

December 2018 • Issue #498

AMSTATNEWS

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



Celebrating
**Women in Statistics
and Data Science**

ALSO:

New Master's or
Doctoral Data Science/
Analytics Programs

#ChooseToLead

Lifetime Data Science: Foundations and Frontiers

A Conference of the New ASA Section on Lifetime Data Science

University of Pittsburgh, May 29–31, 2019



Keynote Speakers



Odd Aalen
University of Oslo
Causal Inference for Survival
Data, with Emphasis on
Mediation Analysis



Danyu Lin
UNC-Chapel Hill
Semiparametric Regression
Analysis of Interval-Censored Data



Ross Prentice
Hutchinson Cancer Center
Regression Models and
Multivariate Life Tables

Short Courses

Two Phase Studies for Lifetime Data, **Ornulf Borgan and Sven Ove Samuelsen** (University of Oslo)

Dynamic Prediction using Landmarking, **Hein Putter** (Leiden University)

A New Perspective on Right Censored, Left Truncated and Length Biased Survival Data, **Jing Qin** (NIH)

The new Section on Lifetime Data Science of the American Statistical Association is pleased to announce an exciting upcoming conference on *Lifetime Data Science: Foundations and Frontiers* which will be held at the University of Pittsburgh, May 29-31, 2019. The event will begin with short courses by experts in topics of current interest on May 29, and will be followed by a two-day conference featuring keynote addresses by internationally renowned statisticians, a student paper competition, a poster session and many stimulating talks. A banquet will be held on May 30, 2019.

The Scientific Program Committee is lead by Richard Cook (Chair, U Waterloo) and Jianwen Cai (co-Chair, UNC). Ying Ding (Chair, U Pittsburgh) and Yu Cheng (co-Chair, U Pittsburgh) are leading the Local Arrangements Committee.

See the conference website for information on how to register for the short courses and conference, accommodation, and the student paper competition: lids2019.pitt.edu



University of Pittsburgh

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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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Photo by Bob Komara—see more of his photos on Page 19

columns

- 16 **STATtr@k**
Spring Science Fairs and Statistical Awareness Month: A Perfect Match

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.

- 18 **STATS4GOOD**
ASA's Leadership Institute Is Great Opportunity for Data for Good Researchers

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.

- 19 **PASTIMES OF STATISTICIANS**
What Does Bob Komara Like to Do When He Is Not Being a Statistician?

This column focuses on what statisticians do when they are not being statisticians. If you would like to share your pastime with readers, please email Megan Murphy, *Amstat News* managing editor, at megan@amstat.org.

Online Articles

The following articles in this issue can be found online at <http://magazine.amstat.org>.

Monica Dashen produced a pilot survey to discover how the **Somalia drought** affected the local school children. Read her insightful results and learn what she discovered at <https://magazine.amstat.org>.

Contributions of papers and posters are being accepted for the **International Association for Statistical Education (IASE)** conference, to take place August 13–16 in Kuala Lumpur, Malaysia. The satellite conference will be organized around the broad theme “Decision Making Based on Data.” Papers and posters should fit the theme and address the following topics: inference from data, making sense of big data, evidence-based decision-making under risk and uncertainty, and statistics education in the 21st century. Submission closes January 15, 2019. For more information, visit the conference website at <http://iase-web.org/conference/satellite19>.



The October 2018 issue of **Significance** is out in print and digital formats. Explore the use of statistics in court. Judges and jurors are often asked to make sense of statistics. But data, probabilities, and uncertainties are easily misunderstood or misused by those not trained to deal with them. Is education the answer or is greater oversight required? Nick Thieme considers the options for the US legal system. Read this issue at <http://bit.ly/2K5gWlx>.

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What is a good gift to get a statistician? Our social media followers sent in some ideas. See Page 48.



Where in the World Is the ASA President?

For my final President's Corner, I am reflecting on this whirlwind of a year as ASA president. What an opportunity! I have a new appreciation for all the ASA does to support its members—all the events to encourage networking and scientific exchange, all the training offerings to help members build their careers, all the attention paid to improving statistics education from elementary school up, all the effort that goes into our prompt public statements when current events threaten the ethical and sound practice of statistics, and so much more.

The ASA president is honored with more speaking invitations than anyone could fit into one year. From the Conference on Statistical Practice in Portland, Oregon, last February to the Fall Technical Conference (FTC) in West Palm Beach, Florida, in October, I feel like Carmen Sandiego in my girls' favorite childhood video game!

And speaking of the FTC, what an interesting meeting. Not being a member of the ASA Section on Physical and Engineering Sciences or the Section on Quality and Productivity, I knew little about this conference, but that did not keep me from enjoying it immensely.

This year's theme, "Riding the Big Data Wave," perfectly aligned with the meeting locale and program. Mindy Hotchkiss and Daksha Chokshi were the conference organizers and delivered a terrific meeting. Among the many interesting sessions was one on the relatively new field of statistical engineering. The International Statistical Engineering Association (<https://isea-change.org>) held their first conference in conjunction with the FTC. Paraphrasing one of the panelists in a session on that topic, statistics provides the right set of tools for problem solving, and engineers are problem



Members of the leadership workshop, which was held October 12–13 at ASA headquarters

Photo by Olivia Brown/ASA

solvers, so the combination of the two makes sense.

As statisticians, though, don't we think of ourselves as problem solvers? There will probably be some interesting discussions about this new field and how it relates to both statistics and data science going forward. And, of course, the ASA will continue to provide just the right venues for those conversations.

In the space of just a few days last month, I attended ASA local chapter events in New Jersey and San Francisco. Both meetings were heavily attended by statisticians working in the pharmaceutical and biotech industries because of their respective locations, giving me the opportunity to opine about my work at the Food and Drug Administration in addition to ASA initiatives.

The 6th Annual ASA New Jersey Chapter/Bayer Statistics Workshop took place on the Bayer Healthcare campus in Whippany, New Jersey. Olga Marchenko of Bayer and Jing Gong, New Jersey Chapter president, hosted the event. Registration was capped at 150—an impressive turnout—and the day was lovely. It was wonderful to see friends

and colleagues and hear about exciting research on dose-finding studies, complex trial designs, and related topics.

The first Bay Area Biotech-Pharma Statistics Workshop (<http://dahshu.org/events/bbsw2018>) was co-sponsored by the San Francisco Bay Area Chapter and the ASA Section on Biopharmaceutical Statistics. The meeting was co-chaired by Liang Fang of MyoKardia and Ying Lu of Stanford, and the conference theme was "Impact and Innovation." More than 250 attended, and I was impressed by how many statisticians were practicing solo or with just a few colleagues in small biotech companies. One of the speakers recalled when, not too long ago, there were only three biotech companies in the Bay Area. What a difference a few years make! The workshop was terrific, and I recommend future workshops to anyone interested in this area of statistical practice.

My last stop for a local chapter event is just down the road. The North Carolina Chapter is holding the Mentoring and Early Career Development Workshop followed by the annual NC ASA Fall Dinner with the theme "Stories of



Lisa LaVange

Photo by Jon Gardiner/UNC-Chapel Hill

MORE ONLINE

To view more photos of Lisa's travels, visit <http://magazine.amstat.org>.

Significance.” Should be a terrific evening!

Not surprisingly, I was not able to accept all the invitations this year, but was able to find other speakers from among our many talented former presidents and officers, strengthening the connection between the ASA Board and local chapters. And I pushed a few off to early 2019, when I plan to visit chapters in central Florida, Texas, Tennessee, and southern California.

Board News

The ASA Board met in November—my last meeting to hold the gavel—and there were two agenda items I’d like to mention here. The first was a report from members of the task force on sexual harassment describing their work over the past 11 months. They submitted proposed revisions to the ASA policy on meeting conduct that further strengthen the emphasis on keeping all ASA events welcoming, inclusive, safe, and free of discrimination or harassment of any kind. In addition, the task force oversaw a membership survey to gather information from ASA members about their experiences at ASA events. A summary of the survey findings is forthcoming, and thanks to the diligent work of the task force, our policies will be better informed as a result.

Another item approved by the board was to establish a continuing committee to oversee the ASA Leadership Institute. The two pilot initiatives launched this summer and fall—the student challenge and leadership cohort—have been well-received, so the time seemed right to start planning for ways in which the institute can expand and sustain. The steering committee will also help guide the institute as it becomes the home for professional development activities across the association.

The student challenge competition was launched at JSM

when three teams representing student chapters at Purdue, Vanderbilt, and North Carolina State University were assigned coaches. Representatives from the three teams will attend the April 2019 board meeting to present their solutions to the membership challenge, and the board will determine the winner. In the meantime, Anna Nevius has organized a series of webinars for the students featuring the team coaches—Barry Nussbaum, Wendy Lou, and Lisa Lupinacci.

The first of our leadership cohort workshops was held October 12–13 at ASA headquarters, with 20 ASA members attending (see group photo). The topic was leading with cultural competency. Gary Sullivan led the workshop and two guest speakers—both statistical leaders with distinguished careers—shared their career stories. Dionne Price shared personal experiences with and techniques for leading a diverse group of statisticians in regulatory research. Bill Wang shared his career story, spanning two continents and a variety of leadership roles in the pharmaceutical sector. He talked about the particular challenges associated with global responsibilities and used his experience with an international guidance working group to illustrate how diverse groups can work together effectively to reach a common goal.

Reviews of this inaugural training program have been enthusiastic, and preparations for the next two workshops are well underway. A web-based workshop on decision-making and decision analytics will be offered to the cohort in January featuring guest speaker Karen Price. An in-person workshop on executive statistical presence will be offered in May featuring guest speaker Laura Meyerson.

One of the first tasks for the steering committee will be to determine ways to expand the leadership cohort training program so it can reach more ASA

members. And I, for one, could not be more excited about the potential the program has in advancing the statistical leadership cause!

Shout-Outs to ASA Staff

October 26 was Florence Nightingale Day. Middle-school students in Georgia and Ohio came to school bright and early that Saturday morning to learn about careers in statistics. A webcast featuring our 2019 president-elect, Wendy Martinez, was broadcast live to the sites as Wendy shared her early-career story. This event—definitely worth repeating and including more sites—was a collaboration between the ASA and Caucus for Women in Statistics.

October also saw our first-ever Giving Day, which was immensely successful. Amanda Malloy, ASA director of development, continues to oversee fund-raising activities, ensuring our ability to sustain ASA initiatives such as Florence Nightingale Day and the Leadership Institute.

Looking back over this presidential year, and in the spirit of the Thanksgiving holiday, I have so much to give thanks for: new friends, new travel experiences, and exciting and thought-provoking interactions with statisticians from around the globe. Thank you for giving me this wonderful opportunity to lead the biggest and best statistical organization ever.

Looking to the future, I see many opportunities for statisticians to have tremendous impact on so many areas—from public health and medicine, to the environment, to social justice and beyond. We lead, we educate, and we work for a better tomorrow. The future could not be brighter for our profession, and we have the ASA to thank for much of that brightness!

Your 2018 president, signing off,



NIH Launches Training Program to Enhance Quantitative Training

Engagement of statistical community sought

Elizabeth Ginexi

The Office of Behavioral and Social Sciences Research (OBSSR) was created by Congress in 1993 in recognition of the importance of behavioral and social sciences to the National Institutes of Health's (NIH) mission. Over more than two decades, the OBSSR has been instrumental in advancing and coordinating the behavioral and social sciences at the NIH.

The OBSSR Strategic Plan 2017–2021 addresses emerging opportunities and challenges with the potential to transform behavioral and social sciences health research, including the following:

- Improvement in the flow of basic to applied science through the research-product pipeline
- Advances in measurement and methodological approaches
- Improvements in the dissemination and implementation of social and behavioral interventions

To address the second priority area, which involves enhancing the research infrastructure and methods in BSSR, the OBSSR and participating institutes are launching the Predoctoral Training in Advanced Data Analytics for Behavioral and Social Sciences Research (BSSR) Institutional Research Training Program. The vision of the program is to support the development of a cohort of specialized predoctoral candidates who will possess advanced competencies in data science analytics to apply to an increasingly complex landscape of behavioral and social health-related big data.

Recent advances in medical informatics, electronic health records, big data analytics, mobile and wearable technologies, social media- and web-generated data, geospatial data, administrative data, and new methods to link data have laid the groundwork for a rich biomedical, behavioral, and social research data environment. The voluminous data environment resulting from diverse data sources will require complex analytical skills to derive rigorous scientific knowledge.

The methodology courses in many behavioral and social sciences PhD programs have remained essentially unchanged for the last four decades. To prepare candidates for the world of complex data, the core methods course offerings need to be augmented to provide earlier career training exposure to data science and computational approaches applied in other disciplines such as computer science, applied statistics, and engineering. Training programs may be able to most

effectively accomplish this by developing highly coordinated inter-departmental program collaborations for their doctoral candidates.

Applicants are being asked to assemble an interdisciplinary team of scientific mentors to design and direct a training program that includes mentors from relevant BSSR disciplines such as psychology, sociology, economics, anthropology, communication studies, or public health along with experts in computational or data science analysis approaches from relevant disciplines such as engineering, computer science, applied mathematics, statistics, or physics. Integration with training in subdisciplines relevant to NIH institutes (e.g., health psychology, medical anthropology, medical sociology, health economics) is strongly encouraged. Applicant programs should take advantage of opportunities to engage multiple departments within a university or multiple institutions within proximity to maximize training opportunities.

To support the networking opportunities for this new cohort of specialized predoctoral candidates, OBSSR intends to convene and facilitate cross-site exchanges among the investigators and trainees at the awarded sites. The mentors and trainees funded through this funding opportunity announcement will be required to participate in cross-site activities such as periodic training webinars and annual in-person cross-site BSSR Data Analytics Program grantee meetings.

OBSSR recognizes the importance of scientific stewardship, particularly in developing the scientific talent and skills needed to advance health-related behavioral and social sciences. Training programs that focus on cutting-edge quantitative methods to expand behavioral and social scientists' capabilities will strengthen BSSR's ability to meet the scientific challenges of the future. To achieve these goals, the OBSSR seeks engagement with the statistical community. Members of the American Statistical Association may be uniquely positioned to participate as applicants to this funding opportunity announcement and related future announcements, as well as more broadly as facilitators for the interdisciplinary connections required to support a more cumulative and integrated approach to behavioral and social sciences health research.

Visit <https://grants.nih.gov/grants/guide/rfa-files/RFA-OD-19-011.html> for details about this new training grant program. ■

Elizabeth Ginexi is a health scientist administrator at the National Institutes of Health Office of Behavioral and Social Sciences Research, where she focuses on the application of innovative research methodologies, measurement, and analytic approaches to advance behavioral and social sciences research. Ginexi is an applied social psychologist with expertise in family- and community-based etiology, prevention, and treatment research; policy interventions to target population-level health behavior; quantitative analysis; and statistical and computational modeling.

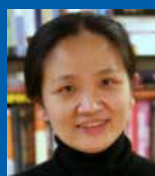
MORE ONLINE
The Office of Behavioral and Social Sciences Research Strategic Plan can be downloaded at <http://bit.ly/2Tg6SKI>.

New Master's or Doctoral Data Science/Analytics Programs

The proliferation of master's and doctoral programs in data science and analytics continues, seemingly due to the insatiable demand of employers for data scientists. *Amstat News* started reaching out two years ago to those in the statistical community who are involved in such programs to find out more. Given their interdisciplinary nature, we identified programs involving faculty with expertise in different disciplines—including statistics, given its foundational role in data science—to jointly reply to our questions. We have profiled many universities in our April, June, and December 2017 issues and January and April 2018 issues; here are three more.

—Steve Pierson, ASA Director of Science Policy

COLUMBIA



Tian Zheng is a professor of statistics and associate director for education for the Data Science Institute at Columbia. She develops novel methods for studying complex data from different application domains and is currently the chair-elect for the ASA's Statistical Learning and Data Science Section.



Jeannette Wing is Avaneessians Director of the Data Science Institute and professor of computer science at Columbia University. Before Columbia, she was corporate vice president of Microsoft Research. She is widely recognized for her intellectual leadership in trustworthy computing.



Cliff Stein is a professor of industrial engineering and operations research and computer science at Columbia and chair of the curriculum subcommittee of the Data Science Institute's education committee. He has been conducting research in combinatorial optimization, scheduling, and algorithms for large data.



Daniel Hsu is an associate professor in the Computer Science Department and a member of the Data Science Institute, both at Columbia University. His research interests are in algorithmic statistics and machine learning.

Degree name: Master of Science in Data Science

<https://datascience.columbia.edu/master-of-science-in-data-science>

Year in which first students graduated/expected to graduate: December 2015

Number of students currently enrolled: 327 (two cohorts)

Partnering departments: Data Science Institute (lead), Computer Science, Statistics, Industrial Engineering and Operations Research

Program format: In-person; 30 credit hours required; a capstone project at the end of the program

Full-time/Part-time: We have both full-time and part-time students from a wide range of backgrounds (e.g., arts, humanities, business, science and engineering). Our students are at different career stages, from recent college graduates to mid-career managers.

What are the basic elements of your data science/analytics curriculum, and how was the curriculum developed?

An interdisciplinary education committee has been an important part of Columbia's Data Science Institute (DSI) since the beginning, with members from computer science (CS), statistics, industrial engineering and operations research (IEOR), and other departments. This education committee discussed and developed the curriculum for the MS in data science program. Twenty-one credits of the program are core required classes, and nine credits are electives. The core required classes include three courses from statistics (two foundational courses in probability and statistics, one course on exploratory data analysis and visualization), three courses from CS (algorithms, machine learning, and computer systems), and one course on capstone with a curriculum component in data ethics.

Prerequisites for admission include mathematical preparation and some familiarity with computing. Prior industry experience is valued during the admission process, but not required. During the program, students with prior coursework in statistics or CS can be granted waivers for some of the core required courses to provide the flexibility to take more electives.

As the DSI emphasizes interdisciplinary research and collaboration, we provide students with the flexibility to look across campus at domain areas to fulfill elective requirements. In addition to taking advanced coursework in CS, statistics, and math, DSI students have taken technical classes in business, law, journalism, architecture, bioinformatics, and various departments throughout the university.

Students often take advantage of the many research opportunities across campus to gain additional hands-on experience, which can be used for elective credit. Many students will intern during the summer. DSI offers career support to obtain internships, including hosting a DSI internship fair in the spring.

MS students are required to complete a capstone project during their final semester. This course provides a unique opportunity for students in the MS in data science program to apply their knowledge of the foundations, theory, and methods of data science to address data science problems in industry, government, and the nonprofit sector. The course activities focus on a semester-length data science project sponsored by a faculty member, nonprofit organization, or industry affiliate of DSI. The project synthesizes the statistical, computational, and engineering challenges and the social issues involved in solving complex real-world problems.

Data ethics is embedded in our curriculum as discussions in individual courses and a more focused mini-curriculum in the capstone course.

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

Data science is emerging as a vital intellectual discipline driven by

the increasing demand in all sectors for skilled practitioners who can extract value from today's data. As a highly interdisciplinary field, aspiring students need training in computer science, statistics, and optimization algorithms to become data scientists who can solve applied problems around understanding, exploring, and forming predictions from data.

The Columbia University MS program in data science aims to shape an academic program that prepares a workforce of data scientists for a career in this rising field. Graduates of this program will pursue careers as data scientists, analysts, and researchers across all sectors.

Our program attracts students from a diverse pool. While the majority of applicants have an engineering or technical background, about 21 percent of the fall 2018 applicants earned a degree in math or statistics and 19 percent hold degrees in nontechnical disciplines, including biology, business, economics, law, medicine, philosophy, physics, psychology, religious studies, and urban planning.

