

May 2014 • Issue #443

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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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- 12 **SCIENCE POLICY**
FY15 Budget Request Provides Mixed News for NIH, NSF, Statistical Agencies

This column is written to inform ASA members about what the ASA is doing to promote the inclusion of statistics in policymaking and the funding of statistics research. To suggest science policy topics for the ASA to address, contact ASA Director of Science Policy Steve Pierson at pierson@amstat.org.



Pierson

Contributing Editor

Steve Pierson earned his PhD in physics from the University of Minnesota. He spent eight years in the physics department of Worcester Polytechnic Institute before becoming head of government relations at the American Physical Society.

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Communication Across Three Centuries—with a Peek Ahead

This year marks the ASA's 175th birthday. To celebrate, the column "175"—written by members of the ASA's 175th Anniversary Steering Committee and other ASA members—will chronicle the theme chosen for the celebration, status of preparations, activities to take place, and—best yet—how you can get involved.



Myers

Contributing Editor

Jeff Myers joined the ASA in July 2012. He possesses 28 years' experience as a communications professional in branding; public, media, and member relations; strategic planning; and consumer advertising. He is responsible for increasing the public profile of the ASA and its members, acting as a liaison between the ASA and media, and managing external communications.



TRIVIA CHALLENGE

The ASA's Trivia Challenge is a fun way to read *Amstat News* and learn about the ASA. Every month, there will be three questions asked here, with the answers scattered throughout the magazine. Search for those answers while you're reading the issue and input your answers at www.amstat.org/asa175/triviachallenge.cfm. Whoever has the most correct answers at the end of each quarter will be entered into a drawing to win a 175th anniversary T-shirt!

1. Gstat holders are granted access to the same benefits as Pstat holders, including:

- A. Free access to LearnStat on Demand
- B. Reduced registration fees for the annual Joint Statistical Meetings
- C. Reduced registration for the ASA's Conference on Statistical Practice
- D. All of the above

2. In 1991, The ASA:

- A. Held its first Internet Day
- B. Joined Facebook and Twitter
- C. Began using email
- D. Offered online access to all of its Journals

3. Kelly McGinnity felt almost star struck when she met William Woodall and James Williams at the Quality and Productivity Section social at JSM in 2013 .

- True
- False

The winner of this quarter's trivia contest is Lucy D'Agostino McGowan.



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columns

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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.



Freeman

Contributing Editor

Laura Freeman is a research staff member at the Institute for Defense Analyses. She provides statistical support to the Director of Operational Test and Evaluation on Department of Defense testing. Her areas of statistical expertise include designed experiments, reliability analysis, and industrial statistics. She has a BS in aerospace engineering and an MS and PhD in statistics, all from Virginia Tech.



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Developing Training in Statistical Leadership

This month's column presents the third in a series of interviews with leaders of my presidential initiatives. Janet Buckingham of Southwest Research Institute and I will discuss an initiative to develop training in statistical leadership for working statisticians (although conceivably the training could be used for statistics students as well) and to develop a plan for making the training widely available.

I appointed Janet to chair this initiative in mid-2013, and we put together an excellent team for it. The initiative is basically an extension of 2012 President Bob Rodriguez's initiative titled "Career Success Factors." The workgroup for Bob's initiative identified leadership as an important factor that needed follow-up in terms of developing training. Also, Bob's President's Corner columns on statistical leadership in February (<http://bit.ly/1gB4u60>), March (<http://bit.ly/1r0oSLX>), and April (<http://bit.ly/1hVroV5>) seemed to have resonated well with ASA members. Thus, Janet and I hope the current initiative will provide an important benefit to the members and the profession.

NS: Janet, thank you for taking the lead on this initiative. Tell me: Why were you interested in chairing it?

JB: I was fortunate enough to be a member of the workgroup, chaired by Bob Starbuck, for Bob Rodriguez's 2012 initiative mentioned above. It became apparent during our initial discussions back in 2012 that our association had not had a cohesive vision to train statisticians in what was termed "soft skills." When your initiative was formed to extend the work we had already started, I was eager to still be part of it. Our focus this year is to identify and develop training to prepare statisticians to be leaders—in academia, industry and government. This is an area where the ASA can make a difference in our profession by offering training that will help develop leaders, no matter where their current or future role as statisticians may take them.

NS: What excites you most about the project?

JB: After accepting your kind invitation to chair this workgroup, I had an "Oh no, what have I done?" feeling come over me. This was quickly dispelled after we identified leaders in our profession who also wanted to be part of this journey. So, one excitement was being able to work and learn from others in the workgroup. Readers will probably recognize many of their names. From the academic sector, we have Amanda Golbeck and Bill Sollecito; from the industry sector, we have Jim Hess, Bonnie LaFleur,

Colleen Mangeot, Bob Rodriguez, and Gary Sullivan; and representing the government sector are John Eltinge and Marilyn Seastrom. Lynn Palmer is working with us as the ASA liaison. In addition, some of the members have backgrounds in multiple sectors, so they bring leadership experiences from different perspectives.

As you recall, Nat, you and I also identified several 'advisory' members of our workgroup whom we could use as 'expert resources' by tapping into their large knowledge base and experience in all areas of statistical leadership. This was another exciting aspect of the project because these advisors were very helpful at the beginning of the process, when we were forming our ideas about how we would develop training pertinent to statisticians. You couldn't ask for a better mix of statisticians—workgroup members and advisors—to come together to help fill a void in our professional society.

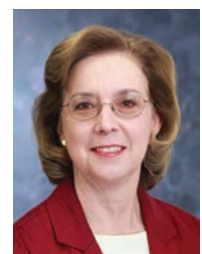
Several members of our workgroup have stressed that we should provide statisticians a path to becoming proficient at statistical leadership, as leadership is not a footnote for statisticians, but rather a lifelong process and integral to being successful as a statistician. This, in a nutshell, is what our workgroup is striving to kick-start in the ASA.

NS: What have been your workgroup's major activities thus far?

JB: With such a lofty task assigned to us, we knew we had to get started quickly. A few of us met for



Nathaniel Schenker



Janet Buckingham

... [L]eadership is not a footnote
for statisticians, but rather a lifelong
process and integral to being
successful as a statistician.

the first time at JSM 2013 in Montréal. Since then, we have been in “full swing mode,” meeting on monthly conference calls since last September. We first had to answer “What is statistical leadership?” and “What concepts/principles should we include in training through the ASA?” We then interviewed our advisory members and other interested parties (probably eight total) to gather their ideas about leadership. So many great ideas came out of this data-gathering exercise that I wondered how we were ever going to choose the training course we should develop first. Remember when I told you that we have been meeting monthly? Well, we have also been working on brainstorming exercises and surveys between our meetings with the purpose of consolidating everyone’s philosophies about where we should start our development work. Here are the top four ideas for training we identified:

- Business/organizational acumen – understanding how the business/organization works and seeing the big picture
- Influence skills – how to influence people to drive improvement and produce better results
- Integration – how to integrate yourself (and your profession) into the conversation
- General communication – effective listening, speaking, and writing

Next, we needed to identify the type of training formats we thought would work well for ASA members. Ideas ranged from a hybrid approach that would include an integration of face-to-face training with interactive, online sessions, to a multi-day, in-person event covering several topics, to a one-day, in-person training covering several topics. Having prominent statistical leaders to assist in the training would be ideal. Participants would then be able to hear from the ‘experts’ and tap into their wealth of experience.

Suffice it to say, our workgroup was never at a time when we did not have an idea to consider. So, I will now announce the most exciting news: At this year’s JSM in Boston, we will offer the first course resulting from this initiative, titled “Preparing Statisticians for Statistical Leadership: How to See the Big Picture and Have More Influence.” I invite readers to find out more about this course on Page 30.

NS: That’s terrific! What else might your workgroup plan to do?

JB: Our plan is to critique the JSM course and tweak it as necessary. We will meet at JSM to discuss the course, since it will still be fresh on our minds. We are also in the planning stages for other course topics and possibly identifying instructors. And we need to develop a plan for making the training available to members in the future.

NS: How might this initiative help the ASA, its members, and/or the profession?

JB: As stated earlier, we believe all statisticians will benefit from improving their leadership skills, since this will elevate our profession. And it will take more than just one course—remember, it is a lifelong journey. I certainly have learned some valuable leadership skills in leading this workgroup, although the workgroup members have made my job very easy!

NS: Do you see areas for follow-up on the initiative?

JB: Yes, we cannot accomplish developing a course for every leadership topic we have identified. We need a plan going forward for the ASA to invest in this type of course development. We also have plans to archive all the valuable information we have been gathering for future training course development. Our workgroup has temporarily warehoused so many great articles, interviews, discussions, and course ideas that need to be shared with future course developers!

NS: Janet, I’m very happy and excited about your group’s accomplishments to date, as well as your plans for the future. I appreciate your having taken the time to discuss them with me this month.

JB: Thanks, Nat!

Nathaniel Schenker

ASA Unveils GStat Accreditation

New level sets holders on course to attain PStat®

Jeff Myers, ASA Public Relations Coordinator

The American Statistical Association has launched a new “preparatory level”—called Graduate Statistician or GStat—to its voluntary, individual statistician accreditation program, announced ASA Executive Director Ronald L. Wasserstein recently.

The newly unveiled accreditation is an entry-level accreditation designed for individuals who have attained the education requirements necessary for the Professional Statistician (PStat®) level, but do not yet possess the experience and expertise required for that higher level. It is similar in design to the preparatory accreditation level offered by national societies for statisticians in Australia, Canada, and the United Kingdom with which the ASA is partnering on the development of its accreditation programs.

“GStat is an entry-level accreditation and is preparatory for the higher-level PStat® accreditation,” said Wasserstein. “The ASA added this new level of accreditation to introduce early-career statisticians to accreditation, encourage them to become accredited, and to work actively toward achieving the PStat® accreditation.”

Eligibility requirements for GStat include ASA membership, attainment of an advanced degree in statistics—a master’s or doctorate—from an accredited university, and signing and adhering to the ASA’s Ethical Guidelines for Statistical Practice. The new GStat accreditation is granted for seven years.

“The GStat program will be valuable for statisticians with a master’s or doctorate degree who are just starting their career in the statistical science field, particularly individuals working in business, industry, government, or private consulting,” said Wasserstein. “Further, individuals who are working as statisticians, but whose degrees are not in statistics, will find GStat status useful for determining what additional



educational credentials they will need to achieve PStat® status.”

GStat holders are granted access to the same benefits as PStat® holders, including free access to LearnStat on Demand online professional development courses—and reduced registration for the annual Joint Statistical Meetings and the ASA’s Conference on Statistical Practice. Additionally, GStat holders can ask the ASA Accreditation Committee to review their progress toward meeting PStat® requirements.

An application for GStat accreditation requires the following items:

- Applicant’s name and contact information (phone, email, mailing address)
- A résumé or CV in PDF format
- A list of degrees earned and statistics courses taken at university/college
- Demographic information (optional)

To apply, candidates should log into the “ASA Members Only” portal on the ASA website and click on the PStat® button in the lower, left-hand corner of their personalized members-only page. While there is no application fee, there is an annual \$40 fee to maintain the GStat designation. ■

This month in ASA's history...

MAY

1963

On May 24, 1963, the Census Advisory Committee approved the report by the subcommittee to review the criteria and principles of the Bureau of the Census. The subcommittee "hopes that its suggestions and recommendations will prove useful in strengthening the valuable work of the Census, and that the report will stimulate others to improve upon it." The subcommittee's purpose was to set forth worthwhile criteria, rather than establish a set of rules. Members of the committee were Joseph Davis, Lester Frankel, Frederick Stephan, and Geoffrey Moore.



1990

The May 1990 issue of *The American Statistician* was a special ASA sesquicentennial issue and featured articles about the history of the association and its chapters, sections, and publications. Members such as I. J. Good and Vincent Barabba contributed speculations about the future of statisticians, and in his article,

"2120 Hindsight," R. H. Bost Jr. addressed the statisticians of tomorrow: "I encourage you and challenge you, noble ancestors, to press ever forward in your cause. And I congratulate you in advance for your part in making the future a better place for me to live."



2002

The ASA JobWeb career center was launched. The JobWeb—a targeted job database and résumé-posting service—helps members take advantage of valuable career opportunities. Check out the services available at www.amstat.org/jobweb.



Famous May Birthdays

Margaret Martin, Florence Nightingale,
Frank Yates

Kettering University Organizes International Statistics Conference

Flint, Michigan's, Kettering University will host an international statistics conference in June titled "Flint: One City—100 Years Under Variability." The conference will celebrate the 175th anniversary of the American Statistical Association.

To be held June 24–28, the event's main focus will be on the statistical methods and studies

of Flint historical data. One-hundred years of demographic, health, labor, census, and crime records will be summarized and made available to conference participants who wish to submit papers for review by the event's scientific program committee.

Papers should be submitted to Boyan Dimitrov (bdimitro@kettering.edu) in the format specified on the conference website at <http://bulldogs.kettering.edu/fisc>. Also see the website for the list of conference topics and confirmed speakers and their session topics.

At least one author of each paper selected for presentation must be registered for the conference. Selected original papers not previously submitted to journals will be published in a special issue of *Economic Quality Control*.

Each session will begin with extended presentations of the statistical achievements and perspectives in the discussion area and be followed by talks about current results. ■



ASA Mentorship Program to Continue

*“Tell me and I forget, teach me and I may remember, involve me and I learn.”
- Benjamin Franklin*

After the success of the ASA mentoring pilot program last year, the ASA Committee on Applied Statisticians (CAS) was funded to continue the mentoring program for a second year.

The program focuses on self-identified applied statisticians—both recent master’s and PhD graduates and statisticians who have been out of graduate school for more than five years. Members of CAS will work with these statisticians in academia, industry, and the government sector. The program includes clearinghouse, consultative, and selected hands-on mentoring activities.

Are you a potential mentee, or can you nominate a statistician who may be looking for



a mentorship program? If so, email your contact information and a current résumé/CV to appliedstatisticians@gmail.com with “ASA CAS Mentoring Program” in the subject line.

For more information about the mentoring program, visit <http://community.amstat.org/CAS/Mentoring1> (ASA member login needed for access). ■



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TECHNOMETRICS HIGHLIGHTS

A Collection of Articles by George Box

Edited by David M. Steinberg, Chair of the *Technometrics* Management Committee



Photo by David Steinberg

George E. P. Box (1919–2013)

Technometrics is proud to announce a special virtual issue commemorating the scientific career of George E. P. Box, who died in March 2013. George Box was a remarkably creative scientist whose celebrated professional career was always at the interface of science and statistics. Together with J. Stuart Hunter and Cuthbert Daniel, he was instrumental in launching *Technometrics* in 1959. Many of his articles were published in the journal. Therefore, we think it is especially fitting that *Technometrics* should host

this online collection with some of his most memorable and influential articles.

George Box began his career in statistics as a soldier in the British army during World War II. Assigned to a unit working on antidotes to chemical weapons, he soon found himself designing, running, and analyzing hundreds of experiments. His experience was concrete evidence of the fact that statistics is integral to science and should be linked to scientific endeavor, which was a defining feature of Box's prolific career.

After the war, he enrolled as a statistics student at University College London and worked with the Statistical Methods Panel at Imperial Chemical Industries (ICI). He earned his PhD from University College in 1952, working under the supervision of Professor H. O. Hartley. Gertrude Cox invited Box to visit North Carolina State University for one year in 1953. That remarkably fruitful visit led to a further invitation from John Tukey to head the Statistical Techniques Research Group at Princeton. Box spent three years at Princeton, leaving in 1959 to join the faculty of the University of Wisconsin-Madison and establish the department of statistics there. In 1985, together with Bill Hunter, he

founded the University of Wisconsin Center for Quality and Productivity Improvement.

