

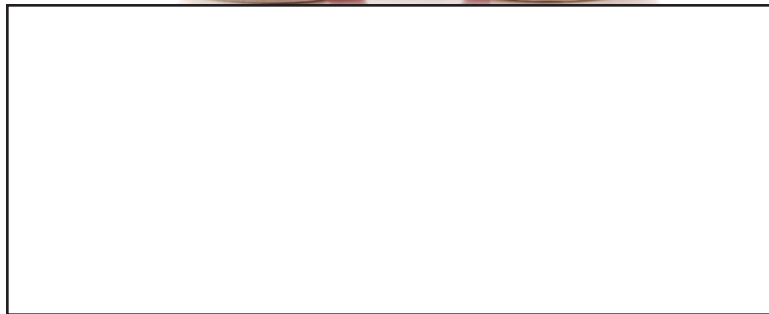
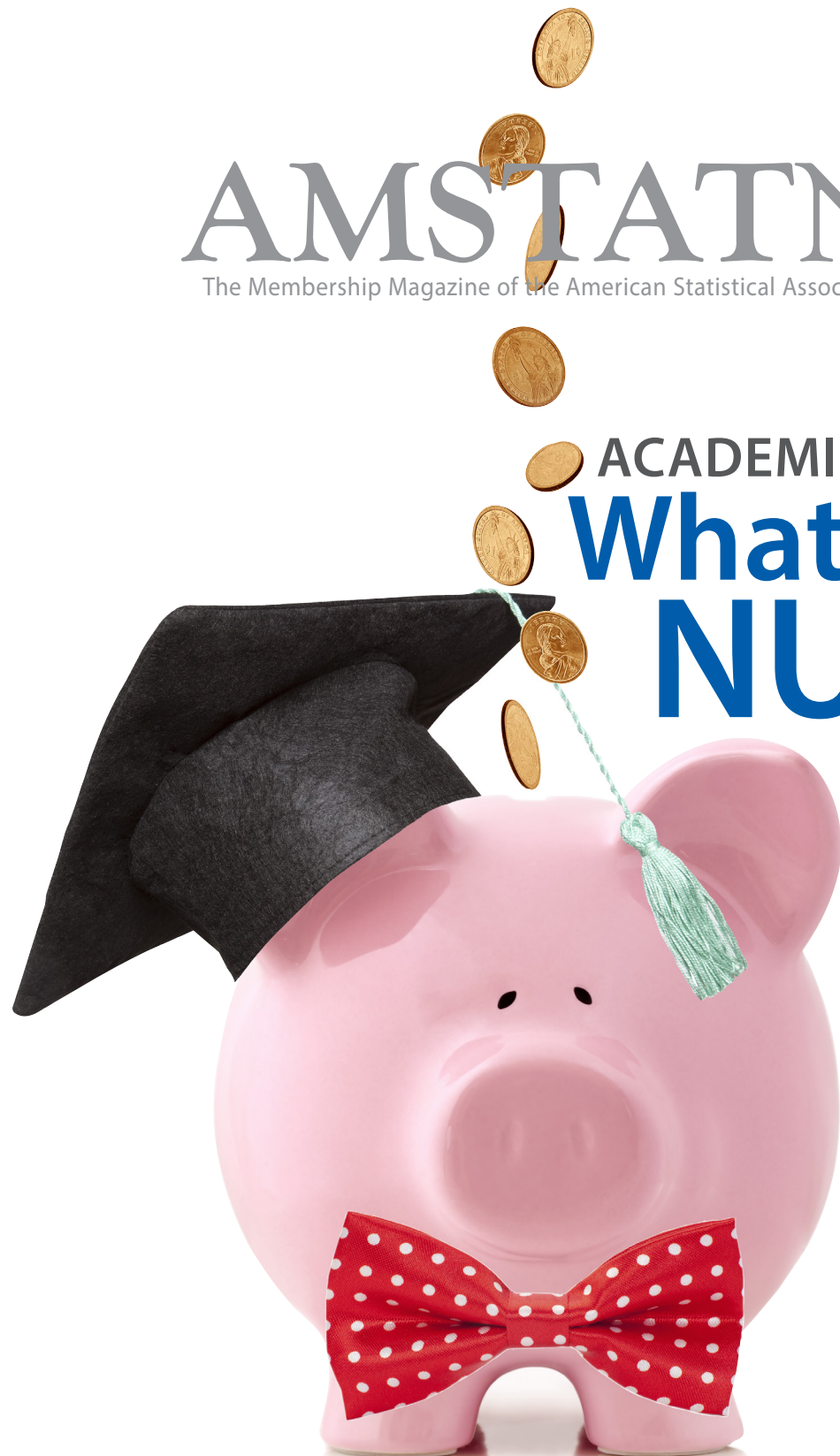
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The American Statistical Association is the world's largest community of statisticians. The ASA supports excellence in the development, application, and dissemination of statistical science through meetings, publications, membership services, education,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

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How to Take Your Statistics Career Off the Beaten Path



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.

Contributing Editor



Davidson

Sara Davidson is a graphic designer and production coordinator for the American Statistical Association. After graduating from the University of Missouri with a degree in photojournalism, she spent 10 years working in newspapers, most recently as a design editor at Gannett's *Military Times* family of publications.



Online Articles

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

Did you know statistics is the fastest-growing science, technology, engineering, and math (STEM) undergraduate degree in the United States? The ASA analyzed data compiled by the **National Center for Education Statistics** (NCES) on 160 STEM bachelor's degree categories granted by U.S. public and nonprofit colleges and universities. To view the complete list, visit <http://magazine.amstat.org>.

The **Biometrics Section** of the ASA is looking for volunteers for this year's JSM in Seattle. If you are interested in getting involved, contact the section's 2015 program chair, Rebecca Hubbard, at rhubb@upenn.edu. To find out what courses and sessions will be offered or who won the 2015 awards, visit <http://magazine.amstat.org/blog/category/membernews/amstatsections>.

The March 2015 special issue of the **Journal of Quantitative Analysis in Sports** (JQAS) consists of five articles about prediction models and methods for the NCAA men's basketball tournament. The solicitation for the articles in this issue originated from the "March Machine Learning Mania" Kaggle prediction contest held last year, in which contestants made probability predictions for all the team matchups in the 2014 NCAA tournament. Mark E. Glickman, JQAS editor, talks more about the articles you will read in this upcoming issue online at <http://magazine.amstat.org>.

Students | **The 21st Industrial Mathematical & Statistical Modeling (IMSM) Workshop for Graduate Students** will take place at North Carolina State University, July 13–22. The application deadline is April 15. Information is available at www.samsi.info/IMSM15 and questions can be directed to grad@samsi.info. For details, visit <http://stattrak.amstat.org>.

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Broadening Our Communication Through Collaboration

“The time has come for statisticians to report the news!” – T. Butterworth

Our mission statement says we will “seek opportunities to advance the statistics profession” and “promote the proper application of statistics.” Our strategic plan includes the objective of “increasing the visibility of the profession.” In one of her President’s Corner columns, former ASA President Marie Davidian reminded us, “[W]e ... seemed reluctant to promote ourselves in a significant way to fellow scientists and the public.” Many of us have an important role as a team player, but less frequently are the people “out front” who lead or promote the work. Fortunately, the ASA added Jeff Myers as our public relations coordinator. From his first day with us, he has sought out journalists and engaged them in dialogue with our members. His efforts supporting our mission and strategic plan are paying off!

In yet another step to advance our profession, I worked with Executive Director Ron Wasserstein to create a blog on “all things statistical,” which is targeted to journalists and the general public. We recently reached an agreement with Sense About Science USA to partner in managing the

STATS.org website—described in Myers’ article, “ASA, Sense About Science USA Partner to Help Raise Media Statistical Literacy” (<http://magazine.amstat.org/blog/2015/01/01/asa-stats-org-partner>). This joint effort will expand our efforts to communicate our valuable contributions to nonstatisticians in a readable format (avoiding our often arcane terminology!).

When you visit STATS.org, you’ll see a link to our home page. STATS.org is a nonprofit and nonpartisan project funded by a grant from the Searle Freedom Trust and a donation from the ASA. The About Us page says,

STATS.org
Because Numbers Count

The American Statistical Association & Sense About Science USA

“If you are a statistician, you are unlikely to engage in journalism in a serious way, and if you are a journalist, you are unlikely to engage in statistics in a serious way.” With our new partnership, we aim to change this.

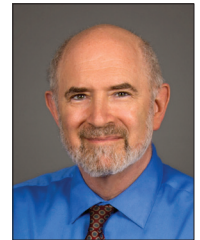
I’d like to introduce you to Rebecca Goldin, professor of mathematical science at George Mason University, and Trevor Butterworth, a journalist. They are the talent behind STATS.org and our new partners. Rebecca is the director, and Trevor is editor-in-chief.

Tell us a bit about your background. Why did you join Sense About Science USA? How is your work there helping you meet your professional goals?

Trevor: I arrived in the United States from Ireland 22 years ago, ostensibly, to do preliminary work for a PhD—but with little sense of what that work should be. I was all over the place, drawn to philosophy of language and intellectual history, but dissuaded by a feeling that I did not possess a sufficiently mathematical mind to do philosophy well and that much intellectual history was the history of badly done philosophy. Exhausted, I decided that what I enjoyed most was writing—and so I launched my journalism career as a media critic after over-intellectualizing and under-reporting a degree at Columbia’s journalism school.

Ironically, I had found my subject: the power of the press to misrepresent the world and the inverse relationship between such misrepresentation and statistical understanding.

As a consequence, I was invited to speak at last year’s meeting of the American Association for the Advancement of Science by the British charity Sense About Science. The panel was on the importance and use of evidence. I focused on why it was important for journalists to understand the importance of statistical evidence



David Morganstein

We'll know our success by the numbers: The number of journalists seeking out engagement with statisticians ... the number of statisticians seeking to engage with journalists; and the number of conversations generated.

in scientific research. There was a lunch afterward for all the speakers, including the panelists who had spoken about the importance of understanding uncertainty in policymaking, and the conversational brio spoke volumes. I wanted that conversation to continue. As we headed out into a Chicago blizzard, I said to Sense About Science's director, Tracey Brown, "If you want to set up Sense About Science in the U.S., I'm interested...."

What synergy do you see coming from Sense About Science USA combining forces with the ASA?

Trevor: Sense About Science USA builds on the 12-year track record of an organization that has energized public debate in the U.K. on the importance of understanding science and evidence, one that has garnered support from that country's leading scientific institutions and societies. Working with Sense About Science will provide a platform for better outreach and communication. And with ASA, we have an opportunity to create a powerful campaign for statistical literacy—one that explains why statistical knowledge is central to a data-intensive world.

Rebecca: Sense About Science provides a bridge between the public and the academic, highlighting the importance of the practice of statistics in light of the complicated questions that arise from the enormous amount of data we collect.

Simply put, if statisticians can't clearly explain the science to those who fund it (to a large part, the public), then we are all vulnerable to less public interest in promoting scientific inquiry. By providing direct assistance to journalists, the Sense About Science-ASA collaboration can actually change the way numbers are reported.

Tell us a bit about your background. Why did you join STATS.org? What has it meant to you and your career growth?

Rebecca: I was trained in symplectic geometry at MIT. I love mathematics, but I've always felt that I wanted to do more than just prove theorems that appeal to a small number of people. I particularly enjoy the complexity and depth of simple mathematical concepts. My favorite teaching tactic is to take something everyone knows and flesh it out until it becomes something mysterious and powerful.

When STATS.org joined George Mason University, I came on board as director of research. I brought this point of view to elementary statistical thinking. The first thing I learned was that I had no idea how to write! Over the years, I concluded that working scientists (and mathematicians and statisticians) have a lot to learn from writers and nonmathematical thinkers, and that this exchange was crucial for the benefit of both communities. For what is the point of mathematics if no one understands

it? And what is the point of science without statistical rigor? As for the impact on my career, well, my talks became a lot more entertaining!

What readership are you aiming for with STATS.org?

Trevor: Fundamentally, anyone who is interested in understanding the quantitative basis of knowledge: What makes a study claim reliable or unreliable? So much of the news is simplified to such a degree that you have to take it on trust. Yet, public opinion surveys have consistently shown an overwhelming lack of trust in the news media's capacity to get the facts right and report things fairly. This isn't academic. At Forrester Research, John Kindervag developed the Zero Trust Model of cybersecurity, the guiding principle of which is "never trust, always verify." It is an apt principle for a world of battered institutional reputations and widespread skepticism. We need a new journalism of verification, a journalism of and about statistics. Obviously, a lot of what we're going to do is a commentary on news and on scientific research, so we expect our core audience will be composed of journalists and scientists. Our goal is to get both talking about the importance of statistics. Based on talks we've both given to journalism workshops, we believe there is a real appetite for this kind of engagement—along with our experience of providing assistance with reading and analyzing studies to journalists—from the AP to *Wired*, the *Economist* to *The New York Times*—over the past decade.

Rebecca: There's also interest from educators. Schools are increasingly recognizing the importance of basic statistical literacy in a functioning democracy and economy. We've always had a core group of high-school and college teachers who enjoy reading our material and forwarding it to their students; we offer an explicit connection between

real life (as represented in the media) and statistical concepts (as expressed in statistics classes).

More people recognize the need for basic statistics in reporting. At the same time, we've witnessed a surge of interest in "wonk" or "explainer journalism." So, I do think there is a bigger audience, the broader public, for this kind of analysis. The time has come for statisticians to report the news in a very understandable and interesting way!

How does the alliance of STATS.org with the ASA and its affiliation with Sense About Science USA change the organization?

Rebecca: We've always been a small shop, focusing on elementary statistical topics. We hope that our connection to ASA will help us scale up and improve communication between writers and statisticians. STATS.org will play a larger educational role, focusing on the real-world play of statistical ideas, rather than only the journalistic "take" on misunderstood ideas. The affiliation with Sense About Science USA will promote STATS.org internationally and demonstrate that STATS.org stands for the public interest in representing science.

Let's fast-forward to a year from now. How will we know our partnership and the new site have been successful?

Rebecca and Trevor: We'll know our success by the numbers: The number of journalists seeking out engagement with statisticians, and the outcome of those engagements; the number of statisticians seeking to engage with journalists; and the number of conversations generated in other media.

David Morganstein

STAFF SPOTLIGHT

Alison Smith

As a recent college graduate, I was delighted to take over the position of marketing and online community coordinator at the American Statistical Association. As part of my position, I manage the online Community, including ASA Connect, the all-member forum.

Born and raised in Virginia, I grew up in a small country town right outside of Charlottesville. I attended James Madison University (JMU) and earned a degree in English. I'm now working on my MBA in marketing from Liberty University.

At 16, I took my first job at Regal Cinemas, scooping popcorn and tearing tickets. I can now say I have an appreciation for film, and my dream is attending the Festival de Cannes. Before my position at the ASA, I worked as a lab assistant at JMU with the Language Resource Center.

In my free time, I enjoy snuggling on the couch with my cat, Pebbles, and a good book in hand. When it gets warm, I love biking and exploring the DC area with my lovely boyfriend. Admittedly,



Smith

I am way too dependent on coffee and chocolate. I have never left the East Coast—my first trip out west will be for JSM in Seattle!

It has been a pleasure being part of the team, and I look forward to working with more members in the future. Please don't hesitate to contact me at alison@amstat.org if you have any questions. ■

Significance Magazine Opens Its Archives

Significance magazine has opened its 10-year archives for access by the public. The magazine's volumes 1 through 10 are available to read, free of charge. Further, all magazine content will be made freely available one year after its initial publication. Editor Brian Tarran thinks open access will demonstrate the importance of statistics and the contributions it makes in all areas of life. Royal Statistical Society and ASA members and subscribers will continue to enjoy exclusive access to the latest magazine content.