The fall 2018 admissions cycle had 1,624 applications with a 17 percent acceptance rate. Of the 174 MS students who enrolled this fall, 24 percent are US citizens or permanent residents and 34 percent are female. Our international students are comprised of individuals from 16 countries, including China, India, France, South Korea, Mexico, and Thailand.

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

Statistics is a foundational area for data science that provides theory and methods for understanding variation and trends in observed data and deriving inferential insights about the data-generating mechanism behind the data. It is especially essential for

drawing interpretable inferences and predictions based on statistical models and machine learning methods and addressing the biases and uncertainty in a data science application.

Statistics complements other areas of data science, such as machine learning and optimization, which provide the algorithmic and mathematical tools that enable the statistical methodologies, as well as nonstatistical models, for data science applications.

Subjects that may not have traditionally been in the purview of classical statistics, such as computational complexity, have become active research areas of statistics, in part due to increased interactions with other data science disciplines.

What types of jobs are you preparing your graduates for?

The Data Science Institute programs prepare graduates for roles throughout the data science life-cycle of a company. Our graduates have placed in roles such as data scientist, data engineer, data strategist, software engineer on a machine learning team, machine learning engineer, strategic consultant, and quant analyst.

The advanced technical and statistical training our students receive prepare them well for companies in need of big data support in every industry and throughout the world. DSI grads are contributing to recommendation engines at large tech companies, detecting fraud and inappropriate content at social media companies, mapping the needs of underserved neighborhoods using Twitter data, creating new investing strategies at finance firms, managing algorithms for post-disaster response for large cities, creating fraud detection software, and solving many other corporate and societal challenges.

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

At Columbia, we believe data science should touch all fields, professions, and sectors. We consider applications from students of all academic backgrounds as long as they are motivated to learn data science and well-prepared in math and computing, which can be demonstrated in one's application through nontraditional preparations such as nondegree courses, working, and/or research experiences. Our program's core ensures rigorous training in data science, while our personalized advising model provides flexibility to support different learning trajectories. Students from fields that are different from CS, statistics, and IEOR are all welcome to inquire and apply.

Our program's core provides students with a set of skills that overlaps with programs such as CS, statistics, or IEOR but has its own distinct flavor. Every year, there are more jobs in a variety of areas that require the distinct

blend of skills emphasized in our data science program.

For future data scientists who are considering a data science degree, our advice is to look for programs that are well grounded in the foundations of data science (including statistics), provide experiences with real-world data science applications, and have data ethics embedded in the curriculum.

Describe the employer demand for your graduates/students.

Employer demand for data science graduates is high and critical to the success of evolving businesses. Every industry—including finance, tech, health care, media, government, and nonprofits—is growing their data science talent pool.

DSI graduates fill roles that fall within the data lifecycle of a company. In the more than four years since our academic programs have launched, more than 500 companies have recruited directly from our academic programs, with our students placing at 98 percent in the field, demonstrating the high demand for our graduates.

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

Data science is a “team sport.” It takes substantial collaboration to create an interdisciplinary program in data science. Institutions should create incentives for departments and individual faculty and provide resources for the program to support such a collaboration.

For example, administratively, academic programs may need to be hosted in an academic school/department. Having an interdepartmental program housed in a single-discipline department adds an additional burden to the host department and creates different “classes” of students within the same department/or shared space that compete for limited resources.

At Columbia, although the MS in data science program is administratively hosted in the CS department, the DSI serves as the primary operating unit. This provides our students undivided support for their academic life on campus, ranging from advising and collaborative space to career development.

UNIVERSITY OF KANSAS



Mandy Rametta, Matthew Mayo, Shana Palla, and Jo Wick

The graduate education team in the department of biostatistics at the University of Kansas Medical Center consists of Matthew Mayo, director, professor, and founding department chair; Jo Wick, associate director and associate professor; Shana Palla, assistant director and teaching associate; and Mandy Rametta, education coordinator. Together, they oversee the PhD in biostatistics; MS in biostatistics; MS in applied statistics and analytics; and graduate certificates in biostatistics, applied statistics, data science, and biostatistical applications.

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

Students from the MS in applied statistics and analytics program were asked if they would be interested in the new data science emphasis. In the first semester the data science emphasis was offered, 32 of the 112 (29 percent) students enrolled in the MS in applied statistics and analytics program switched to the data science emphasis from the other two emphasis options: statistics and analytics.

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

The field of data science has grown in popularity so quickly that the formal definition of a data scientist is still developing, but it is viewed as an integrated discipline that draws on statistics and computer science (and sometimes other areas of expertise). As a department built on statistics, we think a solid foundation in traditional statistical methodology is paramount to being a successful data scientist.

What types of jobs are you preparing your graduates for?

MS in applied statistics and analytics graduates with a data science emphasis can be employed in many sectors, including business (e.g., marketing, economics, engineering), biomedical, finance (e.g., accounting, billing), manufacturing, insurance, professional services, and information technology. According to *Forbes*, data is growing faster than ever and every human being is creating 1.7 megabytes of data. IBM predicts the demand for data scientists will increase 28 percent by 2020. They also state that 39 percent of data scientist and advanced analyst positions will require a minimum of a master's degree.

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

We would advise prospective students to contact working professionals in the field of data science to get first-hand insight into the responsibilities, challenges, and rewards of being a data scientist. We would also encourage prospective students to peruse a recently published article in *Harvard Business Review*, titled "What Data Scientists Really Do, According to 35 Data Scientists." (See <http://bit.ly/2OAdjek>.)

Degree name: Applied Statistics and Analytics Master's Program – Data Science Emphasis

Year in which first students graduated/are expected to graduate: 2019–2020

Partnering departments: None. Hired statisticians with computer science backgrounds within the department of biostatistics to assist with curricular development and teaching.

Program format: 100 percent online. Requires 30 credit hours: 12 in core areas including linear regression, categorical data analysis, professionalism, leadership and ethics, and multivariate analysis; 12 in emphasis areas including programming in R, data visualization and acquisition, data mining, and statistical learning; and six hours of elective courses.

This program will provide students integrated training that spans the domains of statistics, machine learning, data visualization, and workflow management. The statistics core courses will give graduates exposure to commonly used statistical methodologies for continuous, categorical, and multivariate response data, along with providing students with hands-on experience working with and analyzing large data sets.

The computing courses will provide graduates with experience working with the most common statistical software, and the data science emphasis courses will provide graduates with hands-on training in acquiring, visually exploring, and analyzing big data and building predictive models.

In addition, online access to all required coursework provides flexibility to accommodate working professionals seeking advanced training in data science.

This program, when enrolled full-time, can be completed in four semesters, plus one summer semester. Assuming part-time enrollment is equivalent to 9–12 credit hours per calendar year, the program can be completed in 2.5–3 years. Students may have any undergraduate background, but are required to have a B average or higher in Calculus I and II, as well as a course with a computer programming requirement.

Describe the employer demand for your graduates/students.

There is a rapidly growing demand in the workforce for graduate-trained data scientists with excellent hands-on skills in statistical and computational methods for the acquisition and analysis of big data coupled with strong communication skills. This MS in applied statistics and analytics program with a data science emphasis is designed to produce master's-level trained data scientists with knowledge, experience, and skills sufficient to make immediate impact within the workforce.

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

Data science is a rapidly developing discipline. As such, it is paramount to keep a data science program flexible, so it can evolve to meet the needs of students who will soon be entering the workforce. Therefore, we recommend forging industry partnerships, as we are doing, that allow the institution to stay abreast of changes in the profession.



Arvind Gupta is a professor of computer science at the University of Toronto and co-founder of Palette. He has served as UBC's president and vice chancellor and is the former CEO and founder of Mitacs, a leading Canadian nonprofit research and training organization. Photo by Ryan Perez



Matt Medland is an assistant professor, teaching stream, at the University of Toronto's Department of Computer Science and the managing director of the Master of Science in Applied Computing (MScAC) program. Photo by Paul Hillier



Nathan Taback is an associate professor in the University of Toronto Department of Statistical Sciences and the department's director of data science programs. His interests include data science, statistical consulting, biostatistics, and statistical education.

Degree name: Master of Science in Applied Computing, Data Science Concentration (MScAC-DS) www.cs.toronto.edu/mscac

Year in which first students graduated/expected to graduate: 2012

Number of students currently enrolled: 115

Partnering departments: Lead for MScAC is Computer Science; Lead for MScAC-DS is Statistics

Program format: In-person, full-time, 16 months

First eight months: four technical graduate courses (two in statistics, two in computer science)

Two professional skills courses over the lifetime of the degree

Last eight months: research internship

What are the basic elements of your data science/analytics curriculum, and how was the curriculum developed?

A good data scientist requires expertise in statistical reasoning and inference; training in data management, manipulation, computation and analysis; and experience in scientific or industrial collaboration. We designed our curriculum with this ideal set of skills in mind.

Our students take four graduate courses. Students choose two of the four courses from the department of computer science and the other two from

the department of statistical sciences. Coursework should also include a course in data science methods, collaboration, and communication.

A unique aspect of the program is the opportunity to collaborate on an applied research project in an industrial setting. The program's eight-month internship with one of our many industrial partners allows students to gain experience in applying their research skills in an industrial setting. These paid internships involve supervision by both an academic and industrial adviser.

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

Our media constantly reminds us of the emergence of large-scale complex data in nearly every facet of daily life. There has been a massive increase in the amount of data available from new technologies that seem to be emerging on a daily basis. New data sources such as network data, image data, and streaming data are all part of a trend set to intensify. So too will the need and demand for data scientists.

The significant number of research problems arising from the industry, industrial demand for data scientists, and students' interest in the field were reasons that spurred us to develop the MScAC-DS.

Additionally, Ontario is planning a 25 percent increase in the number of STEM graduates over the next five years, which includes boosting the number of graduates in AI-related fields such as data science. The University of Toronto has become an internationally recognized center of excellence in AI-related fields, and Toronto has a vibrant ecosystem of companies in this area.

The program grew organically with students in computer science and statistics taking courses in both departments to essentially try to complete what we are now calling a data science degree. In 2013, for example, a student who had enrolled in the MSc program in statistics took machine learning in computer science and has been working as a data scientist at Amazon since graduation.

There has been an overwhelming interest from students in the program.

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

The emergence of large-scale complex data in every facet of

academic and daily life has been accompanied by an increasing demand for expertise at the interface of the computational and statistical sciences, particularly machine learning. The importance of this interface has only grown in time—a trend that argues for the continuing integration of the two disciplines.

No professional statistician can possibly hope to make a meaningful contribution in collaboration or research without serious computational skills. Conversely, computer scientists need far more in-depth statistical training to fully understand the behavior and impact of the tools and algorithms they invent. The MScAC-DS serves to meet the above demand.

What types of jobs are you preparing your graduates for?

The main goal of the MScAC-DS program is to teach students how to apply their knowledge of statistics and computer science to real-world problems in an industrial setting. The demand for well-rounded data scientists can't be overstated.

For example, the financial technology (FinTech) sector in Toronto has seen a rapid increase in demand for data scientists in recent years. In 2016, a total of 25 data science FinTech internship positions were posted to the MScAC cohort; only 14 were filled due to a lack of available students.

FinTech is not the only source of demand for data science industry positions. Demand is strong across a wide range of sectors, including the biomedical, mobile and IoT, manufacturing, and IT sectors. Over the last five years, more than half of MScAC internships involved data science.

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

The MScAC-DS requires students to take graduate-level courses in both computer science

and statistics, so students should have taken appropriate courses at the undergraduate level in preparation. The majority of students entering our program have some work experience.

The intersection of statistics and computer science is an intellectually rich, diverse, and growing area. Demand will likely continue to grow for quite some time as we are still at the start of the data revolution.

Our data science students acquire analytical and problemsolving skills along with the demonstrated ability to apply their knowledge in real-world settings. The MScAC-DS program welcomes students with a wide range of academic backgrounds from statistics, math, computer science, economics, and engineering.

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

The basis for the success of the MScAC-DS is the true partnership between U of T's department of computer science and department of statistical sciences. Part of our partnership's strength and success lies in our shared focus on meeting a real-life societal demand for data science research expertise.

What is also working in our favor is the balancing of responsibilities—with computer science leading the MScAC program and statistics leading the data science concentration. Statistics is responsible for ensuring the right breadth of courses for students, while computer science is responsible for ensuring students have the appropriate computer science courses available to them. Only one team puts together research internships for all students in MScAC, which ensures research standards are met. ■

ASA, in cooperation with the **Bureau of Labor Statistics (BLS)** and the **Bureau of Economic Analysis (BEA)** under a grant from the **National Science Foundation (NSF)** is pleased to announce a Senior Research Fellow Program for 2018.

The Fellowship Program at BLS allows research fellows to come to the BLS and use BLS data and facilities and interact with BLS staff. More information is available on the BLS website at http://www.bls.gov/osmr/asa_nsf_bls_fellowship_info.htm or in our brochure at <https://www.amstat.org/asa/files/pdfs/YCR-ASANSFBLSFellowshipProgram.pdf>

Application Deadline: January 2, 2019

The Fellowship Program at BEA offers a unique opportunity to perform research at the Bureau of Economic Analysis. BEA produces key economic statistics that influence government policy, forecasting and business investment. Fellows will have access to BEA data and the expertise of BEA staff. More information is available at: www.bea.gov/research/fellowship_program.htm or in our brochure at <http://www.amstat.org/asa/files/pdfs/YCR-BEA.pdf>

Application Deadline: January 2, 2019

Eligibility

An academically recognized research record and considerable expertise in the area of proposed research required. U.S. government employees are not eligible to apply. Applicants must be affiliated with a U.S. institution.

Condition of Appointment/Benefits

Research will be conducted at the government agency. The stipend received is commensurate with qualifications and experience. Term of appointment is flexible. Fringe benefits and travel allowances are negotiable.



#ChooseToLead

Gary Sullivan, president of Espirer Consulting, facilitates the “Leading with Cultural Competence” workshop this past October.



Photos by Olivia Brown/ASA

“Things we would never do or always do.”

“Aspects of ourselves that we adapt to differing circumstances, which aren’t hardwired into who we are as individuals.”

This is how Julia Middleton, founder of Common Purpose, describes the concepts of core and flex. The inaugural Leadership Institute cohort grappled with these ideas during their first workshop experience. Middleton and others describe cultural intelligence as essential for effective leadership. Members of the institute steering committee and other advisers agree, so “leading with cultural competence” was the focus of the first workshop for the cohort.

The design of the Leadership Institute recognizes three important touch points in a person’s leadership journey. As described in this month’s President’s Corner column, the Leadership Challenge is designed to encourage students and early-career individuals to start on a leadership trajectory. In the future, the institute will also provide support for individuals who have a record of success as they consider and accept new leadership challenges.

The definition of leadership that underpins the cohort experience is “the ability to consistently deliver value to an organization or cause by inspiring people to take a specific direction or action when they truly have the freedom of choice to do otherwise.” This definition recognizes that leadership roles are

both informal and formal, so the curricular focus was selected to individuals who were both in formal leadership positions and were emerging leaders.

Since 2014, the short course “Preparing Statisticians for Leadership: How to See the Big Picture and Have More Influence” has been offered at the Joint Statistical Meetings. The long-term plan for the Leadership Institute is to offer a year-long curriculum to build on the skills and knowledge gained during this JSM course.

To begin the curriculum development process, 20 past participants in the JSM course were offered the opportunity to participate in a pilot cohort. On October 12 and 13, the 11 women and nine men who make up the cohort met at the ASA in Alexandria, Virginia, for the “Leading with Cultural Competence” workshop, which was facilitated by Gary Sullivan, president of Espirer Consulting.

The workshop included leaders sharing their stories and a case study to explore the skills and knowledge required of a culturally competent leader. It concluded with each participant completing a SWOT (strengths, weaknesses, opportunities, and threats) analysis to assess their current state as a culturally competent leader. With the support of a peer mentor, the participants will continue to work on their action plan to make progress on their journey to become more culturally competent.



Participants share their stories about leadership during the October workshop.



Eleven women and nine men met at the ASA in Alexandria, Virginia, for the "Leading with Cultural Competence" workshop, which was facilitated by Gary Sullivan, president of Espirer Consulting.

Throughout the remainder of 2018, the cohort will work on their leadership portfolios. As part of this process, they have established goals for continuing to develop their cultural intelligence and will collect evidence to document their progress. The group is using an online community to share resources and continue the discussion of leading with cultural competence.

The second workshop, which will begin in January 2019, will be a series of virtual experiences. The topic area for this series will be decision analytics. The anticipated outcome for these sessions is to improve the participants' ability to identify and use information to guide and influence decisions. The cohort will meet weekly for two two-hour sessions for four weeks.

The final workshop will bring the cohort back to the ASA in May 2019. This workshop will explore how to cultivate executive presence.

Looking ahead, we anticipate establishing an application process for future cohorts with the expectation that participation in "Preparing Statisticians for Leadership: How to See the Big Picture and Have More Influence" will be a prerequisite. If you would like to receive updates about the Leadership Institute, indicate your interest using the form at <https://goo.gl/forms/GRVbm4643RACH1xu1>. ■

Editors Sought for ASA Journals

Journals are vital to the ASA's mission of promoting the practice and profession of statistics, and editors are at the heart of ensuring our publications continue to be world leaders in statistics research and applications.

If you or someone you know would be a great fit for one of the following editorships, send your application or nomination to ASA Journals Manager Eric Sampson at eric@amstat.org by January 11, 2019.



Co-Editors, *Journal of the American Statistical Association, Theory and Methods*

Term: 2021–2023, with a full-year transition beginning January 2020

Established in 1888 and published quarterly in March, June, September, and December, the *Journal of the American Statistical Association (JASA)* has long been considered a premier journal of statistical science. The Theory and Methods section publishes articles that make original contributions to the foundations, theoretical development, or methodology of statistics and probability. *JASA* Theory and Methods receives approximately 700 original submissions a year and has an acceptance rate of about 10%.

Editor, *Journal of the American Statistical Association/The American Statistician Reviews*

Term: 2020–2022, with a transition beginning July–September 2019

The Reviews section in *JASA* publishes all review-type articles and reviews of recently published books relevant to the *JASA* audience. The Reviews section in *TAS* publishes reviews of materials related to the teaching of statistics. This includes textbooks; special volumes and proceedings concerning statistical education; software, videotapes, organized sources of data, and Internet resources intended for statistical education; and other similar items.

Editor, *Statistics in Biopharmaceutical Research*

Term: 2020–2022, with a transition beginning July–September 2019

Statistics in Biopharmaceutical Research (SBR) publishes articles that focus on the needs of researchers and applied statisticians in biopharmaceutical industries; academic biostatisticians from schools of medicine, veterinary medicine, public health, and pharmacy; statisticians and quantitative analysts working in regulatory agencies (e.g., US Food and Drug Administration and its counterpart in other countries); statisticians with an interest in adopting methodology presented in this journal to their own fields; and nonstatisticians with an interest in applying statistical methods to biopharmaceutical problems. *SBR* receives about 100 original submissions a year. ■

Plan Now to Take Part in Data Challenge Expo 2019

Award Categories

Professional (one level with a \$500 award)

Student (three levels with awards at \$1,500, \$1,000, and \$500)

The ASA Computing, Government, and Graphics sections will sponsor the Data Challenge Expo 2019 at JSM 2019 in Denver, Colorado. The contest, now annual, challenges participants to analyze a government data set using statistical and visualization tools and methods. It is open to anyone interested in participating, including college students and professionals from the private and public sectors.

Contestants will present their results in a speed poster session at JSM and must submit their abstracts to the JSM online system. Presenters are responsible for their own JSM registration and travel costs, as well as any other costs associated with JSM attendance.

