June 2014 • Issue #444

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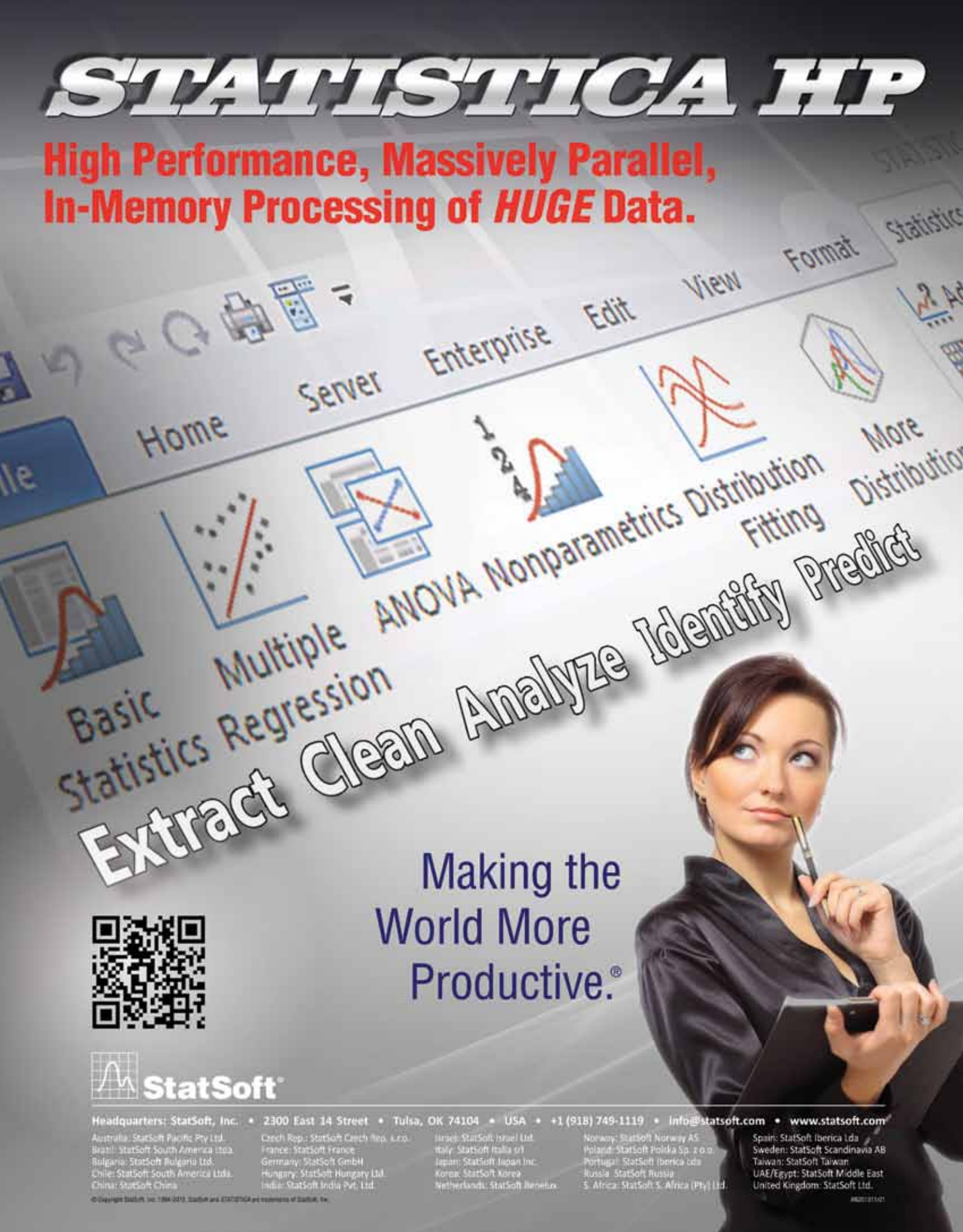

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The American Statistical Association is the world's largest community of statisticians. The ASA supports excellence in the development, application, and dissemination of statistical science through meetings, publications, membership services, education, 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.

features

columns

This column is written for statisticians with master's degrees and highlights areas of employment that will benefit statisticians at the master's level. Comments and suggestions should be sent to Megan Murphy, *Amstat News* managing editor, at *megan@amstat.org*.

Carzolio

Contributing Editor

Marcos Carzolio is a third-year PhD student in the Virginia Tech Department of Statistics. In his time as an associate and lead collaborator at the Laboratory for Interdisciplinary Statistical Analysis, he has worked on 44 projects with university researchers, including faculty and other graduate students. Last summer, Carzolio spent three months collecting, cleaning, and analyzing data on more than 1,800 households in a rural northeastern province of Mozambique.

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

De Veaux

Contributing Editor

Richard (Dick) De Veaux is C. Carlisle and Margaret Tippet Professor of Statistics at Williams College. He holds degrees in civil engineering (BSE, Princeton), mathematics (AB, Princeton), dance education (MA, Stanford), and statistics (PhD, Stanford). While at Stanford, he studied statistics with Persi Diaconis and dance with Inga Weiss.

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. The ASA booth, Discovery Through Statistics, at the U.S. Science and Engineering Festival provided information for festival attendees. Which one of the following did the ASA provide at the event?

A. The Statistical Significance series
B. *CHANCE* magazine
C. ASA membership brochure
D. Conference on Statistical Practice flier

2. There are several papers in the May issue of *Technometrics*, but one is on climate forecasting. The authors of "Spatio-Temporal Data Fusion for Very Large Remote Sensing Datasets" are:

A. Kalliopi Mylona, Peter Goos, and Bradley Jones
B. Marian Farah and Athanasios Kottas
C. Chiwoo Park and Troy Miller
D. Hai Nguyen, Matthias Katzfuss, Noel Cressie, and Amy Braverman

3. DataFest, led by Robert Gould, is a friendly competition where teams of up to five college students work to extract insights from a large and rich data set.

True
False

This quarter's winner will be announced in the August issue.

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columns

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.

Chuang-Stein

Contributing Editor

Christy Chuang-Stein is the chair of the 175th Anniversary Steering Committee and head of the Statistical Research and Consulting Center at Pfizer. She served as an ASA vice president from 2009–2011.

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departments

member news

Launching a Public Relations Campaign for Statistics: What Better Time Than the ASA's 175th Anniversary?

In this, the ASA's 175th year, your association will launch a campaign to elevate public and media awareness of statistical science and change the public's perception of statisticians by educating them about the many ways we help solve policy, research, business, and other problems.

This public relations campaign is managed by a work group comprised of several members of the ASA Board of Directors. Mary Kwasny, the board's second-year Council of Chapters representative, is the group's chair. Other members are Janet Buckingham, Dick De Veaux, Nick Horton, and Jeri Mulrow.

I recently sat down with Mary to get an update on this exciting campaign, which ties into the anniversary theme: "Celebrate Our Past, Energize Our Future." Our conversation follows.

Schenker: What is the purpose of the ASA's new public relations campaign?

Kwasny: The primary objective of the campaign, the association's first of this type, is to encourage high-school and undergraduate students to study statistics, or even major in it, in college. Its secondary objectives are to promote the importance of statistical literacy and to raise the media's awareness of the importance of statistics and statisticians and the role of the ASA.

Not coincidentally, each of these objectives corresponds with key components of the ASA's strategic plan (see "Increasing the Visibility of the Profession").

Schenker: How was this strategy determined?

Kwasny: The selection of the campaign theme was made by the ASA Board of Directors. Key staff—Executive Director Ron Wasserstein, Director of Science Policy Steve Pierson and Public Relations Coordinator Jeff Myers—presented several potential themes to the board at its summer meeting last year. Following a great discussion, board members decided a campaign focused primarily on students and career opportunities in statistics was perfectly timed. Our public relations consultancy has reaffirmed the viability of this student-focused theme.

Schenker: Why the focus on students? Who else will the campaign reach?

Kwasny: We all know demand for statisticians has grown and continues to grow. Currently, we are not training enough new statisticians to meet this demand. Sadly, most students don't think about statistics as a career choice. I didn't at that age, and now when I speak at career days, most students are surprised statistics offers so much opportunity. To make matters worse, many parents and other influencers hold misperceptions of the statistical profession, and such bias can affect a student's college decision. We will change this dynamic by communicating that careers in statistics are interesting, rewarding, and fun. We will communicate directly with students and those who influence their college major decisions, including their parents, high-school

Nathaniel Schenker

Mary Kwasny

and college statistics instructors, high-school counselors, and college career-counselors.

Even among students who decide to major in another subject, our campaign will impress upon them the importance of statistical literacy, especially since nearly every discipline is using data to solve problems.

Last, the media will carry our campaign's messages to our audiences and simultaneously learn about statisticians and the ASA. It is critical for reporters to understand how to identify good data, interpret statistical results, and accurately report statistical information. We want journalists to know it is easy to incorrectly report statistical information or receive biased statistics. We also want them to know how to find ASA experts who are available to provide impartial guidance on a wide range of topics.

Schenker: Why now?

Kwasny: Why not! It is either purely coincidental or predestined that the year of the ASA's 175th anniversary is ripe for educating students about the plentiful, well-paying, and personally rewarding careers available in statistical science. This campaign will energize our future. After all, students and their parents are anxious about making the right choice for a college major and career. By trumpeting the fact that there is huge demand for statisticians in the job market, we can help statistical science become a more attractive career choice for students. In essence, we're striking while the proverbial iron is hot!

Schenker: Is the ASA developing and managing this campaign on its own?

Kwasny: No. We distributed a request for proposals to numerous DC-area public relations firms and ultimately selected Stanton Communications, an award-winning firm, to help us develop and implement this campaign. We are excited about this relationship because Stanton has considerable experience in education and nonprofits—both of which are important to the success of the ASA campaign. And, their representatives' expertise in these areas came to the fore as we developed the overarching campaign plan.

Schenker: What primary messages will be communicated to the audiences?