George Box made lasting and significant contributions to a number of areas, including design of experiments, time series, Bayesian statistics, process control, and quality improvement. Box-Jenkins methods became a buzzword for anyone working in time series, and the Box-Cox approach became the scientific standard for assessing the value of transformations. In addition to technical contributions, Box was deeply interested in scientific method and in what he saw as the vital role of statistics in science.

This virtual issue provides an opportunity to assemble some of George Box's most important articles and to display many of his major research partners. The issue includes several sections, organized by subject matter. The clarity with which Box expressed his ideas and his keen sense for making his ideas available to practitioners give these papers lasting value. They are great reads, and all statisticians will learn from them.

Science and Statistics, Theory and Practice. This section includes Box's R. A. Fisher Lecture, his address as president of the American Statistical Association, an article about the importance of practice in the development of statistics, and one of his last articles about statistics and innovation.

Modeling and Robustness. The issue has two articles on statistical modeling and robustness. The first considers data analysis from experiments with a hierarchical structure, in which time-yield profiles are observed at conditions laid out via a factorial experiment. The second, originally published as a Quality Quandaries column in *Quality Engineering*, discusses the impact of invalid assumptions in a statistical model.

Process Monitoring. The five articles in this section include three about feedback control. They lay out foundations that are crucial in reconciling Shewhart's approach to statistical process monitoring with the ideas about automatic process control that developed in the engineering literature. One of the articles shows how these ideas fit into the general

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philosophy of Six Sigma. Another discusses CuSum and CuScore monitoring statistics.

Quality. There are two articles that focus on quality. Both consider aspects of experimentation for quality improvement and were stimulated by the quality engineering ideas introduced in the United States by Genichi Taguchi beginning around 1980.

Experimental Design. Box made pioneering contributions to experimental design. The four articles in this section include his defining paper with Stu Hunter on the 2^{k-P} fractional factorial designs, his paper with Don Behnken introducing one of the most widely used response surface designs, his paper with Norman Draper on the joint consideration of variance and bias in defining a response surface design, and an article with Søren Bisgaard on the usefulness of the 12-run Plackett and Burman design.

Bayesian Statistics. George Box made a number of important contributions to Bayesian analysis. Unfortunately, most of those articles were not available for inclusion in this virtual issue. We include two more recent papers with novel applications of Bayesian ideas in the context of fractional factorial experiments.

Time Series. George Box and his colleagues, especially Gwilym Jenkins, made pioneering contributions to the use of ARIMA models and developed a strategy for fitting the models to data, based on iteration between tentative model, estimated model, and diagnostics for model criticism and improvement. He applied the ideas broadly, as will be seen in the four articles here, which relate to industrial process data, environmental monitoring, and economics.

To access the virtual special issue, go to <http://bit.ly/litzzwu>. ■

Editor's Note: The collection of articles here is restricted to those from journals now produced by Taylor & Francis; many other important papers were published in other journals.



Gertrude Cox



John Tukey

Meet John Gawalt, Director of the National Center for Science and Engineering Statistics

Amstat News invited John Gawalt, director of the National Science Foundation's National Center for Science and Engineering Statistics to respond to the following questions so readers could learn more about him and the agency he leads.



What about this position appealed to you?

I love statistics and I love science. Where else would I be content than in a statistical office within the National Science Foundation? I began my federal career as a summer student at USDA [U.S. Department of Agriculture] in the Economic Research Service and moved to the Consumer and Producer Price Programs at the Bureau of Labor Statistics before coming to NCSES. I believe federal service to be an honorable profession—I have known and worked with many dedicated, caring, and talented people. NCSES has provided me a variety of challenging opportunities these past 20 years, so why not give something back?

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

We are solidly in the Information Age (Is that term still used?) and are seeing increased demand for data and information. This coupled with the desire for quicker access will place continued pressure on NCSES to make its data and reports available in flexible formats and through different channels. We need to adjust processes and take additional measures to reduce the time between the data reference date and data release date.

That said, we must always remember the trust our clients have in the quality of our data and in the methods we use to collect and protect them. We must continue to ensure that data published

as official statistics are of the highest quality and that they accurately reflect the concepts they are intended to measure.

The value of our data is increased by ensuring it is collected and prepared in ways that allow comparisons with similar data from other organizations and other nations. NCSES will continue to collaborate with international organizations, such as the Organisation for Economic Co-operation and Development (OECD) and the United Nations' Educational, Scientific, and Cultural Organization (UNESCO), to improve the extent and comparability of data on the science and engineering enterprise worldwide.

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

National competitiveness is a subject of keen interest these days as the country works its way out of the great recession, and capital and human resource investments in science and technology are seen as key factors in our continued success. NCSES is constantly challenged to develop new and better measures of these investments and their outcomes. We will continue to develop methodologies and develop approaches (both survey and non-survey) to improve our current measures and fill gaps in new and emerging areas of interest.

We also are challenged to modernize our internal data systems to better support externally facing systems that will provide improved access to data and metadata.

Gawalt served as deputy director for the National Center for Science and Engineering Statistics (NCSES) and, prior to that, program director for its Information and Technology Services Program, where he was responsible for design, development, and operation of the NCSES website; traditional and electronic publishing; online data access; database management; and general information technology support. Gawalt's formal training is in natural resources and resource economics, with a focus on the econometric study of the fishing industry.

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

NCSES is fortunate to have a strong, talented, and motivated staff, with rich experience in survey research, data acquisition and analysis, and data/information presentation. We are, however, an organization of fewer than 50 people. We rely greatly upon the broader statistical community to provide the infrastructure to grow and nurture a cadre of statisticians with a love for the science and a sense of creativity in its application. We also are fortunate to engage in many ways with colleagues across government, in the commercial sector, and in academe on topics large and small. We value this collaboration and the exchange of ideas.

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

I am fortunate to inherit a talented, capable, and knowledgeable staff, expert in a wide range of statistical and subject matter areas. A great deal of thought and effort on the part of staff and

We must continue to ensure that data published as official statistics are of the highest quality and that they accurately reflect the concepts they are intended to measure.

management went into building our current organization, and this should be recognized. In addition, every survey has received a careful internal review over the past decade, and many have been subject of review by the NRC's Committee on National Statistics. I am confident that NCSES' surveys are on a solid methodological foundation, structured to continue producing high-quality, relevant data that meet the needs of our clients. We are well positioned to move forward and add to our many accomplishments. ■

2014 SUMMER INSTITUTES

at the University of Washington, Seattle, Washington, USA

19th Summer Institute in Statistical Genetics

7-25 July 2014, sisg.biostat.washington.edu

6th Summer Institute in Statistics and Modeling Infectious Diseases

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SCIENCE POLICY

FY15 Budget Request Provides Mixed News for NIH, NSF, Statistical Agencies

Steve Pierson, ASA Director of Science Policy

Delayed a month because of the broader budget negotiations, the Obama Administration's FY15 budget request was released in March. The NIH and NSF requests, if fully funded by Congress, would see both agencies lose ground to inflation. For NIH, its request level is below its FY11 and FY12 levels. The NSF request is 3% more than its FY12 level. For the federal statistical agencies, the requested budgets range from slight decreases to a 28% increase.

NIH and NSF

The NIH request documentation states its modest requested increase would enable a few hundred more grants to be funded in FY15 than in FY14. It seems, though, the bigger priorities—and those most relevant to the statistical community—are the BRAIN and Big Data to Knowledge (BD2K) initiatives. The former would see an increase to \$100 million from the \$40 million currently funded from NIH. BD2K would be increased to \$88 million, roughly double that of current funding.

The NSF FY15 request also features more than a doubling for NSF's contribution to the administration's BRAIN Initiative from \$14 million to \$29 million. NSF also proposes a 11% increase for its support of graduate education (to \$333 million); \$125 million for Cyberinfrastructure Framework for 21st Century Science, Engineering, and Education (CIF21); \$100 million for Secure and Trustworthy Cyberspace (SaTC); \$118 million for Improving Undergraduate STEM Education (IUSE); and \$29 million for Research at the Interface of Biological, Mathematical and Physical Sciences, and Engineering (BioMaPS). For the NSF Division of Mathematical Sciences, the FY15 request is for \$224.4 million, 1.24 million (0.5%) below FY14.

Statistical Agencies

Four statistical agencies see requested increases greater than 10%. The 28% increase for the U.S. Census Bureau is almost entirely for the ramp up to the 2020 Decennial budget. The 26% increase (\$12 million) for NSF National Center for Science and Engineering Statistics (NCSES) proposes \$7.5 million to enhance the Survey of Doctorate Recipients and the remaining \$4.5 million to enhance several other aspects of NCSES's work. The 23% requested increase (\$10.4

million) for the Bureau of Justice Statistics (BJS) proposes \$2.5 million for two new programs to support the broader administration Indigent Defense Initiative, with the remaining \$7.9 million proposed to improve eight BJS programs.

The Bureau of Transportation Statistics (BTS) sees a 12% requested increase (\$3 million), but rarely realizes increases through the appropriations process since it is funded through the Highway Trust Fund.

Another five agencies have requested increases in the 3–5% range. The 5.3% increase (\$8.6 million) for the National Agricultural Statistics Service (NASS) is for four programs: the Geospatial Improvement Initiative (\$2.5 million); the government-wide Pollinator Health Initiative (\$2 million); the Fruit and Vegetable In-Season Reports for Fruit & Nuts (\$2.6 million); and the Chemical Use Reports (\$3.8 million). To pay for the four initiatives, NASS will likely have to cut several surveys that were cut in FY13 because of sequestration but restored in FY14.

The 5.3% increase (\$12.4 million) for the National Center for Education Statistics (NCES) (Statistics and Assessment) would restore its budget to the FY12 level (without accounting for inflation).

The Energy Information Administration (EIA) would see a 4.7% increase (\$5.5 million), which includes \$2.4 million for a crowd-source program to evaluate specific building efficiency technologies; \$1.5 million to better understand domestic energy markets in the world energy context; and \$1.6 million to better track rapidly changing domestic market dynamics.

The Social Security Administration Office of Research, Evaluation, and Statistics (ORES) would see a 3.4% increase (\$1 million), and the Bureau of Labor Statistics (BLS) would see a 3% increase (\$18 million). The BLS and National Center for Health Statistics (NCHS) are the two agencies most affected by recent budget cuts. Accounting for inflation, the BLS budget is 10% below the level it was several years ago. In FY13, it had to terminate three programs and, earlier this year, announced the curtailing of the Quarterly Census of Employment and Wages (QCEW) and International Price Program (IPP). The FY15 request would raise the BLS budget to only its FY11 level (not accounting for inflation) and not restore QCEW or IPP, which would require another \$9.5 million. The \$18 million requested increase would go to improve the Current Population Survey and Consumer Expenditure Survey.

Table 1—Requested Budgets for FY15, with Changes with Respect to FY14 and FY12

	FY11	FY12	FY13	FY14	FY15		
					Request	Change from FY14	Change from FY12 [‡]
Research Agency (amounts in millions of dollars)							
NIH	30688	30623	29300	29926	30200	0.9%	-1.4%
NSF	6913	7033	6884	7172	7255	1.2%	3.2%
Statistical Agency (amounts in millions of dollars)							
BEA	93.2	92.2	89.8	95.0	96.6 [†]	1.6%	4.7%
BJS	60.0	41.3	41.3	45.0	55.4	23.1%	34.1%
BLS	610.0	609.0	577.2	592.2	610.0	3.0%	0.2%
BTS	27.0	25.2	26.0	26.0	29.0	11.5%	15.1%
Census	1152.0	942.4	841.7	945.0	1211.0	28.1%	28.5%
EIA	96.0	105.0	99.5	117.0	122.5	4.7%	16.7%
ERS	81.8	77.7	71.4	78.0	75.7 [†]	-2.9%	-2.5%
NASS	156.4	158.6	166.0	161.2	169.8 [†]	5.3%	7.1%
NCES	247.0	247.0	226.0	235.0	247.4	5.3%	0.2%
NCHS	138.7	138.7	138.7	140.0	140.0 [†]	0.0%	0.9%
NCSES	42.0	43.3	41.6	47.0	59.0	25.5%	36.3%
ORES	29.0	29.0	27.5	29.0	30.0	3.4%	3.4%
SOI	39.0	38.7	33.1 [*]	37.0	37.0	0.0%	NA [*]

[‡]The FY13 budgets were generally cuts below FY12 because of sequestration, making the FY12 budget a key marker.

[†]The FY15 requests for BEA, ERS, NASS, and NCHS included accounting changes and are adjusted here for comparison with prior-year levels.

^{*}SOI's budget was realigned in FY13, partially accounting for the decrease from FY12.

The final four statistical agencies have requested budgets that range from a few percent decrease to a couple percent increase.

The Bureau of Economic Analysis (BEA) proposes an increase of \$1.56 million (1.6%) to include a new initiative to better track small business economic dynamics as a means to understand more quickly changes in our economy.

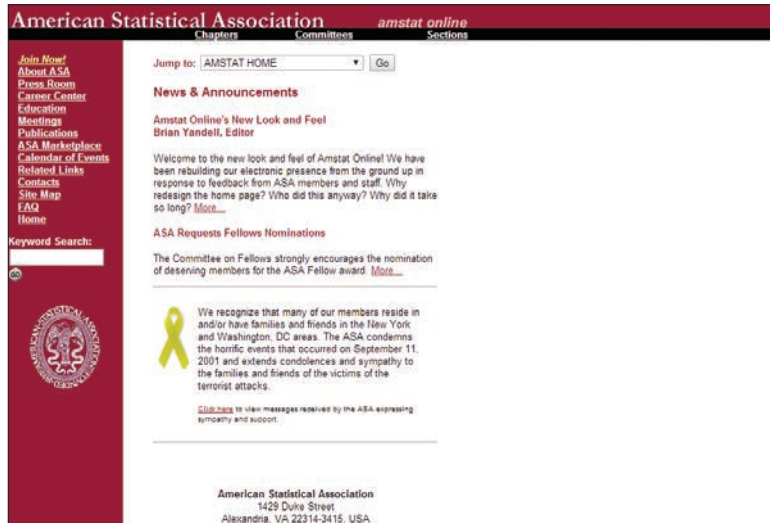
The NCHS and Internal Revenue Service Statistics of Income Division (SOI) are both flat funded but, as indicated above, the NCHS budget does not reflect a large cut to its funding in FY14 when the roughly \$25 million it usually receives from the Prevention and Public Health Fund (PPHF) was not provided. As a result, it will have to scale back on sample size and content increases to two of its surveys. The FY15 budget proposes a restoration of the PPHF line.

The Economic Research Service (ERS) is the only statistical agency whose budget would actually decrease in the president's request. The requested budget of \$83.4 includes an accounting change, whereby the ERS will have to pay \$7.7 million for overhead costs, but is only provided \$5.4 million to cover such costs, resulting in the \$2.4 million cut.