To read more, visit *Significance* magazine's website at www.statslife.org.uk/significance/2056-opening-the-archives-a-significant-development.



ASA Members Break Record in Annual Fund Drive Contributions

For the sixth year in a row, ASA members have broken the annual fund record. In 2014, more than 800 members contributed over \$87,000 in support of the ASA's important programs and initiatives. That is a 29% increase over 2013! Thank you to everyone who made 2014's annual fund such a success.

The ASA is uniquely positioned to build upon the rich history of statistics and to understand the needs of and opportunities for the future. Our association has the leadership, influence, and vision to address these needs and opportunities. As a nonprofit organization, the ASA relies on financial support from its members and corporate partners to build upon the important work to support our field and to remain relevant and viable for the future.

"The ASA, throughout its long history, has brought statisticians together as professionals," says Stan Altan, senior director of nonclinical statistics and computing at Janssen Pharmaceutical R&D. "It has enhanced our professionalism through conferences, publications, and, perhaps most importantly, advocacy. In the sense that it contains the 'tribal' knowledge of our profession, the ASA is invaluable not only to statisticians, but to other professions, and to society. It's also a key resource to help statisticians grow their careers. So, I support the ASA as it continues to play these critical roles. Its success depends largely on the membership—on each of us recognizing how vital it is and contributing as much to our organization as we can, in whatever way we can."

Mary Kwasny, associate professor of biostatistics at Northwestern University Feinberg School of

Medicine, spends a lot of time researching the non-profits she gives to in order to ensure the organization's goals match with her own philanthropic goals. "I want to make sure that they are 'doing something good' with the money and that their goals match with what I want to have happen with my donation," she says. "Before I got involved with the business of the ASA, I really hadn't thought about donating to a professional organization. Then it dawned on me that it fits my criteria probably more so than many nonprofits that I have supported in the past. The ASA does not depend on my donation, but it can do a bit more with the donations I give. The ASA helps many different target audiences. From the JobWeb and STAT|@k, section webinars, chapter visits, advances in policy, K-12 education efforts, and so on, it's just nice to know (and be able to trust) that a donation could potentially have an effect at almost any level of my chosen profession. That feels good."
| |

The generous support of so many ASA members allows the organization to accomplish many important programs and initiatives, including supporting ASA Member Initiative proposals, mentoring programs, and opportunities for career enhancement; advocating to Congress and others through the ASA Science Policy program; and offering continuing professional development opportunities, just to name just a few. Looking forward, the ASA will continue to listen and look for ways to best support the membership. We are particularly focused on inspiring students and supporting education, improving public literacy, and expanding advocacy and improving science policy.

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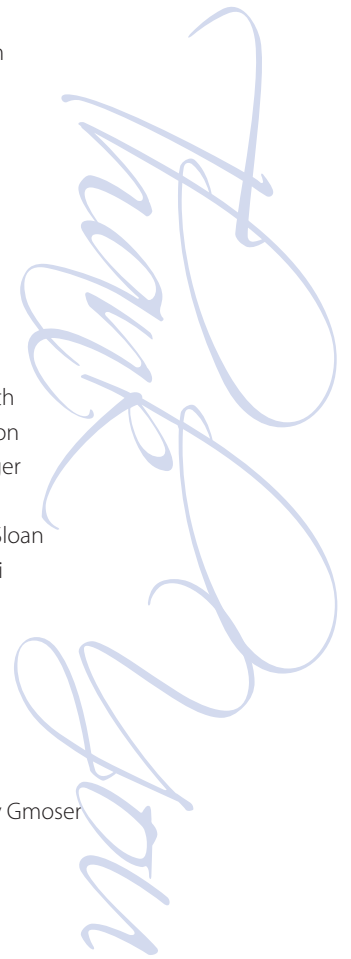
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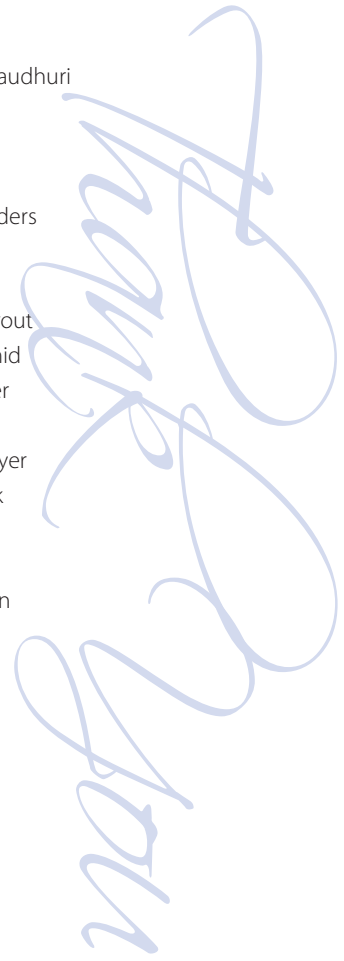
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Nandini Kannan
Martin Kappler
Talbot Katz
Gregory Kent
Hyun Kim
Dennis King
Daijin Ko
Stephanie Kovalchik
Julia Kozlitina
Sharon Kuhlmann-
Berenzon
Lynn Kuo
Eric Laber
Carol Lancaster
Margaret Land
Amber Laurie
Lisa LaVange
Russell Lenth
Brian Leroux
Sally Lesik
Bing Li
Ernst Linder
Richard Lindholm
Patti Lock
John Loewy

Thomas Louis
Thomas Love
Esther Lu
Timothy Lutz
Ryan Machtmes
Kathleen Madsen
George Manos
Hossein Mansouri
Dennis Mar
Seunghee Margevicius
Joseph Massaro
Richard McFarland
Raymond McIntyre
Alexander McLain
Nitzan Mekele-Bobrov
Roy Mendelssohn
Matthew Mercurio
Mary-Jane Mietlowski
William Mietlowski
Steven Millard
Mark Miller
Luke Miratrix
Donna Mohr
Elliott Moon
Bhramar Mukherjee
Shan Muthersbaugh
Charles Nam
Rocco Napoli
Ronald Neath
Anna Nevius
Long Ngo
James O'Malley
Tatsuo Otsu
Mark Otto
Mari Palta
Ian Parke
Mary Parker
Jane Pendergast
Eswar Phadia
Jose Pinheiro
Frank Potter
Stanley Pounds
Dale Preston
Bertram Price
Laureano Rangel
Carol Redmond
Matthew Rissler
Francisco Marcelo Rocha
Deborah Rolka
Malgorzata Roslanowska
Virginia Rovnyak
Linda Rubenstein

Mauricio Sadinle
Paramita Saha Chaudhuri
Susan Sanchez
Abdul Sankoh
Robert Santos
Christopher Saunders
Roger Sauter
Terrance Savitsky
Jonathan Schildcrout
Christopher Schmid
John Schoenfelder
John Schoolfield
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Steve Schwarzbek
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Edward Spar
Dalene Stangl
Lonnie Stevans
Susan Stewart
John Stickler
Wendy Swanson
Daniel Tancredi
Hoben Thomas
Tor Tosteson
David Trindade
Esa Uusipaikka
Hal Varian
Florian Walchak
Jianyuan Wang
Michael Wathen
David Weimer
Peter Westfall
James Whipple
Jennifer White
George Williams
Derek Wong
Colin Wu
Hung-Wen Yeh
Jerome Yurow
Bing Zhang
Corwin Zigler
Mohammed Shayib
Ramanathan
Gnanadesikan
James Himelein
Kem Phillips
Nancy Phillips
George Ryan
John Strohm
W. Stephenson



Participants in All of the Last Three Annual Fund Drives

Athula Abeyratne	Jonas and Susan Ellenberg	Jerome Keating	Long Ngo	Stephanie Shipp
Baris Akgoz	Thomas Erdahl	Arthur Kennickell	Bryan Oberle	Cheng-Shi Shiu
Rich Allen	Scott Evans	David Kenny	Daniel Oberle	Thomas Short
Stan Altan	Wenjuan Feng	Jon Kettenring	Eileen O'Brien	Patrick Shrout
Albert Anderson	David Fennell	Tim Keyes	Robert Oneill	Miles Simpson
Alexander Andronov	Justin Fisher	Eileen King	Jean Opsomer	Christopher Sims
John Angle	Richard Forshee	Elizabeth King-Sloan	J. Keith Ord	Dylan Small
Oluwagbohunmi Awosoga	Christine Franklin	Gary Koch	George Ostrouchov	Marla Smith
Stanley Azen	Ralph Frankowski	Uwe Koehn	Mari Palta	Richard Smith
David Banks	Stephen Friedberg	Kevin Konty	Sastry Pantula	Stephanie Smullen
Jarrett Barber	Rongwei Fu	Michael Kutner	Ian Parke	Steven Snapinn
Chris Barker	Neal Fultz	Mary Kwasny	Raymond Peck	Steven Sonder
John Bartko	Mitchell Gail	Peter Lachenbruch	Charles Phelps	Edward Spar
Donald Bauder	Stephen Ganocy	James Landwehr	Luigi Pieri	Nancy Spruill
Paul Baum	Constantine Gatsonis	Jerald Lawless	Dale Preston	Nancy Stambler
Alan Berger	John Gaudiosi	Kelvin Lee	Bertram Price	W. Stephenson
Amit Bhattacharyya	Nancy Geller	Russell Lenth	Philip Prorok	John Stewart
Jeffrey Birch	Michael Ginevan	Henry Levy	David Pyne	Susan Stewart
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Carolee Bush	Choudary Hanumara	Timothy Lutz	Harry Rosenberg	Ronald Thisted
Norman Bush	Brian Harris-Kojetin	Kathleen Madsen	Malgorzata Roslanowska	Carol Thompson
Patricia Busk	Bradley Hartlaub	Olga Marchenko	Virginia Rovnyak	Paul Tobias
Thomas Butts	Daniel Hawkins	David Marker	Charles Rowland	Tamara Tom
Allen Buxton	Donald Hedeker	Nami Maruyama	George Ryan	Nancy Torrieri
Joseph Cappelleri	Richard Heiberger	Robert Mason	Asep Saefuddin	Alan Tupek
Daniel Casey	William Heiland	Joseph Massaro	Alan Salzberg	Theresa Utlaut
Grace Chan	Timothy Hesterberg	Madhuchhanda Mazumdar	V. Samaranyake	Jessica Utts
Tak Wai Chau	Klaus Hinkelmann	George McCabe	Steven Samuels	Esa Uusipaikka
James Chromy	John Holcomb	Raymond McIntyre	Susan Sanchez	Eric Vance
Christy Chuang Stein	Nicholas Horton	John McKenzie	Robert Santos	Hal Varian
Sandra Clarkson	Jeanine Houwing-Duistermaat	Roy Mendelssohn	Roger Sauter	Liuxia Wang
Charles Contant	Mingxiu Hu	Matthew Mercurio	Terrance Savitsky	Ron Wasserstein
Bruce Craig	J. Stuart Hunter	Michael Meredith	Patricia Scanlan	Michael Wathen
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John Czajka	William Iwig	William Mietlowski	Robert Scheer	Sanford Weisberg
Marie Davidian	Peter Jaehnig	Steven Millard	Nathaniel Schenker	Andrew White
Robert Davis	Amara Jayewardene	Mark Miller	Christopher Schmid	Linda Whitehand
Yves Deville	Dallas Johnson	Renee Miller	Mildred Schmidt	Leland Wilkinson
Jay Devore	Gerald Joireman	Katherine Monti	Paul Schneeman	George Williams
Marie Diener-West	Henry Kahn	Jerry Moreno	David Schoenfeld	G. Williamson
Kevin Dobbins	Lee Kaiser	Sally Morton	John Schoenfelder	Derek Wong
Kevin Drummey	Nandini Kannan	Edward and Jeri Mulrow	John Schoenfelder	Colin Wu
Bonnie Dumas	Ihsan Karabulut	Mary Mulry	John Schuenemeyer	Gooloo Wunderlich
Michelle Dunn	Daniel Kasprzyk	Charles Nam	Stanley Sclove	Hung-Wen Yeh
Susan Durham	Charles Katholi	Wayne Nelson	David Scott	Marian Yong
Brenda Edwards	Talbot Katz	Margaret Nemeth	Nagambal Shah	Zhiwei Zhu
				Corwin Zigler

Washington Statistical Society Starts Mentoring Program

By meeting others in our profession, we can quickly learn the ropes, advance our careers, and contribute to the statistics profession. To facilitate engagement and encourage the transfer of valuable experience between Washington Statistical Society (WSS) members, the WSS is starting a mentoring program and looking for mentors and mentees. Matching mentors and mentees offers an opportunity for mentees to develop as statisticians, mentors to give back to newer members of our profession, and everyone to stay connected to the WSS.

What are the benefits of a mentoring program?

The WSS mentorship initiative was inspired by and draws on the mentoring initiative underway throughout the ASA that encourages chapters and sections to consider mentoring programs (see http://magazine.amstat.org/blog/2015/02/01/prescornerfeb_2015). It also suggests the initiation of a regular acknowledgement, such as the annual selection, of an outstanding mentor. The WSS is a leader in this regard, having started the Jeanne Griffith award program more than a decade ago. The potential benefits of participating in the program are described well by the ASA Committee on Applied Statisticians:

For mentors: (1) a connection with skills and perspectives of recently trained professionals, (2) development and enhancement of communication and leadership skills, and (3) satisfaction of passing on skills and knowledge that can enhance the career and personal growth of the mentee and contribute to maturity of the profession.

The program may answer important questions, including:

- How do you identify and introduce opportunity to others?
- How do you describe your own experiences to others to encourage them to take more strategic risks?
- How do you teach others to network effectively?
- Mentors usually get more from their relationships by learning about the new challenges of their mentees.

For mentees: 1) a role model, but more accurately

a sounding board, for questions about methods of analysis and communication of results; 2) a source of perspective, encouragement, and motivation leading to greater self-confidence and esteem and help in establishing professional development plans, career goals, and acceleration of achievement; and 3) a source of professional/social contacts with other applied statisticians in the field.

The mentoring program may answer questions such as:

- How do you create opportunities for yourself?
- How do you promote yourself?
- How do you network with others?
- How do you get to where you want to be?
- What are next steps?

How does the WSS mentoring program work?

If you are interested, first complete an application at <http://WashingtonStatisticalSociety.org/mentoring>. The information will be used to match mentors to mentees, taking into account their stage of career, area of statistical expertise, and goals.

The WSS mentoring program committee will host a kickoff meeting in the spring with guidance and suggestions about productive ways to interact. Program materials will be provided to help guide mentors and mentees through potential conversations, although the topics discussed are up to the mentors and mentees. The program will continue through correspondence between the mentor and mentee for at least six months. Those in the program will meet either on the phone, on Skype, or face-to-face.

Participants will be asked to complete a short evaluation at the end of that period to improve on the program. The main purpose of the evaluation will be to assess the mentor-mentee matching system, and the responses will be de-identified to ensure anonymity.

We encourage mentors and mentees to continue to meet after the formal program period if it is mutually productive.

Questions can be addressed to one of the committee members: Mark Otto (Mark_Otto@FWS.Gov), Jaki McCarthy (Jaki.mccarthy@nass.usda.gov), Dhuly Chowdhury (DChowdhury@RTI.org), and Tom Krenzke (TomKrenzke@Westat.Com). ■

ACADEMIC SALARY SURVEY

What's Your NUMBER?

Patricia Hall and Varghese George, Georgia Regents University, and Ron Wasserstein, ASA

This year's academic salary survey includes both faculty and nonfaculty statisticians and biostatisticians. We received responses from 58 institutions in the United States. The data included 980 faculty and 80 nonfaculty statisticians, with gender information. The quartiles and 90th percentile are provided in the summaries, whenever possible. All percentiles are rounded to the nearest \$100.