Kwasny: Stanton and the ASA have developed four core messages for the campaign that will drive messaging in all communications resources developed for the campaign. Those are:

1. "Statistics is not what you think it is," which challenges the misperceptions our audiences have about statistics.
2. "The field of statistics is broader and deeper than you imagine," which introduces the diversity of our profession.
3. "Few career paths are as promising as those in the field of statistics," which testifies to the rising demand for statisticians.
4. "Statistical literacy is critical to everyday life," which relates the rising importance of being statistically savvy in one's personal and professional life.

Each of the core messages is complemented by sub-messages that will appeal to each audience segment.

Schenker: Who will be the face of the campaign?

Kwasny: Just like statistics, the campaign will have multiple faces. We are developing profiles of young statisticians in "cool" positions with whom our primary audience—high-school and undergraduate students—can better relate. Their stories, enthusiasm, and excitement for our profession will have a positive impact on students and persuade many to explore the exciting career opportunities that await them in statistics.

Schenker: When will we launch the campaign?

Kwasny: In early August, so we can tap into the back-to-school focus.

Schenker: How will the campaign connect with its intended audiences?

Kwasny: The campaign's communications centerpiece will be a website that will serve as an informational clearinghouse. All communications materials will link readers to this website, where they will find in-depth information about statistics career

options as well as videos, the earlier-mentioned statistician profiles, and more. We will use a range of communications tools to connect our audiences with our messages and the website. Since our primary audience is students, we will use social media to convey the benefits of a career in statistics. We also will pitch statistics career stories to main-stream media outlets, partner with relevant organizations such as associations for high-school guidance counselors, and even advertise in select publications that cater to our audiences.

Schenker: Is this a single-year undertaking?

Kwasny: In a word, no. To be successful in attaining our goals, it will be an ongoing, sustainable campaign supported by the ASA. It likely will take several years to reverse the public image of statistics and statisticians. So, this campaign is a long-term investment in raising the visibility of our profession with students, the public, and the media. Our preliminary plan for next year is to develop an implementation kit for ASA chapters that want to promote statistics and their members in their local areas. That's a point when direct member involvement in the campaign will be required.

As your president, I am excited about the direction the association is taking with this campaign, especially as we celebrate the ASA's 175th anniversary. The ASA Board of Directors' decision a couple of years back to improve the association's public profile is starting to take root. This campaign will help enhance our profession's image and make statistics an appealing career choice. I encourage all ASA members to check out the campaign by visiting its website when it is launched in August. The launch and other campaign updates will be announced on the ASA website.

We welcome your comments and suggestions. Please share your feedback by emailing Jeff Myers at *jeffrey@amstat.org*.

Editor's Note: Jeff Myers contributed to this column.

This month in ASA's history... JUNE

1941

R. A. Fisher, Galton Professor at University College, University of London, accepted an offer to be visiting professor of experimental statistics at North Carolina State College from June 16 to July 25, 1941. Gertrude Cox, head of the department, also invited several other leaders in various fields of applied statistics to come to the college that summer and assist in conducting special courses and conferences.

1941

On June 19, 1941, the ASA board decided that all members of the association in good standing who were noncommissioned members of the armed forces should be maintained without payment of dues for that year. This step was taken to relieve the younger members of the profession, while in their country's service, of the financial strain of membership while permitting them to maintain their membership.

2001

A special scientific meeting was held to celebrate the career and professional accomplishments of Samuel Greenhouse at the Lister Hill Conference Center, National Institutes of Health.

2002

On June 13, 2002, C. R. Rao received the National Medal of Science. Established by Congress in 1959, the National Medal of Science honors individuals for pioneering scientific research that has enhanced our basic understanding of life and the world around us. Several other ASA members—including John Tukey (1973), Brad Efron (2007), and S. R. Srinivasa Varadhan (2011)—also have been honored with the medal.

2006

The ASA moved from Duke Street to Washington Street in Alexandria, Virginia. "The new headquarters, with facilities to more adequately meet the association's current and future needs, will be greatly appreciated by members and staff for many years to come," said Ray Waller, past ASA executive director.

Famous June Birthdays

Aleksandr Mikhailovich Lyapunov, John Tukey, Samuel S. Wilks, Waloddi Weibull, Raj Chandra Bose, P. C. Mahalanobis

Highlights of the April 2014 ASA Board of Directors Meeting

ASA President Nathaniel Schenker led the board through a full agenda during its first meeting of the 175th anniversary year of our association April 4–5 at the ASA office in Alexandria, Virginia. Here are the highlights of the meeting:

- Three new journal editors were appointed for the period 2015–2017:
  - Nicole Lazar, University of Georgia, *The American Statistician*
  - Mark Glickman, Center for Healthcare Organization and Implementation Research, *Journal of Quantitative Analysis in Sports*
  - Daniel McCaffrey, Educational Testing Service, and Li Cai, University of California, Los Angeles, *Journal of Educational and Behavioral Statistics* (jointly appointed by the American Educational Research Association (AERA))

- The board approved the "ASA Statement on Using Value-Added Models for Educational Assessment." See *www.amstat.org/policy/pdfs/ASA_VAM_Statement.pdf*. Details may be found at *http://bit.ly/Qen90q*.

- Steve Pierson, ASA director of science policy, updated the board on legislation regarding science and statistical agency budgets and other legislative items his office is tracking, the status of the Statistical Science at NSF (StatsNSF) Committee, and activities of the ASA's ad hoc Forensic Science Advisory Committee.

- The representatives of the Council of Chapters Governing Board and the Council of Sections Governing Board reported on activities and interests of the chapters and sections. Noteworthy items include the formation of a new interest group on astrostatistics, a proposal for the formation of a Section on Genomics and Genetics, plans to expand the "traveling course," and providing additional funds for prizes in statistics at the International Science and Engineering Fair.

- The board heard the plans developed by staff and a board subcommittee in conjunction with Stanton Communications, a national public relations firm, to launch a national campaign to inform and encourage high-school and undergraduate students regarding careers in statistics. More information about this is found in this month's President's Corner on Page 3.

- The board also heard recommendations from Campbell and Company, a national firm providing consulting on fundraising, about how to enhance the ASA's fundraising/development capacity. The board will receive and act on further recommendations from ASA staff later this year.

- The board received updates from chairs of three workgroups leading Schenker's strategic initiatives. The groups (chairs in parentheses) are:
  - Statistical Leadership (Janet Buckingham)
  - Statistics Portal (to be called Statistical Commons) (David Banks)
  - Undergraduate Curriculum (Nick Horton)

Each group reported making good progress. All have had several meetings, have work product at the appropriate stage of completion, and are on track to deliver their intended outcomes during 2014.

- President-elect David Morganstein introduced four strategic initiatives he is considering for 2014 and received feedback from the board. The collection of feedback is in accordance with the strategic planning cycle and gives the staff and Morganstein time to consider any financial needs that may be connected with initiatives. Morganstein emphasized how important this feedback would be to make sure his thinking aligns with that of the board, the strategic plan, and the board's understanding of members' needs.

- ASA Vice President Jim Rosenberger, chair of the Membership Council, and Holly Shulman, vice chair of the Membership Council, reported on the activities of the committees that comprise the council. They reported the major accomplishments for

each committee, compared them to the planned activities reported last year, and looked ahead to activities for 2014. Schenker emphasized that these reports are important for keeping the board in touch with its committees and that equally important is the work the Membership Council does to keep its committees in touch with the board.

- Morganstein updated the board on the new process for making appointments to ASA committees. Prior to this year, ASA presidents-elect had 150+ appointments to make single-handedly. This was problematic enough, but under the strategic plan beginning in 2009, the president-elect also must be developing strategic initiatives at the same time. The appointment process has been reorganized to delegate many of the appointments to committee council chairs, vice chairs, and a few others, including the executive director. An emphasis has been placed on ensuring the diversity of the appointments. Data has been collected and is being continually updated to track our progress in this regard.

- Lynn Palmer, ASA director of programs, updated the board on the data science initiative launched in 2013 by the three presidents at that time: Schenker, Marie Davidian, and Bob Rodriguez. A series of meetings is being held with leaders to help the ASA better understand the needs of industries working with very large data sets, particularly to help in evaluating curricular guidelines for statistics majors in light of "Big Data" and "data science" so that students are well prepared to enter the work force. We also want to learn about the work force needs of these industries. Davidian reported that a workgroup on enhancing the PhD curriculum to provide students the needed skills in the age of Big Data is being chaired by Bill Cleveland. The group's report will be ready prior to JSM and a panel discussion on this topic is scheduled for Monday morning of JSM.

- Rob Santos, president of the American Association of Public Opinion Research (AAPOR), reported to the board about some of this association's activities. He described the association and its fundamental activities, emphasizing the diverse makeup of the membership. He noted the numerous collaborations between the ASA and AAPOR and said AAPOR is eager to promote further collaboration. Santos offered an open invitation to the ASA to work together more on conferences, educational activities, and other ventures.

2014 ASA Board of Directors

Nathaniel Schenker, President

David Morganstein, President-elect

Marie Davidian, Past President

Martha Gardner, Third-Year Vice President (replacing Morganstein)

Jim Rosenberger, Second-Year Vice President

Jeri Mulrow, First-Year Vice President

David Banks, Publications Representative

Ming-Yen Cheng, International Representative

Nick Horton, Third-Year Council of Chapters Representative

Mary Kwasny, Second-Year Council of Chapters Representative

Dan Jeske, First-Year Council of Chapters Representative

Janet Buckingham, Third-Year Council of Sections Representative

Dick De Veaux, Second-Year Council of Sections Representative

Cyndy Long, First-Year Council of Sections Representative

Mingxiu Hu, Treasurer

Ron Wasserstein, Executive Director

- As is the case at every spring meeting, the board addressed several financial matters.

  – ASA Treasurer Mingxiu Hu reported to the board, as the treasurer does at every meeting. He noted that the ASA's investments are doing very well. Market value of our portfolio (at the time of the meeting) was $15.4 million, due both to a strong market and to the $2.5 million net contributions to the portfolio in the past three years. He reminded the board about the policy under which the ASA invests its funds.