Group submissions are acceptable. To enter, contestants must do the following by February 4, 2019:

- Submit an abstract for a speed poster session at www2.amstat.org/meetings/jsm/2019/submissions.cfm. Specify the Government Statistics Section (GSS) as the main sponsor.

- Forward the JSM abstract submission email to Wendy Martinez at martinez.wendy@bls.gov.

The data set for the Data Challenge Expo 2019 will be the New York City Housing and Vacancy Survey. Public use data files and documentation are available at www.census.gov/programs-surveys/nychvs.html. Contestants must use some portion of the New York City Housing and Vacancy Survey data, but can combine other data sources in the analysis.

Questions about the Data Challenge Expo 2019 can be directed to Martinez. ■

The Department of Statistics at Texas A&M University Invites Nominations for the Raymond J. Carroll Young Investigator Award



TEXAS A&M UNIVERSITY

Statistics

Nominations for the 2019 Raymond J. Carroll Young Investigator Award are currently being accepted. This award is presented biennially by the Department of Statistics at Texas A&M University to an outstanding young researcher in statistical science. The awardee must have completed his/her Ph.D. within the previous 10 years of receiving the award and must have demonstrated outstanding scholarly contributions in statistical methodology and applications. Nominations must be written and include a curriculum vita. Nominators are encouraged to supply supporting documents such as letters of recommendation. Self-nominations are invited and encouraged. Correspondence by e-mail is preferred but not required. Nominations and supporting documents should be sent to the address listed below. The deadline for award submissions is April 30, 2019.

Prof. H. Joseph Newton, Chair
Raymond J. Carroll Young Investigator Award
Department of Statistics
Texas A&M University
3143 TAMU
College Station, TX 77843-3143
jnewton@stat.tamu.edu

For more information on the Raymond J. Carroll Young Investigator Award, please visit our website at www.stat.tamu.edu.

STATS FROM THE ROAD

ASA Members Humble and Inspire on ASA Giving Day

Amanda Malloy, ASA Director of Development



From left: Eileen King, Amarjot Kaur, Amanda Malloy, and Kathy Ensor on ASA Giving Day, October 19, during the Women in Statistics and Data Science Conference in Cincinnati, Ohio

On October 19, I sat at a table at the Women in Statistics and Data Science Conference and watched in anticipation as the donation counter on the ASA Giving Day website began to rise. When I announced the start of giving day that morning, along with three members of the ASA Board of Directors (Amarjot Kaur, Kathy Ensor, and Eileen King), I wasn't sure what the day had in store. This was a big first for the organization, and I was anxious to see how it would be received.

In the end—in just 24 hours—more than 230 members donated in excess of \$50,000 to ASA programs, and 85 of those members were first-time givers! The 2017/2018 ASA Board of Directors matched donations up to \$30,000, so that's more than \$80,000 going to ASA programs. That's nearly half of the total donations from individual members in all of 2017. What a way to kick off the first-ever dedicated day of giving for the ASA!

It is exciting to see so many members get behind the work being done to improve K–12 statistics education, support competitions like ASA DataFest, back student chapters and travel awards, increase statistical literacy, and increase advocacy efforts. As a member of the ASA, you make this a special organization. Having your support to deliver programs that not only benefit those in the statistics profession, but the public as well, makes this an even more exceptional organization to be part of.

2017/2018 ASA Board of Directors

These members were the inspiration behind ASA Giving Day and the board matching campaign.

Cynthia Bocci	Eileen King	Paula Roberson
Kathy Ensor	Lisa LaVange	Robert Santos
Scott Evans	Jim Lepkowski	Julia Sharp
Katherine Halvorsen	Wendy Lou	Jessica Utts
Don Jang	Katherine Monti	David VanDyk
Karen Kafadar	Anna Nevius	Ron Wasserstein
Amarjot Kaur	Barry Nussbaum	David Williamson

Thank you to all members who donate to the ASA. You help us carry on with these important programs and more. A special thank you to everyone who donated on ASA Giving Day and to those who helped spread the message. I am humbled by your generosity and support.

Visit www.amstat.org/givingday to see all those who participated and to learn more about what your donations help do. ■



STATtr@k

Spring Science Fairs and Statistical Awareness Month: A PERFECT MATCH



Stephanie Strakbein earned her MS in biostatistics from Oregon Health and Science University in September. Last year, she helped establish the Portland ASA Student Chapter and served as its first president. Currently, she works as a senior statistician in clinical trials at Eli Lilly in Indianapolis. She plans to continue working with students as they pursue education in statistics and science.

Last April, I participated as a statistics “special awards” judge at the Intel Northwest Science Expo (NWSE) for middle- and high-school students in Portland, Oregon. At the time, I was a graduate student in biostatistics at the Oregon Health and Science University / Portland State University Joint School of Public Health (OHSU-PSU SoPH).

The Oregon Chapter of the ASA has been sponsoring a special award for statistics at the NWSE for 27 years and many faculty members have participated as judges. A couple of my professors sent out emails recruiting judges around the same time the students at the OHSU-PSU SoPH formed an ASA student chapter. This seemed like a great opportunity for our student members to give back and do something together to launch our chapter’s presence in the statistical community. Conveniently, the science expo/fair was held on the PSU campus in April, which is Mathematics and Statistics Awareness Month. The combination couldn’t have been better.

The way the statistics awards work at our science fair is that the volunteer team of statistics judges circulates throughout the projects. These projects are classified into one of many areas: biology, physics, chemistry, computer science, etc. However, there is no special designation for statistics. The judges attempt to identify any project that uses statistics in a meaningful way.

The next step is for the judges to interview the students and ask questions about their use of statistics. You may be surprised by how many students who used statistics were not really aware of it; it was just one tool of

many in their project. We sought to determine whether they truly understood the purpose of the statistical tool applied and why statistics are necessary when interpreting results. Moreover, our goal was to encourage these students to recognize the importance of the statistical component to their work and science generally and to open them up to the possibility of pursuing statistics more formally in college and beyond.

The young people we talked to were all impressive, and many of their projects were quite sophisticated. Yet these bright, college-bound students had never considered statistics as a degree or a career. I genuinely think the conversations we had opened a few minds to the greater potential of studying and using statistics in their futures.

This experience was personally rewarding and surprisingly fun, although I was hesitant to volunteer. As a graduate student, I have to juggle course work, work, family, and personal commitments in addition to overcoming imposter syndrome. However, I ultimately found that the time commitment was minimal, I was paired with experienced judges who made me feel welcome and valued, and volunteering reinforced the joy I felt in the subject I was studying.

I encourage everyone in the statistical profession to get involved in their local science fair. If there isn’t already a “special award” or statistics category offered, see if your local chapter can’t establish one. Or see if perhaps a science fair would be open to you circulating and having encouraging conversations with the students involved. You’ll be glad you did. ■

SERVE FOR A YEAR IN THE FEDERAL GOVERNMENT

**APPLY TODAY FOR THE ASA/ACM/AMS/IMS/MAA/SIAM
2019–2020 SCIENCE AND TECHNOLOGY POLICY FELLOWSHIP!**

The fellowship focuses on **data science** and related expertise such as **machine learning, data visualization,** and **causal inference** to meet legislative and policymaking challenges. Fellows serve one year in a federal agency or on the staff of a senator, representative, or congressional committee beginning September 2019 (pending funding). Learn about the executive and legislative processes and lend statistical and scientific expertise to public policy issues.

Individuals who are US citizens with a PhD in statistics, data science, mathematics, or a closely related field are encouraged to apply. The ASA seeks candidates reflecting the diversity of our society. Applications are due by January 15, 2019, and require a cover letter, biographical sketch, and three letters of reference.



Apply by January 15, 2019
at [www.amstat.org/fellowshipsgrants!](http://www.amstat.org/fellowshipsgrants)

STATS4GOOD

ASA's Leadership Institute Is Great Opportunity for Data for Good Researchers



With a PhD in statistical astrophysics, **David Corliss** works in analytics architecture at Ford Motor Company while continuing astrophysics research on the side. He is the founder of Peace-Work, a volunteer cooperative of statisticians and data scientists providing analytic support for charitable groups and applying statistical methods to issue-driven advocacy in poverty, education, and social justice.

A major initiative of 2018 ASA President Lisa LaVange has been the creation of a leadership institute with the goal of fostering leadership skills, creating resources, and developing opportunities for leadership growth. Leadership skills are a regular subject at the short presentations and workshops at the Joint Statistical Meetings (JSM), Conference on Statistical Practice (CSP), and other conferences. The new ASA Leadership Institute seeks to develop focused training and resources to help members move their skills to the next level. The initiative was developed with the following three main goals in mind:

- Communicate the theory and practice to statisticians who are becoming leaders in their work
- Achieve more as the voice of statistics on the multidisciplinary teams so often seen today
- Promote statistics, analytics, and logical thinking as key contributors to decision-making

Nowhere are these three objectives more important than in Data for Good (D4G). Data-driven advocacy is inherently a leadership activity, as we bring our special skills to help people and improve our communities and world. Data for Good statisticians work most often in a multidisciplinary setting, partnering with others whose expertise is in the problem or concern to be addressed, not statistics. The analytic approach so natural to the way we work often does not figure strongly into the background and skills development of the people and organizations served by our work. Leading as the voice of science and data-driven decision-making are critical skills in Data for Good projects.

The Leadership Institute brings together a tremendously strong group as the steering committee, including ASA Executive Director Ron Wasserstein, former ASA President Bob Rodriguez, and many other well-known statistical leaders. The first seeds were sown in 2011, when LaVange and Bill Sollecito developed a leadership course at The University of North Carolina. Rodriguez, who served as ASA president in 2012, wrote in *Amstat News* about the

importance of statistical leadership in a column titled “Statistical Leadership: Preparing Our Future Leaders.” A core team began a series of leadership workshops at JSM in 2012, paving the way for the establishment of the Leadership Institute in 2018. I had a chance to discuss the Leadership Institute with LaVange at CSP and JSM, focusing on its importance to people working in Data for Good. In our conversations, LaVange stressed the importance of Data for Good activities to the ASA and how leadership and D4G naturally complement one another. While the skills and resources developed by the Leadership Institute are important for anyone leading statistical projects or groups, it is especially important here.

Most D4G projects and teams are fairly small—often just one or two people. As a result, scientific leads perform all other leadership functions, as well. The people served by our work usually aren’t statisticians, so there is a need to develop collaboration skills to work in multidisciplinary groups. Scientific teams seeking to help people and communities can fail if these skills are lacking. The ASA’s new leadership initiative develops specialized training and resources to foster individuals and groups, helping their D4G work reach its full potential. Fostering advocacy using science to help others also becomes advocacy for science as a key contributor to decision-making.

Stats for Good, by its very nature, shows the type of leadership in the wider community that the ASA’s Leadership Institute seeks to develop. As I have said before, the work of the American Statistical Association can be summed by doing good statistics, doing good for statistics, and doing good with statistics. The last of these is our mission: We become involved in this work out of a deep concern for others, often in a specific area in which we feel a special calling. The training and resources of the Leadership Institute allow Data for Good to have a greater impact both on the ASA and the wider society we seek to serve.

Has the ASA Leadership Institute benefitted you or your organization? Let us know how they are making a difference in helping you make a difference! Contact me at davidjcorliss@peace-work.org. ■

PASTIMES OF STATISTICIANS

What Does Bob Komara Like to Do When He Is Not Being a Statistician?

Female beautiful sunbird (*Cinnyris pulchella*) Makusutu. The Gambia.



Grey (Great Blue) Heron takes off with an easy catch. Bern, Switzerland.



Red dragon fly. Buempliz, Switzerland.

Who are you, and what is your statistics position?

Bob Komara. I am a data scientist working for MSX International in Colchester, UK.

Tell us about what you like to do for fun when you are not being a statistician.

I like to travel and scuba dive with my wife and take wildlife photos any chance I get.

What drew you to this hobby, and what keeps you interested?

I like to shoot pictures of birds and macro photographs of insects. Each presents different challenges, but it is the challenge of the pursuit of and the beauty of the resulting photos that keep me interested. ■



Green vervet monkey (*Chlorocebus sabaues*). Tanji Nature Preserve. The Gambia.

MORE ONLINE

Scan more colorful and exotic photos on Komara's Flickr page: www.flickr.com/photos/demoniser.



Attendees discuss the speed session 1 poster "Veterans and the Prevalence of Memory Loss and Confusion: BRFSF."



Shanthi Sethuraman teaches the short course "Learning to Lead: Skills, Knowledge, and Strategies."



Ganga Devaiah asks Aarti Shah a question during Shah's plenary talk.

#Success! WSDS a Celebration of Knowledge Once Again

MORE ONLINE

Learn more about WSDS by reading this year's tweets at <https://twitter.com>. Search for #WSDS2018.

For more about WSDS, visit ww2.amstat.org/meetings/wds/2018.

Before the Celebrating Women in Statistics and Data Science reception began, we asked attendees to smile up to our cameras from the exhibit hall.

Imagine this scenario: During the question-and-answer portion of a plenary presentation about collaboration, a member of the audience asks for advice establishing collaborative relationships in new work environments. The speaker provides excellent advice and encourages members of the audience to reach out. The audience actually responds. An exchange of contact information occurs and a new collaboration begins.

This scenario, which took place at the Women in Statistics and Data Science Conference (WSDS), affirms the accuracy of WSDS' description as unique and a celebration of knowledge, community, and influence.

The approximately 400 participants had the opportunity to engage with colleagues during concurrent sessions, panel discussions, and speed sessions. Once again, the scope and quality of the presentations were incredible. Examples include the following:

Panels

- She's 'A Business (Wo)Man!': Starting and/or Running Your Own Business
- Preparing for Increased Gender Diversity and Inclusion in Statistics and Data Science: Important Perspectives from Gender Non-Conforming and LGBTQ+ Scholars
- Statistical Innovations in Drug Development and Role of Data Science

Concurrent Sessions

- Intensive Longitudinal Data Models for Wearable Device Data
- Developing a Low-Cost Survey of Local-Level Criminal Victimization and Attitudes About Public Safety
- The Young Statistician's Coding for Success

Speed Sessions

- Estimation of HIV Prevalence and Covariance Within High-Risk Groups with Bayesian Hierarchical Modeling
- Developing an Undergraduate Major in Data Science: A Statistician's Perspective

To complement the formal program, there were informal round-table lunches and dinners. WSDS 2018 also had the first walk-run on Friday morning. Emma Benn, Kathy Ensor, Amarjot Kaur, Leslie McClure, Sally Morton, Dalene Stangl, and Jennifer Ward hosted meals and Claire Bowen planned a walk-run route.

The concurrent and speed sessions were accompanied by keynote and plenary presentations



Plenary Speakers



Aarti Shah



Claudia Perlich



Nancy Potok



Alicia Carriquiry



Simone Gray and Emma Benn listen to a discussion during the refreshment break at WSDS 2018.

WSDS 2018 Executive Committee

(pictured, from left)

Dalene Stangl, Carnegie Mellon University

Saki Kinney, RTI and Committee on Women in Statistics

Kim Sellers, Georgetown University and Committee on Women in Statistics

Ji-Hyun Lee, University of Florida and Caucus for Women in Statistics

Shili Lin, The Ohio State University and Caucus for Women in Statistics

Donna LaLonde, American Statistical Association

Amarjot Kaur, (not pictured) Merck and ASA Board of Directors

that challenged and energized the audience. The opening plenary presentation was given by Aarti Shah, senior vice president and chief information officer at Eli Lilly and Company. She shared lessons learned and encouraged everyone to keep a “learn list.”

On Friday, Claudia Perlich, senior data scientist at Two Sigma generated buzz with her plenary presentation about machine learning applications. Nancy Potok, chief statistician of the United States, presented the keynote and challenged listeners to be involved. The concluding

plenary was presented by Alicia Carriquiry, distinguished professor in the department of statistics at Iowa State University, who offered advice about establishing and maintaining productive collaborations.

WSDS 2018 also included two service projects. The children’s book project, which is ongoing, will produce a book celebrating women in statistics and data science. And the hackathon benefited the nonprofit Laurels for Learning, which is devoted to providing extracurricular activities to students of all socioeconomic backgrounds.

The hackathon team—Lakisha Armstrong, Smitha Shivakumar, Sneha Diwan, and Huiying “Maggie” Mao—shared their shiny app, while teammates Emily Hadley and Candace Jones shared their analysis of optimal regions for recruiting volunteer tutors.

The work of the children’s book project—led by Mine Çetinkaya-Rundel, Jessica Crowley, Stephanie Hicks, and Lucy McGowan—continues. Interested WSDS participants should contact ASA Director of Strategic Initiatives and Outreach Donna LaLonde at donnal@amstat.org to join the project. ■

Photos by
Olivia Brown and
Megan Murphy/ASA

2019 Internships

More than 30 companies are looking for 2019 interns. In fact, there are so many that the list is too long to print. Instead, we included the full descriptions for all internships on STATtr@k at <http://stattrak.amstat.org>.

Amgen Inc.

Thousand Oaks, California

Positions: One

Student: PhD

Deadline: February 1, 2019

Amgen's 10–12-week internship program provides the opportunity for social networking events and to participate in community volunteer projects while providing a competitive compensation.

Basic Qualifications

- Must be 18 years or older
- Must have a bachelor's degree from an accredited college or university with a 3.0 minimum GPA or equivalent
- Must be enrolled in an MBA program for an MBA internship, a master's program for a master's internship, a PharmD program for a PharmD internship, or PhD for a PhD internship from a college or university with one year of study completed before internship starts
- Must be enrolled in a college or university following the potential internship
- Must not be employed at the time the internship starts

Only candidates who apply via <http://careers.amgen.com> will be considered. Search by position title or requisition 64615.

Contact: Natalie Mirzaian, universityrelations@amgen.com

Astellas Pharma, Inc.

Northbrook, Illinois

Positions: 1–2

Student: PhD candidate in statistics or related discipline

Deadline: January 31, 2019

Full-time internships are available in the summer. Applicants must have completed at least two years of graduate-level course work and be

working on a dissertation toward a PhD in statistics or biostatistics. The applicant must be legally authorized to work in US and have a good working knowledge of R, S-Plus, or SAS and good communication skills.

Contact: Send CV, personal statement of interest, and a letter of recommendation to Biostat.Intern@Astellas.com.

Battelle Memorial Institute

Columbus, Ohio

Positions: Six

Student: Bachelor's (at least a sophomore)

Deadline: November 27, 2018

- Two Summer Computer Science Interns <http://bit.ly/2OHY6Sd>
- Two Summer Statistics and Machine Learning Interns <http://bit.ly/2Dhb5YK>
- One Spring Computer Science Co-op <http://bit.ly/2z9j2fE>
- One Spring Statistics and Machine Learning Co-op <http://bit.ly/2RQUlf0>

Contact: Juli Garn, garn@battelle.org

Biogen

Cambridge, Massachusetts

Positions: Four

Student: PhD in biostatistics, statistics, or related field

Deadline: January 31, 2019, with rolling offers

Internship positions will last 12 weeks in the summer of 2019. Candidates must have completed two years of graduate work and passed a doctorate qualification exam prior to the start of the internship. They must return to school in fall 2019 and be legally eligible to be employed in the US.

Contact: Send a CV to Wenting Wang, 225 Binney St., Cambridge MA 02142; DL-BiostatsIntern@biogen.com

Boehringer Ingelheim

Ridgefield, Connecticut

Positions: Up to five

Student: MS or PhD in biostatistics, statistics, mathematics, data science, computer science, epidemiology, public health, or related program

Deadline: January 31, 2019

Full-time summer biostatistics internships will last 12 weeks.