Table 1. 2014-15 Academic Faculty in Statistics Departments by Rank and Years in Rank, Based on 9-Month Salary

Rank	Years in Rank	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Assistant Professor	0-1	32	\$85,000	\$90,000	\$109,100	\$115,000
	2-3	35	\$78,300	\$87,600	\$92,000	\$100,900
	4-5	20	\$78,100	\$85,500	\$90,600	\$97,100
	6+	5	\$78,500	\$84,000	\$84,600	\$87,400
Associate Professor	0-1	16	\$88,200	\$95,000	\$97,100	\$103,000
	2-3	23	\$82,900	\$93,100	\$98,000	\$110,500
	4-6	33	\$88,600	\$92,700	\$97,600	\$110,000
	7-12	18	\$80,200	\$92,200	\$102,400	\$112,600
	13+	14	\$67,800	\$77,300	\$92,900	\$102,900
Professor	0-1	21	\$110,000	\$116,000	\$149,000	\$180,000
	2-3	20	\$107,000	\$122,500	\$159,200	\$197,700
	4-5	11	\$103,000	\$125,000	\$170,000	\$247,200
	6-7	20	\$106,600	\$122,300	\$161,900	\$192,400
	8-9	19	\$107,800	\$139,000	\$147,900	\$200,000
	10-12	20	\$120,000	\$135,600	\$155,100	\$187,300
	13-15	26	\$114,000	\$158,900	\$187,900	\$222,600
	16-20	21	\$127,900	\$149,000	\$163,700	\$186,700
	21-25	29	\$120,200	\$149,500	\$171,000	\$214,200
	26-30	16	\$110,300	\$141,200	\$184,200	\$242,000
31+	9	\$161,900	\$180,000	\$200,800	\$266,200	
Instructor	0+	32	\$45,000	\$57,400	\$64,700	\$67,000
Other	0+	29	\$59,300	\$70,000	\$94,000	\$170,700
All	0+	469	\$84,000	\$99,200	\$138,000	\$177,500

Table 2. 2014-15 Academic Faculty in Biostatistics Departments by Rank and Years in Rank, Based on 12-Month Salary

Rank	Years in Rank	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Assistant Professor	0-1	23	\$99,000	\$105,000	\$110,000	\$123,800
	2-3	27	\$97,800	\$106,000	\$116,700	\$122,400
	4-5	17	\$106,700	\$113,300	\$123,600	\$126,000
	6+	19	\$105,000	\$108,400	\$112,000	\$126,000
Associate Professor	0-1	21	\$110,700	\$130,300	\$139,800	\$142,100
	2-3	27	\$118,300	\$135,300	\$142,700	\$148,000
	4-6	17	\$118,000	\$134,000	\$146,200	\$151,400
	7+	19	\$123,300	\$145,000	\$159,200	\$168,400
Professor	0-1	15	\$165,000	\$177,800	\$188,500	\$191,400
	2-4	26	\$166,300	\$180,700	\$204,800	\$219,100
	5-7	17	\$179,400	\$190,200	\$206,600	\$237,100
	8-10	13	\$166,800	\$215,000	\$265,200	\$330,000
	11-15	19	\$200,500	\$250,000	\$292,300	\$369,000
	16+	28	\$191,300	\$226,800	\$268,400	\$317,500
Instructor	0+	4	\$89,400	\$92,200	\$101,400	\$108,900
Other	0+	44	\$89,000	\$110,800	\$123,500	\$135,500
All	0+	336	\$109,400	\$131,800	\$179,500	\$226,500

Faculty Data

The original academic faculty data set included 980 observations from 58 institutions. Of these, 119 observations were deleted, mostly because of duplications, and a few due to fatal errors. The final analysis included 861 distinct full-time faculty members in 29 statistics departments (N=469), 18 biostatistics departments (N=336), and 10 math sciences departments (N=56) from 53 institutions in the United States.

Table 1 summarizes salary information for full-time academic faculty in statistics departments by rank and years in rank, based on a nine-month salary. Table 2 provides similar information for full-time academic faculty in biostatistics

departments, but is based on a 12-month salary. Table 3 summarizes salary information on full-time academic faculty in the math sciences departments by rank, based on a nine-month salary. A few cases of statistics and math sciences faculty with 12-month salaries were adjusted down by a factor of one-fourth, and a few cases of biostatistics faculty with nine-month salaries were adjusted up by a factor of one-third. The quartiles and 90th percentile are provided.

Tables 4, 5, and 6 provide similar percentiles for the groups in Tables 1, 2, and 3, respectively, stratified by gender. There were six observations that did not have gender information and, thus, were not included in the gender analysis.



Nonfaculty Data

Original data included 80 observations from 14 institutions. However, one institution had only part-time nonfaculty and was excluded from analysis. The remaining 76 consisted of 24 at the doctoral level, 50 at the master's level, and two at the bachelor's level. The two observations at the bachelor's

level also were excluded because of the small number, resulting in a total 74 observations for the final analysis. Of the 74 individuals, 58 were from biostatistics departments and 16 from statistics departments. Table 7 provides their salary distribution, stratified by highest degree (master's or doctorate) and years in rank.

Table 3. 2014-15 Academic Faculty in Math Sciences Departments by Rank, Based on 9-Month Salary

Rank	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Assistant Professor	23	\$56,700	\$61,800	\$82,200	\$87,200
Associate Professor	14	\$62,000	\$78,500	\$85,800	\$92,300
Professor	17	\$80,900	\$107,200	\$141,300	\$161,500
Instructor	1	-	\$51,500	-	-
Other	1	-	\$60,300	-	-
All	56	\$61,000	\$75,100	\$92,200	\$118,600

Table 4. 2014-15 Academic Statistics Faculty by Rank, Years in Rank and Gender, Based on 9-Month Salary

Rank	Years in Rank	Gender	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Assistant Professor	0-2	Female	17	\$78,600	\$89,800	\$97,000	\$111,900
		Male	32	\$85,000	\$89,100	\$107,800	\$114,000
	3 or more	Female	11	\$80,700	\$86,300	\$90,900	\$100,000
		Male	32	\$74,600	\$84,500	\$91,000	\$95,200
Associate Professor	0-2	Female	16	\$81,700	\$93,800	\$97,100	\$100,400
		Male	13	\$87,000	\$95,000	\$99,200	\$103,000
	3 or more	Female	20	\$82,600	\$93,000	\$96,300	\$99,600
		Male	54	\$80,200	\$90,400	\$102,200	\$112,000
Professor	0-6	Female	13	\$108,900	\$113,900	\$133,800	\$162,400
		Male	51	\$107,200	\$125,000	\$156,000	\$185,200
	7 or more	Female	19	\$114,000	\$141,000	\$178,600	\$187,900
		Male	125	\$119,100	\$145,000	\$174,700	\$217,400

Table 5. 2014-15 Academic Biostatistics Faculty by Rank, Years in Rank and Gender, Based on 12-Month Salary

Rank	Years in Rank	Gender	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Assistant Professor	0-2	Female	20	\$98,400	\$105,000	\$108,600	\$123,800
		Male	18	\$101,000	\$104,100	\$116,700	\$119,900
	3 or more	Female	26	\$105,600	\$110,900	\$124,000	\$128,800
		Male	22	\$95,600	\$110,100	\$116,900	\$123,200
Associate Professor	0-2	Female	19	\$118,000	\$130,900	\$142,700	\$148,000
		Male	18	\$116,200	\$129,500	\$138,100	\$142,100
	3 or more	Female	15	\$127,500	\$136,600	\$159,000	\$160,900
		Male	32	\$115,200	\$132,900	\$146,900	\$158,400
Professor	0-6	Female	16	\$167,500	\$178,900	\$194,500	\$219,100
		Male	32	\$165,200	\$182,800	\$199,800	\$215,600
	7 or more	Female	14	\$178,500	\$196,800	\$251,600	\$325,000
		Male	56	\$190,000	\$224,000	\$275,300	\$319,300

CONTACT US
 Questions regarding this survey report should be addressed to Ron Wasserstein at ron@amstat.org.

Table 6. 2014-15 Academic Math Sciences Faculty by Rank and Gender, Based on 9-Month Salary

Rank	Gender	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Assistant Professor	Female	8	\$58,100	\$67,300	\$78,200	\$87,200
	Male	15	\$56,700	\$61,800	\$82,200	\$88,400
Associate Professor	Female	5	\$58,200	\$67,700	\$85,800	\$92,200
	Male	9	\$71,000	\$81,900	\$85,000	\$94,000
Professor	Female	2	-	\$92,000	-	-
	Male	15	\$80,600	\$108,700	\$144,300	\$161,500

Table 7. 2014-15 Academic Non-Faculty Statisticians*, Based on 12-month salary

Highest Degree	Years Since Highest Degree	Count	1st Quartile	Median	3rd Quartile	90th Percentile
Master's	0-2	7	\$49,100	\$ 4,800	\$62,400	\$65,500
	3-5	9	\$59,500	\$71,000	\$72,400	\$75,000
	6-10	18	\$66,000	\$76,400	\$80,500	\$81,100
	11-15	7	\$62,700	\$72,800	\$83,200	\$110,000
	16+	9	\$83,800	\$92,000	\$119,000	\$143,000
	All	50	\$62,700	\$71,700	\$81,000	\$103,500
Doctorate	All	24	\$63,000	\$84,200	\$103,200	\$128,400

* Includes 16 from statistics departments and 58 from biostatistics departments

ASA LEADERS REMINISCE

Bob Mason

James Cochran

In the third installment of the series of interviews with ASA presidents and executive directors, we feature a discussion with 2003 ASA President Robert L. Mason.

Q Bob, thank you for taking time to talk with me. Many statisticians start their studies in some other discipline and are then drawn to our discipline. Did you intend to become a statistician when you first entered college, or did you start out studying some other discipline or disciplines? If you did not intend to become a statistician when you began college, what discipline or disciplines did you originally study, and how did that lead you to statistics? Who most influenced you in making that decision?

A When I entered college, I wanted to obtain a BS degree in either mathematics or chemistry, so I chose to major in mathematics and minor in chemistry. Due to limited personal finances, I attended a small teaching university (St. Mary's University) that was located in my hometown of San Antonio. Fortunately for me, it had some outstanding teachers in mathematics.

In my senior year, I needed an extra math course for graduation, so I enrolled in a one-semester course that concentrated on the basic theory of mathematical statistics. The teacher was a mathematician and not very well versed in statistics. Needless to say, he was not very inspiring and I had limited interest in the subject and never even thought of pursuing a career in it.

However, I excelled in pure mathematics, and, urged on by my math professors, I applied for a PhD in mathematics at several universities. Due to good fortune, the University of Michigan offered me a very generous teaching fellowship in the spring of my senior year in 1968. This was a troubling time in the United States for male students of my age, as we faced a mandatory draft into the military if we left school and did not have a deferment. Because I needed money to pay for my college tuition, I had enrolled in the ROTC program at St. Mary's and, consequently, was going to be commissioned a second lieutenant in the field artillery in May.

In early April of 1968, I was sitting at home one spring day talking to my mom about the pending orders I would receive from the U.S. Army upon my commission in May and where I might be assigned for duty. I was discussing with her whether to postpone my military commitment and take a three-year

deferment to go to graduate school in mathematics in Michigan. About that time, a phone call came in and my mom answered it. As I sat and waited, she talked to the person on the line for an extended time. She then handed me the phone and told me she had found the place for me to go.

When I picked up the phone, I was told I was talking to Paul Minton, who was the chair of the department of statistics at Southern Methodist University in Dallas. He told me his department had just been awarded some new government fellowships and that he was looking for good math students in Texas and I had been recommended to him by one of my math professors. He then offered me a National Defense Title IV Fellowship to SMU in statistics. It included all my tuition and fees (including books) and a small monthly stipend (\$100) to pay for my room and meals.

Although I knew nothing about statistics, except for the one course I described above, I jumped at the opportunity to go to graduate school in Texas, where I would be nearer to home (and warmer than Michigan) and I would not have to teach or work for my fellowship. As a result, I enrolled in SMU in the fall, where I subsequently fell in love with the field of statistics, graduated from SMU with a PhD degree in mathematical statistics in 1971, and began a whole new career.

In retrospect, my mom and Paul Minton were the people who most influenced my decision.

Q In what particular areas of application did you work most frequently prior to becoming the ASA president?

A Initially, I worked for a few years teaching statistics at both Florida State University (in a visiting position) and at the Medical University of South Carolina (in a biostatistics program). In 1975, I was hired by Southwest Research Institute (SwRI), located in San Antonio, as a senior research statistician.

SwRI is one of the oldest and largest independent, nonprofit, applied research and development organizations in the United States. My work involved designing experiments and analyzing data collected in those experiments run in support of



Mason

Robert L. Mason is an institute analyst at Southwest Research Institute in San Antonio, Texas, where he has worked since 1975. He also is an adjunct professor at the University of Texas at San Antonio, where he has taught statistics courses for more than 35 years. He earned a BS degree in mathematics from St. Mary's University (TX) in 1968 and a PhD degree in statistics from Southern Methodist University in 1971.

Mason was a member of the American Statistical Association Board of Directors in 1987–1989, ASA vice president from 1992–1994, and president of the ASA in 2003. He is a Fellow of both the American Statistical Association and American Society for Quality and an elected member of the International Statistical

Institute. He has been awarded the Founder's Award and Don Owen Award from the American Statistical Association and the Shewhart Medal and W.J. Youden Award (twice) from the American Society for Quality. He also was awarded the Distinguished Alumnus Award from St. Mary's University in 2001.

Mason has published more than 120 research papers and co-authored five textbooks, including *Statistical Design and Analysis of Experiments with Applications to Engineering and Science* (Wiley, 1989; 2nd ed. 2003). He also has been a trustee of the board of directors of the USAA Investment Management Company since 1997 and board chair since 2012.

projects in such diverse application fields as automotive engineering, chemistry, mechanical engineering, space sciences, nondestructive evaluation, automation, engine design, electronics, bioengineering, and many others. My first project involved evaluating the effectiveness of air bags in automobiles.

The areas of application I worked in most frequently included regression analysis, experimental design, reliability, quality control, sampling techniques, statistical modeling, analysis procedures, data interpretation, and data representation. My major focus initially was in the area of regression analysis, and this led to my co-authoring an applied textbook on that subject in 1980. Later, my major work involved experimental design and analysis, and this led to a co-authored book in this area that first appeared in 1989. I then concentrated on the field of multivariate control charts and their applications, and this led to a third co-authored book, published in 2002.

QIn what ASA volunteer roles had you served prior to being elected president?

AIn 1982, I led the effort to help establish the ASA San Antonio Chapter. This led to my election as its first president and simultaneously as its first council representative at the national level. Two years later, I was elected as the chair-elect of the newly established Council of Chapters, and, in 1987, I was elected as the council representative for a three-year term (1987–1989) on the ASA Board of Directors. The board position led to appointments to many of the board committees, including the Management Review Committee. I also was appointed the co-chair of the Sesquicentennial Committee and spent three years working on the celebration for the 150th anniversary of the founding of the ASA.

After serving a term on the ASA Board, and prior to 1992, I was appointed as the Winter Conference Committee Chair and helped organize a Winter

Conference meeting in San Antonio. I then was appointed as the chair of the Advisory Committee on Continuing Education and also was elected the secretary-treasurer of the Section on Physical and Engineering Sciences.

In 1992, I was elected to a three-year term as a vice president on the ASA Board of Directors, which also included serving on the Budget Committee, Planning Committee, and Committee on Committees. After I ended my term as vice president, I was elected chair of the Quality and Productivity Section. Subsequently, I also was appointed chair of the Committee on Meetings for five years and a member of the Joint Meetings Advisory Committee. In 2002, I was elected as president-elect of the ASA.