  – Associate Executive Director and Director of Operations Steve Porzio, the ASA's chief financial officer, presented the ASA's financial summary from 2013, noting we had a net operating income of $991,000 that further strengthened our reserves and will aid our ability to weather

a downturn. Importantly, our fund balance also provides the board with flexibility when considering the funding of new or expanded programs.

– The board received the audit of the ASA's 2013 fiscal year. The board thanked Porzio and his staff for another excellent job as reflected by the clean audit. As always, the ASA's audit is published in this issue (see Page 13).

– Journal subscription rates for 2015 were set by the board.

– Vice President James Rosenberger led the board's review of five proposals submitted for funding through the Member Initiative program. All five proposals were funded.

• The board heard and approved a proposal by the organizers of DataFest to make the ASA the national headquarters for this undergraduate Big Data competition (see Page 17).

• The board also heard and approved a proposal to form student chapters of the ASA. These would be autonomous campus-based organizations that would, by adhering to a small set of rules, have the right to be known as ASA student chapters. Student chapters are not specifically related to the ASA's chapters, but connections between regular chapters and student chapters will be valuable for both groups. The concept is being tested immediately on a couple of campuses. Details will be forthcoming.

• Palmer updated the board on the ASA's efforts in the area of professional development, including recommendations from the Task Force on Continuing Professional Development, the ASA's newly formed Personal Skills Development program, and changes made by the Advisory Committee on Continuing Education regarding Computer Technology Workshops at JSM.

• The board considered whether a statement on appropriate use of, and problems with, the *p*-value would be worthwhile and what the audience for and intentions of such a statement could be. The board will engage in a discussion with some of the experts on this subject to find out if they think an ASA action would be helpful and if they would be willing to participate.

The board next meets on June 20 at the ASA office for its annual budget meeting. ■

WSS Assists with Poster Competition, Festival Booth

Carol Joyce Blumberg and Rebecca Nichols

Washington Statistical Society (WSS) members recently did the preliminary judging for those posters submitted for the national Poster Competition (*www.amstat.org/education/posterprojects*) from students residing in areas without a regional competition. In addition, they separately judged posters entered into the Washington, DC, metropolitan area competition.

The judging was coordinated by Barnali Das of Westat with assistance from Marilyn Schenk of Westat and Rebecca Nichols, ASA director of education. The judges were divided into two teams. The first team of Lin Li of Westat, Tiandong Li of Westat, Bruce Murrie of the U.S. Department of Education (retired), Vimal V. Rao of the U.S. Department of Health & Human Services, John Scott of the U.S. Food and Drug Administration, and Richard Sigman of Westat judged the posters at the grades 10–12 level. The other team of Carol Joyce Blumberg of the U.S. Energy Information Administration (retired), Dhuly Chowdhury of RTI International, Brenda K. Edwards of the National Cancer Institute, Gloria Gridley of the National Cancer Institute (retired), and Mark Otto of the U.S. Fish and Wildlife Service judged the projects entered at the K–3, 4–6, and 7–9 levels. The winning entries from each grade level from each competition were forwarded to the national competition.

U.S. Science and Engineering Festival

The ASA booth, Discovery Through Statistics, was one of more than 3,000 exhibits at the biennial U.S. Science and Engineering Festival (*www.usasciencefestival.org*) that was attended by approximately 100,000 people from April 25–27. In addition to the activities described below, the booth had information about K–12 projects and resources (*www.amstat.org/education/pdfs/EducationResources*.pdf), careers in statistics (*www.amstat.org/careers*), Census at School (*www.amstat.org/censusatschool*), and the Statistical Significance series (*www.amstat.org/policy/statsig*) that describes contributions statisticians make to society.

Activities

The first two activities were variations on the winning entries from the ASA 2010 Hands-On Statistics Activity Competition. The third activity was based on the world-wide effort called Census at School. The three activities focused on different aspects of data collection using proper techniques and on graphical methods used to display results.

Parachute Drop: Visitors to the booth dropped parachutes with canopies made from four types of materials. For each drop, they measured the time to reach the ground. They then put stickers on separate dotplots for the recorded flight time for each type of parachute. They also were able to decide which parachute was longest flying based on the dotplots.

Zhen Zhang demonstrates the capture-recapture activity with students visiting the ASA booth at the U.S. Science & Engineering Festival.

Capture-Recapture: Visitors estimated the number of fish in a pond, where a big bowl of beads represented the pond. Certain colors of beads represented the captured/tagged fish and other colors of beads represented the non-tagged fish. Each visitor blindly drew 25 beads from one of the ponds and recorded the number of tagged fish. They then computed the estimated number of total fish based on their sample. They were then able to compare their estimates to those computed by other visitors. In addition, the U.S. Fish and Wildlife Service provided displays showing typical types of markers used to tag fish and other animals.

Census at School: Census at School is an international classroom project that engages students in grades 4–12 in statistical problemsolving using their own real data. One of the major activities of Census at School is to have students complete a brief online survey, analyze their class results, and compare their class with random samples of students in the United States and other countries. For the Science & Engineering Festival, four of the questions were used: gender, age, hours of sleep per night on a school night, and which superpower (invisibility, telepathy, freeze time, super strength, or flying) they would like to have. The visitors to the booth then put stickers (different colors for female and male) on a scatterplot of age versus hours of sleep and on a histogram of superpowers. It was most interesting that the proportions choosing the different superpowers showed a different pattern for females and males based on a sample of more than 200 visitors to the booth.

ASA member Carol Joyce Blumberg and Nichols coordinated the booth, while WSS and the DC chapter of the American Association for Public Opinion Research (DC-AAPOR) provided volunteers to run the activities and assist with questions from visitors. Volunteers included Lin Li of Westat, Bruce Murrie of the U.S. Department of Education (retired), Mark Otto of the U.S. Fish and Wildlife Service, John Scott of the U.S. Food and Drug Administration, Franca Benedicty Barton of The EMMES Corp., Cha-Chi Fan of the U.S. Census Bureau, Walter Hill of St. Mary's College, Ruth Hummel of the U.S. Environmental Protection Agency, Beth Johnson of George Mason University, Jurate Landwehr of The Sumanim Group, Ruey-Pyng Lu of the U.S. Energy Information Administration, Keshia-Lee Martin of American University (student), Mike Messner of the U.S. Environmental Protection Agency, Chris Moriarity of the National Center for Health Statistics, Martha Dusenberry Pohl of the U.S. Department of Justice (retired), Junshan Qiu of the U.S. Food and Drug Administration, Maria E. Ramos of Bisamer LLC, Marilyn Seastrom of the National Center for Education Statistics, Brian W. Sloboda of the U.S. Department of Labor, Zhiwei Tan of the University of Maryland (student), Lorie Wijntjes of PWC, and Zhen Zhang of Abbott Laboratories.

For further information about ASA educational projects and resources, contact Nichols at *rebecca@amstat.org*. ■

TECHNOMETRICS HIGHLIGHTS

Bayesian Approaches for Modeling Computer Experiments Featured in May Issue

Peihua Qiu, *Technometrics* Editor

Modeling data from blocked and split-plot response surface experiments requires the use of generalized least squares and the estimation of two variance components. Existing literature on the optimal design of blocked and split-plot response surface experiments focuses entirely on the estimation of the fixed factor effects. In the paper titled "Optimal Design of Blocked and Split-Plot Experiments for Fixed Effects and Variance Component Estimation," **Kalliopi Mylona**, **Peter Goos**, and **Bradley Jones** introduce a new Bayesian optimal design criterion that focuses on both the fixed effects and the variance components. By incorporating prior information about the variance components through a log-normal or beta prior distribution, the resulting designs allow for a more powerful statistical inference than traditional optimal designs.

Using numerical simulations to model the behavior of large-scale complex systems is common in many fields of science and technology. Although flexible, the simulations at high resolution can be time consuming and expensive. One example is computational fluid dynamics (CFD)–based simulations of a post-combustion carbon capture unit. For such large-scale systems, each simulation may take several days, or even weeks, to run. Thus, time-efficient surrogate models derived from a finite number of simulations need to be developed. In the paper titled "Bayesian Treed Multivariate Gaussian Process with Adaptive Design: Application to a Carbon Capture Unit," **Bledar Konomi**, **Georgios Karagiannis**, **Avik Sarkar**, **Xin Sun**, and **Guang Lin** develop a novel Bayesian treed multivariate Gaussian process (BTMGP) to model the uncertainty of multivariate and nonstationary computer experiment output and implement the computation using Markov chain Monte Carlo (MCMC) techniques. They also apply the proposed method to model the multiphase flow in a full-scale regenerator of a carbon capture unit.

Complex process models have been widely used in science and engineering to understand underlying processes in various systems and make predictions about their future behavior. These mathematical models implemented in computer code are referred to as a simulator. In many cases, the simulator inputs are not easily observable, and thus there is uncertainty about the values of the process model inputs. Describing and quantifying the induced uncertainty in the simulator output due to uncertainty in its inputs is known as sensitivity analysis, which is a valuable tool to identify the places in a model that can be improved by obtaining better input information. In the paper titled "Bayesian Inference for Sensitivity Analysis of Computer Simulators, with an Application to Radiative Transfer Models," **Marian Farah** and **Athanasios Kottas** consider the global sensitivity analysis, which quantifies output uncertainty as all inputs vary continuously over the input space. The influence of each input and its uncertainty on the output are determined by calculating the main effects and sensitivity indices of the computer simulator inputs. The proposed approach is demonstrated in the sensitivity analysis of a radiative transfer model that simulates the interaction of sunlight with vegetation.