For all the requested budgets, let me emphasize that Congress now commences its work on the budget, which allows an opportunity to argue for larger increases for NIH and NSF and to support robust support for the federal statistical agencies. To follow Congress's actions on the FY15 budgets, see these two blog entries: FY15 NSF and NIH Budget Developments (<http://bit.ly/1hVjZTv>) and FY15 Statistical Agency Budget Developments (<http://bit.ly/P5xKu2>). ■

Communication Across Three Centuries—with a Peek Ahead

Jeffrey A. Myers, ASA Public Relations Coordinator



Then: ASA homepage in 2001

The ASA, celebrating its ter-quasquicentennial, has been in existence for at least parts of three centuries. Not surprisingly, its communication methods today are markedly different and infinitely timelier than those employed by the organization's founders in 1839. Yet, in the years leading up to its 200th anniversary in 2039, the ASA will use communication techniques that will be light years ahead of where we are today, providing the association new and more powerful tools to connect with its members and the public.

Looking Back 175 Years

Did you know the first committee the association's founders created was the Publishing Committee (December 1839), which was established as part of the ASA's constitution? This pragmatic decision addressed the need to communicate society news and advances in statistical science to the newly formed organization's expanding membership. Today, a

Committee on Publications representative serves on the Board of Directors, a change enacted to the association's constitution in 1991.

The ASA's first publication in 1847 was *Collections of the American Statistical Association* (Vol. 1), a compilation of the nascent society's papers. Presented to the Massachusetts Historical Society, the publication was destroyed by an 1872 fire (and reissued in 1960 via microopaque reproduction of the original papers). From 1847 to today, the association has issued hundreds of publications—for example, *Statistical Science: 150 Years of Progress*, published in 1989.

Today, the ASA publishes or co-publishes 17 professional journals (the oldest—the *Journal of the American Statistical Association* (*JASA*)—was founded in 1888 under a different name; the newest—*Statistics and Public Policy*—was added last November) and three magazines: *Amstat News*, *CHANCE*, and *Significance*

(the last jointly with the Royal Statistical Society since 2010). As an aside, *JASA* always has been the ASA's flagship publication. *The American Statistician* was first published in August 1947. *Amstat News* was created as a member newsletter in 1974 and became a magazine in January 1998.

Today, 17 of 74 ASA chapters (23%) and 14 of 27 sections (52%) publish or jointly publish member newsletters. Also, the Philadelphia Chapter, Washington Statistical Society, and Business and Economics Statistics Section each have a Twitter feed.

Following are several other communications firsts the ASA has marked since its 150th anniversary in 1989:

- The ASA begins using email (1991)
- Internet Day is held at JSM (1995)
- The first website is unveiled (1996)
- Journals become accessible online (2001)
- The JSM program is posted online (2003)
- The first webcasts of JSM plenary sessions and distance-learning webinars are conducted (2007)
- The ASA Community is launched; many sections, chapters, and committees communicate with members using this tool (2009)
- Facebook and Twitter presences are established (2010)
- The Biopharmaceutical Section initiates podcasts (2012)

- The first nationwide public relations campaign is launched (2014)

Looking Ahead 25 Years

For this article, I polled 10 ASA volunteers and staffers to get a sense of how communications will evolve over the next quarter century. Following is a sampling of their thoughts:

Megan Murphy, editor of this magazine, predicts the power of social media will grow: “It is an effective tool to get the message out about statistics to the public—and members. It also is a tool for members to use, as much as for the association.”

Amy Farris, ASA marketing director, agrees: “As today’s social media . . . becomes social media 3.0 and beyond, we will find our members connecting in ways we could only imagine.” She adds that members will expect the ASA to engage them whenever and wherever they are gathering.

Christy Chuang-Stein, 175th Anniversary Committee chair, foretells a world in which learning will become more personalized. “Podcasts will be the medium by which leaders communicate to their teams and by which important information is shared,” she adds.

Scott Evans, *CHANCE* editor, says the growing appreciation of statistical thinking will magnify the importance of the ASA’s communications, adding, “These activities must adapt with evolving technologies with more online, alternative, and interactive media.”

Eric Sampson, ASA journals manager, says the journals will continue to be a primary outreach tool. “As online delivery becomes increasingly prevalent, the ASA’s journals

will integrate more functionality and interactivity,” including functionality that will empower readers to create custom journals.

Kathleen Wert, ASA meetings director, says education and networking remain the top two reasons for meeting attendance, but changes in delivery of these goals are growing every day. She thinks hybrid meetings—a combined in-person event with a virtual, online component—along with a general increase of technology at meetings will become the standard.

Ron Wasserstein, thinking only as the executive director can, says, “I anticipate in the next quarter century we’ll need to continually plan and re-envision our strategy to continually improve how we communicate and engage our members.”

I end with my prognostication, which goes a little further. I think communication will make a super-quantum leap forward in the coming 25 years. Over the last two decades, the Internet, email, and social media have revolutionized communication, especially direct communication, more so than the two preceding centuries combined. The race is on to develop the next cutting-edge communications medium: virtual meetings. As Internet speeds increase and computing power grows, interactive virtual events will replace many in-person meetings, making it easier for more members to participate in ASA events and to volunteer for a committee, chapter, or section. It’s not if, but when, this future level of social media occurs and your avatar is networking at an ASA activity. ■

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Remembering Their First JSM: Stories and Advice

Laura Freeman



The Joint Statistical Meetings are held every year during the first week of August. JSM provides a time to connect with colleagues, meet new people, brush up on current research, present your work, and just have fun with friends. It is a week I look forward to all year.

A common theme participants share from attending JSM over the years is that there is just so much to do—and only a short time to fit it all in. Attendance at recent meetings has exceeded 6,000 statisticians from around the world. At such a large conference, the opportunities are endless, and prioritization is essential. The diversity of backgrounds is one of the most worthwhile reasons for attending JSM. If you are a graduate student looking for a research area, JSM is great for surveying current areas of research. If you are looking for a job, there are a plethora of companies to interview with.

However, the sheer size of JSM can be overwhelming for first-time attendees. JSM is a joint meeting between nine statistical societies. The program committee for scheduling the meeting has 42 individuals scheduling thousands of talks and poster presentations across a wide range of statistical topics. I attended my first JSM in Denver, Colorado, in 2008, and remember searching the online program, not knowing where to start.

Below are the memories and pieces of advice from a handful of JSM attendees, some who have

only recently attended their first JSM and others who have been attending for years. Their advice ranges from attending sessions and business meetings to interviewing. Also, many note that JSM is an excellent opportunity to meet famous statisticians and get their insights on your work. There are lots of opportunities to engage famous statisticians, including during sessions, at social events, and during a roundtable discussion (even better).

Finally, all JSM attendees agree it's a good idea to leave some time in your busy JSM schedule to kick back and have fun! I hope this advice will give first-time JSM attendees an idea of where to start and maybe even motivate a few veteran attendees to branch out.

Memories

Michael Davern of NORC at the University of Chicago attended his first JSM in Indianapolis, Indiana, in 2000. “At the time, I was working for the U.S. Census Bureau and there were a lot of great sessions on the great work being done by the bureau on work related to Census 2000, the testing of the American Community Survey, and the demographic surveys. JSM allowed me to get a much better idea of the breadth of great work being done at the bureau and how the many pieces fit together.” Since 2000, Davern has missed the annual meeting just once.

Zangin Zeebari, senior statistician in the department of public health sciences at Karolinska Institute-Sweden and Centre for Epidemiology and Community Medicine (CES), Stockholm County's Health Care District (SLSO), attended his first JSM in Washington, DC, in 2009. Zangin recalls arriving in DC exhausted from the long journey across the Atlantic Ocean, but that exhaustion was quickly replaced with the excitement of his first visit to the United States, the beauty of the city at night, and the excitement of attending JSM. “At the time, I was a PhD student in Sweden, a smaller country. It was a very satisfying experience to be among thousands of other statisticians from a large diversity of backgrounds. The opening mixer was a great event that set the feeling for the conference. No matter your stage in life, at the JSM opening mixer, we were all equals as statistical colleagues.”

Advice

Patrick McCann of CMI Marketing attended his first JSM in Washington, DC, in 2009. “The industry sections are really helpful, as the program can be overwhelming. The keynotes are really well attended and interesting, but I got the most value out of trying to find the sessions closely related to my work. The conference can be intense, so pace yourself. If you really want to remember something, take a picture of it with your smart phone. You will encounter too many really important things to remember them all, as the conference is a whirlwind of information. This is especially true for someone like me, a practitioner only paying tangential attention to the literature and using the conference to catch up.”

Rebecca Dickinson, a graduate student at Virginia Tech, attended her first JSM in San Diego in 2012. “One thing I realized quickly about JSM is that you can always find a presentation that will interest you, challenge you, and inspire you in your own research endeavors. I spent the first night in my hotel room mapping out the program booklet and highlighting the talks I wanted to attend, figuring out who I wanted to hear speak and what topics I thought might help me with my own research.”

Michael Davern – “The meeting can seem very large and impersonal as you walk around the many sessions held in a large convention hall. To break the meeting up into more manageable pieces, I would recommend seeking out the open business meetings of ASA sections aligned with your interests. These business meetings are actually important small group social gatherings with people who share similar interests. (They do usually include a small portion of the time on business related to running the section, but most of the meeting is a social event). These meetings are a great way to ... get involved with ASA and JSM.”

Meeting Famous Statisticians

Kelly McGinnity of the Institute for Defense Analyses attended her first JSM in Montréal in 2013. “I attended my first JSM three months after graduating with my PhD. My research was in statistical process control (SPC), so I had studied numerous papers on quality control and profile monitoring. I attended the Quality and Productivity Section social one evening and William H. Woodall and James D. Williams were there, casually chatting with other statisticians and sipping on drinks. I felt almost star struck being in the same room with these pioneers of SPC and the authors who had informed so much of my work. Getting the opportunity to meet and talk with them, along with many other statistical ‘celebrities,’ was one of the highlights of my first JSM.”

Patrick McCann – “JSM is a great place to meet some really prominent people in your field. As a practitioner in machine learning for marketing in New York, we meet fellow practitioners all the time due to the density of people working in the field. I am sure people in San Francisco have the same luxury. However, the people I rarely meet are the academic contributors; JSM is a great opportunity to do that. The people I most wanted to meet were software package authors, R Core members, and famous practitioners on the other coast. I found the best way to do this was to pay close attention to the section-sponsored sessions in the program and to stay for the question and answer part at the end of a session. At first, I tried jumping between sessions to see the ‘best’ talk in each. This was exhausting and I often missed the opportunity for a discussion that came at the end. Sometimes, the famous statistician you want to meet is participating in the discussion at the end, not the one giving the talk. I found the trick is to not be shy. If someone says something compelling, take advantage of your expense account and buy them lunch or a beer. Most academics are receptive to that and are eager to learn how their work is being applied.”

Giving Your First Talk

Michael Davern – “I presented a paper on job turnover using Survey of Income and Program Participation (SIPP) longitudinal data using plastic transparency slides (complete with a cardboard border). The room was full, and it was an 8 a.m. session. I remember being nervous, and I did not deliver the presentation as well as I had in practice (which was not at 8 a.m. and delivered in front of a big crowd), but I was very glad that I had practiced, otherwise it would have been worse.”

Rebecca Dickinson – “Try not to be too nervous when giving your first JSM presentation (my first was actually at my second JSM in 2013) because the audience is welcoming—you are standing in front of friends.”

Interviewing

Matt Avery of the Institute for Defense Analyses attended his first JSM in Miami, Florida, in 2011. “If you are not completely sure of the career you want to have after you graduate, JSM offers you a great chance to learn about a wide variety of opportunities available to statisticians in a short time. You’ll spend about half of each interview listening to a description of the company/organization itself, so sign up to interview for positions that seem interesting to you. It will get exhausting after a while, so try to schedule the ones you are most excited about early in the process while you are fresh.”

Rebecca Dickinson – “Networking is important because ‘who you know’ might just land you

an interview that leads to your first job—so be outgoing. The evening mixers and socials provided a very relaxing environment to do this. Also, most schools hold their own reunions; this is a wonderful opportunity to meet alumni and hear about the cool things they are doing in their careers. Alumni are wonderful contacts to have because they look out for their own.”

Having Fun

Michael Davern – “I remember getting a lesson in social measurement and statistics from a senior Census Bureau manager when I attended the Indianapolis minor league baseball game with him. The Census manager made a group of us arrive early so we could do things like record a video of the concession stand to document the offerings (e.g., hotdogs and nachos) and the prices for future analysis. After collecting the video, we found our seats and the Census manager diligently kept score on his own score sheet for the entire game. When I asked him why he was keeping score, he said it was a service to baseball as there would be an independent record/measurement of the game for the historical archive (as the official score keeper does not always make the best judgment calls [e.g., what is an error versus a hit]).”

Matt Avery – “Mixers are a great place to catch up with old friends and meet new ones. But do not

feel like you have to stay in the conference hotel the whole time. Experiencing the host city with your fellow statisticians can be one of the most rewarding experiences of the conference!”

Zangin Zeebari – “Students should know that there are several free dinners/events offered to them at the conference. The social mingling events and the ‘statistical dancing’ were all fun and a great opportunity to meet many other statisticians and students. At one of these social events, I meet Hamdan Azhar, a master’s student from the University of Michigan, and five other students from Virginia Tech, including Laura Freeman (eventually resulting in the collaboration on this article). After the mixer, we all enjoyed an unforgettable dinner together. Hamdan helped me discover JSM more thoroughly, and Laura, as a local, gave me advice on the amazing sights in the city, especially the museums, which I thoroughly enjoyed.”

Rebecca Dickinson – “Spend the fall semester convincing your advisor you need funding to go to JSM. It might take you to a new place, a city you might not normally have the opportunity to visit. While there, network and meet new people, go and listen to the talks of famous statisticians, and most importantly, make sure you set aside time to explore the city and taste the food. Dip your feet in the ocean!” ■



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World Continues Promoting Statistics

Jeffrey A. Myers, ASA Public Relations Coordinator

Following is the latest news and information from statistical organizations participating in The World of Statistics:

Turkey—Ankara's Yildirim Beyazit University has created the Statistical Consulting Practice and Research Center. Part of the department of biostatistics, the center will provide statistical consulting services to doctors for their research projects—planning research, selecting the appropriate sample, collecting data, analyzing data, and interpreting results. It also aims to join other projects to improve the research's statistical component.

International—The International Chinese Statistical Association and Korean International Statistical Society **Joint Applied Statistics Symposium will be held June 15–18 in Portland, Oregon.** Event details, including registration, are available at <http://bit.ly/1nn4LxX>.

International—*Statistics and Its Interface (SII)* invites submissions for a special issue focused on statistical and computational theory and methodology for Big Data. Big Data are bringing a revolution in science and technology while presenting challenges to current statistical and computational theory and methodology. *SII* encourages papers about substantive applications and computational developments for analyzing Big Data in all areas of sciences. All submissions must be made at <http://bit.ly/Q7zYub>.

Latin America—The XIII Latin American Congress of Probability and Mathematical Statistics (CLAPEM) will be held September 22–26 in Cartagena, Colombia. CLAPEM is the main probability and statistics event in the Latin-American region, having been held every two to three years for 30 years. It is organized under the auspices of the Bernoulli Society for Mathematical Statistics and Probability and the Latin-American Society on Probability and Mathematical Statistics. For more information, visit <http://bit.ly/1er1gXd>.

United Arab Emirates—Statistics Centre-Abu Dhabi (SCAD) has signed a declaration of intent with the Federal Statistical Office of Germany (Destatis) to manage and enhance all forms of mutual support and cooperation between the national statistical organizations. The declaration was signed by Butti Ahmed Mohammed Bin Butti Al Qubaisi, director-general of SCAD, and Roderich Egeler, president of Destatis.