Requirements

- Must be a graduate student in a field related to statistics, biostatistics, data science, computer science, epidemiology, public health, or mathematics with cumulative GPA of 3.0
- Must have completed 12 credit hours on a related major
- Must be an MS or PhD candidate with two years of study
- Must have good written and oral communications skills
- Must have demonstrated proficiency with SAS or R

Interested applicants should go to <http://bit.ly/2DB5HR8> or visit www.boehringer-ingelheim.com, click “careers,” and search for job number 1812605.

Contact: Zhichao Sun, zhichao.sun@boehringer-ingelheim.com

Boehringer Ingelheim Pharmaceuticals, Inc.

Ridgefield, Connecticut

Positions: Up to five

Student: MS in biostatistics, statistics, computer science, data science, or related program

Deadline: February 15, 2019

Full-time summer statistical programming—will last 12 weeks.

Requirements

- Must be an MS graduate student in fields related to bio/statistics, with exposure to clinical research and statistical programming in SAS or R
- Must have cumulative GPA of at least 3.0
- Must have completed 12 credit hours on a related major
- Must have good written and oral communications skills in English
- Must have knowledge in database set-up, data processing, elementary statistics, and basic medicine
- Must have good organizational skills, problemsolving abilities, time management skills, and ability to work on several assignments simultaneously
- Must be able to work independently and as part of a team
- Must be detail oriented, and able to detect subtle inconsistencies in data

- Must be authorized to work in the US without restriction
- Must be willing to take a drug test and post-offer physical

Interested applicants should go to <http://bit.ly/2B1nA9f> or visit www.boehringer-ingelheim.com, click “careers,” and search for job number 1812910.

Contact: Jessie Teng, jessie.teng@boehringer-ingelheim.com

Boehringer Ingelheim Investment Co., Ltd

Shanghai, China

Positions: Two

Student: MS or PhD in biostatistics, related degree program

Deadline: January 31, 2019
Full-time summer biostatistical internship will last 12 weeks.

Requirements

- Must be a graduate student in a field related to statistics, biostatistics, data science, computer science, epidemiology, public health, or mathematics with good academic standing (cumulative GPA must be at least 3.2)
- Must have completed 10 credit hours on a related major and/or related coursework
- Must be an MS or PhD candidate with one year of study
- Must have good written and oral communications skills
- Must have demonstrated proficiency in conducting statistical analyses using SAS or R

Contact: Na Hu and Binqi Ye, na.hu@boehringer-ingelheim.com or binqi.ye@boehringer-ingelheim.com

Eli Lilly and Company

Indianapolis, Indiana

Positions: Multiple

Student: PhD, master's, or bachelor's in statistics or biostatistics

Deadline: January 15, 2019

The internships start in either May or June and last 12 weeks.

Requirements

- PhD students must have completed at least three years of graduate work by May 2019
- Master's students must be US-authorized workers and have completed one year of graduate work by May 2019
- Undergraduate students must

be US-authorized workers and have completed at least three years of statistics or biostatistics work by the end of spring semester 2019

Preferred Skills

- Demonstrated leadership skills
- Excellent communication, and teamwork skills
- Strong problemsolving and computational skills
- Self-management skills

PhD students apply at <http://bit.ly/2QJVbda>

Master's students apply at <http://bit.ly/2FieQQb>

Undergraduate students apply <http://bit.ly/2z4tcyk>

Contact: Sara Katherine Lauderdale, Lauderdale_sara_k@lilly.com

The Emmes Corporation

Rockville, Maryland

Positions: 3–5

Student: MS or PhD in biostatistics

Deadline: April 30, 2019

Responsibilities

- Perform descriptive and inferential statistical analysis
- Summarize results using tables and graphs for presentation to biomedical investigators
- Edit and finalize research databases for statistical analysis

Experience, Competencies, and Education

- Currently enrolled master's/PhD student in statistics or biostatistics
- Excellent analytical/problem-solving skills
- Attention to detail
- Ability to manage priorities
- Familiarity with SAS or R

Submit your résumé at <https://secure.emmes.com/emmesweb> from January 15 to April 30.

Contact: Charlotte Camacho, ccamacho@emmes.com

Division of Biostatistics, CDRH, FDA

Silver Spring, Maryland

Positions: 3–5

Student: Advanced biostatistics/statistics PhD

Deadline: April 30, 2019

Interns will work from June through

August of 2019 on research projects that align with the CDRH strategic priorities involving the development of statistical methods and software tools. Preference will be given to senior doctoral candidates with a strong background in statistical methods and good programming skills.

Contact: Send CV and cover letter to Ram Tiwari at ram.tiwari@fda.hhs.gov

Office of Biostatistics, CDER, FDA

Silver Spring, Maryland

Positions: Multiple

Student: Graduate in statistics or biostatistics; completion of doctoral prequalifying exams preferred

Deadline: March 15, 2019, with rolling offers

Interns will work from May 31 to August 30, 2019, on research projects relevant to OB scientific needs.

Requirements

- Excellent oral and written communication skills
- Interpersonal skills
- Strong problemsolving and computational skills
- Self-management skills
- Proficiency with MS Office
- Experience with SAS and/or R
- Must be legally eligible to work in the US
- Must be able to pass a Tier 1 background investigation for the federal government

Contact: Send CV and cover letter to CDER-OTS-OB-Recruitment@fda.hhs.gov with APPLICATION ORISE 2019 in the subject line. For questions, use QUESTION ORISE 2019 as the subject.

2019 Fred Hutch Summer Undergraduate Research Program

Seattle, Washington

Student: Undergraduate

Deadline: January 11, 2019

The SURP is a nine-week internship designed to provide research experience and mentorship for rising senior undergraduate students interested in biomedical research.

Up to two letters of recommendation are due by midnight Pacific Standard Time.

Contact: surp@fredhutch.org

GlaxoSmithKline*Collegeville, Pennsylvania***Positions:** Two**Student:** MS or PhD**Deadline:** November 30 for January hiring; May 31 for June hiring**You'll have the opportunity to:**

- Advise on design, sample size, and other aspects of statistical relevance in the planning of studies
- Provide statistical analysis, reporting, and interpretation of results of studies
- Provide statistical computing programs

Position is full time. To apply: <http://bit.ly/2PmtieO>**Harvard T.H. Chan School of Public Health, Department of Biostatistics***Boston, Massachusetts***Positions:** 14**Student:** Current undergraduate or recent graduate**Deadline:** February 1, 2019

There is a six-week program in biostatistics and computational biology. Applicants must be a US citizen; carry health insurance; and be a member of an under-represented group; and a first-generation college student, a low-income student as defined by the US Department of Education, or a disabled student according to the definition of the Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973. Submit applications online.

Contact: Diversity Program Coordinator, Biostat_diversity@hsph.harvard.edu**Institute for Defense Analyses***Alexandria, Virginia***Positions:** 22**Student:** Undergrad, graduate, PhD**Deadline:** January 5, 2019

Students will work for a minimum of 10 weeks during the summer months. Attendance at the eight-week core period between June 3 and July 26 is required. An additional two weeks (or more) either before or after the core period is required for a complete 10-week internship. In some cases, associates will work a few weeks longer than the 10-week minimum.

Full position description and application at <http://bit.ly/2qEeSIe>.**Contact:** Caroline O'Rourke, corourke@ida.org**Institute for Defense Analyses***Alexandria, Virginia***Positions:** 10**Student:** Recent recipients of a bachelor's or master's degree**Deadline:** January 31, 2019

Data science fellows will investigate the ways newly available big data methodologies contribute to national security and gain experience developing advanced data science tools. They will use their analytic skills to work on real-world national security issues. Fellows should expect to learn while creatively contributing to interdisciplinary project teams.

For information and application, visit <http://bit.ly/2OFV5lb>.**Contact:** Caroline O'Rourke, corourke@ida.org**Janssen R&D, a Division of Johnson & Johnson***Spring House, Pennsylvania;**Titusville, New Jersey; Raritan, New Jersey***Positions:** 10**Student:** PhD candidate**Deadline:** February 15, 2019**Qualifications**

- Candidates must be enrolled in an accredited college (not necessarily taking classes) and pursuing a PhD in biostatistics, statistics, or a related discipline
- Student must be available to work full time for 10–12 weeks from May to August
- A minimum 3.0 GPA preferred
- Student must be able to provide own transportation

Contact: Visit <https://jobs.jnj.com/jobs>, search for "intern statistics" or "SDS."**Joint Program in Survey Methodology Junior Fellows Summer Program***College Park, Maryland***Student:** Junior and senior undergraduates in summer 2019**Deadline:** January 7, 2019

Junior fellows will be placed at various statistical and survey organizations in the Washington, DC, area.

From the end of May to the beginning of August 2019, junior fellows will work 40 hours per week on tasks associated with the development, and analysis of surveys.

This is a paid internship (\$6,000 salary for 2.5 months). Housing provided at The George Washington University.

Contact: Joint Program in Survey Methodology Junior Fellows Team, jpsmjuniorsfellows@umd.edu**Liberty Mutual Insurance***Boston, Massachusetts***Positions:** ~20

Student: Master's or PhD in a statistics, economics, or related field; applicants who have completed doctoral qualifying exams preferred

Deadline: Rolling; however, applications submitted by January 1 will receive priority review

In this 10–12-week internship, you will have the opportunity to solve real business problems.

Qualifications

- Proven statistical/analytical skills
- A minimum 3.5 GPA
- Solid oral/written communication skills
- Solid interpersonal skills and ability to work in a team environment
- Proficiency in a statistical software package such as SAS, R, Python, etc.
- Programming skills desirable

Applications are only accepted at <http://bit.ly/2zMLLeoc>.**Contact:** Erika Howe Carter, gradcampusrecruiting@libertymutual.com**The Lubrizol Corporation***Wickliffe, Ohio***Positions:** Multiple**Student:** Bachelor's, master's, PhD**Deadline:** February 2, 2019

Operating like a start-up company, but with the backing of a large corporation, the Statistics and Data Analytics team is charged with creating systems that enable highly effective product development via virtual experimentation, optimization, and knowledge discovery. In addition, the team provides data science consulting services to the Lubrizol technical community throughout the world. The project work depends on the skills/interests of the intern and needs of the department.

Apply at <https://lubrizol.jobs>.

Contact: Allison Rajakumar, Allison.Rajakumar@Lubrizol.com

Mayo Clinic

Rochester, Minnesota

Positions: 15–18

Student: Undergrad, graduate, PhD

Deadline: January 15, 2019

Interns will work with statisticians, bioinformaticists, and clinical investigators on research projects in areas such as clinical trials, statistical genetics, and bioinformatics. Experience with SAS and/or R preferred.

To apply, submit an unofficial transcript, résumé, and cover letter at <https://mayocl.in/2RSgvO4>. Search by keyword “Biostats” (statistical internship) or “Intern-IS” (informatics internship). For information, visit www.mayoclinic.org.

Contact: Bud Harris, Harris.Bud@mayo.edu

Memorial Sloan Kettering Cancer Center

New York, New York

Positions: Multiple

Student: Undergrad (with an expected graduation after December 2019)

Deadline: January 4, 2019

Candidates must be enrolled as full-time undergraduate students with at least one semester remaining before graduation and have at least one semester of college-level statistics. Competitive applicants must have an interest in cancer and population health, demonstrated aptitude in data analysis, and excellent oral and written communication skills. The program provides a modest stipend for the summer internship at the department of epidemiology and biostatistics. Housing will not be provided.

Applicants must be authorized to work in the US.

Details: www.mskcc.org/lqsure

Contact: bstQSURE@mskcc.org

Mental Health in the Country of Ukraine

Kiev, Ukraine (2 weeks); Sioux Center, Iowa (8 weeks)

Positions: Nine

Student: Undergraduate

Deadline: January 31, 2019

Participants will receive a \$5,000 stipend for the program, which runs from May 20 to July 26, 2019. The

first weeks will be spent in Ukraine (travel expenses are paid for by the program), working with collaborators at the Kiev International Institute of Sociology. The remaining weeks will be spent in Sioux Center, Iowa.

Some projects are appropriate for students with more statistical background and others for students with less. Free apartment-style housing and funds for travel to/from Sioux Center, Iowa, will be provided. Applicants must be US citizens.

Visit www.dordt.edu/academics/ukraine-reu for information.

Contact: Cindy Nederhoff, cindy.nederhoff@dordt.edu

Merck Research Laboratories

Suburban Philadelphia, Pennsylvania; Rahway, New Jersey; Kenilworth, New Jersey

Positions: ~12

Student: Graduate

Deadline: Rolling

Requirements

- Must have completed at least two semesters of graduate work toward an MS or PhD in statistics or biostatistics beginning in summer of 2019
- Must be available for 9–12 weeks, beginning June 2019
- Must be returning to school in fall of 2019
- Must have effective oral and written communication skills
- Must have a good working knowledge of SAS, S-Plus, or R

Visit www.merck.com/careers to create a profile and submit résumé. Résumés not accepted via email.

National Cancer Institute

Rockville, Maryland

Positions: Two

Student: Flexible

Deadline: Three months before you want to start

This is an unpaid internship. To compensate, we make the experience educational and rewarding. The intern engages in high-level methodological research in areas of substantial importance in the design and analysis of randomized clinical trials. Recently, we have focused mostly on the nexus among randomization methods, allocation concealment, and selection bias.

Contact: Vance Berger, vance917@gmail.com

Netflix (Science and Analytics)

Los Gatos, California; Los Angeles, California

Positions: ~ Five

Student: Post-qual PhD in STEM

Deadline: Mid-January 2019

Qualifications

- Prior applied experience with statistics or machine learning
- Comfortable coding in at least one language (e.g., R, Python, Java, Scala, C++)
- Curious, self-motivated, and excited about solving open-ended challenges at Netflix
- Great communication skills, both oral and written
- Experience preferred with version control (e.g., git)
- Experience preferred with distributed computing (e.g., Spark, Hadoop, Hive, Presto, or Pig)

Learn about our work at research.netflix.com and our culture at jobs.netflix.com/culture.

Contact: sa-fellows-info@netflix.com

Novartis

East Hanover, New Jersey; Cambridge, Massachusetts; Fort Worth, Texas; Princeton, New Jersey

Positions: Multiple

Student: Graduate, PhD

Deadline: January 31, 2019

Candidates must be enrolled in a graduate-level program working toward a PhD in biostatistics, statistics, or a related discipline and have completed at least 1.5 years of coursework. Must have excellent oral and written communication skills and strong problemsolving skills. Working knowledge of R or SAS is preferred. Some projects require a strong background in NONMEM, Python, and/or other software and languages.

Contact: Send CV and cover letter to internships.analytics@novartis.com.

Pfizer Inc.

La Jolla, California; Groton, Connecticut; Collegeville, Pennsylvania; Cambridge, Massachusetts; New York, New York; Andover, Massachusetts; Pearl River, New York

Positions: 15

Student: Graduate in statistics, biostatistics, or related field

Deadline: January 31, 2019

The internship will consist of 480 hours of work at one of the Pfizer sites in New York, California, Connecticut, Massachusetts, or Pennsylvania, commencing as early as April and ending as late as December. The intern's project will be biopharmaceutically oriented, with one-on-one supervision by a senior staff statistician. The work will be a hands-on learning experience focusing on current project needs and likely involve the use of SAS, R, or other statistical software. As part of the internship program, the intern will prepare a written report and brief presentation summarizing the work and forming a permanent record of the intern's efforts.

To apply, send an application by email to xun.lin@pfizer.com.

Contact: Xun Lin, Pfizer Inc.

Procter & Gamble

Cincinnati (Mason), Ohio

Positions: One

Student: PhD

Deadline: March 1, 2019

It is of interest to identify statistical designs and analyses/methods that can increase learning while reducing cost. We would like to examine the potential of using sequential designs, Bayesian methods, adaptive designs, or other statistical techniques that enable us to combine learning from multiple smaller studies. The successful intern will provide a literature review and identify approaches to implement now or to consider developing. Applications can only be accepted online via www.pgcareers.com. Searching for "Modeling and Statistics PhD Internship" or posting number RND00003861.

Contact: Michael Joner, joner.md@pg.com

QST Consultations, LTD

Allendale, Michigan

Positions: Two

Student: Master's or PhD in statistics, biostatistics, or related field

Deadline: January 16, 2019

This primarily SAS-based internship is a 12-week program starting May 20, 2019.

Ideal Candidates

- Are pursuing a master's or PhD in statistics, biostatistics, or related field
- Have basic skills with SAS
- Have experience with Excel and Microsoft Office
- Have basic to advanced understanding of applied statistics
- Are interested in learning about clinical trials and the analysis and organization of the data
- Can commit to 40 hours per week for the summer in Allendale, Michigan

Contact: Rhonda Pardue, QST Consultations, LTD, 11275 Edgewater Drive, Allendale, MI 49401; rpardue@qstconsultations.com

Sandia National Labs

Livermore, California

Positions: Multiple

Student: Undergraduate and Graduate

Deadline: March 1, 2019

Requirements

- Bachelor's degree
- Currently attending and enrolled full time (or scheduled to graduate in the spring) in an accredited science, engineering, or math graduate program
- Minimum cumulative GPA of 3.0
- Ability to work up to 40 hours per week during the summer
- US citizenship

Apply at www.sandia.gov/careers.

Sanofi US Inc.

Bridgewater, New Jersey; Cambridge, Massachusetts

Positions: Multiple

Student: PhD candidates in statistics or biostatistics

Deadline: March 1, 2019

Successful candidates will work on design and analysis of early- and late-phase clinical trials and statistical methodology research under the supervision of statisticians.

Candidates must have completed at least two years of graduate coursework and be working on a dissertation toward a PhD in statistics or biostatistics. Requirements include effective oral

and written communication skills and knowledge of SAS and/or R.

Contact: Email CV and unofficial graduate transcript to Xiaodong Luo, Department of Biostatistics and Programming, Sanofi US Inc., Xiaodong.luo@sanofi.com.

SAS Institute Inc.

Cary, North Carolina

Positions: Two

Student: PhD in the US who have completed at least two years of graduate work by the end of the spring semester 2019

Deadline: January 31, 2019

Eligible candidates must have demonstrated experience in statistical computing beyond the routine classroom use of statistical packages. We are particularly interested in candidates with research experience in computational aspects of one of the following areas:

- Bayesian modeling
- Causal inference methods
- Complex survey methods
- Joint modeling
- Latent variable models
- Missing data methods
- Nonlinear mixed models
- Sparse methods for high-dimensional modeling
- Structural equations modeling
- Survival analysis

The program provides a salary and stipend for a 12-week internship at SAS headquarters in Cary, North Carolina, during the summer of 2019. You may apply to and view all SAS Fellowship Opportunities at sas.com/summerfellowships. You must ensure two faculty members from your graduate program send a letter of recommendation via PDF to SASFellows@sas.com.

Social and Decision Analytics Division, Biocomplexity Institute and Initiative, University of Virginia

Rosslyn, Arlington, Virginia

Positions: 8+ undergraduate and 4+ graduate

Student: Undergraduate in any discipline and graduate (MS or PhD) with quantitative/analytical skills enrolled at any US university

Deadline: January 31, 2019

The Social and Decision Analytics Division at University of Virginia is seeking applications for graduate fellows and undergraduate interns for its Data Science for Public Good program.

The program will run from May 28 to August 9 for graduate fellows and June 3 to August 9 for undergraduate interns. Fellows and interns will work in teams collaborating with postdoctoral associates, research faculty, and project stakeholders. The research teams will combine disciplines—including statistics, data science, and the social and behavioral sciences—to address complex problems proposed by local, state, and federal agencies.