The next paper is about climate forecasting, which has become an important research topic because of its implications for political, social, and scientific decisionmaking. One area of active research is to develop models for describing the distribution of carbon dioxide (CO_2) mole fraction near the Earth's surface. In the paper titled "Spatio-Temporal Data Fusion for Very Large Remote Sensing Datasets" by **Hai Nguyen**, **Matthias Katzfuss**, **Noel Cressie**, and **Amy Braverman**, the authors are concerned about the spatio-temporal prediction of lower-atmospheric CO_2 mole fraction over the United States. To this end, they propose a spatio-temporal data fusion (STDF) method for optimal prediction of CO_2 mole fraction from noisy and incomplete spatio-temporal data.

The next three papers are related to image analysis in three material science applications. The first is about metal matrix nanocomposites (MMNCs),

which are high-strength and light-weight materials with great potential in automotive, aerospace, and many other industries. A uniform distribution of nanoparticles in the metal matrix is critical for achieving high-quality MMNCs; hence, non-uniformity of the particle distribution in MMNCs needs to be detected for quality improvement. Most existing studies quantify and characterize the particle distribution based on a single 2D image. In the paper titled "Detecting 3D Spatial Clustering of Particles in Nanocomposites Based on Cross-Sectional Images" by **Qiang Zhou**, **Junyi Zhou**, **Michael De Cicco**, **Shiyu Zhou**, and **Xiaochun Li**, the authors try to assess three-dimensional uniformity of particle distribution based on a sequence of 2D images and determine the number of such images needed to reach a certain confidence level in statistical inferences.

High-resolution spectra information in images can be used to detect, identify, and characterize features of materials. One approach to material identification is the so-called temperature-emissivity separation (TES), which separates or deconvolves the material spectra from the temperature curve. In the paper titled "A Bayesian Nonparametric Model for Temperature-Emissivity Separation of Long-Wave Hyperspectral Images," **Candace Berrett**, **Gustavious Paul Williams**, **Todd Moon**, and **Jacob Gunther** develop a Bayesian approach to use measured spectra to characterize and identify clusters of materials within an image and determine associated material emissivity and temperature.

Motivated by an analysis of nanocrystal growing processes, the paper titled "Estimating Multiple Pathways of Object Growth Using Non-Longitudinal Image Data" by **Chiwoo Park** proposes a new Bayesian monotonic regression model to infer a growth pathway of star-shaped objects.

Static origin-destination (OD) matrix estimation has been studied for many decades in the transportation engineering literature. The paper titled "A Bayesian Statistical Approach for Inference on Static Origin-Destination Matrices in Transportation Studies" by **Luis Carvalho** proposes a novel Bayesian statistical methodology that incorporates certain sources of data that are common in transportation studies, including seed matrices and trip cost distributions, for estimating OD pairwise trip counts in a transportation system. A hierarchical model and a Markov chain Monte Carlo sampler are developed to explore the posterior space of OD pairwise flows.

In industrial hygiene, a worker's exposure to chemical, physical, and biological agents is increasingly being modeled using deterministic physical models that study exposures near and farther away from a contaminant source. A complication is that data from the workplace are usually misaligned. This means that not all time points measure concentrations near and far from the source. In the paper titled "Bayesian Modeling for Physical Processes in Industrial Hygiene Using Misaligned Workplace Data," **João V. D. Monteiro**, **Sudipto Banerjee**, and **Gurumurthy Ramachandran** propose a rich class of multivariate Gaussian processes to model the discrepancies between the physical model and observed data.

In the paper titled "Univariate Dynamic Screening System: An Approach for Identifying Individuals with Irregular Longitudinal Behavior," **Peihua Qiu** and **Dongdong Xiang** develop a dynamic screening system (DySS) for sequentially identifying subjects with irregular longitudinal patterns. The new method combines statistical process control (SPC) techniques with longitudinal data analysis methods. It makes use of all historical data of subjects under monitoring and takes into account the within-subject correlation, as well. ■

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*.

2013 Audit Report for the American Statistical Association

American Statistical Association

Financial Report
December 31, 2013

Contents

McGladrey

Independent Auditor's Report

To the Board of Directors
American Statistical Association
Alexandria, Virginia

Report on the Financial Statements

We have audited the accompanying financial statements of the American Statistical Association (the Association), which comprise the balance sheet as of December 31, 2013, and the related statements of activities and cash flows for the year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Association's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Association's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the American Statistical Association as of December 31, 2013, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

McGladrey LLP

Gaithersburg, Maryland
March 26, 2014

American Statistical Association

Balance Sheet
December 31, 2013

Assets	
Current Assets	
Cash and cash equivalents	$ 498,853
Receivables, net	545,511
Prepaid expenses and other assets	179,007
Total current assets	1,223,371
Investments	15,453,738
Equity in Joint Venture	276,051
Bond Issuance Costs, net	95,684
Property and Equipment, net	7,677,329
	23,502,802
	$ 24,726,173
Liabilities and Net Assets	
Current Liabilities	
Accounts payable and accrued expenses	$ 922,911
Due to joint venture	451,352
Deferred revenue	2,313,552
Bonds payable – current	298,803
Total current liabilities	3,986,618
Bonds Payable – Less Current Portion	4,950,845
	8,937,463
Commitments (Note 11)	
Net Assets	
Unrestricted:	
Undesignated	13,216,191
Board designated	1,371,686
	14,587,877
Temporarily restricted	588,937
Permanently restricted	611,896
	15,788,710
	$ 24,726,173

See Notes to Financial Statements.

2013 Audit Report for the American Statistical Association (continued)

American Statistical Association

Statement of Activities
Year Ended December 31, 2013

	Unrestricted				
	Undesignated	Board Designated	Temporarily Restricted	Permanently Restricted	Total
Revenue and Support					
Meetings	$ 2,909,961	$ -	$ -	$ -	$ 2,909,961
Membership	2,413,474	-	-	-	2,413,474
Publications	2,028,655	-	-	-	2,028,655
Section income	65,336	704,081	-	-	769,417
Special projects	623,400	7,600	53,947	64,640	749,587
Education	332,958	28,314	-	-	361,272
Administration	362,084	-	-	-	362,084
Grants and awards	133,153	-	-	-	133,153
Net assets released from restriction	55,308	-	(55,308)	-	-
Total revenue and support	8,924,329	739,995	(1,361)	64,640	9,727,603
Expenses					
Program services:					
Special projects	1,918,813	12,055	-	-	1,930,868
Meetings	1,874,859	-	-	-	1,874,859
Publications	1,238,087	-	-	-	1,238,087
Membership	796,821	-	-	-	796,821
Section expenses	77,272	572,385	-	-	649,657
Education	376,000	15,080	-	-	391,080
Grants and awards	120,022	-	-	-	120,022
Total program services	6,401,874	599,520	-	-	7,001,394
Supporting services:					
Management and general	1,394,116	-	-	-	1,394,116
Total expenses	7,795,990	599,520	-	-	8,395,510
Change in net assets before unrealized gain on investments	1,128,339	140,475	(1,361)	64,640	1,332,093
Unrealized investment gain	1,297,100	-	144,711	-	1,441,811
Total gains	1,297,100	-	144,711	-	1,441,811
Transfer to undesignated net assets	17,290	(17,290)	-	-	-
Change in net assets	2,442,729	123,185	143,350	64,640	2,773,904
Net Assets					
Beginning	10,773,462	1,248,501	445,587	547,256	13,014,806
Ending	$ 13,216,191	$ 1,371,686	$ 588,937	$ 611,896	$ 15,788,710

American Statistical Association

Statement of Cash Flows
Year Ended December 31, 2013

Cash Flows from Operating Activities	
Change in net assets	$ 2,773,904
Adjustments to reconcile change in net assets to net cash provided by operating activities:	
Depreciation	302,199
Amortization of bond issuance costs	6,728
Equity in earnings from joint venture	(38,591)
Unrealized and realized gains on investments	(1,545,790)
Loss on extinguishment of bonds	117,602
Gain on the extinguishment of the interest rate swap	(77,503)
Contributions restricted for investment in perpetuity	(64,640)
Changes in assets and liabilities:	
(Increase) decrease in:	
Receivables	(200,637)
Prepaid expenses and other assets	10,985
Increase (decrease) in:	
Accounts payable and accrued expenses	216,820
Deferred revenue	(540,254)
Net cash provided by operating activities	960,823
Cash Flows from Investing Activities	
Purchases of investments	(4,171,689)
Proceeds from sales of investments	2,894,351
Purchases of property and equipment	(11,667)
Net cash used in investing activities	(1,289,005)
Cash Flows from Financing Activities	
Principal payment on bonds payable	(146,352)
Payment on the extinguishment of bonds	(5,300,000)
Proceeds from issuance of bonds payable	5,396,000
Payment on the extinguishment of the interest rate swap	(423,736)
Payment for bond issuance costs	(99,557)
Contributions restricted for investment in perpetuity	64,640
Advances from joint venture, net	10,594
Net cash used in financing activities	(498,411)
Net decrease in cash and cash equivalents	(826,593)
Cash and Cash Equivalents	
Beginning	1,325,446
Ending	$ 498,853
Supplemental Disclosures of Cash Flow Information	
Cash paid for income taxes	$ 150,000
Cash paid for interest expense	$ 177,239

See Notes to Financial Statements.

American Statistical Association

Notes to Financial Statements

Note 1. Nature of Activities and Significant Accounting Policies

Nature of Activities: The American Statistical Association (the Association) was founded in 1839 and incorporated in 1841 under the not-for-profit laws of the Commonwealth of Massachusetts as a professional association serving statisticians and all individuals interested in the study and/or application of statistics. The Association's objectives are to foster statistics and its applications, to promote unity and effectiveness of effort among all concerned with statistical problems, and to increase the contribution of statistics to human welfare. The Association conducts meetings, produces publications devoted to statistical methodology and its applications, makes available information concerning the science of statistics and its contributions, cooperates with organizations in the advancement of statistics, stimulates research, promotes high professional standards and integrity in the application of statistics to problems of science and of public policy, fosters education in statistics, and, in general, makes statistics of service to science and society.