We Need Your Help

Now that the website for The World of Statistics (www.worldofstatistics.org) is up, we need your help to improve its Internet search results by linking to the

Share Your News

Let others know how your organization is promoting statistics by sharing your organization's news and events through The World of Statistics. Submit upcoming events at www.worldofstatistics.org/wos/submitactivity.cfm. You also can submit a story about an upcoming or recently completed meeting or event for the *News from The World of Statistics* e-newsletter at www.worldofstatistics.org/wos/submitarticle.cfm.

new web address on your organization's website. Following are some other steps your organization can take:

- Update existing links to www.worldofstatistics.org on your website so they point to www.worldofstatistics.org.
- Change all references to Statistics2013 on your website to The World of Statistics and link to the new website.
- Change your Facebook page information, links, and logos so these reference The World of Statistics. Also, share information about and publicize The World of Statistics on your organization's social media accounts.
- Post a version of The World of Statistics logo in your language on your organization's website. We have nine language versions available. To request a language-customized logo, email the following information in a PDF document to jeffrey@amstat.org:
 - The interpretation in your language of "The World of Statistics"
 - The interpretation in your language of "Participating Organization"
- If your website has content about Statistics2013, please delete it and replace it with copy about The World of Statistics. New banners are available at www.worldofstatistics.org.
- Reference The World of Statistics in all your organization's online communications.

Follow @astatworld on Twitter for the latest news and if you have questions, email Jeff Myers at jeffrey@amstat.org. ■



So Much to See and Do at JSM: *Special Events and Presentations*



Faneuil Hall in Boston, MA

With more than 3,000 presentations taking place during the Joint Statistical Meetings, it is hard to decide which sessions to attend and which activities to undertake. This year is particularly special because we're celebrating our 175th anniversary and have a slew of activities planned for the celebration.

There is the invited session "Energize Our Future" with Jessica Utts of the University of California, Robert Rodriguez of SAS, and Ronald Wasserstein of the ASA. They'll discuss the future of statistical sciences and who will celebrate the ASA's 200th anniversary.

In addition, there is the 175th Anniversary Celebration on August 5, right after the president's address. Register to attend this special event, which will include a champagne toast and performances by the winners of ASA's Got Talent. Tickets are \$20.

You also will want to attend one or more of the following featured presentations. Each one of these speakers is chosen specifically for his or her vast knowledge of statistics and dedicated work in the field.

ASA PRESIDENT'S INVITED ADDRESS



Stephen Stigler

**The Seven Pillars of
Statistical Wisdom**

Monday, August 4, 4:00 p.m.

Stephen M. Stigler earned his PhD from the University of California at Berkeley with a dissertation on the asymptotic distribution of linear functions of order statistics. Subsequent work extended these results and developed further contributions to statistical theory with a special emphasis on robust procedures. He initially taught at the University of Wisconsin, Madison, but moved to The University of Chicago in 1979, where he has taught ever since.

During the 1980s, Stigler's research emphasis moved to the history of statistics, and he has contributed to this area through a large number of research papers and two books: *The History of Statistics* (1986) and *Statistics on the Table* (1999), both published by Harvard University Press. This historical research has focused on the years 1600–

1950, and one emphasis has been on the spread of statistical methods from the physical sciences of astronomy and geodesy to the social sciences during the nineteenth century. Another recent focus has been on the way the work of Francis Galton on the statistics of inheritance led to the creation of modern multivariate analysis and made true Bayesian inference possible. He also has focused on how R. A. Fisher's transformation of Karl Pearson's path-breaking research led to a modern period of statistical enlightenment.

Stigler is an elected member of the American Academy of Arts and Sciences and American Philosophical Society. He has served as president of the Institute of Mathematical Statistics and International Statistical Institute. He also has been a Guggenheim Fellow, a fellow at the Center for Advanced Study in the Behavioral Sciences at Stanford, and a visiting scholar at l'École des Hautes Etudes en Sciences Sociales, Paris. He received the Humboldt Foundation Research Award in 2005 and was elected Membre Associé of the Académie royale de Belgique, Classe des Sciences, in 2010. Stigler served as Theory and Methods Editor for the *Journal of the American Statistical Association* from 1979–1982 and was chosen as Outstanding Statistician of the Year by the ASA's Chicago Chapter in 1993.



ASA PRESIDENTIAL ADDRESS AND FOUNDER & FELLOWS RECOGNITION



Nathaniel Schenker

Why Your Involvement Matters

Tuesday, August 5, 7:00 p.m.

Nathaniel Schenker is president of the American Statistical Association, associate director for research and methodology at the National Center for Health Statistics, Centers for Disease Control and Prevention*, and adjunct professor in the Joint Program in Survey Methodology, University of Maryland. His research interests include handling incomplete data, census and survey methods, survival analysis, statistical computation, and applications of statistics to the health and social sciences.

Schenker is serving his third term on the ASA board of directors and is a member of the Committee on National Statistics Panel to Review the 2010 Census, the organizing committee for the Committee on Applied and Theoretical Statistics workshop, the Office of Management and Budget's Federal Committee on Statistical Methodology, and the editorial board of the *Journal of Survey Statistics and Methodology*. Previously, he was the program chair of JSM 2002 and an associate editor of the *Journal of the American Statistical Association*, *Journal of Official Statistics*, and *Survey Methodology*.

Schenker is a fellow of the ASA and an elected member of the International Statistical Institute and Delta Omega honorary public health society. He received the Roger Herriot Award for Innovation in Federal Statistics and the Founders Award for distinguished service, both from the ASA. He also received the Elijah White Outstanding Scientist Award from the National Center for Health Statistics. He earned his SM and PhD degrees in statistics from The University of Chicago and his AB in statistics from Princeton University.

ASA DEMING LECTURE



Sharon Lohr

Red Beads and Profound Knowledge: Deming and Quality of Education

Tuesday, August 5, 4:00 p.m.

Sharon Lohr joined Westat in 2012 as vice president and senior statistician after a 25-year academic career, most recently as Dean's Distinguished Professor of Statistics at Arizona State University. She earned her PhD in statistics from the University of Wisconsin-Madison, where she met Deming and learned his philosophy. She authored *Sampling: Design and Analysis* and has published numerous articles about survey sampling, hierarchical models, missing data, design of experiments, and applications of statistics in the social sciences and education.

Lohr is an editor of the new American Statistical Association journal *Statistics and Public Policy* and is an associate editor for the *Journal of Survey Statistics and Methodology* and *Annals of Applied Statistics*. She is a fellow of the American Statistical Association, an elected member of the International Statistical Institute, the 2009 recipient of the Morris Hansen Lecture Award, and the inaugural 2003 recipient of the Gertrude M. Cox Statistics Award for contributions to the practice of statistics.

* Schenker serves as president of the ASA in his personal capacity. The views to be expressed in his presidential address are his own and do not necessarily represent the views of the Centers for Disease Control and Prevention or the United States Government.

COPSS FISHER LECTURE



Grace Wahba

Positive Definite Functions, Reproducing Kernel Hilbert Spaces, and All That

Wednesday, August 6, 4:00 p.m.

Grace Wahba is the I. J. Schoenberg-Hilldale Professor of Statistics at the University of Wisconsin-Madison, where she is also a member of the departments of computer sciences and biostatistics and medical informatics. She is a pioneer in methods for smoothing noisy data and in the use of reproducing kernel Hilbert space methods in ill-posed inverse problems and statistical machine learning. Together with George Kimeldorf (1971) she is responsible for the representer theorem, which is behind many modern



statistical model building and machine learning methods. Also well known for the development of generalized cross-validation, she has developed methods with applications in demographic studies, machine learning, DNA microarrays, risk modeling, medical imaging, and climate prediction.

Wahba earned her BA from Cornell in 1956, her MA from the University of Maryland in 1962, and her PhD from Stanford in 1966. She worked in industry for several years before settling in Madison in 1967. She is the author of *Spline Models for Observational Data* and about 140 peer-reviewed papers.

ASA's Got Talent Winners

In celebration of our 175th anniversary, we will have a talent show and competition to honor the study and practice of statistics creatively. Each of the acts below will perform its original song at 9:00 p.m. on August 5:

Almost Shirley

The Imposteriors

Fifth Moment Band

Jami Jackson

The acts were chosen through a competition held earlier this year. Members of the 175th steering committee carefully reviewed each talent entry for originality, creativity, and its adherence to a statistical theme. Almost Shirley played on common statistical terms to explain their love for their statistically 'significant other.' The Imposteriors connected the world of statistics to the beat of "Pretty Woman." Fifth Moment used their energy and creativity to explain the rules of data, and Jami Jackson sang about her love of statistics.

Members of the audience will be given a chance to vote for the Grand Prize winner during the 175th Anniversary Celebration. The winner will receive a package that includes a one-year membership in the ASA, an ASA T-shirt, a \$20 gift certificate to the ASA Marketplace, an ASA logo neck wallet, and a 175th anniversary logo pen.

Committee members also chose an honorable mention, Lawrence Mark Lesser, for best online submission. He will receive a gift certificate for his submission of an original performance that connected statistics education outreach and the Texas Lottery.

Wahba was elected to the United States National Academy of Sciences in 2000 and received the honorary degree of Doctor of Science from The University of Chicago in 2007. According to the Mathematical Genealogy Project, she has graduated 34 students and has 198 descendants. When not doing statistics, she enjoys bicycle touring, ballroom dancing, and cross-country skiing with her long-term partner, David Callan, and following the exploits of her three grandchildren.

IMS BLACKWELL LECTURE



Gareth Roberts

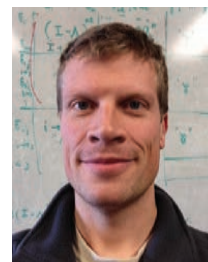
Rao-Blackwellisation for Improved Monte Carlo for Stochastic Processes

Sunday, August 3, 4:00 p.m.

Gareth Roberts is professor of statistics and director of the Centre for Research in Statistical Methodology at the University of Warwick, United Kingdom. He earned his PhD from Warwick before holding academic positions at Nottingham, Cambridge, and Lancaster, finally returning to Warwick in 2007.

Roberts' research interests span statistics and probability, including computational statistics, Bayesian inference, simulation, and inference for stochastic processes. He was awarded the Royal Statistical Society Guy medals in bronze and silver in 1997 and 2008, respectively, and elected fellow of the Royal Society in 2013.

IMS MEDALLION LECTURE



Mathias Drton

What Do We Know About Linear Structural Equation Models?

Monday, August 4, 10:30 a.m.

Mathias Drton is professor of statistics at the University of Washington. A native of Germany, he earned his PhD in statistics from the University of Washington in 2004. After a postdoc at the University of California at Berkeley, he spent seven years at The University of Chicago before returning to Washington in 2012. ■



What Happens at JSM Should Not Stay at JSM

How to get the most out of the Joint Statistical Meetings

Christopher Bilder, University of Nebraska-Lincoln

The largest congregation of statisticians in the world happens every August during the Joint Statistical Meetings (JSM). More than 5,000 people attend these meetings, which are sponsored by seven statistical societies, including the American Statistical Association. The meetings offer a variety of activities such as attending research presentations, interviewing for jobs, taking professional development courses and workshops, and browsing the exhibition hall. With so many opportunities, new attendees can be easily overwhelmed by their first JSM experience.

Based on my experience attending meetings over the last 14 years and the experiences of student groups I have led, I'm going to tell you how to get the most out of JSM. If you would like to share your own recommendations, I encourage you to submit a comment at <http://stattrak.amstat.org>.

Before JSM

Most new attendees who choose to present do so in a contributed session via an oral or poster presentation. The deadline to submit an abstract for acceptance into the program was in early February. For those who did this, additional proof of progress (e.g., drafts of a paper) for the presentation must be submitted by mid-May.

A preliminary program listing the presentation schedule is now available at www.amstat.org/meetings/jsm/2014/onlineprogram. Because there may be more than 40 concurrent presentations at any time, it is best to arrive at JSM with an idea of which to attend. This can be done by examining the session titles and performing keyword searches in the online program prior to JSM. Additionally, there are themed sessions this year celebrating the ASA's 175th anniversary (www.amstat.org/asa175).

Oral presentations are separated into invited, topic-contributed, and contributed sessions, with each session lasting 1 hour and 50 minutes. Invited and topic-contributed sessions include groups of related presentations that were submitted together and selected by JSM Program Committee members. These presentations each last for 25 or more minutes for invited and 20 minutes for topic-contributed. Contributed paper sessions include

groups of 15-minute oral presentations. Unlike invited and topic-contributed sessions, contributed presentations are submitted individually and then grouped by JSM Program Committee members.

Poster presentations also are separated into invited, topic-contributed, and contributed sessions, with the vast majority in contributed sessions. These types of presentations involve speakers being available for questions next to their displayed poster during the entire session. Most posters are of the traditional paper format, but an increasing number now are in an electronic format. This latter format involves a large, high-definition TV which projects what would normally be printed on paper or which cycles through a small number of slides. Relatively new to JSM is a hybrid of an oral and poster presentation. The oral poster presentation component begins with a "speed session" where 5-minute presentations are given by each speaker. Later during the day, electronic posters are made available for these same presentations.

Online registration for JSM usually begins May 1. For members of a sponsoring statistical society, the cost is \$410 during the early registration period. The cost increases to \$500 if you register at JSM. Registration for student members is only \$95, and this rate is available at any time. Also starting around May 1, you can reserve a hotel room through the JSM website. A number of hotels near the convention center are designated as official conference hotels,



Christopher Bilder is a professor in the department of statistics at the University of Nebraska-Lincoln. He earned his PhD in statistics from Kansas State University.



Important Links

Below are a number of web links corresponding to the topics described in this article:

JSM 2014: www.amstat.org/meetings/jsm/2014

Online Program: www.amstat.org/meetings/jsm/2014/onlineprogram

Job Seekers: www.amstat.org/meetings/jsm/2014/applicants

Professional Development: www.amstat.org/meetings/jsm/2014/professionaldevelopment

Student Paper Competitions: www.amstat.org/sections/studentpaperawards.cfm



Boston Convention Center

and they discount their normal rates. However, even with a discount, you can expect to pay \$200 or more per night for a room. Most meetings also offer a less-expensive lodging option for students, usually housing at a nearby university or hostel.

Attending JSM can be expensive. Students have several options to reduce the cost burden. First, ask your adviser or department for funding. Many departments offer financial support for students who present their research at JSM. Students also may qualify for funding from the student activities office on their campus. For example, when I was a student, my

department's statistics club received funding this way, which paid for most of my first JSM expenses.

In addition to school-based resources, many ASA sections sponsor student paper competitions that provide travel support to award winners. For example, the Biometrics Section of the ASA sponsors the David P. Byar Young Investigators Award, with \$2,000 awarded to a chosen student. Most competitions require a completed paper to be submitted prior to JSM.

At JSM

JSM begins on a Sunday afternoon in late July or early August. Business casual clothing is the most prevalent attire, but some attendees wear suits and others wear T-shirts and shorts. When you arrive at JSM, go to the registration counter at the convention center to obtain your name tag and conference program book. The program book will contain a map of the convention center that can be useful for finding session rooms.

To welcome and orient new attendees, the JSM first-time attendee orientation and reception is scheduled for early Sunday afternoon. Also, the opening mixer on Sunday evening provides drinks, hors d'oeuvres, and the opportunity to meet other attendees.

