats and tools for loading and saving. He also underscored the relevance of R’s proficiency in bulk data processing from diverse sources and its compatibility with Hadoop clusters for handling extensive data. Moreover, he shed light on R’s potential as a service through HTTP REST APIs and web servers,



ASA Executive Director Ron Wasserstein delivers the opening remarks at the “Statistical Computing in Action” online mini-symposium.

highlighting the ease with which existing models and graphics can be exposed. Finally, he emphasized the scalability of these frameworks, subject to specific-use cases, and celebrated R’s active development.

The data jamboree showcased the analytical prowess inherent in three of the leading open-source programming languages: Julia; Python; and R. HaiYing Wang of the University of Connecticut led the Julia part, Shanon Tass of Brigham Young University led the Python part, and Lucy D’Agostino McGowan led the R part. Moderated by Sam Tyner of LDA Piper (who led the R part last year), the presenters navigated the cleaning, manipulation, and analysis of a subset of the New York City 311 service requests data.

Each expert’s demonstration provided a lens through which multifaceted data could be understood, highlighting the strengths and collaborative potential of the languages in addressing real-world data science challenges. The well-attended Q&A



Carol Willing, a Python and Jupyter core developer and former VP of engineering at Notable, participates in a panel session about open-source software.

reflected the community's interest in the comparative effectiveness of these tools in streamlining data workflows.

The lightning session illuminated the depth and breadth of statistical computing with nine seven-minute expositions. Bwei Xi of Purdue University exposed vulnerabilities within deep learning and shared robust solutions, David Corliss of PeaceWork addressed AI bias mitigation, and Kris Sankaran of the University of Wisconsin-Madison discussed generative models and their interface with statistics. They all highlighted critical advances in statistical computing and machine learning.

Software development was another focus, with Howard Baek from Fred Hutch Data Science Lab introducing Loqui for streamlined video generation, Jonathan Sidi of Sage Therapeutics elucidating the functionalities of the mrm package for fitting mixed models, and Arinjita Bhattacharyya

of Merck revealing AACTREVEAL for efficient clinical data aggregation. Pedagogical strategies were reimagined by Emily Robinson and Zoe Rehnberg from Cal Poly, with their innovative 'game plan' approach to teaching statistical computing eliciting applause.

The session also spotlighted practical analytic advancements, with Shane Sacco from the University of Connecticut offering insights for enhancing prediction pipelines and Yulia Marchenko from StataCorp advocating for the criticality of software reproducibility.

Collectively, these talks illuminated the evolving landscape of statistical computing and its profound impact across various domains.

The mini-symposium concluded with a panel discussion about open-source software, open data, and open computing. Panelists included Tracy Teal, the open source program director at Posit (formerly RStudio); Carol Willing, a Python and Jupyter core developer and former VP of engineering at Notable; and Achim Zeileis, the editor-in-chief of the *Journal of Statistical Software* and professor at Universität Innsbruck. Among the many topics discussed were the frontiers of statistical computing, the role of open-source software in the era of massively big models, managing a successful open-source project, and how our profession and academia can recognize contributions to statistical software.

To learn more about the mini-symposium, visit bit.ly/3IJ1URu. The next online mini-symposium will be held in the latter part of 2024. ■

MORE ONLINE

Watch the entire symposium on the section's YouTube channel: www.youtube.com/@statgraphics.

Statistical Analyst

The Office of Biostatistics is recognized for excellence in the application and communication of statistical science in drug regulation and development. We play a central role in promoting innovative, science-based, quantitative decision-making throughout the drug development life-cycle. To support our Center’s mission, we provide statistical leadership, expertise, and advice to ensure that safe and effective drugs are available to the American people.

DUTIES AND RESPONSIBILITIES

- Work with a multidisciplinary review team to provide statistical programming and data management support, assess the quality and completeness of submissions, prepare clinical trial analysis datasets, validate sponsor results, assist in modeling and simulation, and suggest possible additional statistical analyses required to fully evaluate the evidence in the submission.
- Collaborate with scientists from the Office of Pharmaceutical Quality, statistical reviewers in OB, and management on a variety of computationally intensive projects to support and improve the efficiency of regulatory product review, evaluation of pharmaceutical quality and applied regulatory research.
- Use machine learning and natural language processing to assess internal and external data sources to support assessment of quality intelligence throughout the product life cycle.
- Develop, validate, implement, document, maintain and support programming tools and software according to standards and accepted validation procedures; Support efforts to develop, document and apply reusable code and/or tools.
- Develop software using the appropriate statistical programming packages for statistical reviewers to support programming-intensive review-related activities such as sensitivity analysis, Bayesian approaches, clinical trials modeling, genomic studies, psychometric Clinical Outcome Assessment (COA) validation, and simulation.
- Promote and improve the Center data standards initiatives mandated by the Prescription Drug User Fee Act; Monitor the quality of the implementation of data standards used in New Drug Application submissions.
- Apply your skills to address unique and precedent-setting problems, while refining your consulting, communication, and presentation skills.

REQUIRED QUALIFICATIONS

Master’s degree in statistics or biostatistics.
Familiarity with R, SAS, data science tools, machine learning predictive techniques and natural language processing.