Application information found at <https://dspg2019.github.io>. The application will request a résumé, transcript, cover letter, and two reference letters.

Contact: Gizem Korkmaz, gkorkmaz@virginia.edu

StataCorp LLC

College Station, Texas

Positions: 1–3

Student: PhD in statistics, biostatistics, econometrics, or a closely related field

Deadline: January 21, 2019

Candidates must have completed at least three years of graduate course work; have good statistical, technical writing, and communication skills; and have experience programming in Stata, C/C++, Java, or other statistical and programming languages. Research experience in Bayesian analysis, missing-data methods, multilevel modeling, nonparametric statistics, clinical trials, survival analysis, causal inference, time-series analysis, or panel-data analysis is desirable.

Apply at stata.com/internships.

Summer Institute for Research Education in Biostatistics (SIBS)

Six to nine sites, to be announced in early 2019

Positions: Up to 25 at each site

Student: Undergraduates majoring in mathematics, statistics, biology, or other science who have interest in quantitative methods. Those

who already have a baccalaureate degree are also eligible to apply, but priority will be given to undergraduates at the time of application. US citizenship or permanent resident status is required.

Deadline: Early March 2019 or as specified by individual sites

Applications should be made to each program site separately; there is no restriction on to how many programs a student may apply.

Visit www.nhlbi.nih.gov/node-general/summer-institute-biostatistics starting in the middle of January 2019 for information.

Takeda Pharmaceuticals, Inc.

Cambridge, Massachusetts

Positions: Multiple

Student: PhD

Deadline: March 1, 2019

Candidate must currently be enrolled in a PhD statistics program (which includes biostatistics, bioinformatics, and mathematics programs with an emphasis on statistics) and have passed their qualification exams. Three years or more of training post bachelor's degree is preferred. At the end of the program, interns will give a presentation summarizing their work.

Contact: Intern Coordinator, biostatistics.intern@takeda.com

Thomas Jefferson University, Division of Biostatistics

Philadelphia, Pennsylvania

Positions: Three

Student: Undergraduate (junior or senior), graduate (MS or PhD)

Deadline: February 7, 2018

Applicants should have an interest in a career in (bio)statistics, data science, or similar quantitative field with a focus on the biomedical sciences. They may be current students or recent graduates.

For undergraduate students (or those with an undergraduate degree), any degree program is acceptable, but applicants should have strong mathematical and analytical skills and at least one course in computer programming.

For graduate students (or those holding a graduate degree), the degree program should be statistics or similar quantitative field.

Apply online at <http://bit.ly/2TcHxsx>.

Requests for interviews will be sent by February 28 and a final decision will be made by March 31.

Contact: Gloria Elnitsky, gelnitsky@jefferson.edu

Travelers

Hartford, Connecticut; St. Paul, Minnesota

Positions: 25

Student: MS or PhD

Deadline: January 2018

Responsibilities

- Work in a collaborative and dynamic environment providing recommendations to management on projects that deal with advanced analytical concepts
- Design and build statistical models at the right level of complexity to produce relevant results for the business
- Identify, integrate, and structure complex data flows
- Identify new opportunities for analytic solutions
- Validate, manipulate, and perform data analysis tasks
- Provide qualitative and quantitative data support to ensure accuracy of metrics

Contact: www.travelers.com/careers - Job Posting Number 16999BR; Kathy Ziff, kziff@travelers.com

Two Sigma Investments, LP

New York, New York

Student: Bachelor's, master's, PhD

Deadline: February 28, 2019

As an intern, you will:

- Use the scientific method to develop investment models and shape our insights into how the markets will behave
- Apply quantitative techniques like machine learning to a vast array of data sets
- Create and test complex investment ideas and partner with our engineers to test your theories

BS/MS candidates: <http://bit.ly/2FgQ2bq>

PhD candidates: <http://bit.ly/2QDmwxV>

Undergraduate Research Program in Statistical Genetics

Sioux Center, Iowa

Positions: 5–6

Student: Undergraduate

Deadline: January 31, 2019

Successful applicants will work with a team of other undergraduate students on cutting-edge problems in statistical genetics leading to publication in peer-reviewed journals and presentations at conferences. Participants will receive a \$4,000 stipend for the ~eight-week program, which runs from June 3 to July 26, 2019. Free apartment-style housing and funds for travel to/from Sioux Center, Iowa, will be provided.

Applicants must be US citizens.

Visit <http://bit.ly/2PSmNzO> for information and to apply.

Some hiring may take place prior to the deadline, so apply soon.

Contact: Nathan Tintle, statgen@dordt.edu

The University of North Carolina Center for AIDS Research

Chapel Hill, North Carolina

Positions: 1–2

Student: Undergraduate (including graduating seniors)

Deadline: March 4, 2019 (rolling admission)

As an intern, you will have the opportunity to aid in statistical analysis. Students majoring in statistics, data science, or another quantitative research field are invited to apply.

Students from under-represented minorities are highly encouraged to apply. If you have R-project, SAS, or Python experience, let us know! For details, visit <http://uncfcar.org> (Core: Biostatistics).

Summer housing/relocation is the responsibility of the applicant.

Contact: Katie R. Mollan, kmollan@unc.edu

University of Pennsylvania

Philadelphia, Pennsylvania

Positions: Multiple

Student: Undergraduate

Deadline: February 1, 2019

The Summer Undergraduate Internship Program (SUIP) and the Summer Undergraduate Minority Research (SUMR)

program at the University of Pennsylvania are accepting applications for undergraduate students to participate in summer research. Students seeking to complete a summer fellowship in biostatistics may indicate their interest in biostatistics in their application(s).

Apply online at www.med.upenn.edu/suip or <https://ldi.upenn.edu/sumr/application>. A complete application includes an online application form, statement of career goals and area of interest, two letters of recommendation, and an official transcript.

Contact: Alisa Stephens-Shields, alisaste@pennmedicine.upenn.edu

University of Pennsylvania

Philadelphia, Pennsylvania

Positions: 1

Student: Graduate

Deadline: May 1, 2019

Candidates should be available to meet at least once per week, depending on workload and complexity of project(s). Self-motivated and disciplined candidates are required for this position, as successful remote working habits will be crucial to the intern's performance. The opportunity may extend beyond the semester of hire and may turn into a paid and/or permanent position contingent upon successful completion of the internship and exceptional professional development.

Contact: Jesse Chittams, chittams@nursing.upenn.edu

US Census Bureau

Suitland, Maryland/Washington, DC

Positions: Multiple

Student: Undergraduate or graduate in statistics, mathematics, economics, or related field

Deadline: N/A

Positions will be filled under the Pathways Internship Program. This is an internship for students who have recently been accepted in or are currently enrolled at least half time in a certificate- or degree-seeking program at an accredited college or university, graduate, or professional school. Half time is six semester hours for undergraduates and three semester hours for master's and above students.

Responsibilities

- Initiate investigations based on observations in program assignment areas
- Select and modify statistical techniques and methods to produce accurate and timely data
- Evaluate alternatives to determine the appropriate methodology and procedures for efficiency, reliability, and feasibility
- Prepare documentation of procedures, and problems encountered with recommendations

Conditions of Employment

- US citizen
- Suitable for federal employment
- Registered for Selective Service if applicable (www.sss.gov)
- Complete a financial disclosure (OGE-450), if applicable
- Maintain a 3.0 or higher GPA
- Sign a Pathways Agreement

Minimum Education Requirements

- Successfully completed two full academic years of post-high-school study or an associate's degree, at least 60 credits (90 quarter hours)
- Degree that included 15 semester hours in statistics (or mathematics and statistics), provided at least six semester hours were in statistics and nine additional semester hours were in one or more of the following: physical or biological sciences, medicine, education, engineering, social sciences, demography, history, economics, social welfare, geography, international relations, social or cultural anthropology, health sociology, political science, public administration, psychology.

To apply, visit www.usajobs.gov and search for Statistician Intern, GS-1599-4/7/9, Census-Pathways.

Contact: Linda Buckner, linda.buckner@census.gov

Zoetis (Veterinary Medicine R&D)

Kalamazoo, Michigan

Positions: 1

Student: Graduate, PhD

Deadline: January 2019

Additional internships will be posted as received at www.amstat.org/ASA/Education/Internships-and-Fellowships.aspx.

Job Duties

- Assist in the design, analysis, and interpretation of biological and pharmaceutical studies
- Work on small projects that enhance the support the global biometrics team can provide to our clients (e.g., programming efficiencies, website maintenance, literature reviews, and simulations for specific topics, etc.)
- Interact with biometricians, laboratory scientists, and clinicians in a matrix environment
- Participate in a cross-disciplinary internship program aimed at providing interns experiences throughout the animal health field within the research and development environment

Qualifications

- Completion of BS in statistics/computer science/animal science
- Enrolled in MS or PhD program in statistics or related field (animal breeding, etc.)
- Knowledge of data manipulation and statistical analysis programming in SAS (experience in R is a plus)
- Knowledge of experimental design, mixed linear and non-linear model methodologies, and categorical data analyses
- Exceptional oral and written communication skills
- Basic computer skills, including use of MS Office
- Enrolled in a degree program during the spring term preceding internship
- Completion of at least one year of undergraduate studies and a 3.0 or higher GPA
- At least 18 years of age and authorized to work in the US
- Successfully pass a background check and drug screen
- Strong communication, interpersonal, organizational, problem-solving, and analytical skills

Apply online at https://zoetis.wd5.myworkdayjobs.com/zoetis_intern. Search R&D Intern—Statistics/Biometrics. ■



2018 FDA interns and organizing committee members

FDA Shows Off Interns' Work at Statistical Conference

The Food and Drug Administration (FDA) held the Oak Ridge Institute for Science and Education (ORISE) Statistical Conference August 17 at its White Oak campus in Silver Spring, Maryland, to showcase the work of its summer interns.

ORISE is an educational and training program designed to provide students with opportunities to participate in project-specific research and developmental activities. It provides educational experiences and training in public health as a way to introduce highly motivated participants to public health careers. The program, for advanced doctoral candidates in biostatistics offers opportunities to explore statistical issues arising from review activities, guidance/policy development, and other FDA initiatives that use the skills of highly trained statisticians.

This year, 155 applications were received and 21 students were selected by the Office of Biostatistics. Also included was one student sponsored by Center for Drug Evaluation and Research's (CDER) Office of New Drugs, three students sponsored by the Center for Devices and Radiological Health (CDRH), and one student sponsored by the Center for Veterinary Medicine (CVM).

The conference—which was co-sponsored by the FDA Statistical Association (FDASA), an internal organization including all FDA

statisticians—attracted approximately 150 FDA scientists, researchers, and reviewers from various disciplines of pharmaceutical research and development. Chaired by Shein-Chung Chow and co-chaired by Mengdie Yuan and Julia Luan, the conference consisted of three general sessions (Innovative Methodology Development in Clinical Trials, Practical and Challenging Issues in Drug Development, and Practical and Challenging Issues in Generics/Biosimilars Studies) and one poster session led by William Koh and Andrew Potter. There were nine oral presentations, including three panel discussions and 17 posters. Janet Woodcock, CDER director; Malcolm Berton, FDA associate commissioner for planning; and Juan Ruiz, CDER/OTS deputy director for science, were invited as keynote speakers to give the opening remarks.

The award committee, led by Jason Schroeder, presented awards to Wenda Tu of the University of Iowa for her oral presentation and Philani Mpofu of Indiana University Purdue University Indianapolis and Dongyan Yan of the University of Missouri for their poster presentations. In addition, Guoxing Soon from the conference publication committee announced that 16–18 manuscripts from the conference will be invited for publication consideration in a special issue of the *Journal of Biopharmaceutical Statistics* (tentatively the first issue of 2019). ■



Grace Wahba

Contributed by Haim Bar and Dipak K. Dey,
University of Connecticut

The 24th colloquium in the Distinguished Statistician Colloquium Series was held September 26–27 and featured **Grace Wahba** from the University of Wisconsin-Madison. Wahba is renowned for her work in statistical theory and the development of efficient numerical and statistical methods for large data sets. She has developed methods with applications in biostatistics, weather prediction, machine learning, and climate science.

The first day of the colloquium included a reception, interview of Wahba by Hao Helen Zhang from the University of Arizona and Yoonkyung Lee from The Ohio State University, and a banquet dinner. Introductions were given by Dipak Dey, UConn Board of Trustees Distinguished Professor of Statistics, and Kannan Nataraajan, head of Global Biometrics and Data Management at Pfizer Inc. Xiao-Li Meng, professor of statistics at Harvard University and past president of the New England Statistical Society, delivered an entertaining speech and toast before dinner.

The colloquium and interview were filmed September 27 in UConn's Dodd Research Center. The videos will be available at www.youtube.com/user/AmstatVideos/videos. ■

ASA member **Laura Freeman** was named the 2017 recipient of the Andrew J. Goodpaster Award for Excellence in Research. The award is presented annually to an individual demonstrating exceptional analytic achievement within the Institute for Defense Analyses research community. For details, visit www.ida.org/CareersAtIDA/IDAwards/Goodpaster.aspx. ■



Laura Freeman

The Statistics Division of the American Society for Quality (ASQ) named **James M. Lucas** the recipient of the 2018 William G. Hunter Award. The William G. Hunter Award was established by the Statistics Division in 1987 to recognize the many contributions of its founding chair at promoting the use of applied statistics and statistical thinking. The attributes that characterize Hunter's career—consultant, educator for practitioners,



James M. Lucas

communicator, and integrator of statistical thinking into other disciplines—are used to help decide the recipient.

Lucas is the principal at J. M. Lucas and Associates, a consulting firm in statistics and quality management. This firm implements business systems with statistical aspects. Before starting his consulting firm, Lucas was a senior consultant at DuPont's Quality Management and Technology Center—where he conducted his early seminal work on applied statistics—for more than 20 years. Lucas's research focuses on practical solutions to real-world problems, emphasizing the underlying science for the problem. He has successfully integrated statistical thinking with other disciplines throughout his career. For example, he was a major contributor to the development of statistical systems used throughout DuPont, including experimental design systems and statistical process control initiatives.

Lucas has been an adjunct professor at the University of Delaware and Drexel University. He has directed six PhD dissertations. He also is a fellow of the ASA and ASQ, an associate editor of *Quality Technology*, and a past associate editor of *Chemometrics and Intelligent Laboratory Systems* and *Technometrics*. He has more than 70 publications, and many are cited frequently. He authored the most-cited paper in two volumes of *Technometrics* and two volumes of the *Journal of Quality Technology*. He has won many awards, including the Shewhart Medal, Brumbaugh Award, H. O. Hartley Award, Ellis R. Ott Foundation Award, Don Owen Award, Shewell Award, and Youden Prize. Lucas holds a PhD in statistics from Texas A&M University, an MS in

statistics from Yale University, and a BS in engineering from The Pennsylvania State University. ■

William R. Bell, senior mathematical statistician for small area estimation at the US Census Bureau, is the 2018 winner of the Roger Herriot Award. The award is conferred annually to a statistician who reflects the special characteristics that marked Roger Herriot's career, including the following:

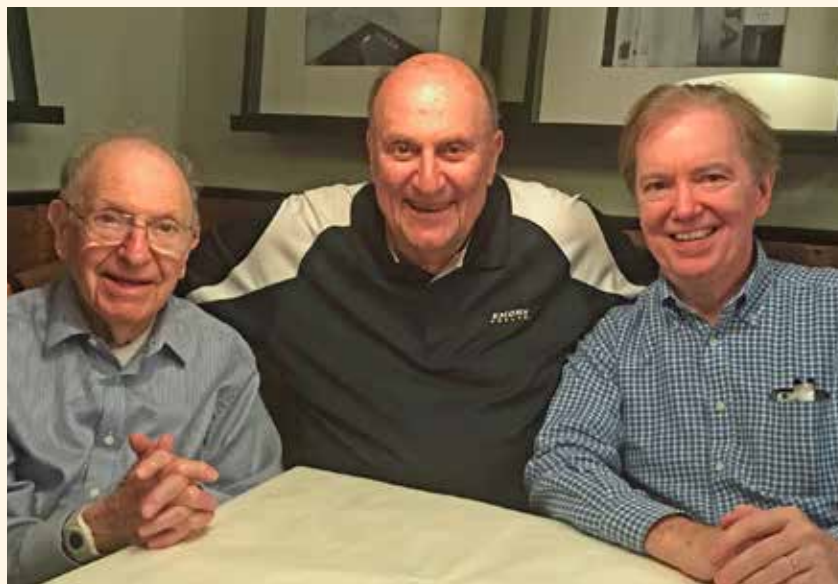
Dedication to the issues of measurement

Improvements in the efficiency of data collection programs

Improvements and use of statistical data for policy analysis

Bell is a distinguished statistician who is recognized around the world as a leader in small-area estimation and time series research. His work has had and continues to have an impact on the production of official statistics, most notably the production of poverty estimates for school-aged children.

Bell's work was instrumental in the creation of the Small Area Income and Poverty Estimates (SAIPE) program. This was developed in 1997 to produce estimates of school-aged children in poverty as mandated by the Improving America's Schools Act passed by Congress and further mandated in subsequent education bills. Bell's contribution was to create a model-based framework that incorporated current survey data on child poverty—along with administrative records such as summaries of income tax data—to improve estimates previously based on only the last decennial census data. In 2007, Bell spearheaded the work to incorporate data from the new American Community Survey (ACS) and adjust the methodology for the SAIPE estimates. The new survey was



From left: John Neter, Michael Kutner, and Christopher Nachtsheim

Michael Kutner and Christopher Nachtsheim celebrated John Neter, a former ASA president, for his many contributions to the ASA and statistics profession on October 6 in Chapel Hill, North Carolina.

much larger in scale than the Current Population Survey. Using the new survey, the Census Bureau produced more accurate estimates of poverty for states and counties.

Before turning his attention to small-area estimation problems, Bell was a peerless researcher in time series analysis. He developed procedures for outlier identification and models for calendar effects in regARIMA time series. These models are still used today at statistical agencies and central banks around the world. His work with Mark Otto in developing a separate program for regARIMA model estimation forms the basis for the modeling module of the X-13ARIMA-SEATS seasonal adjustment software used in the United States and other countries for producing official seasonal adjustments.

Bell's theoretical work in unobserved component models

and signal extraction led to the development of the regCMPNT software, which estimates a time series. This model allows analysts to account for nonsampling error in survey estimates, which improves the estimates of seasonality and other components. ■

Bin Yu is on a team of eight colleagues from the University of California, Berkeley; University of California, San Francisco; and Stanford who just received a highly selective Chan-Zuckerberg (CZ) Inter-campus Research award for their proposal, "Multi-Scale Deep Learning and Single-Cell Models of Cardiovascular Health." Only six awards were made from 83 applications. The CZ Biohub connects UC Berkeley, UCSF, and Stanford to conduct "research that helps solve big health problems" and "support the best and brightest biologists, scientists, engineers, and technologists." ■

COMMITTEE NEWS

ASA Archives and Historical Materials

Without a concerted effort to preserve important historical materials, relevant information about the ASA might be lost over time. To prevent this, the ASA has the Archives and Historical Materials Committee (AHMC) with the following charge:

- To identify, collect, preserve, and make accessible the permanent records of the American Statistical Association and its committees, sections, chapters, and representative bodies, as appropriate
- To serve as the American Statistical Association representatives to review and advise on contracts relating to historical and archival material

A history of the AHMC, originally written by Rich Allen, outlines the development of the committee. A precursor to the current committee was the Committee on Preservation of Documents of Distinguished Statisticians, established in 1967 by former ASA president Fred Mosteller with Churchill Eisenhart as chair. This committee merged in 1989 with the Committee on ASA Archives (which began in 1984), and Eisenhart continued to lead the combined committee.