The main sessions start on Sunday at 2:00 p.m. Many of the research presentations are difficult to understand completely. My goal for a session is to have 1–2 presentations in which I learn something relevant to my teaching or research interests. This may seem rather low, but these items add up after attending many sessions.

For attendees who teach introductory courses, the sessions sponsored by the ASA Section on Statistical Education are often the easiest to understand. Many of these sessions share innovative ideas about how to teach particular topics.

Introductory overview lectures are another type of session that has easier-to-understand topics. Recent lectures have included introductions to big data, bioinformatics, and complex survey sampling. There are also many Professional Development courses and workshops available for an additional fee. However, you can attend a course for free by volunteering prior to JSM to be a monitor. Monitors perform duties such as distributing and picking up materials during the course. As an added benefit, monitors can attend one additional course for free without any duties.

Keynote addresses at JSM are usually scheduled for late afternoon on Monday through Wednesday. On Tuesday evening, the ASA presidential address is given, along with a number of



awards and introductions of the new ASA fellows. The fellows introduction is especially interesting because approximately 50 ASA members (<0.33% of all members) are recognized for their contributions to the statistics profession.

In addition to presentations, the JSM EXPO features more than 70 companies and organizations exhibiting their products and services. Many exhibitors give away free items (e.g., candy, pens, etc.). All of the major statistics textbook publishers and software companies are there. Textbook publishers offer a sizable discount on their books during JSM, and this discount is usually available for a limited time after JSM.

The JSM Career Placement Service provides a way for job seekers and employers to meet. This service offers an excellent way to interview with many companies during a short time period. Pre-registration is required, and the fee is discounted if you register before mid-July. The service works by providing an online message center for job seekers and employers to indicate their interest in each other. Once a common interest is established, an interview can be arranged during the meetings.

Other activities at JSM include the following:

- Shopping at the ASA Marketplace to purchase a statistics-themed T-shirt or mug
- Attending an organized roundtable discussion during breakfast or lunch about a topic of interest (pre-registration is required)
- Taking a little time off from JSM to go sight-seeing

Free wireless Internet access at the convention center has been provided in recent years.

After JSM

JSM ends in the early afternoon on a Thursday. Don't let what happens at JSM stay at JSM! The first thing I do after the meetings is prepare a short review of my activities. Using notes I took during sessions, I summarize items from presentations that I want to examine further. I also summarize meetings that I had with individuals about research or other important topics. Much of this review process starts at the airport while waiting for my return flight.

If you give a presentation at JSM, you may submit a corresponding paper to be published in the conference proceedings. Papers are not peer-reviewed in the same manner as for journals, but authors are encouraged to have others examine their paper before submission. The proceedings are published online around November. Authors retain the right to publish their research later in a peer-reviewed journal. ■

JSM 2014

REGISTRATION & HOUSING *NOW OPEN!*

Statistics: Global Impact – Past, Present, and Future

Connect with your colleagues and take advantage of hundreds of sessions this summer in Boston!

Join the largest gathering of statisticians in the world. Enjoy technical sessions—including SPEED sessions—special receptions and gatherings, and the exhibit hall. Also, register for the ASA's professional development programs, Career Placement Service, and more.

At this summer's Boston JSM, we also will celebrate the ASA's 175th anniversary! Learn more about special anniversary events, including the ASA's 175th Celebration, at www.amstat.org/asa175. Make sure to purchase your celebration ticket when registering!

Early Registration Deadline: May 29
Regular Registration Deadline: July 1
Housing Deadline: July 2
Late Registration Deadline: July 17



Learn more at www.amstat.org/meetings/jsm/2014



Attractions in Boston and Cambridge

Samuel Cook, Scott Evans, Robert Goldman, Mingfei Li, John McKenzie, and Kathryn Williams



Old State House

There are many interesting places to visit in Boston and Cambridge, especially during the summer months. Below, we highlight only some of these for JSM attendees and their families to consider exploring before and after the meetings, or when they aren't attending a session.

The **Freedom Trail** is a collection of significant historic sites that make up a 2.5-mile walking tour. The following 16 sites are on the trail, and one can join it anywhere along the route:

- Massachusetts State House - Situated on 6.7 acres on top of Beacon Hill and adjacent to the Boston Common, it was built on land once owned by John Hancock, Massachusetts's first elected governor.
- Park Street Church
- Granary Burying Ground
- King's Chapel
- King's Chapel Burying Ground - Boston's oldest cemetery, its first interment was that of the land's original owner, Isaac Johnson.
- Benjamin Franklin statue and former site of the first public school in the United States (Boston Latin School)
- Old Corner Bookstore - Built in 1712, it was originally used as a residence and apothecary. It became a bookstore in 1828.

- Old South Meeting House - The organizing point for the Boston Tea Party and Boston's largest building, 5,000 colonists gathered here on December 16, 1773.
- Old State House
- Site of the Boston Massacre
- Faneuil Hall - A meeting place and marketplace since 1742, Faneuil Hall is where many people gave speeches encouraging independence from Great Britain. It is often referred to as the "Cradle of Liberty."
- Paul Revere House
- Old North Church - The place from which the famous "one if by land, and two if by sea" signal is said to have been sent. It was related to the midnight ride of Paul Revere on April 18, 1775, prior to the battles of Lexington and Concord.
- Bunker Hill Monument - A 221-foot granite obelisk built to commemorate the Battle of Bunker Hill. One may climb the monument's spiral staircase with a pass.
- *USS Constitution* - A 1797 frigate of the United States Navy, she is most famous for her actions during the War of 1812 against Great Britain. *USS Constitution* is the world's oldest commissioned naval vessel afloat. In addition to the ship, one may visit its museum.

Except for the Old South Meeting House, Old State House, and Paul Revere House, all sites are free (although some suggest donations).

Next to the Freedom Trail is **Boston Common**, the oldest city park in the United States. Its 50 acres is part of the Emerald Necklace of parks and parkways that extend from the Common south to Franklin Park in Roxbury. It is the last remaining intact linear park designed by Frederick Law Olmsted, America's first landscape architect. Its Frog Pond is a place for children to splash and ride a carousel during the summer.

The Public Garden, also known as **Boston Public Garden**, is a large park adjacent to Boston Common. It was the first botanical garden in the United States. About one-third of its area is an artificial lake of *Make Way for Ducklings* fame. Swan boat rides are available for people of all ages.



Also close to Boston Common is **Beacon Hill**, a historic neighborhood of Federal-style row houses known for its narrow gas-lit streets and brick sidewalks. Louisburg Square is “the most prestigious address” in Beacon Hill, whose residents have access to a private park. Nearby, is Acorn Street, often mentioned as the “most frequently photographed street in the United States.”

Copley Square is a public square in Boston’s Back Bay neighborhood. Named for painter John Singleton Copley, it contains numerous architectural works in various styles, many of them official landmarks. Among them are the Venetian Gothic Revival Old South Church, the Romanesque Revival Trinity Church, the Italian Renaissance Boston Public Library, the Beaux-Arts Fairmont Copley Plaza Hotel, and the Modernist John Hancock Tower (New England’s tallest building at 780 feet).

Another popular attraction is **Fenway Park**, home of Boston Red Sox since it opened in 1912. Fenway is the oldest Major League Baseball ballpark. The Red Sox are only home for the first two days of JSM, when they play the New York Yankees, but there are 60-minute guided tours of “America’s Most Beloved Ballpark” every day during the meetings.

Within walking distance of Fenway are the **Boston Museum of Fine Arts (MFA)** and **Isabella Stewart Gardner Museum**. The MFA is one of the largest museums in the United States. With more than 450,000 works of art, it contains one of the most comprehensive collections in the Americas. The Gardner houses a smaller art collection of world importance. It has significant examples of art from America, Europe, and Asia. In honor of Isabella Stewart Gardner, admission to the museum is free to anyone named Isabella.

Across the Charles River is Cambridge, home of Harvard University and the Massachusetts Institute of Technology. Both world-renown universities have outstanding museums. They include the **Harvard Art Museums** (the Busch-Reisinger Museum, the Fogg Museum, and the Arthur M. Sackler Museum) and the **Harvard Museum of Natural History**. All are close to Harvard Yard, with its statue of the English minister for whom the school is named, and Harvard Square, its adjoining commercial center.

The **MIT Museum** hosts collections of holography, technology-related artworks, artificial intelligence, robotics, maritime history, and the history of the institute. Its holography collection of 1,800 pieces is the largest in the world, though not all of it is exhibited.

The **Boston Museum of Science** is located in Science Park, a plot of land spanning the Charles River. Along with more than 700 interactive exhibits, the museum features a number of live presentations every day, along with shows at the Charles Hayden Planetarium and Mugar Omni with its IMAX screen.

Seeing Boston

Two ways of seeing the city are the **Prudential Tower’s Skywalk Observatory**, currently the highest observation deck in New England open to the public, and the **Duck Tours**, which use amphibious vehicles to visit more than 44 attractions, including those mentioned in this article.

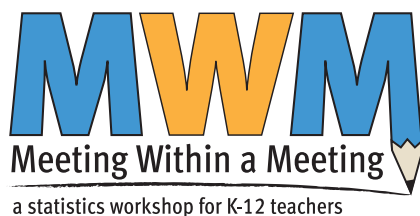


USS Constitution

Closest to JSM and the Boston Convention Center is the **New England Aquarium**. It has completed a renovation that renewed its main building, and the Giant Ocean Tank has undergone a top-to-bottom, 21st-century transformation. Other attractions at the museum include the Simons IMAX Theatre and the New England Aquarium Whale Watch.

Finally, there is the **John F. Kennedy Presidential Library and Museum**. Designed by architect I. M. Pei, it is the official repository for original papers and correspondence of the Kennedy Administration.

In addition to numerous attractions within Boston and Cambridge, there are many historical and cultural destinations outside metropolitan Boston. Visit <http://magazine.amstat.org/blog/2014/05/01/to-do> to read more. ■



Mathematics and Science Teachers

(www.amstat.org/education/mwm)

Sponsored by the American Statistical Association (ASA) 2014 Joint Statistical Meetings (JSM)*



Based on the Common Core State Standards for Mathematics (corestandards.org) and *Guidelines for Assessment and Instruction in Statistics Education (GAISE): A Pre-K–12 Curriculum Framework* (www.amstat.org/education/gaise)

- Dates:** Tuesday, August 5, and Wednesday, August 6, 2014, 8:00 a.m. to 4:00 p.m.
- Place:** Boston, Massachusetts – Boston Convention and Exhibition Center or a nearby conference hotel (workshop meeting room location to be announced)
- Audience:** Middle- and high-school mathematics and science teachers. Multiple mathematics/science teachers from the same school are especially encouraged to attend. Note: Experienced AP Statistics teachers should register for the Beyond AP Statistics (BAPS) workshop. See www.amstat.org/education/baps for more information.
- Objectives:** Enhance understanding and teaching of statistics within the mathematics/science curriculum through conceptual understanding, active learning, real-world data applications, and appropriate technology
- Content:** Teachers will explore problems that require them to formulate questions; collect, organize, analyze, and draw conclusions from data; and apply basic concepts of probability. The MWM program will include examining what students can be expected to do at the most basic level of understanding and what can be expected of them as their skills develop and their experience broadens. Content is consistent with Common Core standards, *GAISE* recommendations, and *NCTM Principles and Standards for School Mathematics*.
- Presenters:** *GAISE* authors and prominent statistics educators
- Format:** Middle-school and high-school statistics sessions
One-day pass to attend activities at JSM (statistics education sessions, poster sessions, JSM exhibit hall)
Activity-based sessions, including lesson plan development
- Provided:** Refreshments
Complimentary one-day pass to attend the Joint Statistical Meetings
Handouts
Certificate of participation from the ASA certifying professional development hours
Optional graduate credit available
- Cost:** The course fee for the two days is \$50. Please note: Course attendees do not need to register for the Joint Statistical Meetings to participate in this workshop.
- Follow up:** Follow-up activities and webinars (www.amstat.org/education/k12webinars)
Network with statisticians and teachers to organize learning communities
- Registration:** More information and online registration is available at www.amstat.org/education/mwm. Space is limited. If interested in attending, please register as soon as possible.
- Contact:** Rebecca Nichols, rebecca@amstat.org; (703) 684-1221, Ext. 1877

*The Joint Statistical Meetings are the largest annual gathering of statisticians, where thousands from around the world meet to share advances in statistical knowledge. The JSM activities include statistics education sessions, posters sessions, and the exhibit hall.



ASA Launches Personal Skills Development Program



The ASA will introduce a new program called Personal Skills Development (PSD) <http://bit.ly/1hKG7XO> this year during the Joint Statistical Meetings. This program was designed to enhance and complement the current Continuing Educational (CE) program and will

include courses, workshops, and other training in effective communication, collaboration, leadership, and career planning. Some of the topics PSD training will focus on include the following:

- Communication: Speaking, presentation, consulting, listening, and writing
- Collaboration: Team building, teamwork, and understanding personality types
- Career Planning: Finding a challenging and rewarding position, goal setting, career advancement, negotiation, and strategic planning
- Leadership: Influence, conflict resolution, and creative problemsolving

During JSM 2014, the following six PSD opportunities will be offered:

Career Development: Challenges and Opportunities for Statistical Innovation and Impact (panel discussion)

August 3, 2:00 p.m. – 4:00 p.m.

This opportunity, organized and sponsored by the Committee on Career Development, is *free* at JSM 2014.

Preparing Statisticians for Leadership: How to See the Big Picture and Have More Influence

Instructors: Gary Sullivan, Marilyn Seastrom, and Bonnie LaFleur

Presenters: Robert Rodriguez, Sally Morton, and Lisa LaVange

August 2, 12:00 p.m. – 5:30 p.m., and August 3, 8:00 a.m. – 12:00 p.m.

This course was developed from the Statistical Leadership Workgroup, led by Janet Buckingham, under a current strategic initiative.

Learning and Improving Skills to Become a More Effective Statistical Collaborator

Instructors: Eric Vance, Heather Smith, and Doug Zahn

August 3, 8:00 a.m. – 12:00 p.m., and August 5, 8:00 a.m. – 12:00 p.m.

Effective Presentations for Statisticians

Instructors: Jen Van Mullekom and Bob Starbuck

August 4, 1:00 p.m. – 5:00 p.m.

This course was developed under a previous strategic initiative, Career Success Factors.

Strategic Career Management

Instructor: Janet Bickel

August 4, 8:00 a.m. – 12:00 p.m.

This course is taught by a professional leadership and career development coach.

From Idea to Publication: How to Get That Book Written

Instructors: James Ramsey and Maura Stokes

August 5, 2:00 – 5:00 p.m.

In future years, courses and workshops on these topics will be submitted to the ASA in a system similar to what is currently done with the CE courses and evaluated by a group of ASA volunteers.

Registration Updates for JSM 2014

JSM registrants will take notice of the wider ASA approach to education in all materials related to JSM. Both CE and PSD programs will fall under the umbrella of the ASA Professional Development Program. The JSM online program has been updated so that the previous Continuing Education box on the Main Search page is now the following:

PROFESSIONAL DEVELOPMENT

- Continuing Education Courses
- Computer Technology Workshops
- Personal Skills Development

If you have any suggestions for future Personal Skills Development offerings, please contact Lynn Palmer, ASA director of programs, at palmer@amstat.org. ■



Statistical Leadership Course Planned for JSM

Janet Buckingham

The 2014 Presidential Initiative Workgroup on Developing Training in Statistical Leadership will offer the first course on improving leadership in the statistics profession August 2–3 during the Joint Statistical Meetings. The course, “Preparing Statisticians for Statistical Leadership: How to See the Big Picture and Have More Influence,” is limited to 30 participants who will work in groups on leadership-structured exercises. Reflection and class discussion will be used to gain leadership insights from speakers, fellow attendees, and facilitators. What is leadership? Much has been written and discussed within the statistics profession in the last few years on the topic and its importance in advancing our profession. Many statisticians have never considered

their potential for leadership. Some see leadership as a role limited to the chosen few—department chairs, executives, and elected leaders of our associations. In reality, leadership is a vitally important ability that matters to all statisticians.