A summary of the Association's programs and services follows:

Meetings: The Association provides for various workshops and meetings that serve as a forum for the latest developments in statistical theory and application. These meetings offer a concentrated opportunity for the exchange of ideas and discussion of research findings among colleagues.

Special Projects: Represent various projects undertaken to further statistics among the public. This includes expenses for various awards presented, which increase the visibility of statistics and its methods with the general public.

Publications: The Association produces various publications and magazines. These publications represent the Association's commitment to the ongoing enhancement of statistical education and the public's understanding of statistics.

Membership: Expenses related to member service maintenance.

Grants and Awards: Represent expenses related to providing advice and technical assistance, which enhance statistical education through the support of federal, state, and local government agencies.

Section Expenses: Represent the Association's organization in groups by professional subject matter. These sections facilitate professional interchanges and research opportunities in statistics.

Education: The Association offers a wide range of continuing education opportunities, which represent a forum for emerging statistics research. These programs include workshops, lectures, and expenses related to the production and sale of educational materials.

Management and General: Includes the functions necessary to secure proper administrative functioning of the Board of Directors, maintain an adequate working environment, and manage financial and budgetary responsibilities of the Association.

A summary of the Association's significant accounting policies follows:

Basis of Accounting: The financial statements are prepared on the accrual basis of accounting, whereby, revenue is recognized when earned and expenses are recognized when incurred.

Basis of Presentation: The financial statement presentation follows the recommendations of the Financial Accounting Standards Board (FASB) Accounting Standards Codification (the Codification). As required by the Non-Profit Entities Topic of the Codification, *Financial Statements of Not-for-Profit Organizations*, the Association is required to report information regarding its financial position and activities according to three classes of net assets: unrestricted net assets, temporarily restricted net assets, and permanently restricted net assets.

American Statistical Association

Notes to Financial Statements

Note 1. Nature of Activities and Significant Accounting Policies (Continued)

Cash and Cash Equivalents: The Association considers all highly liquid instruments, which are to be used for current operations and which have an original maturity of three months or less, to be cash and cash equivalents. All other highly liquid instruments, which are to be used for the long-term purposes of the Association, are classified as investments.

Financial Risk: The Association maintains its cash in bank deposit accounts, which at times, may exceed federally insured limits. The Association has not experienced any losses in such accounts. The Association believes it is not exposed to any significant financial risk on cash.

The Association invests in equity mutual funds, fixed income mutual funds, and money market funds. Such investments are exposed to various risks, such as market and credit. Due to the level of risk associated with such investments and the level of uncertainty related to changes in the value of such investments, it is at least reasonably possible that changes in risks in the near term would materially affect investment balances and the amounts reported in the financial statements.

Receivables: Receivables are carried at original invoice amounts, less an estimate made for doubtful receivables based on a review of all outstanding amounts on a monthly basis. Management determines the allowance for doubtful accounts by identifying troubled accounts and by using historical experience applied to an aging of accounts. Receivables are written off when deemed uncollectible. Recoveries of receivables previously written off are recorded when received. The provision for doubtful accounts, based on management's evaluation of the collectability of receivables, was $10,718 at December 31, 2013. No interest is charged on any outstanding receivables.

Investments: Investments with readily determinable fair values are recorded at fair market value. To adjust the carrying value of the investments, the change in fair value is allocated among program activity revenue in the statement of activities.

Equity in Joint Venture: The Association has an investment in a certain joint venture for which the equity method of accounting is used. Under the equity method, the original investment is recorded at cost and is adjusted by the Association's share of undistributed earnings or losses of the joint venture.

Property and Equipment: Property and equipment are stated at cost and are depreciated over their estimated useful lives on the straight-line method. The Association capitalizes all property and equipment purchased with a cost of $5,000 or more.

Valuation of Long-lived Assets: The Association accounts for the valuation of long-lived assets in accordance with the Codification. The *Accounting for the Impairment or Disposal of Long-Lived Assets* topic requires that long-lived assets and certain identifiable intangible assets be reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of the long-lived asset is measured by a comparison of the carrying amount of the asset to future undiscounted net cash flows expected to be generated by the asset. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the estimated fair value of the assets. Assets to be disposed of are reportable at the lower of the carrying amount or fair value, less costs to sell.

Interest Rate Swap Contract: The Association follows the Codification, *Accounting for Derivative Instruments and Hedging Activities*, related to its participation in an interest rate swap contract in relation to its mortgage note, which is considered a derivative financial instrument. This codification standard requires that all derivative financial instruments be recognized in the financial statements at their fair value. Changes in the fair value of derivative financial instruments are recognized each period as a component of change in net assets. The Association extinguished its interest rate swap contract during the year ended December 31, 2013.

2013 Audit Report for the American Statistical Association (continued)

American Statistical Association

Notes to Financial Statements

Note 1. Nature of Activities and Significant Accounting Policies (Continued)

Bond Issuance Costs: The Association paid certain customary fees as required to refinance the note used to finance the acquisition of its new headquarters. These fees have been capitalized and are being amortized over the term of the bonds. Amortization expense was $6,728 for the year ended December 31, 2013.

Board Designated Net Assets: The Board of Directors had designated $1,371,686 at December 31, 2013, of unrestricted net assets to be used for various section activities and other board-approved projects.

Revenue and Support: Meeting revenue is recognized at the time the meeting takes place. Amounts received in advance of the meeting are shown as deferred revenue.

Membership dues are recognized ratably over the applicable membership period to which they apply. Payments for memberships, subscription sales, product sales, or services to be rendered and received in advance are deferred to the appropriate period.

Publication revenue is recognized upon delivery of the material.

All donor-restricted revenue is reported as an increase in temporarily or permanently restricted net assets, depending on the nature of the restriction. When a restriction expires (that is, when a stipulated time restriction ends or purpose restriction is accomplished), temporarily restricted net assets are reclassified to unrestricted net assets and reported in the statement of activities as net assets released from restrictions.

Functional Allocation of Expenses: The costs of providing various programs and other activities have been summarized on a functional basis in the statement of activities. Accordingly, certain costs have been allocated among the programs and supporting services benefited.

Income Taxes: The Association is exempt from federal income taxes under Section 501(c)(3) of the Internal Revenue Code. In addition, the Association qualifies for the charitable contribution deductions and has been classified as an organization that is not a private foundation. However, the Association is required to report unrelated business income to the Internal Revenue Service and the state of Virginia, as well as pay certain other taxes to local jurisdictions. The Association incurred approximately $80,533 in income tax expense on unrelated business income related to the net income earned on advertising sales for the year ended December 31, 2013.

The accounting standard on accounting for uncertainty in income taxes addresses the determination of whether tax benefits claimed or expected to be claimed on a tax return should be recorded in the financial statements. Under this guidance, the Association may recognize the tax benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than 50% likelihood of being realized upon ultimate settlement. The guidance on accounting for uncertainty in income taxes also addresses de-recognition, classification, interest and penalties on income taxes, and accounting in interim periods.

Management evaluated the Association's tax positions and concluded that the Association has taken no uncertain tax positions that would require adjustments to the financial statements to comply with the provisions of this guidance. The Association files income tax returns in the U.S. federal jurisdiction. Generally, the Association is no longer subject to U.S. federal, state, or local income tax examinations by tax authorities for years before 2010.

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American Statistical Association

Notes to Financial Statements

Note 1. Nature of Activities and Significant Accounting Policies (Continued)

Use of Estimates: The preparation of financial statements requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Subsequent Events: The Association evaluated subsequent events through March 26, 2014, which is the date the financial statements were available to be issued.

Note 2. Receivables

Receivables consist of the following at December 31, 2013:

Publication receivables	$ 446,433
Trade account receivables	87,091
Grant receivables	22,705
	556,229
Less provision for doubtful accounts	10,718
	$ 545,511

Note 3. Investments

Investments consist of the following at December 31, 2013:

Equity mutual funds	$ 9,470,528
Fixed income mutual funds	5,633,572
Money market funds	349,638
	$ 15,453,738

The following summarizes investment income for the year ended December 31, 2013:

Unrealized gains	$ 1,441,811
Interest and dividends	317,214
Realized gains	103,979
Investment fees	(57,671)
	$ 1,805,333

Interest and dividends and realized gains are recorded in the applicable revenue and support and line items in the statement of activities.

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American Statistical Association

Notes to Financial Statements

Note 4. Equity in Joint Venture

The following schedule presents summarized financial information from the joint venture, in which the Association has a 60% equity ownership. Amounts presented for the year ended December 31, 2013, include the account of Technometrics (60% equity).

Condensed income statement information:	
Revenues	$ 126,039
Expenses	61,721
Net income	$ 64,318
Condensed balance sheet information:	
Total assets	$ 504,014
Total liabilities	31,992
Net equity	$ 472,022

Note 5. Property and Equipment

Property and equipment and accumulated depreciation at December 31, 2013, and depreciation expense for the year ended December 31, 2013, are as follows:

	Estimated Lives	Cost	Accumulated Depreciation	Depreciation Expense
Building	30 years	$ 7,320,951	$ 1,850,538	$ 244,032
Building leasehold improvements	30 years	1,170,369	290,658	39,243
Building renovation	30 years	23,100	5,546	783
Furniture and fixtures	5 years	211,869	211,869	-
Office equipment	5 years	96,901	87,711	4,362
Software	3 years	215,579	212,099	3,806
Computer equipment	3 years	152,086	141,105	9,973
Land	–	1,286,000	-	-
		$ 10,476,855	$ 2,799,526	$ 302,199

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American Statistical Association

Notes to Financial Statements

Note 6. Temporarily and Permanently Restricted Net Assets

Temporarily restricted net assets were available at December 31, 2013, for the following purposes, and net assets were released from restriction by incurring expenses satisfying the restricted purpose:

	Balance December 31, 2012	Restricted Contributions	Investment Income	Released	Balance December 31, 2013
Cox Scholarship	$ 111,974	$ 525	$ 19,095	$ 6,032	$ 125,562
Waksberg Award	67,769	-	10,117	-	77,886
Youden Award	41,414	-	15,464	2,485	54,393
Deming Lecture Fund	27,853	-	14,579	2,824	39,608
Wray Smith Sch. Fund	29,119	-	4,119	1,000	32,238
EC Bryant Fund	23,267	-	11,750	2,500	32,517
Griffith Mentoring Award	15,371	6,250	8,979	1,775	28,825
MG Natrella Scholarship Fund	25,885	-	3,431	1,005	28,311
Dixon Award	15,627	-	12,764	510	27,881
Noether Memorial Fund	9,769	-	29,283	8,432	30,620
Chambers Award (ACM Software)	18,347	-	3,124	-	21,471
Judea Pearl Prize	15,469	5,000	(469)	5,000	15,000
Bernard Harris Fund	12,443	-	2,458	-	14,901
Wilks Memorial Fund	3,043	-	12,010	1,626	13,427
Marquardt Memorial Fund	7,098	-	3,280	-	10,378
Karl E. Peace Award	1,661	-	8,740	1,235	9,166
Lester R. Curtin Award	489	5,393	3,589	889	8,582
Martha Aliaga Scholarship Fund	5,456	1,650	1,119	42	8,183
Waller Fund	5,592	-	4,754	3,021	7,325
Lingzi Lu Fund	-	-	2,670	7	2,663
Promoting Statistics Fund	-	4,285	-	4,285	-
Access to Statistics Fund	-	1,475	-	1,475	-
Excellence in Statistics Fund	-	320	-	320	-
Chemostatistics Award	234	2,000	-	2,234	-
CA Jacobs Award	7,707	-	904	8,611	-
	$ 445,587	$ 26,898	$ 171,760	$ 55,308	$ 588,937

Permanently restricted net assets consist principally of accumulated contributions for various awards, lecture series, and scholarships. These assets consist of the following at December 31, 2013:

	Balance December 31, 2012	Additions	Balance December 31, 2013
Noether Memorial Fund	$ 206,506	$ -	$ 206,506
Deming Lecture Fund	67,275	-	67,275
Youden Award	61,082	-	61,082
EC Bryant Fund	60,000	-	60,000
Wilks Memorial Fund	47,143	-	47,143
Waller Fund	20,000	25,000	45,000
Lingzi Lu Fund	-	39,640	39,640
Karl E. Peace Award	34,000	-	34,000
Marquardt Memorial Fund	26,250	-	26,250
Lester R. Curtin Award	25,000	-	25,000
	$ 547,256	$ 64,640	$ 611,896

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2013 Audit Report for the American Statistical Association (continued)

American Statistical Association

Notes to Financial Statements

Note 6. Temporarily and Permanently Restricted Net Assets (Continued)

The Board of Directors of the Association has interpreted the Uniform Prudent Management of Institutional Funds Act (UPMIFA) as requiring the preservation of the fair value of the original gift as of the gift date of the donor-restricted endowment funds, absent explicit donor stipulations to the contrary. As a result of this interpretation, the Association classifies as permanently restricted net assets (a) the original value of gifts donated to the permanent endowment, (b) the original value of subsequent gifts to the permanent endowment, and (c) accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portion of the donor-restricted endowment fund that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by the Association in a manner consistent with the standard of prudence prescribed by UPMIFA. In accordance with UPMIFA, the Association considers the following factors in making a determination to appropriate or accumulate donor-restricted endowment funds:

- The duration and preservation of the fund
- The purposes of the Association and the donor-restricted endowment fund
- General economic conditions
- The possible effect of inflation and deflation
- The expected total return from income and the appreciation of investments
- Other resources of the Association
- The investment policies of the Association

The Association has adopted investment and spending policies for endowment assets that attempt to provide a predictable stream of funding to programs supported by its endowment while seeking to maintain purchasing power of the endowment assets.

All earnings of the endowment are reflected as temporarily restricted net assets until appropriated for expenditure based on donor restrictions by the various Committees of the Association. The Board of Directors has assigned a Committee to each program for the purposes of selecting and recommending individuals for awards or grants.

For the year ended December 31, 2013, the Association had the following endowment-related activities:

	Temporarily Restricted	Permanently Restricted
Endowment net assets – December 31, 2012	$ 120,186	$ 547,256
Contributions	-	64,640
Net appreciation and income	102,530	-
Appropriation of endowment assets for expenditure	(22,130)	-
Endowment net assets – December 31, 2013	**$ 200,586**	**$ 611,896**

American Statistical Association

Notes to Financial Statements

Note 7. Retirement Plans

The Association has a 401(k) profit sharing plan and a money purchase plan. Both plans cover substantially all full-time employees from date of hire. Under the terms of the 401(k) profit sharing plan, the Association will match 100% of the participating employee's contributions, up to 3% of the employee's salary. Under the terms of the money purchase plan, the Association contributes 6% of an eligible employee's compensation to the plan. Contribution expense to the plans is as follows for the year ended December 31, 2013:

Money purchase plan	$ 331,067
401(k) profit sharing plan	79,189
	$ 410,256

Note 8. Related Party Transactions

The Association is a co-sponsor in one joint venture. It has a maintenance agreement with the same joint venture, in which it provides management and collection services, office space, and editorial and administrative support.

The following schedules summarize the Association's financial activity with the joint venture for the year ended December 31, 2013:

Due from Joint Venture:	
Technometrics	$ -
Due to Joint Venture:	
Technometrics	$ (451,352)
Maintenance Agreement Revenue:	
Technometrics	$ 33,118

Note 9. Bonds Payable

On August 1, 2005, the Association entered into an agreement with the Industrial Development Authority of the City of Alexandria to issue $6,500,000 of Industrial Development Revenue Bonds (the Bonds) on behalf of the Association to finance the purchase and renovation of a new headquarters building. During the year ended December 31, 2013, the Association refinanced its outstanding Industrial Development Revenue Bonds (the Bonds) that were due to mature on May 31, 2030. The Association paid the balance due on the Revenue Bonds and issued Revenue Refunding Bonds (the Bonds) for $5,398,000 with Suntrust Bank, the holder of the Bonds, which has a maturity date of August 1, 2030. The Bonds are callable on May 1, 2028, by the bondholder. Interest on the Bond is calculated at a fixed rate of 2.75%.

During the year ended December 31, 2013, the Association recognized a loss of $117,602 on the extinguishment of the Bonds, included in management and general expenses on the accompanying statement of activities. Interest expense incurred for the year ended December 31, 2013, was $177,239.

American Statistical Association

Notes to Financial Statements

Note 9. Bonds Payable (Continued)

Annual principal payments on the Bonds at December 31, 2013, are due in future years as follows:

Years Ending December 31,	
2014	$ 298,803
2015	307,125
2016	315,678
2017	324,469
2018	333,506
2019 – 2028	3,670,067
	$ 5,249,648

The above-mentioned note is collateralized by the land and building purchased by the Association.

In connection with the Bonds, the Association must be in compliance with certain specified covenants.

Note 10. Interest Rate Swap Contract

The Association had an interest rate swap contract with a bank to reduce the impact of changes in the interest rates on its variable mortgage note. The swap contract was entered into for a ten-year period commencing on October 14, 2005. In connection with the refinancing of the bonds as discussed in Note 9, the Association terminated the interest rate swap for $423,736 during the year ended December 31, 2013. The Association recognized a gain of $77,503 on the termination of the interest swap contract for the year ended December 31, 2013, included in administration revenues on the accompanying statement of activities.

Note 11. Commitments

Hotel Space: The Association reserves hotel space for its conventions several years in advance. The contracts stipulate the number of rooms to be reserved and the time period for which they are to be reserved. As of the date of this report, contracts for hotel space had been entered into through 2020. However, due to the numerous variables involved, the Association's potential liability under these contracts cannot be determined.

American Statistical Association

Notes to Financial Statements

Note 12. Fair Value Measurements

The Association follows the Codification topic, *Fair Value Measurement*. The Codification applies to all assets and liabilities that are being measured and reported on a fair value basis. The Codification requires disclosure that establishes a framework for measuring fair value in accordance with generally accepted accounting principles and expands disclosure about fair value measurements. The Codification enables the reader of the financial statements to assess the inputs used to develop those measurements by establishing a hierarchy for ranking the quality and reliability of the information used to determine fair values. The Codification requires that assets and liabilities carried at fair value will be classified and disclosed in one of the following three categories:

Level 1 Quoted market prices in active markets for identical assets or liabilities

Level 2 Observable market-based inputs or unobservable inputs corroborated by market data

Level 3 Unobservable inputs that are not corroborated by market data

In determining the appropriate levels, the Association performs a detailed analysis of the assets and liabilities that are subject to the standard. At each reporting period, all assets and liabilities for which the fair value measurement is based on significant unobservable inputs are classified as Level 3.

The table below presents the balances of assets measured at fair value on a recurring basis by level within the hierarchy:

	Total	Level 1	Level 2	Level 3
Financial assets:				
Equity mutual funds:				
S&P 500 index fund	$ 4,356,975	$ 4,356,975	$ -	$ -
Small and mid-cap fund	2,732,055	2,732,055	-	-
Global real estate fund	703,953	703,953	-	-
Foreign large blend	653,549	653,549	-	-
International fund	642,791	642,791	-	-
Emerging markets	381,205	381,205	-	-
	9,470,528	9,470,528	-	-
Fixed income mutual funds:				
Intermediate term bond	1,912,508	1,912,508	-	-
Short term bond	1,305,946	1,305,946	-	-
High yield	1,109,202	1,109,202	-	-
Inflation protected bond	927,729	927,729	-	-
Emerging markets	378,187	378,187	-	-
	5,633,572	5,633,572	-	-
	$ 15,104,100	$ 15,104,100	$ -	$ -

The equity and fixed income mutual funds of the Association are publicly traded on active markets and are considered Level 1 items. Money market funds of $349,638 are not subject to the provisions of the *Fair Value Measurement* topic, as they are recorded at cost.