One of the major accomplishments in the early years of the committee was overseeing the transfer of important ASA documents to the library at Iowa State University, which would serve as a repository for the archived materials. The Iowa State University Library Special Collections and University

Archives (SCUA) in Ames, Iowa, holds the records of the American Statistical Association, with its earliest documents dating from 1839. There are some 19th-century records, including a copy of the American Statistical Association's original charter and constitution; some early correspondence; and an early record book from 1872–1916.

The collection is most complete, however, for more recent decades, particularly beginning in the 1980s. It includes correspondence, committee files, financial records, publications, conference proceedings, news clippings, and research proposals. The records were donated to Iowa State University Library in 1984. A finding aid for the collection is available online, which provides a folder-level inventory of the collection. The collection is open to the public and can be reviewed in person at Parks Library on the Iowa State University campus. Questions about accessing the collection can be directed to SCUA at archives@iastate.edu.

Another major archival project was organizing the ASA project for the filming of Distinguished Statisticians videotapes. The AHMC, led by Dipak Dey, converted the videotaped interviews to DVD format. In a related effort, the AHMC and its Iowa State partner led the effort to convert a series of *Continental Classroom* films (dating from the 1950s) of Fred Mosteller, Paul Clifford, and Robert Rourke from reel-to-reel format to DVD. A future goal of the AHMC is to convert the Distinguished Statistician DVDs to streaming video and have them available online.

In recent years, the AHMC has increased its presence at the Joint Statistical Meetings. During JSM 2014 in Boston, the AHMC had a special booth with a slide show, posters, games, and information about the 175th anniversary of the ASA. Since 2014, the committee has sponsored numerous JSM sessions on topics such as the history of the ASA and its presidents, the history of clinical trials, the role of the ASA, and the impact of statistics on government policy.

An important distinction that is sometimes overlooked is that the AHMC deals with the history of the ASA, not the history of statistics as a whole. To fill that gap, an ASA interest group focusing on the history of statistics was started in 2017 at the suggestion of John McKenzie.

Michael P. Cohen, Phyllis Curtiss, David Hitchcock, Alan Hutson, Wendy Martinez, John McKenzie, and Margaret Nemeth met at JSM 2017 in Baltimore and discussed the formation of the ASA History of Statistics Interest Group. The group wrote a draft charter and obtained 156 names for the petition to form an ASA interest group. The Council of Sections approved the charter and the History of Statistics Interest Group was formed in December 2017 with Wendy Martinez serving as the chair for 2017–2018.

The purpose of the History of Statistics Interest Group is to bring together individuals and groups who have an active interest in the history of statistics, to share information and research about the history of statistics, and to provide resources for educators and researchers. ■

MORE ONLINE

For more information about the ASA Archive and Historical Materials Committee, visit <http://bit.ly/2FiNeKU>.



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chapternews

Indiana Student Chapter



From left: Aida Yazdanparast (chapter officer), Alex White (chapter officer), Vahid Andalib (chapter officer), and Maggie Christy (student volunteer)

Members of the Indiana University Student Chapter worked with the ASA's Central Indiana Chapter at the 2018 Celebrate Science Indiana in early October. ■

North Carolina

Members of the North Carolina (NC) Chapter presented their awards this fall. Service and contribution awards went to Breda Munoz of RTI and Sujit Ghosh of North Carolina State University for their long and outstanding service to the NC Chapter. Senior statistician awardees David Banks of SAMSI and Duke University, David Dickey of North Carolina State University, and Maura Stokes of SAS also were honored for their major contributions to the field. The awards were presented at the Conference on Advances in Interdisciplinary Statistics and Combinatorics (AISC) Banquet and Awards Ceremony on October 6.

NC Chapter and AISC Young Researcher Award winners included the following:

- Yunran Chen and Siyun Yang of Duke University
- Isabel Gesen* of Elon University
- Vincent Davis and Shana McDowell* of North Carolina Central University
- Jesse Clifton, Lin Dong, Sohini Raha, Eric Rose, Lili Wu, and Zekun Xu of North Carolina State University
- Sean McCabe* and Jonathan William* of The University of North Carolina at Chapel Hill
- Julia Haines* of Wake Forest University
- Qiuyi Wu of SAMSI

*These young researchers are also members of the NC Chapter's Scholastic Council, an initiative to coordinate activities and disseminate information to North Carolina's schools, colleges, and universities.

More information about these awards and the award winners can be found on the ASA Community North Carolina chapter page at <http://community.amstat.org/northcarolina/aboutus>. ■

sectionnews

Statistics in Defense and National Security

The ASA's Section on Statistics in Defense and National Security (SDNS) sponsored an inaugural Defense and Aerospace Test and Analysis Workshop (DATAWorks) March 20–22 in Springfield, Virginia. Attendees selected their choice of a one-day tutorial on computer experiments, design of experiments, survey construction and analysis, uncertainty quantification, or introduction to R. The next two days of the workshop consisted of shorter tutorials and invited and contributed talks. Analysts from across the Department of Defense and NASA met with leading academics, shared best practices, and gained new ideas.

Videos of plenary talks are available at idalink.org/DATAWorks18. All workshop slides are available at DATAWorks2018.org.

Next year's workshop is scheduled for April 9–11 in Springfield, Virginia. Registration is available at DATAWorks2019.org. ■

Physical and Engineering Sciences Message from Outgoing Chair

Pete Hovey, SPES Chair

Time flies when you're having fun—and when you're busy. I knew SPES had many activities, but it really hit home when I was contacted about so many details. But being busy is fun, and I got to meet a lot of new SPES volunteers this year.

This has been another successful year for SPES. The main SPES activities included the Joint Spring Research Conference and Quality and Productivity Conference, hosted by Los Alamos National Laboratory; the Joint Statistical Meetings, at which SPES hosted several successful invited and contributed sessions; and the Fall Technical Conference, held in West Palm Beach, Florida. The success of each conference depended on the generous contributions of volunteers as they managed arrangements, lined up speakers, and kept things running smoothly once the conferences began. I want to express my thanks—and the thanks of the entire section—to this year's volunteers, who kept SPES conferences running.

Somewhat less visible are the other SPES officers and appointees who form the executive committee. These volunteers keep the other functions going, such as keeping the books and reporting on business meeting discussions, lining up short courses and webinars, arranging for industrial speakers at universities, and keeping the SPES members informed through regular articles in *Amstat News*. I want to thank all these officers, as well, for their important work.

Last, if you have been a member and thought about volunteering, make next year the year you do.

Contact me or any of the new officers next year and let us know what you would like to do. There are many volunteer positions. And if you see a need, we are always looking for new ideas for services for SPES members.

2019 Spring Research Conference

Robert B. Gramacy, SRC Program Chair

Save the date! On behalf of the 2019 Spring Research Conference (SRC) organizing committee (Yili Hong, Xinwei Deng, and me), I extend an invitation to you, to join us at Virginia Tech in Blacksburg, Virginia, May 22–24, 2019. The SRC is the annual meeting of the Section on Physical and Engineering Sciences. Although historically emphasizing industrial statistics, design, quality, and reliability, the meeting has increasingly emphasized modern methods in learning and high-performance computing in statistical methodology.

Details, including a tentative invited program, are available at www.stat.vt.edu/index/SRC2019.html.

Statistics & Quality: Riding the Big Data Wave at FTC

Mindy Hotchkiss and Daksha Chokshi, 2018 FTC General Committee Co-Chairs

The 62nd Annual ASA/ASQ Fall Technical Conference (FTC) was held October 4–5 in West Palm Beach, Florida. The goal of this conference—jointly sponsored by the ASA's Physical and Engineering Sciences (SPES) and Quality & Productivity (Q&P) sections and the American Society for Quality's (ASQ) Chemical and Process Industries Division (CPID) and Statistics Division—is to bring together researchers and practitioners across a variety of industries. This year's theme was “Statistics and Quality: Riding the Big Data Wave.”

The conference format is three parallel sessions with a mix of contributed and invited talks held between four plenary sessions. A day of short courses preceded the conference, including the following:

- 21st Century Design of Screening Experiments, with Peter Goos of KU Leuven, Belgium
- Bayesian Statistics for Better Process Understanding and Prediction, with Katherine Giacoletti of SynoloStats
- Bridging Statistics and Data Science, with Ming Li of Amazon and Hui Lin of Netlify
- Strategies for Formulations Development, with Ronald D. Snee of Snee Associates and Roger Hoerl of Union College

The first plenary session, chaired by Q&P, honored the recipient of the Gerald J. Hahn Q&P Achievement Award, Wayne Nelson, who gave the morning plenary address, “Collaboration.” During his talk, Nelson discussed highlights and historical perspectives of his

MORE ONLINE

The full program from the Fall Technical Conference is available at www.falltechnicalconference.org.

successful and long-lasting career (including 24 years of working with Gerry Hahn at GE) and lessons learned while collaborating.

The second plenary session, a luncheon chaired by CPID, was given by Jerry Tarnacki, a retired senior vice president of Aerojet Rocketdyne with 37 years of experience in the aerospace industry. His talk, “Aerospace Technologies: Past, Present, and Future,” was about the history of aerospace technology.

CPID also announced the winners of the Shewell Prize and two awards for papers published in *Technometrics*: the Frank Wilcoxon and Jack Youden prizes. The Shewell Prize is awarded to the best contributed FTC talk from the prior year. This year, it was given to presenting author John Szarka of W.L. Gore and coauthors Willis Jensen and Kevin White for their talk, “Stability Assessment with the Stability Index.”

The Frank Wilcoxon Prize is awarded to the author(s) with the paper containing the greatest value of application to practical problems. It was given this year to Matt Pratola, Ofir Harari, Derek Bingham, and Gwen Flowers for their paper, “Design and Analysis of Experiments on Nonconvex Regions” (Vol 59, Issue 1, 2017).

The Jack Youden Prize is given to the best-written paper on a topic of current interest and invaluable for anyone who might want to understand or pursue research in that area. The Prize was awarded to Anil Damle and Yuekai Sun for their paper, “A Geometric Approach to Archetypal Analysis and Nonnegative Matrix Factorization” (Vol 59, Issue 3, 2017).

The first day of the conference concluded with the Youden Memorial Address at the session chaired by the Statistics Division. This year, the address was given by L. Allison Jones-Farmer of the Miami University of Ohio. Her talk, “Leveraging Industrial Statistics in the Data Revolution,” explored how the role of the “data scientist” has evolved.

The Statistics Division also announced the winners of several other prestigious awards at this session, including the Nelson Award, Bisgaard Award, and Hunter Award. The Lloyd S. Nelson Award recognizes the article published in the *Journal of Quality Technology*. Recipients were Peter Goos and Steven G. Gilmour for the paper, “Testing for Lack of Fit in Blocked, Split-Plot, and Other Multi-Stratum Designs.”

The Søren Bisgaard Award recognizes the article published in the journal *Quality Engineering*. Recipients were Murat Kulahci and Anil Menon for their paper, “Trellis Plots as Visual Aids for Analyzing Split Plot Experiments.”

Open access to these articles will be available at <https://asq.org/pub/jqt> and <https://asq.org/pub/qe>.

The William G. Hunter Award, named for the founding chair of the Statistics Division, recognizes people with outstanding accomplishments in the field of applied statistics. This year’s recipient was James

Call for Papers

Abstract submission is open until February 28, 2019, for the next Fall Technical Conference, which will be held September 25–27, 2019, in Gaithersburg, Maryland. The theme is “Statistics: Setting the Standard for Success in Quality.” Abstracts can be submitted at www.falltechnicalconference.org/submit-an-abstract.

M. Lucas, formerly a senior consultant at DuPont’s Quality Management and Technology Center and now principal consultant at J.M. Lucas and Associates.

The final plenary was given by Lisa LaVange, current ASA president. Her talk, “Leading in a Data Science World,” focused on how statisticians as leaders play an essential role in understanding and explaining the uncertainty arising from the use of real-world data in novel applications.

The conference concluded with a reception and special panel session coordinated by SPES. The topic was “Statistical Engineering: What Is It and Where Is It Going?” with panelists Roger Hoerl of Union College, William Brenneman of Procter & Gamble, and Geoff Vining of Virginia Tech.

Several student and early-career registration and travel grants are available by application and awarded by the Statistics Division. This year, CPID joined in the program and sponsored their first student. Awardees were Shane Bookholtz, Sean Carter, Ziyu Hu, Katherine Allen Moyer, and Ching-Chi Yang.

Next year’s conference will be held September 25–27 at the National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland. It will be chaired by Adam Pintar of NIST, a past chair of the ASQ Statistics Division. The theme of the conference is “Statistics: Setting the Standard for Success in Quality.” Conference information and the call for papers are posted at www.falltechnicalconference.org. The deadline for contributed abstracts is February 28, 2019. ■

Survey Research Methods

The Survey Research Methods Section (SRMS) website has been migrated to the ASA community page at <http://community.amstat.org/surveyresearchmethodssection/home>. Visit our new website for updates, resources, and proceedings. ■

Gerald J. Hahn Q&P Achievement Award

During the Fall Technical Conference in October, Wayne Nelson was honored with the Gerald J. Hahn Q&P Achievement Award. Nelson also gave the Q&P plenary address at the conference, sharing lessons learned from his statistical consulting career.

Nominations for the 2018 prize are due February 28, 2019. For information about the award and nomination process, visit the Q&P website at <http://community.amstat.org/qp/scholarshipsawards/geraldjhahnqachievementaward> or contact the committee chair, Di Michelson, at di.michelson@sas.com. ■

Shelton Jones Legacy Scholarship



Shelton Jones

When he turned 60, Shelton Jones—a longtime member of the ASA and a statistician at RTI—said he wanted to start a scholarship at North Carolina State University for first-generation college students who desire to major in statistics or mathematics. His children are working to fulfill his vision by establishing the Shelton

Maurice Jones Legacy Scholarship. Distributions from the scholarship fund will be used to provide scholarships to one or more outstanding undergraduate students pursuing a degree in statistics or mathematics within the college of sciences. Awards will be determined by the dean of the college of sciences, or his or her designee, in accordance with the established procedures for awarding merit-based scholarships. Awards will be for one academic year and may be renewable based on specific criteria being met; the student will be informed of the criteria when the original award is made.

Jones, who passed away in 2016, was a dedicated mentor to colleagues, both at RTI and elsewhere. He served as a deacon at Peace Missionary Baptist Church and was an enthusiastic North Carolina State University fan. He joined RTI in 1979 and worked there for more than 35 years in the areas of survey statistics, administrative sampling, probability-record linkage, and cancer research. He was known for his supervisory skills and devotion to his staff.

Donations can be made in Jones's honor at <http://bit.ly/2zPY70J>. ■

SPAIG Award

Nominations are sought for the 2019 Statistical Partnerships in Academe, Industry, and Government (SPAIG) Award. The award was established in 2002 to recognize outstanding partnerships between academe, industry, and government organizations, as well as to promote new partnerships among these organizations. The award is sponsored by the ASA SPAIG Committee and distinct from other ASA awards

in that it recognizes outstanding collaborations between organizations, while also recognizing key individual contributors.

The award will be presented at the Joint Statistical Meetings in August 2019 in Denver, Colorado.

Selection Criteria

The nominated partnership must be between organizations from at least two of the three sectors: academe, industry, and government. Also, the collaboration must have resulted in significant contributions to the statistical field with applications to real-world problems. Some examples include innovative methodologies or initiatives, new technologies, publications, presentations at statistical conferences, statistical workshops and training opportunities, exchange visits, internship programs, and funding and consulting opportunities.

How to Nominate

To submit a nomination, complete the nomination form found at <https://form.jotform.com/AmStat/spaig-award> and upload supporting documents by March 1, 2019.

Award details—including a link to the online nomination form, instructions, and past recipients—can be found at www.amstat.org/ASA/Your-Career/Awards/Statistical-Partnerships-Among-Academe-Industry-and-Government-Award.aspx.

For more information or to ask questions, contact the SPAIG Committee chair at SPAIGAward@gmail.com.

To learn more about SPAIG, listen to Episode 58 of the Biopharmaceutical Section's podcast at <https://community.amstat.org/biop/podcast>. ■

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

Award	Deadline	Nominations	Questions
COPSS Presidents' Award	Jan. 15, 2019	<i>community.amstat.org/copss/home</i>	
George W. Snedecor Award	Jan. 15, 2019		
Karl E. Peace Award	Feb. 1, 2019	<i>awards@amstat.org</i>	Laurel A. Beckett <i>labeckett@ucdavis.edu</i>
W. J. Dixon Award for Excellence in Statistical Consulting	Feb. 1, 2019	<i>awards@amstat.org</i>	Michael E. Griswold <i>mgriswold@umc.edu</i>
Harry V. Roberts Statistical Advocate of the Year Award	Feb. 15, 2019	<i>awards@amstat.org</i>	Anthony J. Babinec <i>tbabinec@sbcglobal.net</i>
Samuel S. Wilks Memorial Award	Feb. 15, 2019	<i>awards@amstat.org</i>	Steven G. Heeringa <i>sheering@isr.umich.edu</i>
W. J. Youden Award in Interlaboratory Testing	Feb. 15, 2019	<i>awards@amstat.org</i>	Angela M. Dean <i>amd@stat.osu.edu</i>
Waller Awards	Feb. 15, 2019	<i>awards@amstat.org</i>	Ann R. Cannon <i>acannon@cornellcollege.edu</i>
Statistics in Physical Engineering Sciences Award	Feb. 20, 2019	Ming Li, <i>mli@alumni.iastate.edu</i>	
Gertrude M. Cox Scholarship	Feb. 23, 2019	<i>awards@amstat.org</i>	Eloise E. Kaizar <i>ekaizar@stat.osu.edu</i>
Causality in Statistics Education Award	March 1, 2019	<i>educinfo@amstat.org</i>	
Edward C. Bryant Scholarship Trust Fund	March 1, 2019	<i>awards@amstat.org</i>	Dipankar Bandyopadhyay <i>dbandyop@vcu.edu</i>
Excellence in Statistical Reporting Award	March 1, 2019	<i>awards@amstat.org</i>	Sat N. Gupta <i>sngupta@uncg.edu</i>
ASA Fellows	March 1, 2019	<i>awards@amstat.org</i>	
Mentoring Award	March 1, 2019	<i>awards@amstat.org</i>	Lillian S. Lin <i>ls.lin.mt@gmail.com</i>
Outstanding Statistical Application Award	March 1, 2019	<i>awards@amstat.org</i>	Jung-Ying Tzeng <i>jytzeng@stat.ncsu.edu</i>
Statistical Partnerships Among Academe, Industry, and Government (SPAIG) Award	March 1, 2019	<i>awards@amstat.org</i>	Kelly H. Zou <i>kelly.zou@pfizer.com</i>
Founders Award	March 15, 2019	<i>awards@amstat.org</i>	Lisa M. LaVange <i>lisalavange.asa@gmail.com</i>
Links Lecture Award	May 1, 2019	<i>awards@amstat.org</i>	Arthur B. Kennickell <i>arthur.kennickell@gmail.com</i>
Lester R. Curtin Award	Oct. 15, 2019	<i>awards@amstat.org</i>	Ronald L. Wasserstein <i>ron@amstat.org</i>
Lingzi Lu Memorial Award	Oct. 15, 2019	<i>awards@amstat.org</i>	Victoria Sides <i>victoriasides16@gmail.com</i>
Deming Lecturer Award	Oct. 15, 2019	<i>awards@amstat.org</i>	Roger W. Hoerl <i>roger.hoerl@gmail.com</i>
Monroe G. Sirken Award in Interdisciplinary Survey Methods Research	Oct. 15, 2019	<i>awards@amstat.org</i>	John L. Czajka <i>jczejka@mathematica-mpr.com</i>
Elizabeth L. Scott Award	Dec. 15, 2019	<i>community.amstat.org/copss/home</i>	

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

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

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

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

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

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

Alabama

■ University of Alabama, Birmingham is accepting applications for a postdoctoral position in statistical genetics/genomics from people with strong backgrounds in statistics, mathematics, computations or other relevant quantitative skills who have a willingness to learn to apply these techniques to genetic/genomic studies. Submit resume to: Postdoctoral Search Committee, statgenetics@uab.edu University of Alabama, Birmingham is an Equal Opportunity/Affirmative Action Employer.