Statistics is an interdisciplinary endeavor. Our success—as individuals and as a profession—depends on getting others to understand and act on our work. Statistical leaders are needed at all levels to help advance the goals of business, academic, government, and research organizations. To exert influence, statisticians need to have a good

understanding of basic business principles driving the organizations and teams with which they work; they need to understand the “big picture.”

Leadership training is a lifelong journey of learning, rather than a one-time event. This course is the first of others the workgroup is planning and will give you an understanding of what—and how—you will need to learn along the way.

You also will gain an understanding of leadership and how statisticians can improve and demonstrate leadership to have a greater effect on their organizations. It will feature leaders from all sectors of statistics who will speak about their journeys and provide guidance on personal leadership development with a focus on the larger organizational/business view and influence. You will work with your colleagues to discuss and resolve leadership situations statisticians face.

Finally, you will come away with a plan for developing your own leadership and connect with a network of other statisticians who can help you move forward on your leadership journey.

This course includes participation from accomplished, experienced, and influential statisticians who will discuss how they developed their leadership skills, how to acquire greater knowledge in organizational/business acumen, how to acquire influence skills in your organization, and how to convincingly assert your ideas and effectively challenge the ideas of others.

The course is designed for the following:

- Statisticians who have a desire to take a significant step forward in their leadership development
- Statisticians with an open mind; an eagerness to learn and improve; and a willingness to share their thoughts, insights, and experiences with others
- Statisticians who have at least five years of work experience outside their academic training

For details, visit the JSM online program at www.amstat.org/meetings/jsm/2014/onlineprogram. ■

Featured Presenters

Robert N. Rodriguez, Senior Director, Statistical R&D, SAS Institute

Sally C. Morton, Chair, Department of Biostatistics, University of Pittsburgh Graduate School of Public Health

Lisa M. LaVange, Director, Office of Biostatistics, FDA Center for Drug Evaluation and Research


Facilitators and Coordinator

Gary Sullivan, Senior Director, Global Statistical Sciences and Advanced Analytics, Eli Lilly

Bonnie LaFleur, Senior Manager, Biostatistics and Data Management, Ventana Medical Systems

Marilyn Seastrom, Chief Statistician, National Center for Education Statistics

Jim Hess, Retired Vice President of Operations Services, Leggett & Platt



BAPS

BEYOND AP STATISTICS

Wednesday, August 6, 2014
8:00 a.m. - 4:30 p.m.
Boston, Massachusetts

A WORKSHOP FOR EXPERIENCED TEACHERS

Sponsor: ASA-NCTM Joint Committee on Curriculum in Statistics and Probability

The ASA/NCTM Joint Committee is pleased to sponsor a Beyond AP Statistics (BAPS) workshop at the annual Joint Statistical Meetings* in Boston, Massachusetts, on August 6, 2014. Organized by Roxy Peck, the BAPS workshop is offered for AP Statistics teachers and consists of enrichment material just beyond the basic AP syllabus. The course is divided into four sessions led by noted statisticians.

PRESENTERS

Allan Rossman and Beth Chance, Cal Poly - Inference for Paired Data

Tom Short, John Carroll University - Logistic Regression

Robin Lock, St. Lawrence University - What Do We Do When Assumptions Are Not Met?

James Cochran, Louisiana Tech University - Engaging Students in Statistics

COST

The course fee for the full day is \$50. Please note: Course attendees do not need to register for the Joint Statistical Meetings (JSM)* to participate in this workshop, although there is a discounted JSM registration fee for K-12 teachers available at www.amstat.org/meetings/jsm/2014.

LOCATION

Boston, Massachusetts – Boston Convention and Exhibition Center or a nearby conference hotel
(workshop meeting room location to be announced)

PROVIDED

Refreshments (lunch on your own)

Handouts

Pass to enter the exhibit hall at the Joint Statistical Meetings

Certificate of participation from the American Statistical Association certifying professional development hours

Optional graduate credit available

REGISTRATION

More information and online registration are available at www.amstat.org/education/baps. Registrations will be accepted until the course fills, but should arrive no later than July 15, 2014. Space is limited. If interested in attending, please register as soon as possible.

QUESTIONS

Contact Rebecca Nichols at rebecca@amstat.org or call (703) 684-1221, Ext. 1877

*The Joint Statistical Meetings make up the largest annual gathering of statisticians, where thousands from around the world meet to share advances in statistical knowledge. The JSM activities include statistics and statistics education sessions, posters sessions, and the exhibit hall.

Statistics Training: A Big Role in Big Data?

Two years in Silicon Valley causes professor to wonder about statistics' role in Big Data

Lexin Li, Department of Statistics, North Carolina State University

“Big Data Is on the Rise, Bringing Big Questions,” proclaimed the title of a 2012 *Wall Street Journal* article (<http://on.wsj.com/1ncsmEs>). Big Data has become a buzzword in both the academic and business worlds. From a scientific perspective, Big Data refers to extracting useful information from large, diverse, distributed, and heterogeneous data sets to accelerate scientific discovery and innovation (NSF Big Data Initiative, 2012). From a business perspective, it means using integrated data storage, analytics, and applications to help drive efficiency, quality, and personalized products and services, and to create new levels of business value (EMC Business Overview).

Amid the present data deluge, the demand for data scientists is said to be huge. The 2011 McKinsey report, “Big Data: The Next Frontier for Innovation, Competition, and Productivity,” projected “a need for 1.5 million additional managers and analysts in the United States who can ask the right questions and consume the results of the analysis of Big Data effectively.” The same report claimed a significant constraint on realizing value from Big Data would be “a shortage of talent, particularly of people with deep expertise in statistics and machine learning, and the managers and analysts who know how to operate companies by using insights from Big Data.”

Another 2012 *Wall Street Journal* article, “Big Data’s Big Problem: Little Talent,” (<http://online.wsj.com/article/SB10001424052702304723304577365700368073674.html>), expressed similar concerns and suggested courses on Big Data don’t yet exist in universities: “[Though] bits of it do exist in various university departments and businesses, as an integrated discipline, it is only just starting to emerge.”

Statistics has long been in the center of data analysis. So what kind of role should our profession play in this wave of Big Data? What kind of training shall we provide in statistics departments to prepare our students to embrace the challenges of Big Data?

I joined the department of statistics at North Carolina State University in 2005 and I visited Yahoo Research Labs in 2011–2012 and the department of statistics at Stanford University in 2012–2013. During this period, I had opportunities to interact with many bright engineers and scientists, mostly from leading Internet technology companies such as Yahoo, Facebook, LinkedIn, Google, and EMC. These two years of experience in Silicon Valley prompted me to

think about these questions frequently and, upon my return to NC State, led me to offer a special topics course on Big Data in the fall of 2013 to share my thoughts and experiences with our graduate students.

When preparing the course syllabus, I did some research to determine which topics to cover. I checked textbooks that are widely used for courses in computer science and statistics departments on data mining, which started to gain popularity about 15 years ago and shares many similarities with Big Data. I also studied a recent course, “Mining Massive Data Sets,” offered in the computer science department at Stanford. A summary of key topics covered in these books is given in Table 1. I find it interesting and informative when observing the evolution of topics in the two disciplines, then and now.

Two sets of skills are commonly perceived as crucial for Big Data analysis: the statistical skills to build and interpret appropriate models given the usually huge and complicated data and the engineering skills to carry out all necessary operations, including data retrieval, scalable optimization, and data visualization. For the first skill set, I chose to present a wide collection of data mining and machine learning topics, ranging from regularization, support vector machines, and boosting to more recent topics such as networks analysis, recommendation systems, and digitized advertising.

During the lectures, connections among different approaches (e.g., reproducing kernel learning and spline basis expansion) were emphasized. Model interpretation and inference also were highlighted. A parsimonious and interpretable model is favored often over a black box–type learning algorithm, even when it means one must sacrifice predictive accuracy to some extent. How to properly formulate a statistical model, develop intuitive insights and interpretation, and evaluate the uncertainty of the analysis were emphasized over purely algorithmic details.

For the second skill set, scalable and parallel algorithms were incorporated into the lectures. Erik Scott of the Renaissance Computing Institute of The University of North Carolina at Chapel Hill presented two guest lectures on the Hadoop distributed file system and Map-Reduce parallel computing framework. We designed a homework project in which students programmed and experimented on a small cluster of computers equipped with Hadoop. The majority of

Table 1— Topics Covered in Data Mining and Big Data Courses, Then and Now

Then		Now	
CS ¹	Stat ²	CS ³	Stat
data warehouse	regression models	distributed file systems, Hadoop	?
OLSP (online analytical protocol)	lasso, ridge, PCA, PLS	Map-Reduce	?
preprocessing and query	splines, kernel smoothers	association, frequent items	?
association rules	CART, MARS, GAM	PageRank, link analysis	
classification and prediction	classification, boosting, SVM	clustering, similar items	
clustering	kernel learning	SVD, dimension reduction	
complex data (text, www, media, stream, spatial db)	neural networks	large-scale machine learning	
multirelational data mining*	clustering, unsupervised learning	web advertisement	
social network, graph mining	p >> n**	recommendation systems	
	network and graph models**	social networks	

CS¹: Han, J. and Kamber, M. 2000. *Data Mining: Concepts and Techniques*

Stat²: Hastie, T., R. Tibshirani, and J. Friedman. 2001. *Elements of Statistical Learning*

CS³: Rajaraman, A., J. Leskovec, and J.D. Ullman. 2014. *Mining of Massive Datasets* (manuscript).

students were statistics majors, so this exercise offered them a unique opportunity to gain experience with modern computing and data processing techniques.

In addition to statistical and engineering skills, skills such as a deep understanding of the science or business so to ask the right questions and the ability to tell a concise story from the data and turn the analysis into a decision are equally important. But these skills are also the most difficult to learn. Toward that goal, I designed course projects in a format that differs substantially from what I used to assign in my other courses.

I selected a number of real data competitions (inactive) from www.kaggle.com and posed some high-level questions. Students were required to select a specific data set, formulate questions of interest, retrieve and process related data to support their analysis, carry out appropriate modeling and analysis of their choice, and concisely summarize their findings. These exercises both exposed students to problems and terminologies that are frequently encountered in the business world (e.g., personalized recommendation and the click-through rate) and helped students gain experience in handling real-world messy and big data sets. I also insisted on a concise summary of findings, with no more than three sentences, and an oral presentation strictly within five minutes. This new format contrasts with the old one, where I provided a clean data set, formulated the problem (specifying Xs and Ys), and concentrated on only the modeling step. In the Big Data course, the focus was shifted to the entire process of analysis, from problem formulation and data preparation to model building and summary.

The course was well received by the more than 40 registered and auditing students. Many stated in their course evaluations that they found the course particularly interesting and useful. To my knowledge,

there are also a number of statistics faculty members offering or planning to offer a similar course at various universities, and efforts toward offering a data science master's degree are under way at institutions including Berkeley, Columbia, and the University of Minnesota. With more such joint training efforts, our profession and graduates will hopefully play a big role in this Big Data revolution. ■

Response to 'Academic Salary Survey by Gender'

Jean D. Gibbons, Russell Professor Emerita of Applied Statistics at the University of Alabama

"Academic Salary Survey by Gender" (*Amstat News*, February 2014, 20–21, <http://magazine.amstat.org/blog/2014/02/01/salariesurveygender>) notes that while there are only small discrepancies in salary between female and male statisticians in academia for comparable years of experience and academic rank, there are strikingly smaller numbers of females at the ranks of associate professor and professor. These findings are present in both statistics and biostatistics departments.

The results are consistent with the conjecture made in "Response to Olkin" (*Amstat News*, April 2014, 25–26, <http://magazine.amstat.org/blog/2014/04/01/response-to-olkin>) that female professionals in academia simply do not publish to the same extent as their male counterparts in many situations. The salary survey data included only research universities, since the numbers of faculty at other universities and colleges are generally too few.

It appears that while female PhD statisticians may begin their careers at research universities and receive compensation commensurate with their male colleagues, many do not stay at those universities beyond the assistant professor level. They may be moving on to less prestigious universities and colleges, either because they do not choose to devote a large portion of their time to publishing in major refereed journals or they did not publish in sufficient quality or quantity to earn tenure at a research university. ■

The Assessment of Teachers: Notes from a Conference

We were interested to read the January *Amstat News* article “The Assessment of Teachers: Notes from a Conference” in Statistician’s View (<http://bit.ly/1nscr3>). This paints an optimistic picture of how value added models (VAMs) can be used to measure teacher effectiveness and provide a valuable statistics teaching tool.

Unfortunately, the reality is rather different. The use of these models is highly contested, and there is a large statistical and educational literature on their use. One key issue is that the confidence intervals associated with the value added estimate for any one teacher tend to be large, and sensitive to the assumptions of the model. This makes their use for purposes such as teacher promotion or salary determination extremely limited. Yet the article fails to mention this issue.

It also fails to mention the problem of unintended perverse side effects, which have been extensively documented, including teaching to a narrowed curriculum and heightened stress levels among teachers and students.

The illustrative models used in the paper are incorrect. For example, the first one has undefined terms and subscripts that don’t balance. It also omits the all-important terms for lagged effects of previous teachers. The concepts underlying “value added” models are not simple, and in addition to their strong parametric assumptions, they can become quite complex (see the 2014 *Annual Review of Statistics and Its Application* article, “Using League Table Rankings in Public Policy Formation: Statistical Issues,” by Harvey Goldstein for a discussion). Using them as didactic devices in teaching statistics to teachers seems highly questionable.

While statisticians have responded with complex models and analyses to the complex partially crossed and partially nested structure of children proceeding through school classes, the modeling and assessment of the effect of teachers in the development of their students is controversial, and not at all a routine procedure.

A final irony in this article is the suggestion that statisticians should take the lead in providing professional development to teachers! A willingness to be seen as partners alongside educational specialists would be welcome.

Harvey Goldstein, Fellow, British Academy
Professor of Social Statistics, Centre for Multilevel Modelling, University of Bristol, United Kingdom

Murray Aitkin, Fellow, ASA
Emeritus Professor of Statistics
University of Newcastle, United Kingdom

Author’s Response:

Thank you for taking the time to write a response to the *Amstat News* article about the assessment of teachers.

There is no doubt that the use of VAMs and growth models is highly contested. In fact, the conference the article discusses focused greatly on the pros and cons of the various models. In addition, the conference brought together both researchers and state and district policymakers to discuss the difficulties of implementation for these models. For example, an important issue discussed is that of nonrandom assignment of teachers to schools and students to teachers.

As noted in the article, the purpose of the article was not to discuss the nuances of the models, but to introduce the ideas of the models to a statistical audience and make the connection to teacher preparation. The policy brief from the conference found at <http://vam.educ.msu.edu> discusses specific limitations and issues with the models discussed at the conference.