QWhat accomplishment as president of the ASA did you find most gratifying?

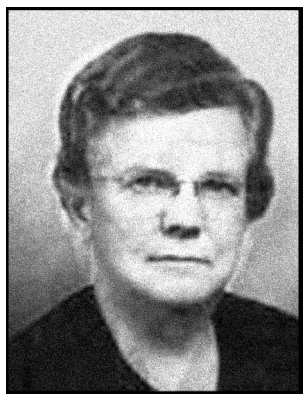
AThere were many accomplishments during my ASA presidency, but the most gratifying was the work in finally obtaining signed agreements with all of the founding societies participating in the Joint Statistical Meetings to form a true joint statistical meeting, which consequently would then be managed and administered by one society: the ASA.

QWhat are your feelings about the future of the ASA? What makes you particularly optimistic about the ASA's future?

AI think the ASA has a great future. I base my optimism on the strong leadership of the ASA, including its executive director; its president; and the many volunteer leaders who work on the board and various councils, committees, sections, and chapters. The ASA has adeptly adjusted to the ever-changing needs of the field of statistics, and the organization is very progressive and far sighted in its work. Most importantly, its leadership has a clear vision of achieving its goal of promoting the practice and profession of statistics. ■

COMING UP
Please return to this column next month, when we will feature an interview with 1985 ASA President John Neter.

Former Students Recall Gertrude Cox



Cox

After attending a JSM panel titled “Educating Future Leaders in Statistics,” one of the attendees commented to me that although there are formal biographies of Gertrude Cox in Wikipedia and in her obituaries, there are few anecdotal reflections of her as a person. There is a very nice article by Helena Hoen (Gertrude was her grandmother’s sister), titled “The Life and Times of Gertrude Cox,” that appeared on April 3, 2013, and can be accessed at <http://gmclife.blogspot.com>.

Gertrude was a tour de force. She was the initiator of a department of experimental statistics at North Carolina State University and a department of mathematical statistics at Chapel Hill in 1946. Later, she created a department of biostatistics at Chapel Hill. I contacted several former students—Mike Free, Stu Hunter, and Marvin Kastenbaum—whom I knew during the period 1948–1954 to recall contacts with Gertrude. These are below, and we invite other recollections.

—Ingram Olkin

“Gertrude was a leader; her concern was building an institution of statistics.”

I recall her being totally unassuming. She interacted with students in a most positive way. I vividly remember her advice to students to learn a substantive field to accompany the statistical courses. This was a time when decision theory was a hot area and mathematization was highly regarded. Many of us did not take her advice. Her advice resonated with me 10 years later, when I had a joint appointment between statistics and education. The education part was a catalyst for some of my multivariate papers and the origin of my interest in meta-analysis.

Gertrude was a leader; her concern was building an institute of statistics and not her own advancement.

She chose Harold Hotelling as chair at Chapel Hill, and she was chair at NCSU. She also chose Bernie Greenberg to be chair of biostatistics.

There is a story about Gertrude, whose truth is unclear. She wanted to hire Hotelling, who was at Columbia at that time, but she was unsure whether he would even consider an offer. She had been friendly with

Susannah Hotelling and discussed this with her. Susannah suggested she just ask him with the question, “What would it take for you to come to Chapel Hill as chair?” She did and Hotelling’s reply was, “A salary higher than the football coach.” This seems odd for someone of Hotelling’s stature, except that the football coach was the highest-paid member at UNC, and this may have been a way for Hotelling to assert that scholarship should dominate football. As an aside, let me note that football was big at UNC when I was a student. But there was a catch. A salary higher than the coach had to be approved by the governor. So we are back to Gertrude, who had to convince the governor to approve, which she did.

During my days at UNC, we took some classes at NCSU. I took a class from Bill Cochran. Later on, the NCSU faculty lectured on the UNC campus. Gertrude visited, and I was always aware of her presence. She was a major champion of statistics.”

—Ingram Olkin, PhD ’51

REMEMBERING GERTRUDE COX

“She really wanted to go to Washington to present her own testimony, but her physician would not permit it. She was angry and frustrated.”

In March of 1950, my GI Bill funding ran out just as I completed my master’s degree requirements in the department of statistics in Raleigh. Jack Rigney, chair of the department, asked me to present the results of my work at the next department seminar. As was customary, I selected a humorous article from the current *Saturday Evening Post* to introduce my presentation.

It was the story of a brief encounter between one of a community’s highly respected preachers and the chair of the local school system, who had just arrived with a doctorate from The Teachers’ College at Columbia University. In the course of their brief conversation, the educator said to the preacher, “Doesn’t it ever bother you that people wonder why you do not have a PhD?” Whereupon the preacher replied, “I’d rather have them wonder why I don’t have a PhD than why I do have a PhD.” Among those present at the seminar that day were our chair, Jack Rigney, and Gertrude Cox, director of the institute of statistics in North Carolina. Neither of these two people had a PhD!

After the seminar, Jack Rigney came up to me and said that he and Gertrude Cox wanted me to stay on at Raleigh to complete the work necessary to earn a PhD, and that the institute would provide the funding.

On January 31, 1978, the *Federal Register* reported that the U.S. Food and Drug Administration would require a new warning on the patient insert in all packages of oral contraceptives. In an apparent attempt to emphasize its importance, the warning was to appear in bold print at the top of the insert that listed all the contraindications to the use of this medication.

After I analyzed the scientific studies the *Federal Register* indicated had been used by the FDA in reaching its decision, I concluded that these studies did not support the language in the warning. I presented my case to my superiors and I proposed, further, that our industry call for hearings on the matter before a committee of Congress.

My proposal was outrageous! It is not customary for any industry to request a public

hearing before a committee of Congress. On the contrary, most industries would rather appear to be dragged, kicking and screaming, before the U.S. Congress.

One of our attorneys challenged me by asking for the strategy I might use to respond to the battery of physicians, obstetricians, and gynecologists the FDA would likely bring to such a hearing as witnesses on their behalf.

I said that I would counter the FDA’s panel of witnesses with two or three witnesses of my own, who were among the most outstanding women statisticians in the United States. By then, I knew my two principal witnesses would be Professor Gertrude M. Cox of Research Triangle Institute in North Carolina and Professor Jean Dickinson Gibbons of the University of Alabama.

The hearings were held in Washington on October 4, 1978, before the Subcommittee of the Committee on Government Operations of the House of Representatives. I was the lead witness.

At the end of my testimony, I presented the written and signed statement by Gertrude Cox. Gertrude Cox did not come to Washington to testify. She could not, because she was seriously ill and in the final stages of leukemia.

Just one week before the hearings, I visited her in her room at Duke Memorial Hospital in Durham, North Carolina. She really wanted to go to Washington to present her own testimony, but her physician would not permit it. She was angry and frustrated, and she wept openly. Then she reread her written statement, signed it, and instructed me to present it on her behalf to the subcommittee. Within three weeks of our visit, at age 78, she succumbed to her disease.

Donald Kennedy, director of the FDA, was the only witness for the FDA. By the time he rose to testify, the subcommittee knew what I had suspected all along: the findings of the FDA statisticians were identical to mine and to those of the other statisticians I had brought as witnesses.

—Marvin Kastenbaum,
MS '50, PhD '56

REMEMBERING GERTRUDE COX

“Gertrude's impact on my professional career and my family life was huge.”

Gertrude's classes in design of experiments were “alive.” She skillfully guided the dialog to follow the text. One day, we were discussing alternative sampling plans for the study that would follow the current class example. We agreed that using graduate students would not be optimum. However, it would be the cheapest, because the graduate students would not be paid.

Her very few exams were dominantly made up of homework assignments. If one did the homework, it was acceptable to submit the prior work with a few notations.

During the '53/'54 semesters, I was Gertrude's data analyst for her outside contracts. The first time I submitted my time, I included only the time at my desk. I was concerned that my “thinking” time was not included. Gertrude was quick to tell me she was having the same problem and asked for my suggestion. I suggested doubling my desk time. After a broad smile, we agreed that would be my rule and hers for the future.

Some of us in the 1954 PhD class were the first NC State statistics graduates to take a job in industry. A few years later, Gertrude organized a two-day symposium on applied statistics and invited all of us to return and talk about our work.

Well into my career, the NC State advanced degree graduates honored Gertrude with a dinner held at an annual ASA meeting. Her gift was the best of the new concept voice recorders. As we assembled, each person spoke a few words into the recorder in a separate room. The gift was presented in a gift box “over stuffed” with paper, well wrapped with an orchid on top. As Gertrude worked her way to the bottom, her many comments were being recorded. When she recognized that the box was empty, she was presented with the recorder and all stood to applaud.

I too was among those who visited Gertrude in her hospital room. Each visit, she promptly showed me her day-to-day plot of her white cell counts. And I was expected to comment. Compliments, yes, but not an easy task.

I want the readers of this tribute who contributed to the Gertrude Cox Fellowship Fund to know that the goal was surpassed. Most important, Gertrude met the first fellow, a woman. Gertrude's impact on my professional career and my family life was huge. Her picture is on the clipboard I use every day at my desk.

—Mike Free, MS '52, PhD '54

“What a wonderful lady!”

My warmest recollection of Miss Cox occurs in 1978, shortly before she passed away. I had acknowledged her on the opening page of *Statistics for Experimenters*, John Wiley 1978, and she telephoned me from her hospital bed to say thank you. What is most memorable is that I quickly got the impression that Miss Cox wanted to continue to chat. She simply did not want to put down the phone. And so we chatted on, reviewing our varied histories together. What a wonderful lady!

Another strong recollection is being present in that Patterson Hall basement classroom under the steam pipes, watching Miss Cox lecture. There were occasions when she would come to class hurried and unprepared and thus would struggle through the first few minutes. But she always found the way to make the points at issue ... you

could watch her thinking at the blackboard.

And then there were the graded homework papers, with Sarah Porter and H. P. Andrews as her graders. Importantly, Miss Cox provided me with my very first full-time job. I was hired as an assistant to Bob Monroe and worked in the institute computing lab in the days when obtaining sums of squares required using an IBM punch card sorter and tabulator. Oh, how we celebrated the day the IBM multiplying punch arrived!

And of course, I would not have met George Box as a graduate student if Miss Cox had not invited him to the institute. What a profound influence she has had on my life. She even managed the “cutting the wedding cake” party following my marriage to Tady. Wow!

—Stu Hunter, MS '49, PhD '54

Editor, Book Reviewers Wanted

The American Statistical Association invites nominations and applications for the positions of editor of *Statistics and Public Policy* and book reviewers of *Technometrics*.

Established in 2013 and produced electronically, *Statistics and Public Policy* (*SPP*) publishes papers that apply strong statistical methodology to problems in public policy and/or relevant political science. Articles may address international, national, or local policy questions, but the journal's emphasis is on the application, rather than methodological novelty.

SPP is an open-access journal that publishes papers continuously. Articles appear in the journal shortly after they are accepted, in the order of acceptance.

The new editor must be an active ASA member during his or her term, which is from 2016 through 2018, with the transition beginning in 2015.

Nominations

If you know someone who would be right for the editorship of *SPP*, please nominate that person by sending his or her name, email address, and a brief description of his or her qualifications to journals@amstat.org by April 17.

Applications

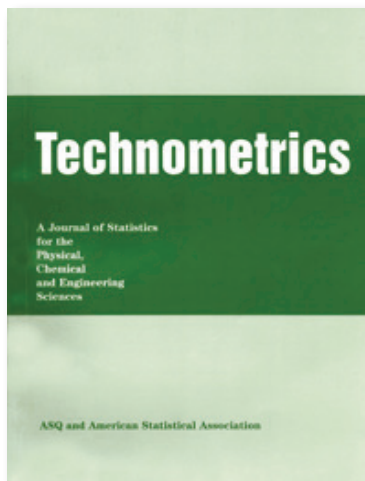
Applications should be sent to journals@amstat.org and should include a CV; the names of three references; and a letter of interest in the position, including a brief statement of the candidate's vision for the publication, directions the candidate would pursue, and contributions she or he would make if selected as editor. The deadline for applications is May 15.

For more information, see www.amstat.org/publications/pubdump/SPP_Editor_announce.pdf.

Technometrics Book Reviewers

The *Technometrics* book review section publishes reviews of books that are directly relevant to the practice of statistics in the physical, chemical, and engineering sciences. Reviews should be completed within a three- to four-month time frame. Also, they should not exceed four double-spaced typed pages, excluding the reference list.

To review a book, look through the books available at <http://magazine.amstat.org/technobookre->



views/distribution. After making a selection, contact Editorial Coordinator Amy Thorpe at athorpe@brocku.ca. Books reviewers receive to review are theirs to keep. ■

Nominations Wanted for Sacks Award

Nominations are being sought for this year's Jerome Sacks Award for Outstanding Cross-Disciplinary Research. The prize recognizes sustained high-quality cross-disciplinary research involving the statistical sciences.

An award of \$1,000 will be presented during the National Institute of Statistical Sciences/Statistical and Applied Mathematical Sciences Institute reception at the Joint Statistical Meetings (JSM) in Seattle, Washington, August 8–13.

Nominations should be received by May 25. Information about how to nominate someone and to see who already has won the award can be found at www.niss.org/content/call-nominations-sacks-award.

Next month, read about Terry Speed, head of bioinformatics at the Walter and Eliza Hall Institute for Medical Research in Melbourne, Australia, and winner of the 2014 Sacks award.

ASA Board of Directors Candidates

The ASA announces the selection of candidates for the 2015 election. The winning candidates' terms will begin in 2016. Make sure to look for your ballots in your email inbox and vote early. Voting begins at midnight EDT on March 13 and ends at 11:59 p.m. PDT on May 1. Complete candidate biographies can be read at www.amstat.org/candidatebios/2015candidatebios.pdf.



President-elect

John Eltinge, Bureau of Labor Statistics

The statistical community is encountering extraordinary opportunities and challenges that have arisen from changes in the scope, scale, and nature of available data; increased needs of stakeholders for high-quality statistical information; and related developments in Big Data and data science. As the largest group of statisticians in the world, the ASA plays a critical role in responding to these changes through its mission to promote the practice and profession of statistics.

I feel honored to be nominated as a candidate for president of the ASA. If elected, I would heartily welcome the views of all members about ways in which the ASA can best fulfill its mission.

Based on conversations to date with a wide range of members from academia, government, and the private sector, I believe four areas will fit especially well with the ongoing ASA strategic plan and its dual emphasis on the ASA as the Big Tent for Statistics and increasing the visibility of the profession.

Expand Opportunities for Training and Professional Development

As the program chair for the 2003 Joint Statistical Meetings, in subsequent ASA committee work, and as the advisor for five PhD and 10 MS students, I have observed firsthand the strong contributions the ASA and its partner societies make to the professional development of statisticians, especially in early-career stages. Recently, I have been especially excited to see those efforts expand beyond technical skills to include statistical leadership areas like active listening, communication, and organizational acumen. The ASA should continue to strengthen its work in all of these areas.

Respond Constructively to Changes in Career Paths and Working Environments

Over the past two decades, career paths and working environments have changed for many statisticians. For example, traditional lifetime employment has become less common and organizational structures have become more fluid. In addition, expansions of application areas have led statisticians to work with colleagues who hold diverse views on transparency

and intellectual-property issues related to statistical methodology and data. The ASA can help our members thrive amidst this changing environment. For example, we should expand the recent initiative on mentoring, and we should foster greater collaboration across subfields.

ASA sections and chapters can make important contributions in both of these areas. For instance, when president of the Washington Statistical Society, I was constantly impressed by the efforts of members to foster a strong sense of community, to share insights with colleagues, and to ensure that statistical practice met the highest ethical standards.