Big Data Goes to College

Robert Gould, Benjamin Baumer, Mine Çetinkaya-Rundel, and Andrew Bray

A new statistics challenge is taking college campuses by storm and engaging students in solving real-life Big Data problems more complex than those they are able to engage with in class. In just three years, the competition—called DataFest—has grown from a single event with 25 students to multiple events across 16 colleges and universities with more than 400 student-participants.

Organizers, led by DataFest founder Robert Gould, and the ASA are launching a campaign to establish DataFest events at other schools. The ASA Board recently approved a recommendation for the association to be the lead sponsor and headquarters for DataFest.

What Is DataFest?

DataFest is an annual competition held early each spring. During the event, teams of up to five students work to extract insights from a large and rich data set. This unique program takes data analysis learning beyond the time constraints typically encountered in a classroom setting. It naturally attracts statistics students, but it also draws majors in engineering, math, computer science, social science, and other fields of study.

Gould, who is also the director of the Center for Teaching Statistics at the University of California at Los Angeles (UCLA), said his motivations for creating DataFest at UCLA in 2011 were the time constraints that limit work with large data in the classroom and engaging bright students beyond the constraints imposed by finals or final projects. DataFest expanded to Duke University the following year. Last year, UCLA collaborated with several nearby schools—Pomona College, the University of Southern California, and Cal State Long Beach—while Duke students competed with their counterparts from two nearby Tobacco Road schools.

During the 48-hour event that begins on a Friday evening and concludes the following Sunday afternoon, teams compete head-to-head for prizes in categories that include "Best Insight," "Best Visualization," and "Best Use of External Data." Student-teams work intensely during the weekend and are allowed a limited number of slides and a few minutes to present their findings to the judges—graduate students, professors, statisticians from businesses, and representatives of the organization that provides the data set.

DataFest emphasizes the art of storytelling with data. For this reason, DataFest competitors have complete autonomy regarding how they approach the analysis problem, which can be both exciting and intimidating. Because the stakes are low (e.g., no grades) and the rewards are high (e.g., prizes are awarded and DataFest participation is great on a résumé), students generate risky, yet creative ideas to solve the problem.

DataFest is a friendly competition; in fact, students are encouraged to share ideas. The competition aspect gives the students a goal and generates camaraderie among team members. Competitors also engage with professionals with statistics and data-analysis expertise. Most importantly, the students have fun.

The Big Data

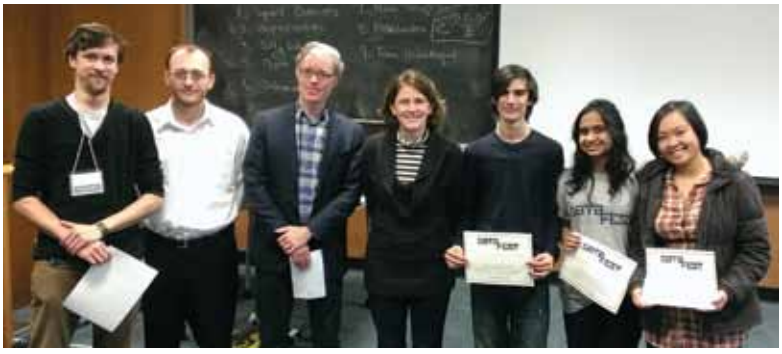
Each year, the data and challenge are different, but the theme of making sense of Big Data is carried over. The data set, which is real-world data of interest to the providing organization, is not unveiled until the competition.

For the first DataFest at UCLA, the data consisted of 10 million arrest records spanning a six-year period provided by the Los Angeles Police Department. In 2012, the data set came from micro-lending site Kiva.org, and online dating service eHarmony.com provided the data last year.

This year, the data set came from GridPoint, a company that offers data-driven energy management systems (EMS) that enable customers to increase energy savings,

Winners of the Best Garbage Detection category at the Five College DataFest—Whit Froelich (left) and Jonathan Jordan (middle) of Amherst College—are honored by (second from left) Davit Khachatryan, Babson College assistant professor of statistics/analytics; (second from right) Jay Emerson, Yale University associate professor of statistics; and Becky Sweger, director of data and technology for the National Priorities Project.

Smith College students (front row, from left) Dana Udwin, Michele Handy, Deirdre Fitzpatrick, Maja Milosavljevic, and Sara Stoudt show off their certificates for winning Best in Show/Best Visualization at the Five College DataFest. Also pictured (back row, from left) are Davit Khachatryan, Babson College assistant professor of statistics/analytics; Becky Sweger, director of data and technology for the National Priorities Project; and Jay Emerson, Yale University associate professor of statistics.



Four Hampshire College students—Justin Baldwin (left), Adam Blaustein Rejto (third from right), Grusha Prasad, and Elaine Wang—win in the Best Use of External Data category at the Five College DataFest. Also pictured are (second from left) Davit Khachatryan, Babson College assistant professor of statistics/analytics; Jay Emerson, Yale University associate professor of statistics; and Becky Sweger, director of data and technology for the National Priorities Project.

optimize facility efficiency, and promote sustainability agendas. The data consisted of a sample of 110 U.S. businesses and included hourly energy consumption values reported by multiple onsite sensors for the period covering 2011 to 2013. It also included information about the environmental factors and energy consumption at these businesses prior to installation of the EMS. The data challenged DataFest competitors to find patterns that would help a business decide to implement energy-saving steps.

A Big Benefit

During the competition, many students strive to catch the attention of industry representatives who attend the event to offer advice and recruit students with the best analytical skills.

"DataFest is more than just a competition to students nearing graduation and the industry representatives who are seeking new statistical talent," says Gould. "Employers come to recruit the next generation of data professionals. In DataFest's relatively short history, numerous students have showcased their statistical skills, developed contacts with employers, and even accepted employment offers."

Long after DataFest, student-competitors who note the event on their résumé have found potential employers keenly interested in learning about their participation and how the experience translates to the job opening for which they are interviewing, added Gould.

2014 Events

This year, DataFest encompassed five competitions. Following are brief summaries for each:

- **Duke**—112 students divided into 21 teams competed March 21–23. Students came from Duke University, The University of

North Carolina, North Carolina State University, and Dartmouth College in Hanover, New Hampshire. Mentoring the teams were consultants from IBM, JMP, MetLife, Duke Energy and Carbon Offsets Initiatives, and faculty and graduate students from the participating schools.

"DataFest is an amazing opportunity for students to tackle a substantial real-world problem while honing their computational and statistical skills. Each year, the students surprise the visitors, the judges, and themselves with the variety and the quality of their analyses," said Mine Çetinkaya-Rundel, assistant professor of statistics at Duke. For more information, see *https://stat.duke.edu/datafest/datafest2014*.

• **UCLA**—170 participants divided into 40 teams competed May 2–4. The students represented California Polytechnic State University San Luis Obispo, Pomona College, UCLA, the University of California at Riverside, and the University of Southern California. Consultants from Google, Hot Topic, JPL, Digital Trend Analytics, Southern California Edison, Cedars-Sinai Medical Center, e-Harmony, and Summit Consulting provided counsel and scouted for talented analysts.

"Everyone—the students, the faculty, and our VIP consultants—had a great time. While DataFest is fun, the students worked intensely and produced some amazing findings," said Gould. For details, visit *http://datafest.stat.ucla.edu/groups/datafest*.

• **Five College DataFest**—60 participants divided into nine teams competed March 28–30. Students came from the University of Massachusetts-Amherst (UMass) and Amherst, Hampshire, Mt. Holyoke, and Smith colleges. Consultants came from MassMutual, IBM, Athena Health, and each school.

"There was a wide range of skills among the participants, but the open-ended nature of the problem provided enough flexibility for every group to contribute a different analysis," said Benjamin Baumer, Smith College visiting assistant professor of mathematics and statistics.

UMass postdoctoral fellow Andrew Bray added, "DataFest strikes a good balance between the energy and excitement of competition with the support and *esprit de corps* of a broad collaboration." For more information, visit *www.science.smith.edu/departments/math/datafest*.

• **Emory University**—27 participants divided into eight teams competed April 4–6. Emory went solo in its first year, but may invite other local schools next year. Serving as consultants were Emory graduate students and faculty. The school hopes to use outside consultants in 2015.

"The energy level and unbridled enthusiasm of the undergraduates was irresistible. The students were highly motivated, eager to learn, and made tremendous gains in statistical and programming knowledge," said Shannon McClintock, statistics lecturer. The best team name was ANOVA One Bites the Dust.

"The energy level and unbridled enthusiasm of the undergraduates was irresistible."

• **Princeton University**—46 students divided into seven teams competed March 28–30. Consultants from IBM, GridPoint, Google, and New Jersey-based Public Service Electric and Gas Company counseled the student-teams during the event.

"DataFest was a great success. We had several very creative presentations," said Philippe Rigollet, assistant professor of statistics. "The participants were fun to be around. Some students put in 50 hours of work, but it was still pretty laid back." For details, visit *http://orfe.princeton.edu/datafest/index.html#about*.

ASA and DataFest

As the competition's new headquarters and lead sponsor, the ASA will help schools set up DataFest events, secure data providers, promote the competition, enlist the support of relevant ASA sections, and recruit judges and national sponsors. To aid the creation of new events, the ASA and DataFest organizers will develop a "how-to" kit that will include data, advice, and a discussion forum.

If you are interested in hosting a DataFest event next year, you can learn how at the 2014 Joint Statistical Meetings. A contributed panel session on DataFest, organized and moderated by Çetinkaya-Rundel and with participation by other DataFest organizers, will be held August 6 at 2 p.m. Drop by to learn more about this growing program. ■

MASTERS NOTEBOOK

Masters Without Borders

Marcos Carzolio

By 9:00 p.m., it was already too dark. My collaborators and I wrapped up our meeting, so I turned off the car and flicked on an LED lantern. It was a good thing our teams had set up the tents when it was still light out. While meeting with several of the enumerators, I had finished the process of downloading data from the PDAs to my laptop and uploading them over a 3G USB Internet stick to a Dropbox cloud. It turns out that reviewing data in a remote village in Sub-Saharan Africa requires multitasking and good lighting.