It is absolutely correct that the study of VAMs and growth models is complex. The idea of using this as a backdrop for teacher training does not mean teachers would be taught how to estimate VAMs and growth models and study their complexities. Instead, as stated in the article, “we would not expect teachers to take a course on and understand all the nuances and difficulties of estimating teacher performance measures; however, for example, understanding the complexities and interpretations of multivariate regression would be quite appropriate.” Furthermore, the study of regression could be set up, while working with teachers, using education data sets that would offer teachers an opportunity to understand some of the terminology surrounding their profession in policy discussions.

As to the suggestion that the illustrative models are “incorrect,” there are a variety of ways that these models may be specified, and those portrayed exemplify fairly common representations.

I completely concur with the response letter’s suggestion that teaching teachers in a professional development context should be done with the collaboration of discipline-specific individuals alongside education specialists. In fact, many statistics educators working directly with teachers are themselves education specialists or work directly with education specialists.

Anna E. Bargagliotti ■



The Johns Hopkins School of Public Health biostatistics professor **Elizabeth Stuart** and GlaxoSmithKline's **Frank Rockhold** are two of 10 people selected for the newly established Patient-Centered Outcomes Research Institute's (PCORI) Clinical Trials Advisory Panel. Named from among 231 candidates, the duo was selected for their expertise in randomized trials and related topics. As panel members, they will provide input on the design and implementation of randomized controlled trials.

For information about PCORI, visit <http://bit.ly/1pINP4O>. ■



Tarran

Brian Tarran is the new editor of *Significance* magazine. He will join the publication in mid-June from the United Kingdom-based Market Research Society, where he was the editor of *Research Magazine* and managed the launch and editorial direction of *Impact* magazine and www.Research-live.com. His work on *Impact* won the Launch of the Year Award at the 2013 International Content Marketing Association Awards. In his interview, Tarran presented a compelling vision for *Significance*, which is a joint ASA-Royal Statistical Society public-outreach magazine. Learn more at <http://community.amstat.org/blogs/ronald-wasserstein/2014/03/20/asa-at-175-significant-developments-at-significance-magazine>. ■

Sellers-McCroan Award Presented to Karl Peace



Photo courtesy of Ginger Heide at Heideldesign

Karl Peace (left) accepts the Sellers-McCroan Award, presented by Wade Sellers.

Karl Peace was presented with the Sellers-McCroan Award for his lifelong commitment to improving public health through academia and laboratory advancements. The award was presented during the Sellers-McCroan luncheon, part of the 85th Annual Meeting and Conference of the Georgia Public Health Association in Atlanta on March 10.

Peace provided the leadership and endowments to create the Jiann Ping Hsu College of Public Health at Georgia Southern University, which was named in honor of his late wife. Peace is also a recognized authority on clinical trials methodology, measurement, and analysis. He serves as professor and a Distinguished Georgia Cancer Coalition Scholar at the Jiann Ping Hsu College of Public Health.

Peace was introduced by Wade Sellers, district health director of the Northwest Georgia Health District.

"He's enabled folks who've heard the calling to go into public health to become educated, get their degrees, and go out and be launched and supported," said Sellers.

Peace's contributions were further outlined in the program for the event. "His national leadership has raised the visibility of both Georgia and Georgia Southern University, and his lifework and contributions have been a great credit to both the state and university. His commitment to battling cancer not just in a laboratory or library, but also in practice, has resulted in many more South Georgians being screened. And his longtime work in biopharmaceuticals has helped create many of the lifesaving and life-improving drugs we can access today."

A Conference in Honor of H. N. Nagaraja

Pankaj Choudhary, University of Texas at Dallas; Chaitra Nagaraja, Fordham University; and Tony Ng, Southern Methodist University



Group photo at the conference.



H. N. Nagaraja speaks during the conference banquet on March 8, 2014.

Ordered Data Analysis, Models, and Health Research Methods: An International Conference in Honor of **H.N. Nagaraja** for His 60th Birthday was held at the University of Texas at Dallas March 7–9. The conference was, in essence, a celebration of statistics.

Nagaraja began his academic career in the department of statistics at The Ohio State University in 1980 and is now the biostatistics division chair in the college of public health there. He has made distinguished contributions in areas such as order statistics, stochastic modeling, distribution theory, characterizations, asymptotics, and statistical methods in the health sciences. He is a fellow of both the American Statistical Association and American Association for the Advancement of Science.

The conference featured three plenary talks: “Ordering Order Statistics” by N. Balakrishnan of McMaster University; “Data, Design, and Analysis for Comparative Effectiveness Research Decisions” by Sally C. Morton of the University of Pittsburgh; and “Variations on Some Exponential Characterization Themes” by Barry Arnold of the University of California at Riverside.

Nearly 200 participants from 14 countries representing academia, industry, and government attended. There were 46 sessions, more than 120 talks, 11 posters, and a SAS JMP workshop. Many students and young statisticians, including the 11 winners of travel awards sponsored by The Ohio State University, were involved.

For more information, visit <http://faculty.smu.edu/ngh/hnnconf.html>. ■

BASS XXI on Tap for November

The 21st meeting of the Biopharmaceutical Applied Statistics Symposium (BASS XXI) will be held November 3–7 at the Crowne Plaza Washington DC-Rockville. At least 16 one-hour tutorials on diverse topics pertinent to the research, clinical development, and regulation of pharmaceuticals will be presented November 3–5 by speakers from academia, the pharmaceutical industry, and the Food and Drug Administration (FDA). Two parallel two-day short courses will be presented November 6–7.

Popular features of BASS XXI are the keynote address on November 4, with reception following, and the November 5 FDA Biometrics session.

BASS is a nonprofit entity established for the purpose of fundraising to support graduate studies in biostatistics. To date, BASS has provided support to more than 50 master’s or doctoral degree graduate students in biostatistics.

For further information, visit www.bassconference.org or contact the BASS registrar at Rewhitworth@gmail.com, Andreas Sashegyi at (317) 532-7414 or aisasheg@lilly.com, or Karl Peace at (912) 681-6980 or peacekarl@frontier.com.

sectionnews

Biometrics

Edited by Feifei Wei, Biometrics Section Publications Officer

The ASA Biometrics Section recently awarded Travis Luox of Saint Louis University (SLU) and Diana Miglioretti of the Radiological Society of North America (RSNA) funding to support career development efforts for assistant professors or associate/full professors interested in moving into a new research area.

An ad hoc committee of Mike Daniels, Yu Shen, and Jianwen Cai read the proposals and chose to fund Luox and Miglioretti for the following opportunities:

Travis Luox: To attend the Johns Hopkins Summer Institute in Mental Health Research. This training will facilitate efficient and productive collaboration with colleagues in the SLU School of Social Work, investigators at Washington University and the St. Louis VA, and other mental health workers in nonacademic settings.

Diana Miglioretti: To fund participation in the 2015 RSNA Clinical Trials Workshop by a biostatistician interested in conducting methodological or collaborative research in radiology/imaging clinical trials. The workshop allows RSNA biostatistics faculty members to mentor and train a biostatistician in the relevant methodology and the art of collaborating with radiologists and imaging specialists.

The section expects to put out a similar call for proposals later this year.

ENAR 2015

It is time to think about invited sessions for ENAR 2015, which will be held March 15–18 in Miami, Florida. Anyone interested in organizing an invited session or who has an idea for one should contact, LiHong Qi, 2015 Biometrics Section representative, at lhqi@ucdavis.edu.

A typical session consists of three 30-minute talks followed by a discussion or four 25-minute talks. It is best to have a well-defined topic and commitments from participants by the deadline of June 15. The more detailed the proposal, the better the chances it will be selected in this competitive process.

JSM 2015

It is also time to start thinking about invited sessions for next year's Joint Statistical Meetings, which will be held August 8–13 in Seattle, Washington. Anyone interested in organizing an invited session or who has an idea for one should contact Rebecca Hubbard, the section's 2015 program chair, at hubbard.r@ghc.org.

A typical invited session consists of three 30-minute talks followed by a 10-minute invited discussion and 10 minutes of floor discussion. However, other formats are possible. The 2014 program is a good source for examples.

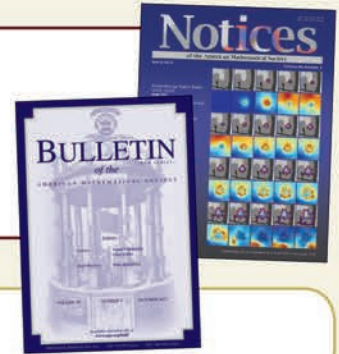
The most mature ideas will have an advantage when competing for the limited number of slots, so it's best to have your ideas in final form by the middle of June. The Biometrics Section will have at least four invited sessions, but if we generate enough good ideas, we will be able to compete for additional slots.

Also, submit ideas for short courses to Andrea Troxel, the section's 2015–2016 Continuing Education chair, at atroxel@mail.med.upenn.edu. ■

DID YOU KNOW?

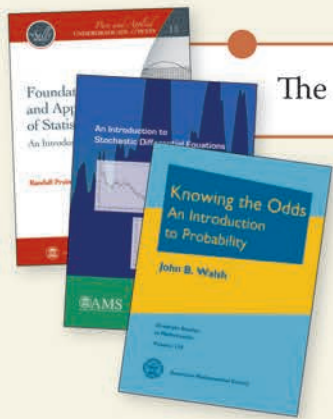


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The AMS Public Awareness Office produces Mathematical Moments posters and podcasts on the role mathematics and statistics play in science, nature, technology, and human culture.



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Stop by the AMS booth at the Joint Statistical Meeting in Boston. Talk to an AMS representative about membership, AMS programs and services, to pick up free posters, and to receive a special exhibits discount on your AMS book purchases. You can also learn about MathSciNet®, an electronic publication offering access to a carefully maintained and easily searchable database of reviews, abstracts, and bibliographic information.

Statistics in Epidemiology

The Statistics in Epidemiology Section will offer a short course on causal mediation analysis taught by Tyler VanderWeele on August 5 from 8:30 a.m. to 5:00 p.m. For registration and pricing, visit www.amstat.org/meetings/jsm/2014/ce.cfm.

The course will cover recent developments in causal mediation analysis and provide practical tools to implement these techniques. Mediation analysis concerns assessing the mechanisms and pathways by which causal effects operate. The course will cover the relationship between traditional methods for mediation in epidemiology and the social sciences and new methods in causal inference. For dichotomous, continuous, and time-to-event outcomes, discussion will be given as to when the standard approaches to mediation analysis are valid. Using ideas from causal inference and natural direct and indirect effects, alternative mediation analysis techniques will be described when the standard approaches will not work. The no-confounding assumptions needed for these techniques will be described. SAS, SPSS, and Stata macros to implement these techniques will be covered and distributed to course participants. The use and implementation of sensitivity analysis techniques to assess how sensitive conclusions are to violations of assumptions will be covered. Discussion will be given to how such mediation analysis approaches can be extended to settings in which data come from a case-control study design. The methods will be illustrated by various applications. Familiarity with linear and logistic regression will be required to fully benefit from the course.

VanderWeele is a professor in the departments of biostatistics and epidemiology at the Harvard School of Public Health. He earned his PhD in 2006 at Harvard and has published more than 140 papers since. His methodological work concerns causal inference from observational data with a focus on methods for mediation, interaction, and spillover effects. He is an expert on mediation analysis and has published numerous papers on the topic and developed software to implement many of the techniques proposed in the literature. He teaches Methods for Mediation and Interaction at the Harvard School of Public Health and has a book, *Explanation in Causal Inference: Methods for Mediation and Interaction*, in press at Oxford University Press. ■

Quality and Productivity

The Quality and Productivity (Q&P) section has put together an exciting program for the Joint Statistical Meetings this year. First, Q&P is co-sponsoring the introductory overview lecture “The Industrial Internet and Cyber-Physical Systems: An Opportunity for Statisticians in the Era of Big Data and Data Science.” The lecture features three speakers from industry, government, and academia: Bill Ruh, vice president of General Electric; Sokwoo Rhee, White House Presidential Innovation Fellow; and Michael Rappa, executive director of the Institute for Advanced Analytics of North Carolina State University.

There is also an invited session, “Bridging the Gap Between Academia and Industry in Quality and Productivity” that will cover collaboration in areas such as field failure prediction for repairable systems, industrial Internet, chemical kinetic models, and statistical guidelines for ship to control.

Other Q&P-sponsored sessions will cover topics in quality control, SPC, reliability, DOE, and more.

Finally, Q&P is sponsoring the following six roundtable events:

Sensitivity Testing: Theory and Practice, led by Barry Neyer of Excelitas Technologies

Pitfalls of Accelerated Testing, led by Brian Weaver and Scott Vander Wiel of Los Alamos National Laboratory

Using Split-Plot Designs for Efficient Experimentation, led by Brooks Henderson of Stat-Ease Inc.

Achieving Process Excellence Using Design of Experiments, led by Daksha Chokshi of Aerojet Rocketdyne

Using Statistical Engineering to Attack Large, Complex, Unstructured Problems, led by Roger Hoerl of Union College

The Use of Bayesian Methods in Reliability Data Analyses and Modeling, led by William Q. Meeker of Iowa State University ■



The ASA Community provides a place for like-minded statisticians to build and engage with their professional network and peers. Get involved and start sharing today!

community.amstat.org

Statistics in Defense and National Security

Shuguang Song, SDNS Publication Officer

The second Conference on Data Analysis (CoDA 2014) was held in Santa Fe, New Mexico, March 5–7, bringing together statisticians and other data-focused researchers from the Department of Energy national laboratories and their collaborators from academia and industry.

As it did for the 2012 CoDA, the Section on Statistics in Defense and National Security (SDNS) provided funding to support a student poster competition. Amanda Ziemann from the Rochester Institute of Technology won first place (\$400) with her poster, “Using Graph Theory Models and Manifold Learning to Analyze Cluttered Hyperspectral Scenes.” Brittany Spencer from Brigham Young University won second place (\$100) with her poster, “A Model for the Classification of Supernovae.” Finally, Brian Zaharatos from the Colorado School of Mines won honorable mention with his poster, “On the Identifiability of the Single Diode Model.” ■

Physical and Engineering Sciences

Tena Katsaounis, The Ohio State University

Whether you are curious about the Section on Physical and Engineering Sciences (SPES) or you are already a member, join us for a roundtable discussion about SPES activities and programs at JSM this August.

SPES members have the opportunity to present their work at conferences sponsored by SPES—including the Joint Statistical Meetings, Joint Research Conference, and Fall Technical Conference—and publish in the proceedings of sponsored conferences. Members also can publish technical or nontechnical articles in the SPES newsletter and SPES columns in *Amstat News*.

In addition, members can participate in focused committees or special interest groups (e.g., Chemometrics Committee) and liaison with other technical societies or journals, as well as participate in the SPES Marquardt Memorial Industrial Speakers Program and other SPES-sponsored programs. Tell us about your interests and find out how you can become an active member of SPES.

For time and place, visit the online program at www.amstat.org/meetings/jsm/2014/onlineprogram. Also, encourage new members or graduate students who are potential members to attend. ■

Survey Research Methods

John Finamore, SRMS Publications Officer

The Survey Research Methods Section (SRMS) will sponsor the following three roundtables at the 2014 Joint Statistical Meetings. Consider signing up for

these options when you register for the conference. Remember, space is limited, so sign up soon.

Valid Analytic Properties and Disclosure Limitation for Microdata

led by William Winkler of the U.S. Census Bureau

There is considerable interest in producing public-use data that allow analyses that reproduce a few analyses from original, confidential microdata. Several methods/tools facilitate the production of synthetic (or partially synthetic) data with valid analytic properties that allow provision of public-use data with reduced re-identification risk.