Continue to Strengthen Communication with the Broader Scientific Community, Media, and General Public

The ASA has made long-standing contributions to communication with the media and general public regarding statistical features of controversies in science, health, and public policy. In addition, the ASA recently has pursued deeper interactions with our peers in other professions (e.g., through Section U of AAAS). The ASA should explore ways in which to do even more in these areas.

Enhance Research and Teaching in Applications and Theory

This statement began with the expanded scope and impact of statistical applications. That phenomenon has arisen from a variety of factors, including high-quality teaching and research by many dedicated statisticians. The ASA should extend previous initiatives on teaching at the pre-college, undergraduate, and graduate levels. Also, in previous work on the Committee on Publications and as an associate editor for four journals, I have developed a sincere appreciation for the ways in which sound editorial processes can deepen and accelerate scientific progress. It will be important for the ASA to continue its strong tradition of research journals in statistical theory and applications in health, economics, engineering, education, public policy, and other areas.



Eltinge

President-elect

Barry Nussbaum, U.S. Environmental Protection Agency



Nussbaum

As soon as the verdict was announced, I knew becoming a statistician was the best decision I ever made. Judge Finch ordered a major auto manufacturer to recall 208,000 cars for excessive emissions all based on my statistical testimony and my sample of 10 cars. Yes, just 10 cars. It was a moment that illustrated the mind-boggling power of statistics; in this case, a basic statistical sampling plan to affect a cleaner environment. That's what it's all about: using statistical methods to improve the quality of life in terms of health care, transportation, security, economy, justice, education, the environment, and much more. This is the reason I would be honored to serve as the American Statistical Association's 112th president.

My own background is a study in differences, or variances, to statisticians. My parents were refugees—one arriving in New York, the other via Shanghai. My synagogue is located in Washington's Chinatown. My dissertation advisor was from India. My professors debated frequentist vs. Bayesian. This taught me to value and embrace diversity and the importance of the ASA's welcoming Big Tent. From this variance, as ASA president, I intend to bring our discipline together, concentrating on the following four major areas:

Engagement

The ASA has broad membership across academic, government, and industry sectors. Membership crosses cultures, ethnicities, age groups, orientations, geographic locations, genders, and applications. Now is the time to be more than the sum of the parts. For several years, I have chaired the ASA Committee on Statistical Partnerships among Academe, Industry, and Government (SPAIG). Leadership of this committee reinforced my conviction in the power of collaboration. We need all these disparate communities to better coordinate their activities. I would proactively initiate specific forums to foster this coordination.

Youth

We have to impress upon our youth that this noble profession is interesting, enlightening,

useful, gratifying, and increasingly in demand. Google's chief economist called statistics the sexy profession for the 21st century. Now there's a selling point! But I would work actively to engage entities such as the Museum of Mathematics to include statistical displays. Currently, it is the null set in this regard.

Communication

We must improve our communication to nonstatisticians and launch renewed efforts to demystify our field. Not only do we need to be seen and heard, but also understood. This is particularly important in the age of Big Data. It is crucial to express observations, methods, constraints, inferences, and caveats in the clearest possible manner. Big Data are nothing to be afraid of. In fact, they are an opportunity.

My perspective is data are neither good nor bad, but are good or bad for a particular use. In an effort to improve our outreach, I founded EPA's Statistics Users Group, a forum for information exchange not just among statisticians, but among all staff analyzing data. My presidential initiative would include producing training material for the ASA website. A prototype is the successful Breaking Bad Statistics presentation I developed at EPA.

Impact

The ASA's mission statement includes the goal of using our discipline to enhance human welfare. I have had the good fortune to directly affect human health through environmental improvements. For instance, I have seen median blood lead levels of youth dramatically decrease as a result of removing lead from gasoline. That was my project, and the feeling of accomplishment is overwhelming. As a profession, you can join me and together WE can make an impact and enhance human welfare.

To learn more about me, I invite you to go on Twitter and check out *@StatisticsBarry* for information and upcoming videos. Significantly onward!

Vice President-elect

Nicholas Horton, Amherst College



Horton

As the world's largest community of statisticians, the American Statistical Association plays a key role in the development, application, and dissemination of statistical methods and practice. At a time when data are increasingly used to make decisions, this is a wonderful time to be a statistician. But there are a number of internal and external challenges and opportunities we face as a

profession. As a board member, I would work to promote the practice and profession of statistics in the following ways:

1. Promote the role of statistics at the core of what is being described as "data science" (and bring data scientists into the Big Tent)
2. Work to make statistical careers more attractive and increase the visibility of the discipline

- in areas of science, government, and business that rely on data
3. Prepare statisticians for success by continuing to transform statistical education at the secondary and university levels

I work as an applied biostatistician on a variety of biomedical and behavioral research projects. These experiences have demonstrated the power of statistics to ensure that science is on a solid foundation. Through my work on the ASA Undergraduate Guidelines Group, I saw firsthand the explosive growth of interest and enrollments in statistics. The expansion of our programs provides an opportunity for us to help ensure statisticians are not left behind while other fields stake a claim to data science.

If elected, I would focus my efforts on aspects of visibility of the profession and our ongoing

educational efforts. This would include engagement with other disciplines through our policy work, meetings, and publications, along with initiatives to improve the training for the next generation of students. Our graduates need the facility to express statistical computations while answering statistical questions (or to “think with data,” as Diane Lambert has described it). K–12 students need more of a sense of the power and beauty of statistics. Finzer (2013) notes that statistics educators who generally understand data, have substantial expertise in computation, and have developed a variety of data habits of mind are well positioned to advocate for major changes in the training of future data scientists. The ASA is poised to help its members and their institutions, and as a board member I would help move this ambitious agenda forward.

Vice President-elect

Kathy Ensor, Rice University

I am honored to be considered for the position of vice president of the American Statistical Association. I have served the profession and the ASA in many ways over my career and I look forward to bringing this experience to the Board of Directors and to the benefit of ASA members and society at large.

I bring extensive academic experiences in research, teaching, and mentoring, including running a longstanding NSF-funded training program for undergraduates, graduate students, and post-docs. I also bring the experience of helping to found, and then lead for 14 years, the department of statistics at Rice. Rice Statistics has both benefited from and contributed to the ASA community—a tradition I am pleased to see continues with many of our alums.

Statistics at Rice resides in the school of engineering, which puts us side-by-side with leading departments of computer science, applied math, and electrical engineering. The world of data science is drawing heavily from these communities, and statistics holds a key place at the table.

The statistics profession is changing, or broadening, due to the rapid advances in information and computing resources. Data—government and commercial—that was once difficult to access is now readily available across the globe. It is amazing to me that with a few simple commands in R, I can access a wide array of financial data once available only to a small percentage of the world.

Academia is also at the beginning of potentially rapid change through the success of the new model for content delivery of massively open online courses (MOOCs). Many ASA members

are leading developers in this educational space. With this changing professional landscape on many fronts, it is important to maintain the forward perspective the ASA has adopted.

The ASA as an umbrella organization encompasses a broad array of statisticians contributing to society through government, academia, industry, and nongovernmental organizations (NGOs). While my primary contributions are through academia, I also have maintained a personal outreach perspective, using my statistical expertise to address broad challenges facing society. This perspective of statistical outreach has taken me into very different communities of business, government, law, and NGOs. It is fascinating the varying degree of statistical thinking underpinning so much of society. The members of the ASA are the driving force behind this success, and the ASA, as an organization, has its finger on this pulse.

It is such an exciting and dynamic time to be a statistician. We are now able to fully capitalize on our strong foundations in the age of Big Data and extensive computational resources. We live and breathe this excitement in our day-to-day lives. In our own way, we each help pass along this enthusiasm to the generation of new statisticians and data scientists.

I look back in amazement at the dynamic changes in the ASA and the profession since the beginning of my career as a statistician in the late '80s. The ASA has always been a superb organization and professional home for us all. It continues to grow and develop as our profession grows and develops. If elected, I look forward to contributing to this continued success.



Ensor

COCGB Representative to the Board

Jerry Moreno, John Carroll University



Moreno

Chapters need to continue to play an integral role in promoting the major ASA themes of the ASA as the Big Tent for Statistics and increasing the visibility of the profession. As a member for more than 50 years, I am wholly dedicated to the ASA.

At the chapter level, I was the Cleveland Chapter representative to the Council of Chapters for many years. As the chapter's education chair for 30 years, I continue to organize our annual spring conference, which features a prominent statistician who provides necessary professional development for those whose livelihoods depend on using statistics in the workplace. I continue to be involved in our chapter activities for grades K–12, including judging in our regional science fair competition, organizing our local statistics poster competition, giving talks to students about pursuing statistics as a career, and facilitating workshops in statistics for school teachers as they struggle to learn statistical content and pedagogy so to help their students become statistically literate.

At the national level, I was asked by the Section on Statistical Graphics to head their initiative to create the ASA Statistics Poster Competition for students in grades K–12 in 1990. Thousands of students participate today at the local, regional, or national level. Chapters are critical in helping to promote the competition and help students understand what is involved in creating a statistics poster.

A committee that for a total of 12 years I was privileged to have been a member of and served as chair of for two years is the ASA/NCTM Joint Committee on Curriculum in Probability and Statistics for grades K–12. From its inception by Fred Mosteller, this joint committee has produced many excellent

projects and publications for statistics education. I was thrilled to have been an author of *Guidelines for Assessment and Instruction in Statistics Education (GAISE): A Pre-K–12 Curriculum Framework* and a module of investigations for middle-school teachers, *Bridging the Gap Between Common Core State Standards and Teaching Statistics*. I have been a facilitator since the inception of Meeting Within a Meeting workshops for school teachers, which are held at the JSM meeting sites.

Chapters need to provide professional development for statisticians and those who practice statistics in the workplace. COC has an excellent traveling course program to help chapters in this regard. My own chapter offers a spring conference and fall workshop for colleagues in the profession. We have had joint offerings with ASQ and, more recently, with the local R group.

I know of chapter successes and chapter struggles, as it has become more and more difficult for members to be able to leave their workplace and devote time to their chapter. A challenge for us is to find ways to serve both employer and the ASA.

What would I bring to the board and COCGB? Experience from the past, a willingness to be involved in the present, and a vision for the future. As a long-time member of the ASA who has seen our association through rough and good times and has experienced its growth and importance in increasing the visibility of the profession now in the spirit of the Big Tent, it would be an absolute honor to be the liaison between the Council of Chapters Governing Board and the ASA Board of Directors. I am grateful for the opportunity to be a candidate for this position.

COCGB Representative to the Board

Paula Roberson, University of Arkansas for Medical Sciences



Roberson

I am honored and excited to be a candidate for the Council of Chapters Representative to the ASA Board of Directors. I have been active in the ASA throughout my career and have served in a number of positions, including offices in local chapters and on the Council of Chapters Governing Board, giving me a perspective on the contributions and needs of local chapters with respect to the overall organization.

As the focal point for ASA activities on a local level, the chapters are vital to the association's mission. Chapters play a critical role in addressing both of the main themes of the ASA strategic plan: i) the role of the association as the Big Tent for Statistics and ii) increasing the visibility of

the profession. The chapters provide a center for professional networking, exchange of ideas, and opportunities for career development throughout the year for an often diverse group of statisticians in a geographic region.

Since many statisticians do not participate in the annual Joint Statistical Meetings, chapter activity may be their primary means of identification with the association. The ASA needs to continue to develop new resources and opportunities for welcoming and including these individuals, and the chapters are the most fundamental avenue for this. Furthermore, just as the members are diverse, so are the chapters, spanning a large range of membership size, geographic area, and population density.

The Council of Chapters, with the support of the ASA Board of Directors, provides an organizational infrastructure to support chapter activities, encourage new initiatives, and share experiences and ideas among the chapters. As a member of both the Board of Directors and the Council of Chapters Governing Board, I would take seriously the responsibility to foster communication across all levels to bolster this infrastructure.

Chapters have many opportunities to enhance the visibility of our profession, including interactions with the media, participation in the schools, and development of projects to enhance statistical literacy. We need to help chapters seek more opportunities to engage in these activi-

ties and publicize success stories that encourage other chapters to follow suit. I know from my involvement with local chapters and the Council of Chapters Governing Board that there are many creative and effective activities ongoing at local levels. Many of these can be shared and adapted by other chapters and/or expanded to association initiatives.

This is an exciting time for the field of statistics, presenting many opportunities and challenges. If elected, I look forward to working with the Board of Directors and the Council of Chapters Governing Board to enhance and strengthen the capacity of the chapters to move the discipline and the profession forward to an even brighter future.

COSGB Representative to the Board

Eileen King, Cincinnati Children's Hospital Medical Center

I welcome the opportunity to serve as the Council of Sections Representative to the ASA Board of Directors and look forward to working together to achieve the strategic initiatives identified by the board as they partner with the sections.

I have more than 20 years of experience as a leader and manager of statistical organizations. This leadership experience has provided many opportunities for strategic planning and developing and executing implementation plans to meet the strategic goals. I have served as chair of the Council of Sections Governing Board and understand that the sections represent the diverse interests and areas of expertise of the ASA membership. As a representative of the Council of Sections on the ASA Board of Directors, I will use my experience in both the industry and academic sector to identify opportunities where the sections can partner with the ASA Board of Directors to achieve the strategic goals set by the ASA leadership. I will facilitate the partnerships by being a channel of communication between the sections and the board.

As an example, attracting and retaining ASA

members will lead to increased section membership. Conversely, active sections will provide a research interest home for ASA members and increase the probability that an individual will be retained as an ASA member. The ASA can attract a new member, but membership in vibrant sections will likely be a strong reason as to why that member is retained. A strong partnership between the board and the sections will be needed to identify novel approaches for growing the membership. Similarly, the sections can work closely with the board to identify and implement new approaches to statistical education to attract individuals into the profession.

Throughout my 35-year career as a statistical scientist, I have been fortunate to collaborate with outstanding researchers in many fields and to educate formally and informally. I have had many opportunities to serve our profession, and each one has been a rewarding experience. I look forward to working with the board members to continue to raise awareness of the important contributions statistical scientists make across the multitude of application areas as represented by the Council of Sections.



King

COSGB Representative to the Board

Katherine T. Halvorsen, Smith College

My goals as a member of the ASA Board of Directors will include supporting the professional development of members through continuing education at meetings and through chapter and section programs, supporting outreach to teachers of statistics in K–12

and in higher education, retaining current ASA members in the future, encouraging new membership growth, and maintaining a supportive working relationship between the Council of Sections and the ASA Board of Directors.



Halvorsen

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Q&A with UNL's Director of Computational Sciences Initiative

Please describe your position and responsibilities.

Formally, I am an associate professor in the department of statistics and the department of food science and technology at the University of Nebraska Lincoln (UNL). I have the usual responsibilities that associate professors have—maintaining a research program (mine focuses on statistical metagenomics and statistical prediction), teaching, and advising graduate students. However, what's novel about my position is that I'm director of the Computational Sciences Initiative (CSI) at UNL.

The CSI—despite its unfortunate acronym—is a university-wide, faculty-driven program to enable and develop resources for Big Data and data science, with an emphasis on the life sciences. I started in this position in August 2013.

The CSI is supported by a chancellor's program of excellence award that provides funding for faculty and postdoctoral researchers, staff support, hardware/software, and seed grants in research areas relevant to the data sciences, with the expectation that CSI will acquire other sources of funding as it develops.

The goal is to establish cross-campus linkages via data science that will conduct research, training, and consulting with both academic and industry partners. UNL has three campuses—City Campus (the main campus), East Campus (home of the Institute for Agriculture and Natural Resources, or IANR), and the Nebraska Innovation Campus (our newest campus focused on academic-industry partnerships).