■ University of Alabama at Birmingham invites applications for a tenured, tenure-track, or non-tenure-track faculty position in statistical genetics/statistical genomics. Applications will be reviewed on a rolling basis and will continue until the position is filled. The anticipated start date for this position is spring or summer 2019. For more information/apply: uab.peopleadmin.com/postings/4329 University of Alabama at Birmingham is an Equal Opportunity/Affirmative Action Employer.

California

■ RAND Corporation is seeking PhD statisticians for exciting opportunities to collaborate on multidisciplinary

public policy research projects.

Openings exist for recent graduates and experienced statisticians. See our ad at jobs.amstat.org/jobs for details or go to www.rand.org/statistics. Applications received by December 16, 2018, will receive priority. Applications must be submitted online following the instructions at www.rand.org/jobs.html (search PhD Statistician). Send questions to statrecruiting@rand.org. Equal Opportunity Employer.

■ RAND Corporation is seeking PhD statisticians for exciting opportunities to collaborate on multidisciplinary public policy research projects. Openings exist for recent graduates and experienced statisticians. See our ad at jobs.amstat.org/jobs for details or go to www.rand.org/statistics. Applications received by December 16, 2018, will receive priority. Applications must be submitted online following the instructions at www.rand.org/jobs.html (search PhD Statistician). Send questions to statrecruiting@rand.org. EOE.

District of Columbia

■ Tenured/tenure-track open-rank professor of epidemiology and biostatistics. Basic duties: Establish an externally funded, internationally recognized, and interdisciplinary research portfolio in clinical trials, epidemiological,

diagnostic studies, controlled trials in educational research, or may extend to other areas of research such as forensic statistics. Review of applications begins on 10/8/2018 and is ongoing until the position is filled. Apply online at www.gwu.jobs/postings/55369. EOE/AA.

Florida

■ University of Florida is recruiting up to five tenure-track assistant, associate or full professor level positions within the department of biostatistics, two of which are teacher/scholar positions as part of the recent UF Faculty 500 initiative. Qualifications include a doctoral degree in biostatistics or related quantitative discipline and excellence in research, teaching and service. Apply to teacher/scholar positions at <https://apply.interfolio.com/54732> and others at <https://apply.interfolio.com/55898>. The University of Florida is an equal opportunity institution dedicated to building a broadly diverse and inclusive faculty and staff. Hiring is contingent upon eligibility to work in the US. Searches are conducted in accordance with Florida's Sunshine Law.

Georgia

■ Open rank non-tenure track (lecturer or instructor) Instructional Faculty Position, Department of Statistics, University of Georgia, starting August 2019. Must have at least 18 graduate credit hours in statistics and an MS degree; PhD is preferred. Lecturer rank requires a PhD. To apply, visit www.ugajobsearch.com/postings/32542. The University of Georgia is an EOE.

Iowa

■ The Department of Statistics at Iowa State University invites applications for tenure-track assistant professorship w/preferred collaboration focus in the social sciences, beginning 8/16/2019. Duties include undergraduate and graduate teaching, graduate advising, and a high-impact research program that can compete for external funding. A PhD or equivalent degree in statistics or closely related discipline is

Department of Statistics Columbia University Faculty Position Starting Fall 2019

The Department of Statistics invites applications for a tenure-track Assistant Professor position to begin July 1, 2019. A Ph.D. in statistics or a related field is required. Candidates will be expected to sustain an active research and publication agenda and to teach in the departmental undergraduate and graduate programs. The field of research is open to any area of statistics and probability.

The Department currently consists of 30 faculty members, 50 PhD students, and over 300 MA students. The Department has been expanding rapidly and, like the University itself, is an extraordinarily vibrant academic community. We are especially interested in candidates who through their research, teaching and/or service will contribute to the diversity and excellence of the academic community. Women and minorities are especially encouraged to apply. For further information about the Department and our programs, please go to our webpage at: <http://www.stat.columbia.edu>

All applications must be submitted through Columbia's online Recruitment of Academic Personnel System (RAPS) at <https://academicjobs.columbia.edu/applicants/Central?quickFind=67093>

The application must include a cover letter, curriculum vitae, statement of teaching philosophy, research statement and the names of 3 references. References will be asked to upload letters of recommendation in RAPS.

Inquiries may be made to dk@stat.columbia.edu

Review of applications begins on November 30, 2018, and will continue until the position is filled.

Columbia University is an Equal Opportunity/Affirmative Action employer.

required. Guaranteed consideration date is 11/15/2018. www.iastatejobs.com/postings/36264. Iowa State University is an Equal Opportunity/Affirmative Action employer.

■ The Department of Statistics at Iowa State University invites applications for tenure-track assistant professor position with focus on data science, beginning 8/16/2019. Duties include undergraduate and graduate teaching, graduate advising, and a high-impact research program that can compete for external funding. A PhD or equivalent degree in statistics or a closely related discipline is required. Guaranteed consideration date is 11/15/2018. www.iastatejobs.com/postings/36218. Iowa State University is an Equal Opportunity/Affirmative Action employer.

■ The Department of Statistics at Iowa State University is seeking candidates for one tenure-track assistant professor position. The appointment will be affiliated with the Center for Statistics and Applications in Forensic Evidence. Duties of a successful candidate will include statistics research related to forensic sciences, undergraduate and graduate teaching, graduate advising, and professional and institutional service. See the complete position posting at www.iastatejobs.com/postings/36500. Iowa State University is an Equal Opportunity/Affirmative Action employer.

Kentucky

■ The Department of Statistics, University of Kentucky, Lexington, Kentucky seeks a tenure-track assistant professor to begin fall 2019. Areas of statistics and/or probability with experience in computational and/or mathematical statistics in encouraged. Required: PhD in statistics or related field. CV, teaching statement, research statement, inclusivity statement, and contact information for three references are required. See <http://ukjobs.uky.edu/postings/201868>. Selection begins December 1, 2018. Email statjobs@uky.edu with questions. EOE.

Massachusetts

■ Amherst College invites applications for a lecturer in statistics with the appointment to begin on July 1, 2019.

Department of Statistics Columbia University Assistant Professor (Limited-term) Positions Starting Fall 2019

The Department of Statistics invites applications for four-year term positions at the rank of Assistant Professor to begin July 1, 2019. A PhD in statistics or a related field is required, as is a commitment to high quality research and teaching in statistics and/or probability. Candidates will be expected to sustain an active research and publication agenda and to teach in the departmental undergraduate and graduate programs. Candidates with expertise in machine learning, big data, mathematical finance and probability theory are particularly encouraged to apply.

The department currently consists of 30 faculty members, 50 PhD students, and over 300 MA students. The department has been expanding rapidly and, like the University itself, is an extraordinarily vibrant academic community. We are especially interested in candidates who, through their research, teaching and/or service will contribute to the diversity and excellence of the academic community. Women and minorities are especially encouraged to apply. For further information about the department and our activities, centers, research areas, and curricular programs, please go to our web page at: <http://www.stat.columbia.edu>

All applications must be submitted through Columbia's online Recruitment of Academic Personnel System (RAPS) <http://pa334.peopleadmin.com/postings/1588>

The application must include a cover letter, curriculum vitae, teaching statement, research statement and the names of 3 references. References will be asked to upload letters of recommendation in RAPS.

Inquiries may be made to Dood Kalicharan at dk@stat.columbia.edu

Review of applications begins on December 3, 2018, and will continue until the position is filled.

Columbia University is an Equal Opportunity/Affirmative Action employer – Race/Gender/Disability/Veteran.

Department Chair and Professor

The George Mason University Department of Statistics, in the Volgenau School of Engineering, is seeking a chair who is a distinguished scholar, educator, and researcher who can lead the department into a dynamic phase of development and growth. George Mason University has a strong institutional commitment to the achievement of excellence and diversity among its faculty and staff, and strongly encourages candidates to apply who will enrich Mason's academic and culturally inclusive environment.

The department focuses on cutting-edge areas of statistical research including i) data analytics - big data, data mining, and high dimensional statistical methods ii) biostatistics - the application of statistics to medical research and iii) federal statistics - the application of statistics to important branches of the federal government. We have recently hired tenure-track and tenured faculty in the areas of financial analytics, big data problems, including sparse data, data confidentiality, and visualization of massive multi-dimensional data sets. We are looking to expand our presence in biostatistics and medical data analytics due to our partnership with the Inova Center for Personalized Health, a new research campus adjacent to Mason, with over 500,000 sq. ft of new laboratories and clinical facilities, and a strong translational component. The clinical volume at Inova exceeds that found in most university based medical schools, presenting unique partnership opportunities for medical biostatistics and data analytics. The department has 18 faculty members and offers BS, MS and PhD degrees in statistics, an MS in biostatistics, and participates in a school-wide multi-disciplinary MS degree in data analytics engineering.

Responsibilities:

The successful candidate will articulate a vision for the future success and rapid growth of our collegial department to meet current challenges, leverage current opportunities, and create new initiatives. A high visibility in the statistics professional community and the ability to raise the department's profile nationally and internationally are also desired.

Required Qualifications:

The successful candidate should hold a PhD in statistics, biostatistics, or a closely related field, and will have a distinguished research record, with substantial publications in top statistical journals and a sustained record of research funding, corresponding to a tenured appointment at the rank of full professor.

Preferred Qualifications:

Academic administrative experience at the chair, associate chair, program director, or similar administrative level.
Fellow of the ASA and/or IMS.

About Us – The Future of Engineering Is Here:

The Volgenau School of Engineering at George Mason University is a fast-growing force for innovation in technology and education. Its fall 2018 enrollment stands at close to 8,000 students in 37 undergraduate, master's, and doctoral degree programs, including several first-in-the-nation offerings. As part of a nationally ranked research university, the engineering school's research teams earned more than \$68 million in sponsored research awards in the last 12 months. Located in the heart of Northern Virginia's technology corridor, Mason Engineering is known for its leadership in emerging areas including big data, cybersecurity, health care technology, robotics and autonomous systems, signals and communications, and sustainable infrastructure.

About George Mason University

George Mason University is the largest public research university in Virginia with an enrollment of over 37,000 students studying in more than 200 degree programs. The university is classified as an R1 research institution by the Carnegie Classifications of Institutes of Higher Education. Mason is an innovative, entrepreneurial institution with national distinction in a range of academic fields. In 2018, U.S. News & World Report ranked Mason among the top 30 most innovative schools nationwide and one of the nation's top institutions for diversity, innovative learning, and a campus atmosphere that allows its students to thrive.

Mason's Fairfax, SciTech, and Arlington Campuses are in Northern Virginia near Washington, D.C., providing unmatched access to many federal agencies and national laboratories. The region is consistently rated as being among the best places to live in the country and has an outstanding local public-school system. Northern Virginia is also home to one of the largest concentrations of high-tech firms in the nation providing excellent opportunities for interaction with industry.

For full consideration, qualified applicants must apply online at <https://jobs.gmu.edu> for position F365AZ and attach a cover letter, curriculum vita, philosophy of teaching, a research statement, a vision statement (to be attached as 'other document'), a statement on diversity and inclusive excellence experience (to be attached as 'other document'), and a list of three professional references with contact information. For full consideration applicants must apply by January 7, 2019, however the review of applications will continue until the position is filled.

George Mason University is an equal opportunity/affirmative action employer, committed to promoting inclusion and equity in its community. All qualified applicants will receive consideration.



Williams College

The Williams College Department of Mathematics and Statistics invites applications for a one-year visiting position in statistics, to begin fall 2019. Candidates should have earned a Ph.D. in statistics, or a related field by summer, 2019. We will consider candidates with any area of statistical expertise.

Visiting Assistant Professors are asked to teach four courses per year on our 12-week semester schedule, advise several undergraduate student colloquia (our capstone experience for seniors), and make small contributions to service activities in the department. This set of professional duties provides a window into the experience of being a statistician in a liberal arts setting.

Our department offers a vibrant undergraduate program with majors in mathematics (including an applied mathematics emphasis) and in statistics. For more information, see our website. The multidisciplinary environment is a rich and collegial setting for student education and faculty research. Williams College provides: the opportunity to apply for student research assistant support; a standard, annual allocation of funds to support travel and research; and a shared computer cluster for parallel computation. Visiting Assistant Professors are also eligible to participate in the college's comprehensive First3 professional development program.

Approximately one hour from the Albany, NY airport, Williams College is located in Williamstown, a thriving destination proximate to: three major art museums; theater, music, and dance festivals; community supported agriculture farms; a highly-rated public school system; and many other resources. The Williams undergraduate student body has 40% U.S. minority enrollment and nearly 10% international enrollment. Reflecting the institution's values, our department is diverse and inclusive, with 50% of our faculty being women, people of color, and/or members of the LGBTQ+ community. We encourage applications from members of underrepresented groups with respect to gender, race and ethnicity, religion, sexual orientation, disability status, socioeconomic background, and other axes of diversity.

Applications should be submitted via <https://www.apply.interfolio.com/54115>. Your application should include the following components.

1. Please provide a cover letter. This letter might describe your interest in Williams and in the liberal arts, and provide a brief summary of your professional experience and future goals. We ask you to address how your teaching, scholarship, mentorship and/or community service might support Williams' commitment to diversity and inclusion.
2. Please provide a current curriculum vitae.
3. Please provide a teaching statement. Ideally, this statement should be 2 - 3 pages long, and it might address your teaching philosophy, teaching experience, and any other reflections or relevant information you would like to share.
4. Please have at least three recommenders submit letters of recommendation. If possible, at least one of these letters should comment on your teaching or on any other instructional capacities in which you have served.

If you have questions about this position, contact search committee chair Richard De Veaux (rdeveaux@williams.edu). Review of applications will begin on or after November 1 and will continue until the position is filled. All offers of employment are contingent upon completion of a background check. Further information is available at <https://faculty.williams.edu/prospective-faculty/background-check-policy>.

Williams College is a coeducational liberal arts institution located in the Berkshire Hills of western Massachusetts. The college has built its reputation on outstanding teaching and scholarship and on the academic excellence of its approximately 2,000 students. Please visit the Williams College website. Beyond meeting fully its legal obligations for non-discrimination, Williams College is committed to building a diverse and inclusive community where members from all backgrounds can live, learn, and thrive.

This full-time position has an initial three-year term and includes teaching five courses per year, and some other responsibilities. See the full ad and submit applications at MathJobs.Org. All applications received by December 17, 2018, will be guaranteed consideration. Questions can be addressed to mathstats@amherst.edu. Amherst College is an EOE.

■ The Department of Biostatistics and Computational Biology (BCB) at the Dana-Farber Cancer Institute seeks an experienced and highly motivated PhD biostatistician to engage collaboratively with investigators on basic science, animal model, and human research activities in multiple areas of adult oncology and HIV disease. PhD and at least 2 years of collaborative experience are required. Prior experience in oncology and/or HIV is a plus. www.Click2apply.net/pwmzbcyv4r96j4hy. EOE.

■ Harvard-Medical-School-teaching-hospital Brigham and Women's Hospital, Dept. of Medicine, Division of Pharmacoepidemiology & Pharmacoeconomics (DoPE). Seeking postdoctoral research fellow. Professional development and mentorship. Receive training in epidemiology, biostatistics, and implementation research. Develop and apply sophisticated statistical methodology to the study of medications from large healthcare databases. Methodological or applied epidemiological research are possible. Encouraged to publish 2 years. Email CV & cover letter to: jmfranklin@bwh.harvard.edu. EOE.

■ Applications are invited for a full-time visiting assistant professor in statistics with a three-year appointment to begin on July 1, 2019. Responsibilities include teaching four undergraduate statistics courses a year and helping with the comprehensive evaluation of senior majors. See the full ad and submit applications at MathJobs.Org. All applications received by February 22, 2019, will be guaranteed consideration. Questions can be addressed to mathstats@amherst.edu. Amherst College is an equal opportunity employer and encourages persons of all genders, persons of color, and persons with disabilities to apply. The college is committed to enriching its educational experience and its culture through the diversity of its faculty, administration, and staff.

New Brunswick

■ The Rutgers Department of Statistics invites applications for tenure-track assistant and associate professors to start fall 2019. Applicants must have a PhD in statistics or related fields. Responsibilities of the position: teaching/supervising, and conducting research in statistics, particular strength in data science, Bayesian statistics and spatial statistics are preferred. See details on application site jobs.rutgers.edu/postings/75153. Rutgers is an EOE.

North Carolina

■ The University of North Carolina at Greensboro seeks a founding director who holds a PhD degree and data science experience on a 12-month tenure-track or tenured appointment for its newly established master of science in informatics & analytics program. Submit application material at <https://>



Tenure Track Faculty STATISTICS

Virginia Tech Department of Statistics

The Virginia Tech Department of Statistics (www.stat.vt.edu) invites applications for a tenure-track faculty position in the Department of Statistics to begin in August 2019. Appointment at the rank of Assistant Professor is preferred, but the Associate level will be considered for exceptional candidates. Requirements include a Ph.D. in statistics or a closely related field and a research focus in computationally-intensive statistical methods.

This is a unique opportunity to become a member of a vibrant, growing Department of Statistics in the midst of a major expansion of our faculty and a significant modernization of our curricula and programs. The position is also part of a major emphasis on statistics, including computational modeling, data science and analytics, and empirical decision making at Virginia Tech.

Questions regarding the position can be directed to Professor Robert B. Gramacy (rbg@vt.edu), chair of the search committee. Review of applications will begin on December 1, 2018. Applications must be submitted online at <http://listings.jobs.vt.edu> (#TR0180115).

Virginia Tech is an EO/AA university, and offers a wide range of networking and development opportunities to women and minorities in science and engineering, and additionally provides a competitive dual hiring program for couples.



**HARVARD
T.H. CHAN**

SCHOOL OF PUBLIC HEALTH
Department of Biostatistics

ASSISTANT/ASSOCIATE PROFESSORS OF BIOSTATISTICS HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH

The Department of Biostatistics at the Harvard T.H. Chan School of Public Health seeks candidates to fill two tenure-track positions at the assistant or associate professor level. For at least one of the positions, we seek candidates with a strong background in biostatistical theory and methods, demonstrated expertise in the development of new methods, and an interest in collaborative research in public health and biomedical sciences. We also seek candidates with expertise in data science more broadly, including computational science, machine learning and related methods, with applications in health and biomedical research. Candidates should have the potential to become leaders in the development and application of biostatistical methods and computation in health sciences and should be enthusiastic about teaching, training, and mentorship through our graduate programs. Responsibilities will include methodological and collaborative research, teaching, and supervision of graduate students. Qualified applicants would have a doctoral degree in biostatistics, statistics, mathematics, epidemiology, computer science, computational biology, or a related field. Candidates are required to have their doctoral degree by the time the appointment begins, and academic rank will be determined in accordance with the successful candidate's experience and accomplishments.