Practical Tools for Designing and Weighting Survey Samples

led by Jill Dever of RTI International

Survey sampling is fundamentally an applied field. During this roundtable, we will discuss techniques long used by experienced survey statisticians with little or no references in the literature. Although we will use the textbook *Practical Tools for Designing and Weighting Survey Samples* by Richard Valliant, Jill Dever, and Frauke Kreuter as the basis for discussion, participants are encouraged to share their experiences. This roundtable will benefit students seeking a more in-depth understanding of applied sampling, survey statisticians searching for practical guidance on sampling and weighting, and other survey practitioners who desire insight into the design and implementation of survey samples.

Analyzing Survey Nonresponse

led by Polly Phipps of the Bureau of Labor Statistics

Survey nonresponse and associated risks of non-response bias are major concerns for government agencies and other organizations conducting surveys to produce statistics. At the time of data collection, respondents may choose to decline survey participation (unit nonresponse) or participate selectively by responding to certain data items and not others (item nonresponse). This type of analysis often requires modeling the probability that a given unit will respond to the survey based on known unit characteristics. Often, the choice model method and the intended use of the model are quite different in this context than when adjusting estimates for non-response. We will discuss methods for modeling and identifying unit characteristics associated with nonresponse. We will emphasize methods designed to help understanding the effect these unit characteristics have on the response rate throughout the data collection process.

For more information about these roundtables, visit the JSM 2014 online program at www.amstat.org/meetings/jsm/2014/onlineprogram and search on SRMS-sponsored events. ■

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Florida

■ The department of statistics at the University of Central Florida invites applications for a nine-month, non-tenure earning visiting assistant professor, beginning 8/8/2014. A PhD in statistics or a closely related field from a regionally accredited institution by the start of the appointment period is required. Preference will be given to those with expertise in data mining and Big Data analytics. See www.jobswithucf.com/postings/37698 for application instructions. The University of Central Florida is an equal opportunity, equal access, and affirmative action employer.

Maryland

■ Seeking PhD/experienced master's statisticians for Center for Devices and Radiological Health, FDA, HHS in Silver Spring, MD. Grapple with rich array of statistical issues in clinical trials for new technologies, from LASIK and artificial hearts to genetic tests and robotic surgery. Review statistical design/analysis issues in medical devices from invention to postmarket. Email CV to Greg Campbell, greg.campbell@fda.hhs.gov. Identify residency/visa status in application. www.fda.gov/cdrh/index.html. FDA is a smoke-free environment and an Equal Opportunity Employer.

Missouri

■ The mathematics department of Washington University in St. Louis, MO, is seeking to fill a postdoctoral teaching fellow position for the 2014–2015 academic year, beginning August 2014, with the possibility of a second year renewal. Responsibilities include teaching three one-semester courses per year. Applicants must have a PhD in statistics, biostatistics, probability, or a related field. For more information, visit <http://wumath.wustl.edu/node/538>. 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.

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Survey Sampling Statistician

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Our company was founded in 1961 by three statisticians. The current staff of more than 2,000 includes over 60 statisticians, as well as research, technical, and administrative staff. In addition, our professional staff is supported by data collection and processing personnel situated locally and in field sites around the country. The work atmosphere is open, progressive, and highly conducive to professional growth.

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Survey Sampling Statistician

Responsibilities include: developing sample designs (determining stratification and allocation to strata; determine sample size based on differences and power; determine optimal clustering; and select sample); selecting and/or constructing appropriate sample frame; developing and documenting weighting plan which includes non-response adjustment and bench-marking; developing and conducting imputation for item nonresponse and estimating sampling errors using appropriate software; writing specifications for programmers; and preparing reports on sample design, weighting procedures and other methodological issues. Candidates would benefit from knowing SAS and other statistical software packages; although candidates are not required to do programming. A master's or doctoral degree in statistics is required with 3 or more years of relevant experience. Coursework in sample survey design is highly desirable.

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North Carolina

■ The department of biostatistical sciences, Wake Forest School of Medicine, Winston-Salem, NC, is recruiting a senior faculty or senior staff to help lead a newly forming academic research organization (ARO). Experience with the design and analysis of industry-sponsored clinical trials is required. Regulatory submission experience is preferred. MS/PhD required. Contact Ralph D'Agostino Jr. c/o Monica Kiger, mkiger@wakehealth.edu, or apply at www.wakehealth.edu/HR/Faculty/Current-Opportunities.htm. Affirmative Action/Equal Opportunity Employer.

Ohio

■ The departments of biostatistics/epidemiology and urology of CWRU are recruiting junior scientists with a PhD in biostatistics to work under their joint mentorship on an NIH institutional training grant (T-32). Applicants must be U.S. citizens or permanent residents. Competitive salary and benefits with the potential for recruitment after completion of the fellowship will be offered. Contact Laurel Jeffers at laj17@case.edu or (216) 844-1451. EOE.

■ Statistical programmers (two openings) needed in Cleveland, OH, for the statistical analysis, data management, and presentation of data as part of a clinical research team. MS + 1 yr. exp. with statistical analysis using SAS & S-PLUS (or R). Mail resumes to Miriam Dybiec, Lerner Research Institute, Cleveland Clinic, 9500 Euclid Ave., ND46, Cleveland, OH 44195. No calls. EOE. (Principals only). EOE.

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Texas

■ Southwest Research Institute is seeking an applied statistician to provide analytical support in solving real-world problems found in R&D environments associated primarily with the physical and engineering sciences. Skills will include design of experiments, development and implementation of data analysis approaches, and statistical analysis of data. Requires an MS or PhD degree in statistics. For more information, view job code 08-00961 at www.swri.org/HR/ViewPosition.asp?JobID=3145&Type=Exempt. An Equal Opportunity/Affirmative Action Employer Minority/Female/Disabled/Veteran Committed to Diversity in the Workplace.



THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (HKUST)

Faculty Position in Engineering Statistics and Analytics

The Department of Industrial Engineering and Logistics Management at HKUST invites applications for tenure-track junior faculty position, with emphasis on Engineering Statistics and Data Analytics. We are seeking candidates with strong methodology background in Statistics and an interest in interdisciplinary research. Applicants should have a PhD degree in a related discipline, and demonstrate potential for excellence in both teaching and research.

HKUST is ranked first in Asia by QS World University Rankings three years in a row and its Engineering School has also been ranked among the world's top 25 since 2004. The Department has attained international recognition and we have a strong group of researchers in two main areas, Design and Manufacturing (including Design, Quality and Ergonomics), and Logistics Management (including Operations Research, Operations Management and Financial Engineering). Located in the gateway to China and the most dynamic logistics hub of Asia, the Department is expected to experience rapid growth in the near future.

Salary is competitive and will be commensurate with qualifications and experience. Fringe benefits include annual leave, medical/dental benefits. Housing benefits will be provided where applicable.

Applications with a full CV, statement of research and teaching, transcript, and names of three referees, should be directed to the Faculty Search Committee by email to ielm@ust.hk. More information about the Department can be found at <http://www.ielm.ust.hk>.

Tenure Track Faculty Position School of Public Health and Health Professions

We seek to hire an outstanding scientist whose research includes a focus on methods in population science for a tenure track position at the rank of Assistant Professor. Depending on the candidate's expertise and fit, the selected faculty member will join either the Department of Biostatistics or the Department of Epidemiology and Environmental Health (formerly Department of Social and Preventive Medicine).

Candidates should have doctoral level training (Ph.D., M.D. or equivalent) in epidemiology, biostatistics or a related field with a strong record of research including a focus on design, analysis or methodological development of observational epidemiologic studies, and should have strong communication skills. Candidates with formal training and/or experience in both epidemiology and biostatistics are preferred. Evaluation of candidates will be based on research productivity, potential for development of an independent research program and capability of teaching in biostatistics and epidemiologic methods. Preference will be given to candidates with experience and/or a strong interest in interdisciplinary research. The successful candidate will be expected to develop an extramurally funded, independent research program, teach graduate-level courses, mentor graduate students, develop interdisciplinary collaborations and engage in service activities. The position offers outstanding institutional support and opportunities for collaboration.

The Departments of Biostatistics and of Epidemiology and Environmental Health work closely together as part of the School of Public Health and Health Professions (SPHHP), a fully accredited school of public health (CEPH). Other departments in the school include Community Health and Health Behavior, Exercise and Nutritional Sciences, and Rehabilitation Science. The University at Buffalo, dedicated to academic excellence, is a member of the prestigious Association of American Universities (AAU) and is the leading public research university in New York State, offering more than 300 undergraduate and graduate degree programs. Buffalo provides a rich environment for collaborative research with faculty at the SPHHP and at other schools of the Academic Health Center (Medicine and Biomedical Sciences, Dental Medicine, Pharmacy and Nursing), as well as Roswell Park Cancer Institute, The New York Center of Excellence in Bioinformatics and Life Sciences and the UB Clinical and Translational Research Center. Buffalo was recently named by CNBC as one of the best cities in the U.S. to relocate to; for more information about the city and the region, please see <http://sphhp.buffalo.edu/home/about-us/the-buffalo-niagara-region.html>.

For more information about the Department of Epidemiology and Environmental Health, see <http://sphhp.buffalo.edu/social-and-preventive-medicine.html> and for the Department of Biostatistics, see <http://sphhp.buffalo.edu/biostatistics.html>. For more information about the position, please contact search committee chairs: Dr. Jo Freudenheim, Department of Epidemiology and Environmental Health, jfreuden@buffalo.edu, (716) 829-5375 or Dr. Jeffrey Miecznikowski, Department of Biostatistics, jcm38@buffalo.edu, (716) 881-8953.

To apply, please send a letter of application, curriculum vitae, a list of three references and a statement describing research and teaching experience and interests to UB Jobs. Review of applications will begin immediately; applications will be received until the position is filled.

Please apply to: www.ubjobs.buffalo.edu, POSTING NUMBER 1400063

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USF UNIVERSITY OF SOUTH FLORIDA PEDIATRIC EPIDEMIOLOGY CENTER

The Pediatric Epidemiology Center at the University of South Florida is seeking an **Associate or Full Professor in Biostatistics** to fill a non-tenure earning position as a **Senior Biostatistician/ Faculty Leader**. The Center is NIH funded as a data coordinating center for several large clinical networks and actively participates in the design and conduct of epidemiological studies and clinical trials.

This position will conduct collaborative research and provide active support for ongoing Center activities. Opportunities exist for collaborations in NIH funded research in cancer symptom management and quality of life studies, type 1 diabetes prevention, and rare diseases. The Center is seeking candidates with expertise in clinical trials; however other areas of statistical application are sought after as well. Opportunities exist for teaching and graduate student mentoring, if desired.

The level of appointment will be commensurate with qualifications and experience and salary will be based upon the University of South Florida pay scale. *The incumbent has the potential to be appointed as Associate Director of the Center and become the Principal Investigator on one or more studies.* The incumbent must be a U.S. citizen or permanent resident.

Qualifications: The successful candidate is expected to have demonstrated productivity and leadership in their chosen field, and to complement existing strengths in the Center, which include epidemiology, biostatistics, clinical genetics, statistical genetics and bioinformatics. All candidates must have earned a Ph.D. degree, and have demonstrated excellence and creativity in research.

How to Apply: Applicants should send a letter of application, curriculum vitae, and a statement of interest as pdf files to Tara.Thornton@epi.usf.edu. Candidates should also arrange for three letters of recommendation to be sent directly to the above email address. Applicants are encouraged to submit their materials as soon as possible.

About the Pediatric Epidemiology Center: The Pediatric Epidemiology Center is comprised of a diverse team of 25 faculty and more than 100 staff with expertise in biostatistics, epidemiology, health informatics, computer science, genetics, nutrition, psychology, pediatrics, public health, clinical trials, and health services research. With funding from the National Institutes of Health, Department of Defense, and other sources, the Center provides the technical means to facilitate interaction and contributions in knowledge among physicians and patients throughout the U.S. and international communities. By strengthening this vital network, we can work to improve research on many different types of diseases. For more information, please visit <http://health.usf.edu/medicine/pediatrics/epidemiology/index.htm>.



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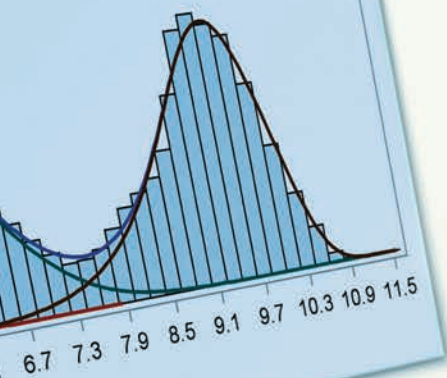
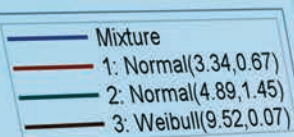
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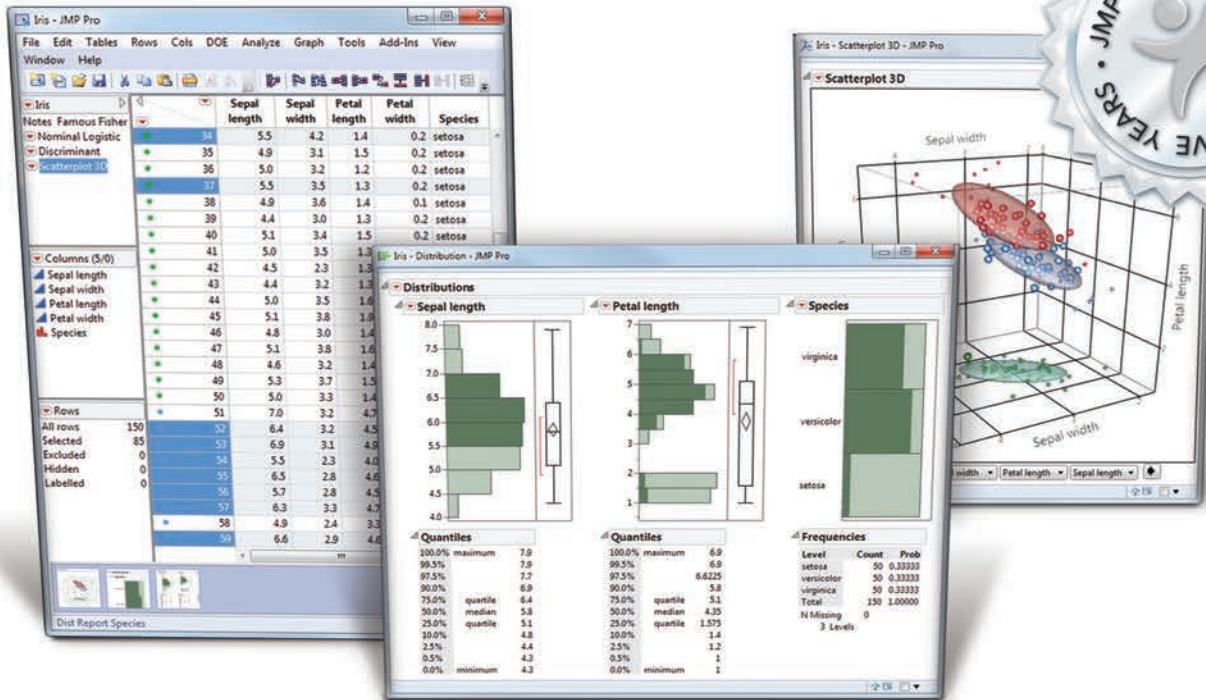
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