The CSI directed the hire of two new faculty members in the IANR for the 2013–2014 academic year (one in comparative genomics and one in mathematical modeling) and anticipates an additional five new hires for the 2015–2016 academic year (in Bayes spatial-temporal analysis, agricultural information systems, remote sensing, statistical prediction, and spatial economics).

We have a working group of approximately 40 faculty and postdoctoral researchers who meet monthly to discuss data challenges in disparate, interdisciplinary fields ranging from computational biology to social sciences to sustainable and reliable food systems.

What is your background, and what do you think most qualified you for this position?

I have two undergraduate degrees, one in mathematics and one in psychology, from Skidmore



Jennifer Clarke is an associate professor in food science and technology and statistics and director of the Computational Sciences Initiative at the University of Nebraska Lincoln. Her interests include statistical methodology for metagenomics and prediction and training data scientists.

College. I have an MS in statistics from Carnegie Mellon University and a PhD in statistics from The Pennsylvania State University.

After I completed my doctorate in 2000, I was a postdoctoral researcher at the National Institute for Statistical Sciences (NISS) on a project with GlaxoSmithKline and a visiting assistant professor in the department of statistical sciences at Duke University. In 2004, I became a research assistant professor in the department of biostatistics and bioinformatics at Duke and received a National Institutes of Health K25 training award from the National Cancer Institute focused on statistical methodology for high-dimensional genomic data. In 2007, I moved to the University of Miami, where I was an assistant and then associate professor in the division of biostatistics. I was recruited in 2013 to UNL. This was a circuitous path, but it gave me the right sort of experience for what I'm doing now. I would summarize this as:

- Excellent graduate and post-graduate training in statistics, both Bayesian and frequentist, with a strong emphasis on computation

- Postdoctoral training on multidisciplinary research projects and a training grant that involved statistics, computation, cell biology, oncology, and genetics
- Faculty positions at schools of medicine and colleges of arts and sciences (which have very different intellectual cultures)
- International scholarly experiences, both inside and outside the western world
- A love of learning (a never-ending endeavor) and of statistics, both as an intellectual field and as a powerful, enabling field for students and researchers from other disciplines

No, you don't need to follow my winding professional road to be qualified for a position such as mine, so take a deep breath. What you do need is excellent training, both in statistics and in a collaborative field, and a willingness to learn and listen. Oh yes, and a determination to succeed!

Please describe a few of your current projects and what they entail.

This is the fun part. Here are three of my current projects:

(1) We just started a PhD program in complex biosystems, which is recruiting students for the fall of 2015. It is directed at students interested in quantitative statistical and computational approaches to data acquisition and analysis in multiple areas of biology.

The program is interdisciplinary, so graduate students are recruited through a common portal, and the program affords a full year of research rotations (three total) on diverse topics. In the first year of study, the students consider “big questions” in multiple areas of life sciences and learn current technical and analytical approaches to answer them—as well as open challenges. The goal is that students acquire a foundation in population, cellular, and molecular life sciences; statistics; bioinformatics; and computational analysis. The advantages to the student are the wide choices available for research projects and an interdisciplinary educational approach that allows students to see cutting-edge methodologies at the beginning of their studies.

(2) I am developing novel statistical approaches to metagenomic data, with a focus on bacterial identification and community description. For those of you not familiar with metagenomics, it is an approach to analyzing complex microbial communities based on genomic data collected directly from mixed microbial DNA. We

have developed two approaches to detect the presence or absence of microbes in a sample, one Bayesian and one frequentist. Currently, we are developing novel approaches to clustering such data (both genomic and abundance) based on ensembling.

(3) The CSI is involved in the construction and development of an advanced plant phenotyping facility at UNL. This is a big deal because, as a land grant institution in an agricultural state, we want an environment conducive to crossdisciplinary research among plant breeding, genetics, metabolic engineering, physiology, stress biology, and statistical and computational modeling, along with optical and hyperspectral imagery capture and analyses. From a statistical standpoint, one focus will be on the analysis of and accurate prediction from multitype data: The phenotyping platforms will collect not only imaging data, but also allow data capture on carbon/water flux, photosynthetic capacity, leaf area, and soil measurements. The challenge is to bridge the genotype to phenotype gap at the plant level. To a statistician, this translates into the development of novel techniques to predict plant phenotype from both genomic and environmental data that may be collected over time. The CSI is involved in this project on two fronts: one is the development of statistical methodology and one is the development of a data management and access pipeline for plant phenotyping.

How unique is your position in academia, and what motivated UNL to create it?

This position is unique in some ways, but common in others. There are many faculty members in academia whose research is focused on applied statistics, or statistical computation, and who work in collaborative environments with nonstatisticians. These people make essential contributions, but rarely have a significant voice outside of their immediate group.

My position is different in that I receive university support to advance statistics and the quantitative sciences, in both education and research, with the expectation that I will bring needed expertise and develop needed resources at UNL. This position was developed because the faculty, particularly those in the life sciences, recognized that statistics, bioinformatics, and computation were critical to the future of their research and to the training of their students.

Several years ago, a laboratory would have

simply hired a postdoctoral researcher with a quantitative background to enable research and help in training students. Now, however, with the explosion in the amount of available data and the required analytical skills, this is no longer enough. The faculty and administration at UNL decided to develop a central hub of faculty, postdoctoral researchers, and technicians, who could either provide methodological and analytical expertise directly or link faculty and students to appropriate resources. This is the CSI.

Any advice for other universities considering such a position? Any advice for statisticians considering a position like yours (or trying to facilitate more interdisciplinary partnerships in their university)?

My advice for other universities would be to do the same. Many fields are in the process of becoming more quantitative, and this trend will continue. The most successful universities will be the ones that provide institutional support to quantitative fields, tailored to their own needs and strengths. Statistics as a field is growing and will continue to grow with our ability to collect data and our desire to make evidence-based decisions, and, along with this growth, comes other needed skills from fields such as computer science, electrical engineering, bioinformatics and computational biology, and mathematics. It is often daunting for faculty from traditionally nonquantitative fields to find the quantitative resources they need, let alone collaborate with quantitative faculty! The same is true for potential industry partners who are looking for a quantitative ‘point person’ on campus.

For statisticians considering a position like mine, I hesitate to give advice, as the world for statisticians is changing rapidly. However, here are a few highlights:

(1) Be a statistician, first and foremost. This can be a hard thing to do, particularly in interdisciplinary settings, where either (1) proper statistical methods may not be discussed or of concern to your colleagues or (2) a certain level of knowledge of another field is assumed (and you don’t have it). So speak up when you have a concern, suggestion, or question. Collaborations worth pursuing will allow this, and if they don’t, maybe they are not worth pursuing.

(2) Be willing to learn the ‘languages’ of other fields. In practice, effective communication with a nonstatistician requires learning by both parties—you learn to express yourself in a way accessible to other scholars and professionals, and they learn how to express

Four new initiatives for 2015: expanding and recognizing mentoring, providing docents at JSM ..., establishing a Stat 101 toolkit for instructors in non-stat programs, and providing a blog on all things statistical.

themselves more precisely and quantitatively. This is difficult, but it can be extremely rewarding when it works.

(3) Develop your computational skills. Often, simply accessing data and preparing it for data analysis requires considerable computational acumen—let alone doing the desired analyses. This may require courses in statistical computation and packages, as well as courses in computational languages that are not statistical.

How do you think the general area of ‘data sciences’ will affect the field of statistics over the next five years? What branches of the sciences are playing a growing role in interdisciplinary statistics?

The general area of data sciences will have a huge positive impact on the field of statistics. Why do I say this? I define data science as a three-legged stool, the legs being computer science, statistics, and a subject matter field (a popular one is business). No two of these fields can be successful in data science without the third. I see an increasing number of students who describe their interest as data science and understand this to include a solid background in statistics. In the 2000s, I often had to convince students interested in what we now refer to as data science that statistics was important. This has reversed: Now I often have to find resources to meet the demand for statistics.

In terms of branches of sciences that are pushing a growth in interdisciplinary statistics, I will mention a few and my apologies for those I omit. At the top of my list are (1) biological sciences (with genomic data as well as imaging and phenotypic data), (2) agricultural sciences (with plant

breeding and remote sensing), (3) business (with decision analytics, Internet surveys, and Big Data applications), (4) earth and atmospheric sciences (with astrophysics, global imaging, and climate change), and (5) ecology (with metagenomics, spatial-temporal contexts, and environmental sciences). All these areas have challenging data for statisticians and people with a willingness to work collaboratively.

What would you like to accomplish in the next several years to consider the creation of this position a success?

I would like to develop CSI into a cross-campus hub for data sciences. We are supporting two bio-informaticians and are hiring an assistant professor of practice and a postdoctoral researcher. I would like to see this group have an impact on the university in terms of educating students (workshops, short courses, and lectures on topics in data science) and furthering its research mission. I would like the CSI and its website (*bigdata.unl.edu*) to become a 'go-to' place for students and faculty who are interested in the data sciences.

We have hosted several events on campus focused on Big Data or the data sciences, with

both external and internal speakers, and I would like to support future events. The creation of this position will be a success if, in the next few years, (1) faculty researchers and graduate students will have found major direct benefits from quantitative support; (2) students will have found the CSI to be a frequently accessed resource for education and guidance in the data sciences; (3) the administration considers the CSI to be a critical resource for research, education, and industry relations; and (4) I am satisfied we have the resources necessary to support statistics, computation, and the data sciences at UNL so research projects that were essentially infeasible when I started here become routine.

If you were not a statistician, you would be ...?

Earlier in my life, I wanted to become a professional ski racer, but I simply didn't have enough athletic talent. In my wildest dreams, I am a formula 1 race car driver (ask my friends about my love of cars). But being more realistic, I likely would have become a struggling artist or run my own auto shop. I can't tell you what these have in common, except my enthusiasm for them. ■



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NSF Funds Research in Statistics Education

To help highlight the high-quality research in statistics education being funded by the National Science Foundation—and specifically the Education and Human Resources (EHR) Directorate—the ASA asked three principal investigators for summaries of their NSF-funded research.

Distribution of Items Across Practice and Process of Statistical Problem Solving Emphases

Levels of Conceptual Understanding in Statistics (LOCUS) project (DRL-1118168)

Tim Jacobbe, University of Florida

The inclusion of statistics in the K–12 curriculum has been gaining momentum over the past 30 years, starting with the efforts of the Quantitative Literacy Project (Schaeffer, 1986) and the influence of that project on the development of the national mathematics standards (NCTM, 1989, 2000). These efforts led to statistics becoming a major presence in the Common Core State Standards in grades 6–12 (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2010).

However, increased expectations regarding students' understanding of statistical concepts have not resulted in a change in the way statistics is assessed to align with those expectations. The National Science Foundation–funded Levels of Conceptual Understanding in Statistics (LOCUS) project aims to change the way statistics is assessed in the classroom and on high-stakes assessments.

LOCUS has developed a series of assessments designed to measure statistical literacy. The intent of these assessments is to provide teachers, educational leaders, assessment specialists, and researchers with a valid and reliable assessment of statistics consistent with expectations from the field of statistics education. These materials are beginning to serve as exemplars for the development of high-stakes assessments or curriculum materials. LOCUS assesses students'

understanding across levels of development as identified in the *Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report: A Pre-K–12 Curriculum Framework*. LOCUS addresses the “A” (assessment) component of the framework to provide items that assess statistical literacy in the spirit of GAISE.

The LOCUS assessments were designed to assess statistical literacy developmentally, as defined by the GAISE framework. Given that the goal of statistical literacy is far-reaching, the questions have been successfully used with the following populations: students in grades 6–12 (including AP Statistics); pre-service and in-service teachers; and students enrolled in traditional and randomization-based college-level introductory statistics courses.

Project Team

Principal Investigator: Tim Jacobbe, University of Florida

- **Co-Principal Investigators:** Bob delMas, University of Minnesota; Brad Hartlaub, Kenyon College; Jeff Haberstroh, Educational Testing Service

- **Graduate Research Fellows:** Catherine Case, Steven Foti, Douglas Whitaker, all of the University of Florida

- **Advisory Board Members:** David Miller, University of Florida; Dick Scheaffer, University of Florida; J. Michael Shaughnessy, Portland State University; Jane Watson, University of Tasmania

- **Test Development Committee:** Christine Franklin (co-chair), University of Georgia; Gary Kader, Appalachian State University; Mary Lindquist, Columbus State University; Jerry Moreno, John Carroll University; Roxy Peck (co-chair), California Polytechnic State University; Mike Perry, Appalachian State University; Josh Tabor, Canyon del Oro High School

EDITOR'S NOTE

This material is based on work supported by the National Science Foundation. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

- **Emphasis on Practice and Process of Statistical Problem Solving**

- Formulating Statistical Questions & Collecting Data (40%)
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Contact: Tim Jacobbe, University of Florida, jacobbe@coe.ufl.edu

Playing Games with a Purpose: A New Approach to Teaching and Learning Statistics

(2011-2015) NSF TUES DUE #1043814

Shonda Kuiper, Grinnell College

The objective of our NSF Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES) grant is to advance statistics education by designing and developing interactive, inquiry-based online games and associated lab materials that simulate data-based decisionmaking in a research-like experience. Instead of teaching statistics and data science as a collection of facts and mathematical calculations, these activities excite the power of innovation and creativity that occurs within great research in any discipline. While games are engaging, the key motivation for our game-based labs is that they allow students to collect their own unique data to make decisions, develop their own research questions, and then tie their conclusions to actual research.

Textbook data sets provided to students are typically carefully vetted and cleaned to illustrate a key statistical topic or method. Rarely are real studies and data so straightforward. We build upon educational research from multiple disciplines by creating modules that bridge the gap from smaller, focused textbook problems to real-world problems. The result is that core statistical issues such as working with messy data, bias, data relevance, and reliability are taught as concepts essential to every study involving data.

To make the materials easily accessible to any type of undergraduate statistics course, a full set of instructor resources is freely available at <http://web.grinnell.edu/individuals/kuipers/stat-2labs/Labs.html>. This includes student handouts, online videos, sample data sets, and instructor guides that discuss the following:

1. Level of the material and any needed prerequisites
2. Relationship of the games to statistics and data science
3. Sample articles that put the research question within a context understandable to first-year college students
4. Learning goals
5. Details about accessing the free online games
6. Expected instructor and student time needed to complete the activity
7. Key discussion questions
8. Suggestions for future work or class projects students could pursue

Initial evidence shows these game-based labs offer several advantages in quantitative undergraduate courses. While students enjoy the unusual experience of using a game for learning statistics, most students identified the best part of these game-based labs was they helped them learn. Many students are engaged in a unique way and are enthusiastic about the opportunity to pose their own research question and control their own data.

Even though most of our current student labs and associated instructor resources focus on the introductory course, each game is carefully designed to be highly adaptable, allowing for complex multivariate data collection. For example, we have introductory course materials that focus

on conducting a two-sample t test. However, the same online game allows students to simultaneously test multiple factors and has been used to teach repeated measures ANOVA and fractional factorial designs in more advanced courses. Thus, these activities can challenge students at any level to “think with data” by having them work with real-world, unstructured data sets and train them to better communicate nuanced statistical ideas.

Principal Investigators are Shonda Kuiper and Rod Sturdivant. Advisors include Ginger Holmes-Rowell, George Cobb, Michelle Everson, Danny Kaplan, Dennis Pearl, Michael Posner, and Frank Wattenberg.

Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics, Phase II NSF DUE-1323210

Nathan Tintle, Dordt College

When Fisher (1936) and Pitman (1937) first suggested we should base inferences on permutation distributions, computer simulation was still far in the future. Now, almost 80 years later, this NSF-funded project aims to “broaden the impact and evaluate the effectiveness of recent efforts to use simulation of those distributions to teach the logic of inference in a first statistics course.” Our premise is that the Fisher-Pitman approach offers students a simpler, more direct path to the fundamental logic of inference than the traditional approach by way of the Central Limit Theorem and the t -distribution.

The current project builds on our previous NSF grant (DUE 1140629) to develop complete materials for an algebra-based introductory statistics course using simulation-based inference methods. This follow-up has a three-part focus: workshops, online resources, and assessment.

We are conducting faculty development workshops to encourage teachers (undergraduate, community college, AP, high school, etc.) to think about the possible advantages of a simulation-based curriculum, using active participation to show how this can work in the classroom. Upcoming workshops are scheduled at Penn State in conjunction with USCOTS (May 2015), Hollins University in Roanoke through the MAA’s PREP program (July 2015), and JSM in Seattle (August 2015).

We are developing online resources to support

the growing community of adopters. We have a listserv and blog site (www.causeweb.org/sbi), where ongoing discussions occur and resources are posted.

We are implementing an ongoing, multi-institutional assessment program to evaluate students’ conceptual understanding and attitudes in courses using simulation-based inference vs. traditional curricula, along with a host of secondary research goals.

In this project, we are collaborating with developers of several other simulation-based curricula for introductory statistics to ensure an ecumenical view of current options.

To date, more than 500 instructors have participated in our workshops, and about 3,500 introductory statistics students have participated in the assessment project during the first year of the three-year grant. We expect those numbers will continue to grow over the remaining two years of the project.

As our workshops reach increasing numbers of instructors who are considering using simulation-based curricula, we have ongoing opportunities to share cutting-edge ideas with colleagues, grapple with the challenge of their skepticism, and help them think about how simulation-based inference might work in their classrooms. We continue to add new content to our blog, where experienced users and novice users can wrestle with questions of implementation, curriculum, technology, and more.

Our electronic mailing list currently offers more than 300 participants a place to discuss (in ‘real time’) the key issues from their classrooms with an audience of instructors worldwide. Frequently asked questions from the listserv generate themes for blog posts from a variety of contributors and assessment projects.

Finally, as we begin to analyze assessment data from our first batch of students, we find improved performance on key learning outcomes related to the logic and scope of statistical inference, as well as improved performance of weaker students in courses using simulation-based inference. Upcoming analyses will attempt to pinpoint key curricular, pedagogical, and institutional variables related to improved student performance.

Principal investigators include Nathan Tintle, Beth Chance, Dennis Pearl, Soma Roy, and Todd Swanson. For more information, visit www.causeweb.org/sbi. ■

MORE ONLINE

To see EHR funding solicitations, visit www.nsf.gov/funding/pgm_list.jsp?org=EHR.

How to Take Your Statistics Career

Sara Davidson, ASA Graphic Designer/Production Coordinator

THE PANEL

Amanda Cox earned a bachelor's degree in math and economics and a master's degree in statistics from the University of Washington. She is a graphics editor at *The New York Times*.

Ian Misner earned a PhD in biology from the University of Rhode Island and is the bioinformatics coordinator at the University of Maryland.

Regina Nuzzo earned a PhD in statistics from Stanford University and is a professor of statistics at Gallaudet University in Washington, DC, and a freelance science writer.

When it comes to finding a job, a statistics degree could be your secret weapon.

A background in statistics qualifies you for a wide range of careers—including those off the traditional path such as data journalism, science writing, and consulting—and could even give you an advantage over the competition.

“Statistics has kind of been my secret weapon in being a science journalist,” said Regina Nuzzo, a freelance writer and professor at Gallaudet University in Washington, DC.

Nuzzo says statistics has taught her how to be a skeptic, an invaluable skill for journalists, but it also has given her the skills to read and understand complex studies.

“If you understand [the information] deeply, then you're able to take it and present it to a general audience,” she said. “I think that's where I have a ... leg up, compared to other science journalists.”

So where else will your statistics background come in handy? We sat down with Nuzzo; Ian Misner, bioinformatics coordinator at the University of Maryland; and Amanda Cox, graphics editor at *The New York Times*, to collect a few tips for finding success off the traditional statistics career path.

Trust Yourself

Your mentors and professors have great advice, Nuzzo says, but don't be afraid to go in a different direction.



“There's a lot of pressure as a PhD student to perhaps have a certain kind of career, especially the sort of career that appeals to the people who are mentoring you. That's only natural—they love their own careers and are very successful at it, so of course they want the best for you. I

loved my mentors and wished that I could be them—but I wasn't. So that's the same advice that I would pass along: Live your own career, not the one that other people want you to live, because at the end of the day, you're the one who needs to live with your career, not them.”

Off the Beaten Path



Step Outside Your Curriculum

When you go into a statistics program, it's a given that you're going to be taking quite a few math and statistics classes. But there are other beneficial classes that will help you round out your education.

"The No. 1 thing I would tell any student interested

in going into bioinformatics—and probably any student interested in doing anything—is learn to code," said Misner. "Coding is becoming almost a necessity in today's computer- and technology-driven world."

Cox echoes Misner's advice: "At some point, you're going to wish you were a better coder."

Being a good writer and editor also will help you as a statistician, Nuzzo says. "I think it would be great if more stats students took some kind of class where they can practice their communication skills—maybe a class on public speaking, or on teaching, or writing, or graphic arts," she says. "All of these are terrific skills for statisticians."

Cox also points out that sometimes stepping outside of the classroom can help you gain expertise and possibly find an unexpected niche. "Many of the best reporters are people with real experience," she says. "For example, the best baseball graphics here are made by a guy who was once really good at baseball."

Get a Head Start

Don't wait until you're trying on your cap and gown to start networking and making connections with potential employers. Putting your work online while you're still in school will help you establish a wider online presence and help create a digital portfolio with plenty of depth.

But besides being active on social media, how do you get your foot in the door with companies and news organizations?

"Publish," Cox advises. "Clips matter, even if they are just [from] your own website."

A strong personal website will get you noticed.

The popular blog FlowingData was created by Nathan Yau while he was a PhD student at the University of California at Los Angeles. What started as a personal project in 2007 now has a successful online following and has led to Yau publishing two

books (<http://flowingdata.com/learning/#book-section>).

For science writing specifically, Nuzzo says students should read science and statistics blogs to get a feel for what's being done well and learn what fits their own style. She also suggests a great way to get published is offering to guest blog or contribute to publications such as the ASA's *CHANCE* and *Significance* publications.

CONTACT US

Interested in contributing?
Email Megan Murphy at megan@amstat.org.

Extra Credit

Post-graduate programs and professional certification programs are a great way to add to your experience and education without committing to another four years of school.

CHECK OUT THEIR WORK

- Read Nuzzo's ESRA-winning story, "Scientific Method: Statistical Errors," at www.nature.com/news/scientific-method-statistical-errors-1.14700 and Nature's "The Top 100 Papers" at www.nature.com/news/the-top-100-papers-1.16224.
- See some of Cox's data visualization projects at http://topics.nytimes.com/top/reference/timestopics/people/c/amanda_cox/index.html.
- Find other great stats blogs: <http://magazine.amstat.org/blog/2010/09/01/blogstatistics>.

Nuzzo suggests students interested in media-related fields apply for the AAAS Mass Media fellowship ([www.aaas.org/program/aaas-mass-media-science-](http://www.aaas.org/program/aaas-mass-media-science-engineering-fellows-program)

[engineering-fellows-program](http://www.aaas.org/program/aaas-mass-media-science-engineering-fellows-program))—a 10-week summer program that places science, engineering, and math students at media organizations—or look for a science journalism program.


"UC Santa Cruz has the best, but I might be biased, of course," she says. "Also Johns Hopkins, NYU, and Boston University have terrific science journalism programs with different flavors."


Work Outside the Box

Don't restrict yourself to just looking at job boards; there are positions out there if you know where else to look.

Misner suggests students look at the specialized tools and programs they use now and turn to those companies for jobs.

"All of the equipment ... that you use, all those people hire scientists," Misner said. "So just walk into your lab and look at the company names and start going to their websites and look at their career pages. You'll be surprised to find that there are a lot of things that you're capable of doing that they need people to do. It can be very useful for both of you." ■

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Julius Shiskin Award

Nominations are invited for the annual Julius Shiskin Memorial Award for Economic Statistics. The award is given in recognition of unusually original and important contributions to the development of economic statistics or in the use of statistics to interpret the economy. Contributions can be in development of new statistical measures, statistical research, use of economic statistics to analyze and interpret economic activity, development of statistical tools, management of statistical programs, or application of data production techniques.

Individuals and groups in the public or private sector from any country can be nominated. The award will be presented with

an honorarium of \$1,000 plus additional recognition from the sponsors: Washington Statistical Society, National Association for Business Economics, and ASA Business and Economics Statistics Section. Nomination forms are available at www.amstat.org/sections/bus_econ/shiskin.html. Completed nominations must be received by March 16.

The award was established in 1980 in memory of Julius Shiskin, who had a varied and remarkable public service career. At the time of his death in 1978, "Julie" was commissioner for the Bureau of Labor Statistics. He earlier served as chief statistician at the Office of Management and Budget and chief economic statistician

and assistant director of the U.S. Census Bureau. Shiskin published *Signals of Recession and Recovery*, which laid the groundwork for the calculation of monthly economic indicators, and developed the monthly Census Bureau report *Business Conditions Digest* to disseminate them to the public.

Julia Ingrid Lane, senior managing economist and institute fellow at the American Institutes for Research, received the award in 2014 for her contributions to the development of a new Census Bureau program that significantly advanced research on employment dynamics.

For details, contact Thomas Evans, award committee secretary, at evans.thomas@bls.gov. ■

**Registration
deadline March 27**



Perelman
School of Medicine
UNIVERSITY OF PENNSYLVANIA

**Reduced hotel rate
expires March 20**

**8th Annual Conference on Statistical Issues in Clinical Trials:
April 15, 2015**

Topic: Statistical Issues Arising in Pragmatic Clinical Trials

The 2015 Conference will bring together leading scientists who will discuss current statistical issues in the design and analysis of pragmatic clinical trials. Participants from all sectors including academic institutions, industry, and government agencies with an interest in clinical trials methodology are encouraged to register.

Conference Funding: Patient-Centered Outcomes Research Institute (PCORI)

Conference co-sponsors: American Statistical Association, Society for Clinical Trials and the University of Pennsylvania Center for Clinical Epidemiology and Biostatistics.

Faculty

Robert Califf (Duke)
Andrea Troxel (U Pennsylvania)
Roger Lewis (UCLA)
Andrea J Cook (U Washington)
Michael Gaffney (Pfizer)
Garnet Anderson (Fred Hutchinson
Cancer Research Center)

Tentative Topics

Statistical needs for pragmatic clinical trials
Formalizing ad hoc practices in pragmatic clinical trials: issues of consent and implementation
The Pragmatic Clinical Trial in a learning healthcare system
Pragmatic Cluster Randomized Trials
Pragmatic aspects of large safety trials

Can administrative data increase the practicality of clinical trials? An example from the Women's Health Initiative

Panelists

José Pinheiro (J&J Janssen); John D Lantos (Children's Mercy Kansas); Lori E. Dodd (NIAID);
Robert Temple (FDA); Elizabeth DeLong (Duke); Scarlett Bellamy U Pennsylvania)

Venue, Housing, Registration Fee. The Conference will be held in the Arthur H. Rubenstein Auditorium at the Smilow Center for Translational Research on the campus of the University of Pennsylvania Perelman School of Medicine. The Sheraton University City is located within easy walking distance. We have reserved a block of rooms at a rate of \$189/night (plus tax). To reserve a room, please call 1-888-627-7071 and mention "Univ. of Pennsylvania Statistical Issues in Clinical Trials". To secure this rate, please reserve your room no later than **March 20, 2015**. Many alternative hotels in Center City Philadelphia are also a short distance from the UPenn campus. Registration is limited to 200 participants. **Registration deadline is March 27, 2015**, or when the registration limit is reached. Conference fee (includes breakfast, lunch, breaks): \$220 Industry, \$130 Academic & Government. For information and registration, visit the conference website: <http://www.cceb.med.upenn.edu/biostat/conferences/ClinTrials15/>.

For questions, contact **Stephanie Magee** Phone: 215-573-2728, Email: smagee@upenn.edu

ISOSS Conference Held in Indonesia

Shahjahan Khan, University of Southern Queensland and ICCS-13 International Organising Committee Chair

The biennial 13th Islamic Countries Conference on Statistical Sciences (ICCS-13) was held at the IPB International Convention Centre in Bogor, Indonesia, December 18–21, 2014. The theme of the conference was “Statistics for Better Life.”

During the opening session, chair of the national organizing committee and vice chancellor of Trilogi University, Asep Saefuddin, welcomed participants and thanked Bogor Agricultural University (BAU) and the Islamic Countries Society of Statistical Sciences (ISOSS) for their support in holding ICCS-13.

Savas Alpay, director general of the Statistical, Economic, and Social Research and Training Centre for Islamic Countries (SESRIC), emphasized the importance of statistical capacity building and cooperation between the national statistics offices and professional organizations such as ISOSS.

Acting president of ISOSS, Shahjahan Khan, explained the role of ISOSS in bringing together practicing statisticians and researchers of diverse backgrounds to improve the quality and development of statistics to serve humanity.

Founding president of ISOSS, Munir Ahmad, gave a brief history of ISOSS and noted its significant effect on the international statistical community over the years.

Illah Sailah—director of the Ministry of Research, Technology, and Higher Education of Indonesia—emphasized the need for timely and high-quality statistics for the formulation of government policies. Sailah announced that Indonesia has created a separate statistics subject cluster under the new research quality framework.

Deputy chief statistician for production of statistics in Indonesia, Adi Lumaksono, discussed the activities of the National Statistics Office and its engagement with government departments.

The vice rector of BAU, Hermanto Siregar, focused on the significant scientific contributions of the university during the last 50 years.

Haryono Suyono, a former Indonesia minister of

population, presented the first keynote address, focusing on the history of developing an appropriate index to measure the fertility of Indonesia and how the program was successful in managing population growth.

M. Ashraf Memon of the University of Queensland presented a panel session on medical meta-analysis, covering issues related to current meta-analytic methods in the context of three meta-analyses on surgical data.

Two workshops were included in the conference: “Big Data Analysis” by S. Ejaz Ahmed of Canada and “Essentials of 21st-Century Undergraduate Statistics Curriculum” by Khan. The focus of the second workshop was to use educational technologies and adopt appropriate changes to teaching statistics through data analysis, as well as ensure graduates know statistical computing—including database management, multivariable calculus, and statistical methods—with the ability to communicate technical knowledge in a global context.

The conference dinner was hosted by the Bogor mayor, Bima Arya Sugiarto, who is a political scientist and an alumnus of Australian National University. He welcomed the participants and noted how important statistics is in planning and evaluation, confessing he was not a very good student of statistics.

The conference tour to Taman Mini Indonesia Indah (Beautiful Indonesia Miniature Park)—a park containing history, culture, and geographical aspects of all 34 states of Indonesia—was highly enjoyed by participants. The park contains a miniature map of Indonesia and many museums representing different aspects of the Indonesian nation, nature, and culture.

In the business session of the conference, Abdul Ghapor Hussin of the National Defence University of Malaysia was elected the fourth president of ISOSS. He will serve for the next two years.

Khan’s proposal to establish a statistics center of excellence in Kuala Lumpur, Malaysia, was unanimously adopted by the delegates. They agreed to work together with other international statistical organizations on joint activities. Ahmad’s motion to launch a new journal also was approved.

The ISOSS Gold Medal was awarded to Saefuddin for his outstanding contribution to the development and promotion of statistics in Indonesia and beyond and to M. Hanif Mian for his contribution to the promotion of ISOSS and development of numerous sample survey techniques.