The Department of Biostatistics <https://www.hsph.harvard.edu/biostatistics/> offers an exceptional environment to pursue research and education in biostatistics while being at the forefront of efforts to benefit the health of populations worldwide. Our faculty are leaders in the development of methods for the design and analysis of clinical trials and observational studies, missing data, causal inference, precision health, network analysis, computational and systems biology, microbiome analysis, statistical genetics and genomics, neurostatistics, and environmental statistics. Our innovative approaches to the analysis of massive health-related data are strengthened by a deep foundation in theory and application. The department prides itself on having strong mentoring and a supportive environment for assistant and associate professors. Our unique and diverse community provides unparalleled collaborative opportunities with academic departments across Harvard, the Dana-Farber Cancer Institute, and other world-class Harvard affiliated hospitals.

Please apply to: <http://academicpositions.harvard.edu/postings/8474>

For questions, please contact:

Chair, Search Committee for Assistant/Associate Professor of Biostatistics
c/o Susan Luvisi
Department of Biostatistics
Harvard T.H. Chan School of Public Health
Email: biostatjrsearch@hsph.harvard.edu

The Harvard T.H. Chan School of Public Health seeks to find, develop, promote, and retain the world's best scholars. We are committed to upholding the values of diversity, equity, and inclusion in our school and the communities we serve.

Harvard University is an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law.

Information on resources for career development and work/life balance at Harvard T.H. Chan SPH can be found at: <http://hsph.me/resources-career-development-and-work-life-balance>.

The committee will review applications on a rolling basis, beginning immediately, until both positions are filled.



Statistics/ Biostatistics Faculty Open Rank

Rutgers School of Nursing invites applications for a full-time faculty position for candidates with a doctoral degree focused in statistics, biostatistics, or related discipline. The position will be based primarily in Newark, New Jersey. We offer highly competitive salaries and benefits.

Faculty responsibilities include teaching at the graduate levels, research and publications, and community service.

Qualifications:

- PhD in Statistics, Biostatistics, or related discipline.
- Eligibility for tenure, tenure track, or non-tenure track faculty position at the rank of Assistant Professor, Associate Professor, or Professor.
- Licensure as a registered nurse, or other healthcare discipline preferred but not required.

Required Knowledge, Skills, and Abilities:

- Demonstrated excellence in teaching preferred.
- Ability to teach and conduct a wide range of statistical and methodological approaches in clinical, health services, and/or socio-biobehavioral research.
- Knowledge and skills in a variety of statistical software packages including SPSS, SAS, R.
- Knowledge and skills in scientific ethics, interpretation of findings, scientific reporting, and manuscript preparation.
- Ability to serve as a member of PhD student dissertation committees.
- Ability to provide statistical consultation to faculty, data analysis and interpretation, and to serve as co-investigator on research grant proposals to NIH and other funding sources.

Apply:

<http://jobs.rutgers.edu/postings/74736>

Rutgers is an EOE Employer.

spartantalent.uncg.edu/postings/11869. For information, contact the search chair, Sat Gupta, at msia@uncg.edu. UNCG is an EOE//M/F/D/V employer and is strongly committed to increasing faculty diversity.

Pennsylvania

■ The University of Pittsburgh Department of Statistics is seeking applications for lecturer beginning September 2019, pending budgetary approval. Positions are outside the tenure stream with the expectation of multiyear contract renewals. Candidates should have a PhD in statistics, biostatistics or related field and a demonstrated talent for teaching undergraduate statistics courses and mentoring students. Position details are available at www.stat.pitt.edu/open-positions-department-statistics. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer and values equality of opportunity, human dignity and diversity. EEO/AA/M/F/Vets/Disable.

■ The University of Pennsylvania Wharton Statistics Department, seeks full-time, tenure-track or tenured faculty at any level: assistant, associate, or full professor, appointment beginning July 2019. Applicants must show outstanding capacity in research and teaching. Applicants must have a PhD (expected completion by June 30, 2020 is acceptable) from an accredited institution. Visit our website to apply: <https://statistics.wharton.upenn.edu/recruiting/facultypositions>. Questions can be sent to statistics.recruit@wharton.upenn.edu. The University of Pennsylvania is an EOE. Minorities /Women /Individuals with disabilities /Protected Veterans are encouraged to apply.

■ Research Track Faculty Position in Statistics. The University of Pennsylvania School of Nursing seeks candidates for non-tenure, research track, associated faculty position. We seek statistician to provide advanced statistical expertise and assume the role of director of the

Opportunities in Biostatistics

Co-Leader for Biostatistics Shared Resource Available

The Division of Public Health Sciences in the Department of Surgery at Washington University School of Medicine in St. Louis invites applications for two faculty positions: one as a co-leader of the Siteman Biostatistics Shared Resource (SBSR), a tenure-track/tenured position at the rank of Associate or Full Professor; and the other at any rank for a biostatistician to serve in the SBSR. Located in the Division of Public Health Sciences, these faculty positions align to work alongside Siteman Cancer Center members to further cancer research through biostatistics collaborations. The diverse faculty in the division collaborate with departments across the university through teaching, mentoring, and research projects. Leadership within the Siteman Cancer Center supports engaging one or more senior investigators into this shared resource which already supports two SPORs (Pancreas and Leukemia) and others are possible, in addition to numerous team science awards.

We are particularly interested in candidates with biostatistics expertise in cancer and application of state of the art methods across the cancer care continuum. Learn more at www.publichealthsciences.wustl.edu.

The SBSR provides support consultation and collaboration on biostatistics and epidemiology. The facility supports cancer research through experimental designs, study monitoring, and data analyses. We utilize efficient methods that reflect the best practices in biostatistics and epidemiology. The Division of Public Health Sciences is rich with opportunity for innovative research and conducts transdisciplinary research addressing cancer risk across the life course and across generations, from conception to workplace and survivorship. The Siteman Cancer Center Prevention and Control program brings together more than fifty investigators who are studying the relations among biological, genetic, psychological, and epidemiological factors. Studies range from genetic investigations to clinical outcomes, and community-based participatory research.

To apply, send a cover letter, curriculum vitae and professional reference list by email to repkot@wustl.edu or mail to Tammie Repko, Division of Public Health Sciences, Department of Surgery, Washington University School of Medicine, 660 S. Euclid Ave., Campus Box 8100, St. Louis, MO, 63110. Washington University School of Medicine is an equal opportunity employer.

Biostatistics, Evaluation, Collaboration, Consultation, & Analysis (BECCA) Lab. Applicants must have PhD and demonstrated qualifications as an independent lead statistician with responsibilities on multiple simultaneous projects. Apply: www.nursing.upenn.edu/faculty-affairs/open-faculty-positions. The University of Pennsylvania is an EOE. Minorities /Men /Individuals with disabilities/Protected Veterans are encouraged to apply.

■ The University of Pittsburgh Department of Statistics is seeking applications for associate or full professor beginning September 2019, pending budgetary approval. The candidate should have a strong methodological research program in mainstream modern statistics, with a solid record of publications and research funding. The successful candidate must also demonstrate excellence in teaching, mentoring graduate and/or undergraduate students, and administration. Applicants can apply online: <https://facultysearch.as.pitt.edu/apply/index/MjM1>.

The Williams College Department of Mathematics and Statistics invites applications for a new tenure-track position in Statistics, beginning fall 2019, at the rank of assistant professor. A more senior appointment is also possible for a qualified candidate at a later stage in their career. The candidate should have a Ph.D. in Statistics or a closely related field by the time of appointment. We are seeking candidates who show evidence and/or promise of excellence in teaching and a strong research program that can engage undergraduate students. The candidate will become the seventh tenure-track statistician in the department, joining a vibrant and innovative group of statisticians with an established statistics major. For more information on the Department of Mathematics and Statistics, visit <http://math.williams.edu/>.

Candidates may apply via <https://apply.interfolio.com/50978> by uploading a cover letter addressed to Professor Richard DeVeaux, a curriculum vitae, a teaching statement, a description of research plans, and three letters of recommendation on teaching and research. The Department is committed to building a diverse and inclusive community. In your application materials, we also ask you to address how your teaching, scholarship, mentorship and/or community service might support Williams's commitment to diversity and inclusion.

Expectations: The teaching load is two courses per 12-week semester and a winter term course every other January. The candidate will be expected to teach introductory statistics, core courses for the statistics major, and elective courses in their areas of interest. The successful candidate will establish an independent research program that results in scholarly publications. Williams College provides broad support for start-up funds, funding for student research assistants, faculty professional development funds, and a shared computer cluster for parallel computation.

Review of applications will begin on or after October 1st and will continue until the position is filled. All offers of employment are contingent upon completion of a background check. Further information is available at <https://faculty.williams.edu/prospective-faculty/background-check-policy/>. Williams College is a coeducational liberal arts institution located in the Berkshire Hills of western Massachusetts. The college has built its reputation on outstanding teaching and scholarship and on the academic excellence of its approximately 2,000 students. Please visit the Williams College website (<http://www.williams.edu>). Beyond meeting fully its legal obligations for non-discrimination, Williams College is committed to building a diverse and inclusive community where members from all backgrounds can live, learn, and thrive.



Williams College

Department of Statistics Columbia University Lecturer in Discipline Positions Starting Fall 2019

The Department of Statistics invites applications for a position at the rank of Lecturer in Discipline that begins July 1, 2019. It is a full-time appointment with multi-year renewals contingent on successful reviews. This position is to contribute to the Departmental educational mission at the undergraduate and masters level.

Lecturers in Discipline are officers in the University who meet a programmatic need for instruction in specialized fields. The selected candidate will be expected to teach 3 courses per semester. A Ph.D. in Statistics or related field and a commitment to high-quality teaching at both the undergraduate and MA levels in Statistics and/or Probability are required. Experience with online education is desirable but not required. Candidates will be expected to participate in the full gamut of statistics education including curriculum improvement, modifying and developing courses, and exploring new strategies for the teaching of statistics.

The Department of Statistics at Columbia University is an extraordinarily vibrant academic community, which has been growing rapidly. The department currently consists of 30 faculty members, 50 PhD students, and over 300 MA students. For further information about the department and our activities, centers, research areas, and curricular programs, please visit our web page at: <http://www.stat.columbia.edu>

All applications must be submitted through Columbia's online Recruitment of Academic Personnel System (RAPS) and must include the following materials: cover letter, curriculum vitae, statement of teaching philosophy, research statement, evidence of teaching effectiveness (teaching evaluations), a sample of course syllabus and the names of 3 references into the system. Applicants also should arrange for three letters of recommendation to be uploaded on their behalf. For more information and to apply, please go to: academicjobs.columbia.edu/applicants/Central?quickFind=67095

Inquiries may be made to dk@stat.columbia.edu

Review of applications begins on January 7, 2019 and will continue until the position is filled.

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ROLLINS SCHOOL OF PUBLIC HEALTH
DEPARTMENT OF BIOSTATISTICS AND BIOINFORMATICS
TENURE-TRACK ASSISTANT PROFESSOR POSITIONS

The Department of Biostatistics and Bioinformatics is recruiting up to two tenure-track faculty at the Assistant Professor level. We seek individuals with the potential to develop into impactful leaders and innovators in their areas of research interest. Responsibilities associated with these positions include independent and collaborative methodological research, teaching, and the supervision of graduate students.

Collaborative opportunities exist within the Rollins School of Public Health Departments of Epidemiology, Behavioral Sciences and Health Education, Health Policy and Management, Environmental Health, and Global Health. Research opportunities also exist throughout Emory's Woodruff Health Sciences Center and with nearby partner institutions, including the School of Medicine, the Alzheimer's Disease Research Center, the Winship Cancer Institute, Yerkes Primate Center, the Vaccine Center, the Center for AIDS Research, the VA Medical Center, and the Centers for Disease Control and Prevention. These avenues provide excellent platforms for candidates with expertise and interests in diverse areas including, but not limited to, the integrative analysis of large-scale multimodal (clinical, medical imaging, and omics) data, inferential machine learning, causal inference, analysis of electronic medical record and mobile health data, and studies of the microbiome and exposome.

The department includes 35 faculty members currently supported by a wide range of external funding, as Principal Investigators, Core Directors, and Co-investigators. Faculty engage in diverse methodological research areas with specific motivation from an equally broad array of public health focus areas, including Alzheimer's disease, infectious diseases, cancer, cardiovascular and renal disease, epidemiological surveillance, and environmental and mental health. The department participates in the Georgia Clinical and Translational Science Alliance, serves as the Data Coordinating Center for several NIH clinical trials, and operates the Biostatistics Collaboration Core. The department offers a doctoral graduate program in Biostatistics from the Laney Graduate School of Arts and Science and master's degree programs in Biostatistics and Public Health Informatics from the Rollins School of Public Health. A concentration in bioinformatics, imaging, and genetics (BIG) is available at the doctoral level.

Requirements: Doctoral degree in Biostatistics/Statistics or a related field; strong record of or high potential for methodologic research; intent and ability for scientific collaborative research and graduate level teaching; excellent oral and written communication skills.

Applicants must apply to Emory Posting: <https://faculty-emory.icims.com/jobs/27258/job> and send a cover letter, a statement of research interests, a complete curriculum vitae and three reference letters to: Faculty Search Committee, c/o Mary Abosi (mabosi@emory.edu), Emory University, Department of Biostatistics and Bioinformatics, 1518 Clifton Rd., NE, Atlanta, GA 30322.

Formal review of applications will begin in December 2018 and continue until positions are filled. Successful candidates must be authorized to work in the United States. Emory University is an equal employment opportunity and affirmative action employer. Women, minorities, people with disabilities and veterans are strongly encouraged to apply.

The University of Pittsburgh is an EEO/AA/M/F/Vets/Disable.

■ The University of Pittsburgh seeks applicants for two tenure track assistant professor positions in the statistics department beginning September 2019, pending budgetary approval. See www.stat.pitt.edu for more information. Applicants should apply online at <https://facultysearch.as.pitt.edu/apply/index/MjUw>. Review of applications begins 12/10/2018. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer and values equality of opportunity, human dignity and diversity. EEO/AA/M/F/Vets/Disable.

Tennessee

■ The Department of Business Analytics and Statistics at the University of Tennessee invites applicants for a tenure track assistant professor (or associate professor) of statistics position, to begin August 1, 2019. Review of applicants will begin in January. Salary will be highly competitive. For the job description and information regarding how to apply, go to <https://tiny.utk.edu/faculty2019>. EOE.

Texas

■ The Department of Statistics and Data Sciences at The University of Texas at Austin invites applications for a faculty appointment at the level of assistant professor to begin in fall 2019. Qualifications include a PhD in statistics or related field with research interests in any area of statistical applications, theory, or methods. Details and application are available: <https://apply.interfolio.com/55488>. EOE.

Virginia

■ The George Mason University Department of Statistics, is seeking a chair who is a distinguished scholar, educator, and researcher who can lead the department into a dynamic phase of development and growth. The deadline for applications is January 7, 2019; however, the review of applications will continue until the position is filled. To learn more, please go to <https://jobs.gmu.edu> for position F365AZ. George Mason University is an equal opportunity/affirmative action employer, committed to

promoting inclusion and equity in its community. All qualified applicants will receive consideration.

International

■ Hong Kong University of Science and Technology, Department of ISOM invite applications for a short term non-tenure track teaching position for teaching UG courses for statistics/data analysis for the upcoming spring 2019 term. Candidates should have PhD degree in statistics or other closely related disciplines. Candidates who have evidence of excellence in teaching will be strongly considered. Submit a cover letter and CV to: statrecruit@ust.hk. Hong Kong University of Science and Technology, Department of Information Systems, Business Statistics and Operations Management is an equal opportunity employer. ■

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Distinguished Postdoctoral Fellow in Statistics, Columbia University

The Department of Statistics invites applications for Distinguished Postdoctoral Fellowships in Statistics. These fellowships seek to bring exceptional scientists of outstanding potential to Columbia University. These two-year fellowships, with no teaching obligations, are to begin between July and September 2019. The Fellows will hold the rank of postdoctoral research scientist in the Department of Statistics. A competitive annual salary will be supplemented with generous funding for conference travel and research support.

Applications in all areas of statistics and probability will be considered: the primary selection criterion will be the candidates' exceptional promise to produce high quality and visible research. Candidates must have a PhD in statistics or related field by the date of appointment. The Fellow will be expected to pursue a vigorous research agenda and to participate actively in the intellectual life of the Department.

The Department currently consists of 30 faculty members, 50 PhD students, and over 300 MA students. The department has been expanding rapidly and, like the University itself, is an extraordinarily vibrant academic community. We are especially interested in candidates who, through their research, teaching and/or service will contribute to the diversity and excellence of the academic community. Women and minorities are especially encouraged to apply. For further information about the department and our programs, please go to our web page at: www.stat.columbia.edu

All applications must be submitted through Columbia's online Recruitment of Academic Personnel System (RAPS) at <http://pa334.peopleadmin.com/postings/1590>

The application must include the following:

A cover letter that explains your motivation for applying for this position and indicates your choice of mentors from the statistics faculty.

A curriculum vitae (including a list of publications)

A brief research statement that summarizes current research interests, past accomplishments, and future research goals. It should contain a short proposal for the research activities you plan to conduct while at Columbia.

The names of 3 references--references will be asked to upload letters of recommendation in RAPS.

Inquiries may be made to dk@stat.columbia.edu. Review of applications begins on January 15, 2019, and will continue until the position is filled.

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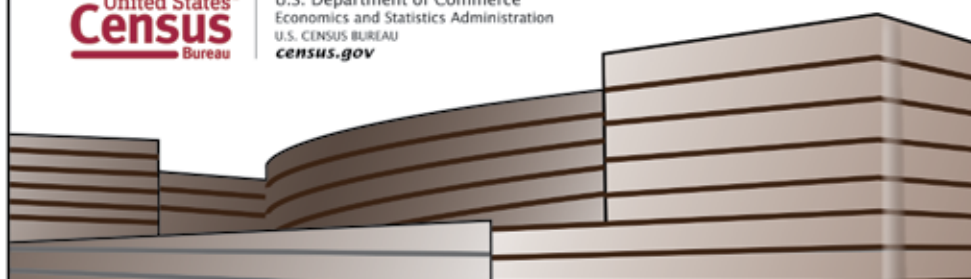
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Sarah Wynne Norris An investigator that consults them BEFORE conducting a study!!

John Phillips Depends on their prior beliefs about what is a good present.

Dan Johnson An antique abacus or some other sort of mathematical curio

Abhishek Bharti Data

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San Myint Aung Better Data

Kenneth Ganning Guinness! The toast to William Gosset is optional.

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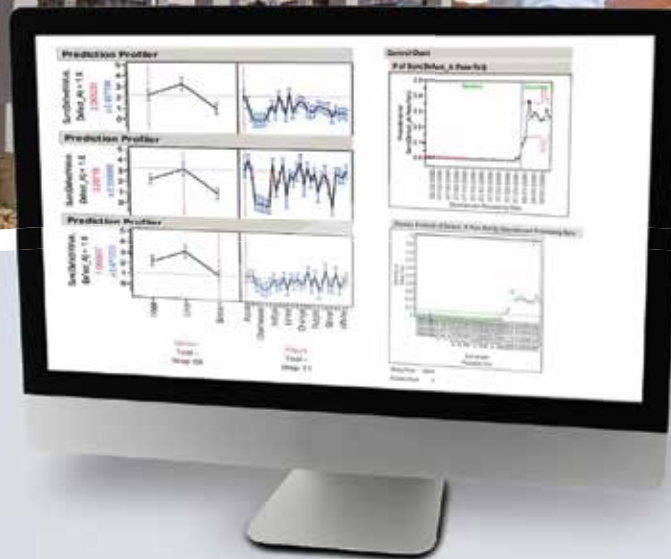
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