PREFERRED QUALIFICATIONS

Experience in clinical trials, epidemiology, genomics, or risk assessment. Strong skills in multiple programming environments.

Candidates should also have excellent oral and written communication skills.

The ability to communicate statistical issues to non-statisticians is vital.

BENEFITS

Health and Life Insurance
Long-term Care Insurance
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Regular Registration

April 15–June 20, 2024

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Participation is open to all who are interested in establishment surveys, which is typically those in academia or at national statistical institutes, private businesses, and statistical organizations. Whether your area of interest is estimation strategies, frame development, questionnaire design, data collection, dissemination, or data visualization, you will find something to like at ICES VII.

ICES values its truly international character—plan to gather in Glasgow in 2024.

Learn more at ww2.amstat.org/meetings/ices/2024.

This month's Top 10 is the 'Top Ten **Signs Your GPS Is Now Run by AI.**'



Wasserstein

Amstat News continues its entertaining offering by ASA Executive Director Ron Wasserstein, who delivers a special Top 10—one that aired during a recent episode of *Practical Significance*. Ron travels quite a bit and depends on his GPS for a great many things. He says, "Lately, I've noticed it is getting a little personal, which makes me suspect AI is running behind the scenes. Here is my 'Top Ten Signs Your GPS Is Now Run by AI.'"



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

10

You put in the address and it says, "That's not a good idea."

09

You are told there is a faster way but you can't handle that many instructions.

08

The GPS suggests a list of snacks you will need on the way.

07

The ETA is adjusted based on who is driving the vehicle.

06

It shares its feelings.

05

It listens to you share your feelings and knows you are not really interested in advice.

04

It offers to reroute your life choices.

03

It detects when your tiresome passenger needs to shut up and provides a series of warning beeps.

02

It responds to the question "Are we there yet?" with cute stories and nursery rhymes.



#01

It mocks you for still having a *Rand McNally Road Atlas* in the trunk of your car.



Mathematical Statistician

The Office of Biostatistics is seeking individuals with strong statistical methodology skills and an interest in biomedical applications to serve as mathematical statisticians. Incumbents work with multidisciplinary teams of review scientists in a dynamic, highly challenging, and innovative atmosphere of development, evaluation, and research of drug and therapeutic biologics. The Office of Biostatistics is responsible for reviews in all therapeutic areas CDER supports and can be as diverse as cardio-renal, oncology, rare disease, and antimicrobial products. Incumbents have an opportunity to employ a broad variety of statistical procedures relevant to pre-clinical and clinical evaluation decisions for new and generic drugs as well as new and biosimilar biologics and the emerging field of quantitative risk assessment.

DUTIES AND RESPONSIBILITIES

- Evaluate and advise on protocols for clinical studies and assess the evidence for safety and efficacy from clinical studies submitted in drug and biologics applications.
- Employ a broad variety of statistical procedures relevant to pre-clinical and clinical evaluation decisions for new and generic drugs as well as new and biosimilar biologics and the emerging field of quantitative risk assessment.
- Work with multidisciplinary teams of review scientists in a dynamic, highly challenging, and innovative atmosphere of development, evaluation, and research of drug and therapeutic biologics.
- Refine your consulting, communication, and presentation skills and present at domestic and international professional meetings.
- Engage in an active collaborative regulatory research program which will allow you to advance your skills and professional development.
- Interact with national, international, public, and private organizations on statistical issues, and help develop guidance for the pharmaceutical industry.

QUALIFICATIONS

Applicants should possess an advanced degree with specific coursework in Statistics, Biostatistics or Mathematical Statistics. Applicants with a doctoral degree and associated experience are highly desirable. In addition to a background in statistics, applicants should have an interest in biostatistics, clinical trials, epidemiology, genomics, or risk assessment.

The ability to communicate statistical issues to non-statisticians is vital.

Non-US citizens may apply for term appointments.

BENEFITS

Health and Life Insurance
Long-term Care Insurance
Dental and Vision Insurance
Annual and Sick Leave

Paid Holidays
Flexible Spending Accounts (FSA)
Federal Retirement Plan
Thrift Savings Plan (401k)

WORK/LIFE BALANCE

Telework & Alternative Work Schedules
Child Care Center | Fitness Center
Employee Assistance Program/Resource Groups
Commuting and Transportation Programs

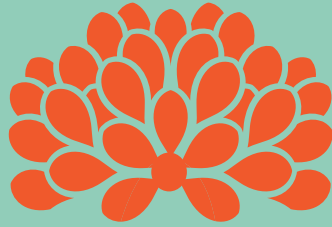


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LOCATIONS

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**KEY DATES
FOR PARTICIPANTS**

February 1 – April 15, 2024

Late-Breaking Session Proposal
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May 31, 2024

Draft Manuscript Deadline



**KEY DATES
FOR ATTENDEES**

May 1, 2024 (11:00 a.m. ET)

Registration and Housing Open

June 3, 2024

Early Registration Deadline

June 4 – July 1, 2024

Regular Registration

July 2 – August 8, 2024

Late Registration

July 5, 2024

Housing Deadline