The next Islamic Countries Conference on Statistical Sciences (ICCS-14) will be held at the Sultan Qaboos University, Oman, December 17–20, 2016. ■

MORE ONLINE
Read about your colleagues and friends in the news. Go to www.amstat.org and click on “Statisticians in the News.”

Statistician in the News

Robert Tortora recently joined ICF International as a senior fellow of survey methodology in the health, education, and social programs unit. Previously, he was the chief methodologist and regional research director for Africa for the Gallup World Poll.

Obituaries

H. Leon Harter

By Harry Khamis, Wright State University Statistical Consulting Center

I learned just recently, to my sorrow, that H. Leon Harter passed away on March 3, 2010, at Provena Covenant Medical Center in Urbana, Illinois, at age 90.

The third child—and the only one to survive infancy—of Harman and Josie (Hough) Harter, Leon was born in Keokuk, Iowa, on August 12, 1919. He graduated from Carthage College in 1940 after majoring in mathematics. On September 8, 1940, he was ordained to the ministry of the Christian church.

Leon earned his master's degree from the University of Illinois in 1941 with a major in mathematics and minor in physics. On October 23, 1943, he married Alice Madden and, in July of 1944, Leon was inducted into the Navy and sent to Shanghai, China. He was honorably discharged on March 4, 1946. After the war, Leon attended Purdue University, where he earned a PhD in mathematical statistics in 1949.

After three years as an assistant professor of mathematics at Michigan State University, Leon accepted a position with the U.S. Civil Service as a mathematical statistician at the Aerospace Research Laboratories (ARL) at Wright-Patterson Air Force Base in Dayton, Ohio. He remained at ARL until December 1978, becoming head of the statistics research unit in 1963. Leon gained international recognition as an expert in order statistics and was honored by his peers by being elected Fellow of both the American Statistical Association and Institute of Mathematical Statistics. He once stated he was proud to have served in the ARL for all but the first four of its 27 years. The ARL statistics group published 250 technical reports, hundreds of journal articles, and dozens of books.

After retiring from the U.S. Civil Service in 1978, Leon became a research professor at Wright State University (WSU). He retired from WSU in 1984 and moved back to Illinois, where he was self-employed as a consultant and writer (during which time he wrote



Leon Harter is the honored guest at the 25th anniversary of the Wright State University Statistical Consulting Center in 2007.

six more volumes of his eight-volume bibliography of order statistics). Upon leaving WSU, Leon donated the only existing complete collection of ARL statistics technical reports to the statistical consulting center, where they are kept in the conference room library. In 1997, Leon returned to the Christian ministry after a long absence, serving as minister and interim minister at several churches.

When I arrived at the WSU Department of Mathematics and Statistics in 1980 fresh out of graduate school at Virginia Tech to interview for an assistant professor position, I learned Leon Harter was a research professor there. I remember thinking that if someone with that kind of reputation was in the department, then it must be a good place to work. Indeed, within a year of my employment at WSU, Leon invited me to collaborate with him on a modification of the Kolmogorov-Smirnov Test, thereby helping me initiate my research career.

Leon's contributions to our science are many and substantial. In the brief time I shared with Leon as a colleague, I found in him a rare combination of brilliance, humility, professionalism, intellectual generosity, and respect for all. May he rest in peace.

Lolafaye Coyne

Lolafaye Coyne, 88, died January 9. Coyne earned her bachelor's in mathematics from Washburn University, master's in mathematics from the University of Kansas, and doctorate in mathematical statistics from Kansas State University. She served as the director of the statistical laboratory at the Menninger Foundation for 47 years. Coyne was adjunct professor in the University of Kansas Psychology Department and a reviewer for psychiatric and psychological journals. She was a member of the ASA, Psychometric Society, Society for Psychotherapy Research, and Society for Research in Psychopathology. View her entire obituary at <http://bit.ly/1EAPCEI>.

P.V. Rao

Pejaver V. (P.V.) Rao died January 2. Born in India, he came to the United States after receiving a Georgia Rotary Scholarship to complete his graduate work in statistics at the University of Georgia, from which he earned his doctorate in 1963. Rao accepted a faculty appointment in the University of Florida's newly formed department of statistics in 1964 and was a guiding light for the department for the next 34 years. He was a member of the ASA and Institute of Mathematical Statistics and an elected member of the International Statistical Institute. To read more, visit <http://bit.ly/1DxrVcJ>.

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

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

» Indicates events posted since the previous issue

April

»10–11—Fourth Annual Up-Stat Mini Conference and Data Competition, Geneseo, New York

For more information, visit www.up-stat.org or contact Padraic Neville, 28 Roselawn Ave., Fairport, NY 14450; (585) 402-6546; Padraic.Neville@sas.com.

*9–10—Robust Rank-Based and Nonparametric Methods, Kalamazoo, Michigan

For details, visit www.stat.wmich.edu/mckean/RBconf or contact Magdalena Niewiadomska-Bugaj, Department of Statistics, Western Michigan University, Kalamazoo, MI 49008-5152; (616) 387-4542; (616) 387-1421; m.bugaj@wmich.edu.

» *15—Statistical Issues Arising in Pragmatic Clinical Trials, Philadelphia, Pennsylvania

For details, visit www.cceb.med.upenn.edu/biostat/conferences/ClinTrials15 or contact Stephanie Magee, 423 Guardian Drive, Philadelphia, PA 19104; (215) 573-2728; smagee@upenn.edu.

» 24—ASA Chicago Chapter Workshop: Modern Regression Strategies, Chicago, Illinois

For more information, visit community.amstat.org/chicago/chapter/home or contact Tony Babinec, 617 Argyle, Flossmoor, IL 60422-1201; (708) 805-1409; tbabinec@sbcglobal.net.

*26–28—27th Annual Conference on Applied Statistics in Agriculture, Manhattan, Kansas

For more information, visit www.dce.k-state.edu/conf/applied-stats or contact Jo Blackburn, 101 Dickens

Hall, Kansas State University, Manhattan, KS 66502; (785) 532-0511; jablack@ksu.edu.

30–5/2—2015 SIAM International Conference on Data Mining, Vancouver, British Columbia, Canada

For details, visit www.siam.org/meetings/sdm15 or contact Nicole Erle, 3600 Market St., 6th Floor, Philadelphia, PA 19104; (215) 382-9800, Ext. 305; erle@siam.org.

May

» 8–10—The 4th Workshop on Biostatistics and Bioinformatics, Atlanta, Georgia

For details, visit www2.gsu.edu/~matyiz/2015workshop or contact Yichuan Zhao, Department of Mathematics and Statistics, Georgia State University, Atlanta, GA 30303; (404) 413-6446; yichuan@gsu.edu.

14–17—AAPOR 70th Annual Conference, Boston, Massachusetts

For details, contact Lisa Kamen, 111 Deer Lake Road, Ste. 100, Deerfield, MA 60015; (847) 205-2651; lkamen@aapor.org.

» 18–22—Info-Metrics Summer Program Course 1, Washington, DC

For more information, visit www.american.edu/cas/economics/info-metrics/econometrics.cfm or contact Yang Liu, American University, Washington, DC 20016; (202) 885-3758; info-metrics@american.edu.

» *20–22—Spring Research Conference, Cincinnati, Ohio

For more information, visit www.cvent.com/d/44qpkn or contact William Brenneman, 8700 Mason-Montgomery Road, Mason, OH 45040; (513) 622-2844; brenneman.wa@pg.com.

21–22—The 4th International Conference on Quantitative and Qualitative Methodologies in the Economic and Administrative Sciences (ICQQMEAS2015), Athens, Greece

For more information, visit sites.google.com/site/icqqmeas2015 or contact Christos Frangos, Agiou Spiridonos Street, Egaleo, Athens,

International 122 10, Greece; 00306944162376; cfragos@teiath.gr.

25–28—The 24th International Workshop on Matrices and Statistics, IWMS-2015, Haikou, Hainan, China

For more information, visit iwms2015.csp.escience.cn/dct/page/1 or contact Jeffrey Hunter, Auckland University of Technology, Auckland, International 1142, New Zealand; +6421810282; jeffrey.hunter@aut.ac.nz.

» 25–29—Info-Metrics Summer Program Course 2, Washington, DC

For details, visit www.american.edu/cas/economics/info-metrics/econometrics.cfm or contact Yang Liu, American University, 4400 Massachusetts Ave. NW, Kreeger 104, Washington, DC 20016; (202) 885-3758; info-metrics@american.edu.

26–29—UT Summer Statistics Institute, Austin, Texas

For details, visit stat.utexas.edu/training/ssi or contact Sasha Schellenberg, 2317 Speedway, Stop D9800, Austin, TX 78712-1823; (512) 232-9217; sasha.schellenberg@austin.utexas.edu.

» 27–28—The Second Workshop on ICT and Innovation Forecasting, Paris, France

For more information, visit sites.google.com/a/essec.edu/ict-forecasting-2015 or contact Mohsen Hamoudia, Cergy Pontoise, International 95000, France; 0033682931572; mohsen.hamoudia@orange.com.

» 27–29—SAND7 - Statistical Analysis of Neural Data, Pittsburgh, Pennsylvania

For details, visit sand.stat.cmu.edu or contact Heidi Sestrich, Department of Statistics, Pittsburgh, PA 15229; heidi@stat.cmu.edu.

31–6/5—Workshop on Statistical Learning of Biological Systems from Perturbations, Ascona, Switzerland

For details, visit www.cbq.ethz.ch/news/ascona2015 or contact Niko Beerenwinkel, niko.beerenwinkel@bsse.ethz.ch.

Illinois

■ Takeda Summer Internship positions. The biostatistics department of Takeda Pharmaceuticals U.S.A., Inc. has multiple summer internship openings in 2015, which are located in Boston, MA, and Deerfield, IL. Candidate must currently be enrolled in a PhD (bio)-statistics program, have passed PhD qualification exams. Three year or more of training post-bachelor's degree is preferred. To apply, please email résumé and cover letter to biostatistics.intern2@takeda.com. EOE.

Massachusetts

■ Dana-Farber Cancer Institute is conducting a search for an experienced biostatistician. Will collaborate with medical and basic science researchers in design, analysis, and publication of cancer clinical trials and translational research. Requirements: master's-level degree in biostatistics/statistics, strong background in statistical principles, data analysis, computing (especially SAS and R), communication skills, and at least 2–3 years of experience. Please apply directly online at <http://bit.ly/1zovBxV>. EOE.

■ Takeda Summer Internship positions. The biostatistics department of Takeda Pharmaceuticals U.S.A., Inc. has multiple summer internship openings in 2015, which are located in Boston, MA, and Deerfield, IL. Candidate must currently be enrolled in a PhD (bio)-statistics program, have passed PhD qualification exams. Three year or more of training post-bachelor's degree is preferred. To apply, please email résumé and cover letter to biostatistics.intern2@takeda.com. EOE.

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.

Rates: \$320 for nonprofit organizations (with proof of nonprofit status), \$475 for all others. Member discounts are not given. For display and online advertising rates, go to www.amstat.org/ads.

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NC STATE UNIVERSITY Department of Statistics Teaching Assistant Professor Positions, Non-tenure Track

The Department of Statistics at North Carolina State University seeks to hire two non-tenure track teaching assistant professors to begin in August 2015.

The Department is launching a new online master's program, which is scheduled to begin in July 2015. In order to meet the increased teaching demands, the Department is seeking to hire two teaching assistant professors to plan, organize and teach undergraduate and graduate courses. Courses could either be taught online or face to face and will vary depending on the needs of the Department.

The initial appointment will be for one year and will be on a 12-month contract (August 16, 2015 - August 15, 2016). Based on performance, the positions are eligible for subsequent reappointment.

To apply, please visit <http://www.stat.ncsu.edu/information/employment.php>.

The Department provides a dynamic environment for teaching, research and collaborations across disciplines. Inclusiveness and diversity are academic imperatives and thus are university goals. We are particularly interested in candidates who have experience working with students from diverse backgrounds and a demonstrated commitment to improving access to higher education for students from underrepresented groups. The Department's location in the Research Triangle provides rich opportunities for interactions with industry; other universities, including Duke University and the University of North Carolina at Chapel Hill; and government agencies. Faculty enjoy collaborations with medical researchers at Duke, environmental scientists at the EPA research facility, pharmaceutical researchers at Glaxo-SmithKline, and software developers at SAS Institute, among many others. The Department is also a founding cooperator of the National Institute of Statistical Sciences (NISS) and the NSF-funded Statistical and Applied Mathematical Sciences Institute (SAMSI), both located nearby in Research Triangle Park.

All applicants must have a Ph.D. in Statistics, Biostatistics or relevant field by the time of employment. Processing of applications will begin immediately and will continue until the positions are filled. Questions about the position may be directed to the Search Committee Chair, Dr. Webster West (teach_stat_search@stat.ncsu.edu).

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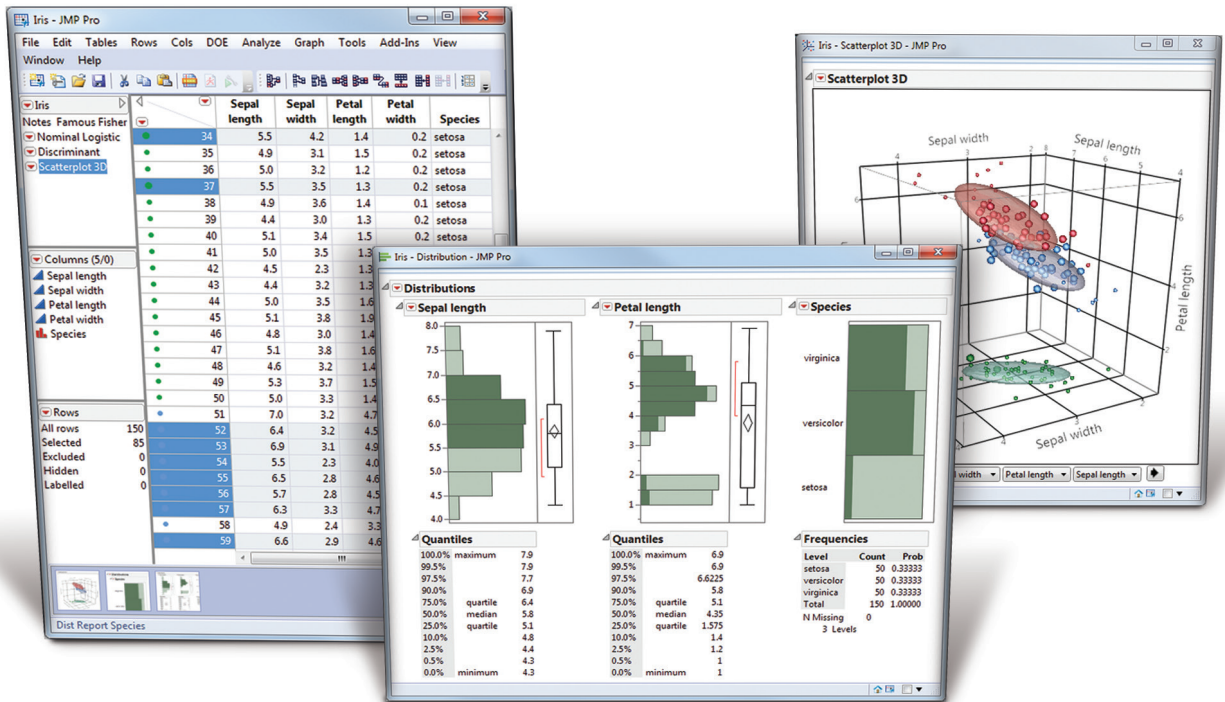
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