I closed my laptop, hopped out of our SUV, and patted the dust off my khakis, taking the lantern with me. As I approached the campfire, the familiar voices of my chatty coworkers cut through the crisp air, already filled with the aromas of frying chicken and rice boiling in coconut water. It was just another cloudless, serene July night in a rural village in northeastern Mozambique.

The enumerators were having a well-deserved break from a long day's work. On a typical day, an enumerator interviewed between five and 10 households, carefully guiding the respondents through a list of hundreds of questions. Often the interviews would be conducted in the native language of Makua, despite the survey having been written in English originally and then translated to the Mozambican national language of Portuguese. As a result, each household interview would last between 30 minutes to an hour. But no one was better suited to relax after such tedious work as our team of survey enumerators.

"Olha, Marcos, é assim," Antonio, one of our logistics coordinators, would often start to address me in this way. *Look, Marcos, it's like this*—as if prefacing a universal truth that I should already know at this point in my life. "O pescoço da galinha se come pra boa sorte." *The chicken neck is to be eaten for good luck*. I winced at the thought of biting into that juicy chicken neck, roasting separately from the rest of the food by the fire. He and the crew laughed at my Western naïveté.

Last summer, I had the pleasure of accompanying a team of researchers from Virginia Tech and Stanford to the Nampula province of Mozambique, where we collaborated with locals for three months to collect data for evaluating the socioeconomic impacts of installing hand pumps in rural villages that typically lacked access to clean water. Without hand pumps, residents in these communities usually walk about an hour each way to collect water from a hand-dug well that, to a foreigner, resembles a mud puddle. The goal of the project was to draw causal inferences about dozens of factors, ranging from changes in water consumption and time spent collecting it, to how these factors affected child school attendance, health, and economic variables such as income and expenditures.

As a graduate student in statistics, I was the second person to play the role of the on-the-ground statistician (OTGS). The first OTGS had been a fellow classmate at Virginia Tech, who had traveled with the same team to Mozambique in the summer

of 2011 for the baseline phase of the study. A causal impact evaluation of the hand pumps could therefore be done by comparing changes in the data between baseline—prior to the hand pump installations—and follow-up, at the time of my visit.

In a sense, the experience was a statistician's pilgrimage. I worked with enumerators to correct data entry errors, performed analyses on the fly to report back to headquarters, and even occasionally collected data myself. For a principal investigator, an OTGS involved on a research project will ensure that high quality data are collected. For a graduate student, however, the rewards of being an OTGS go beyond improved research.

Being able to travel around the world while doing statistics has been a unique aspect of my master's and PhD education at Virginia Tech. From the time I became a statistical collaborator at LISA, the Laboratory for Interdisciplinary Statistical Analysis, I knew I wanted to take on the challenges and learn from the experiences of field work and be involved in all aspects of research, from the study design phase through data collection and analysis and then interpreting the results and communicating them to the various stakeholders. Such an enriching opportunity should be available to all master's-level statistics students. The process forces the graduate student to really understand the research questions and become fluent in the use of statistics software packages. It teaches the graduate student to make decisions about

Marcos Carzolio with Mozambique collaborator Chahid Ussene

Marcos Carzolio in his Mozambique office

Young Makua getting water from a water source before the hand pumps were installed
Photo courtesy of Emily Van Houweling

data management and analysis in real time. It shows the student, first-hand, the importance of every single datum.

Take, for example, the fact that my colleagues would often ask me to use data from the baseline study to make in-field decisions about our communities. What kinds of water sources are available? What additional information do we need in the survey? Is there a hand pump missing? These are the sorts of questions that, in practice, can only be answered by people in the field, at times even requiring visual verification. During enumerator training, I sat in on some interviews and witnessed the rigor and attention to detail in each conversation. Now I no longer see our data set as an n*p data frame object in R, but rather as an intricate detailing of the daily behavior of thousands of families in a remote African province—the stories of thousands of people whose voices are rarely heard, whose needs are rarely communicated.

For me, the experience was an opportunity to travel and learn. I learned about myself, about other cultures, and about the struggles facing a large portion of the world that are often shielded from us.

As we finished dinner that peaceful, starry night in Nampula, Antonio generously offered me the lucky chicken neck. After my initial reluctance, I accepted and savored every piece. Eight months after the trip, I have noticed that my life has become significantly more fortunate and fulfilling ($p < 0.01$). ■

STAT*tr@k*

How to Make Your JSM Talk Great

Richard (Dick) De Veaux

At many conferences run by companies, there are several keynote talks, some by technical experts and some by motivational speakers. In 2006, I was invited to give a keynote at a conference in Barcelona. My topic was data mining, and my slot was right after David Brashears. Who? Well, David Brashears is the guy who hauled an IMAX camera up to the top of Mt. Everest and filmed one of the most amazing and breathtakingly beautiful films ever made. Now, I know data mining is fascinating stuff, but Mt. Everest? I knew I was in trouble. To make it worse, David was a certified hero. He spent two days going up and down the mountain saving lives (read *Into Thin Air*). Okay, so I knew I was in trouble.

But as David started talking, I felt a little relieved. I mean, not that I wanted him to go down in flames (well, okay, maybe a little), but I was expecting him to be as dynamic as his movie is. But, for a keynote talk, he really started out low key (no pun intended). His voice was quiet, almost monotone. There was no sense of passion or intensity that is often the hallmark of good talks. If you've ever seen Hans Rosling talk about statistics, you know what I mean. (If you haven't, go to YouTube right now). But, as I learned that day, there are many styles that can lead to a great talk. David had a *story* to tell. And tell it he did. He calmly told us the challenges of climbing the highest mountain on the planet with enough 70mm film to record hours of IMAX quality footage. It was a riveting, fascinating talk. David had us in the palm of his hand. As W.C. Fields once said, never share the stage with children or animals. He should have added David Brashears.

The point of this anecdote is that there is no single way to give a great talk. You don't need to have a lot of flash, jokes, or anything else. What you need is the desire to communicate your story to an audience. Of course, saving people's lives at 30,000 feet is pretty good material. And even your best statistics achievement might not measure up to that, but there are plenty of ways to communicate your passion and story effectively. Everyone, and I mean everyone, can give a great talk.

And every talk can be made better.

One of most important points to remember when giving a talk is that, in fact, you are talking to people. This sounds obvious, but I see far too many talks where it seems the speaker has forgotten that point. Instead, he avoids all eye contact, talking to his shoes or maybe the person at the very right of Row 1. He also avoids any voice or facial expressions and tries to sound like a journal article.

Photo courtesy of ThinkStock

The audience is there because they want to hear what you have to say. Otherwise, they wouldn't have bothered to come.

To make your talk a success, first ask yourself who your audience is, what they might know, and—just as important—what they might not know. Most talks at JSM lose people too fast. Most of your talk at a general meeting like JSM should be accessible to anyone with a background in statistics, with only a small part for those who specialize in your particular field. Of course, there are always exceptions, but making the majority of the talk interesting and accessible to more people always seems like a good idea.

Yes, we all want to show how much work we put into our research, but if it took you two years to understand your research area and another three to develop your results, how quickly do you think the audience will be able to understand the details? Fifteen minutes? Is everyone else in the world

Scott Berry, William Li, Chris Natchsheim, and I presented a workshop on giving presentations before JSM, and much of this material comes from that. I also should mention a colleague of mine (not a statistician) from Grand Valley State University, George Nezlek, who has taught me much about the art of presentations.

really that much faster than you are? Respect for the audience is key, and an important aspect of that respect is to have them understand what your story is about. So, don't put all the technical details (as important as they are) into the talk. What you can hope is that they become interested enough in your subject to want to read the paper, so point them to where they can do that. But don't make the mistake of overestimating the amount of new material people can absorb in a short time.

Five Myths of Giving a Great Talk

There is only one way to give a great talk. As I hope my opening story pointed out, this just isn't true. There are many styles. The one style that *won't* work for you is someone else's. Be yourself. When you tell a story to your friends, I doubt you try to do it in anyone else's style. The same should be true of your presentation. Being yourself and being honest is a great way to start the communication between you and the audience.

However, there are some elements that are essential to a good talk. The talk should be structured so it makes clear what you are going to talk about, proceeds to tell your story in a logical order, and then wraps up by reminding the audience where you've taken them and what's left to do. Using examples and specifics is a great way to get your point across. Staying completely abstract will lose most of the audience. Speaking of the audience, don't forget about them. Look at them! Make eye contact. The more you can connect with the audience, the more they will want to hear whatever it is you have to say. And it's okay to be nervous. Be honest. Be yourself. There are people out there who want to hear you tell a great story.

There is no place for humor in a serious scholarly talk. Humor is a device, not only to make your audience (and you) relax, but also to help your audience learn. Research has shown the effectiveness of humor in acquiring new knowledge. How to do it? Unless you are very good at telling jokes, don't do it. Jokes, per se, are dangerous territory. And jokes don't 'travel' well. Be especially careful of humor that depends on a certain culture or knowledge.

Instead, humor should be natural. One sure-fire type of humor is to be self-deprecating. No one minds if you make fun of yourself! And we all have plenty of material to use (trust me).

I've been working on this research so long, I'm ready to give the talk. You've spent months (years?) working on your research. How much time did you spend preparing the talk? To honor your effort and the audience, there should be a balance between the two. It takes time to structure a great talk.

Following are some technical points about slides to keep in mind:

- Use a large font and keep to only a few major points per slide.
- Don't use complete sentences on your slides! If you have them, your audience will be reading them instead of listening to you. Just have key points that remind you of the story structure and some *key* equations. Never, ever *read* your slides to the audience!
- Remember that equations are a *compact* form of expression, so go easy on them. They are packed with information. If possible, explain the concepts around them instead of relying on them. Too many talks pack slides with equations thinking that people can read them in real time. Sadly, there are only a very few of us who can do that.
- We've all seen slides in 6-point font, either with 30 bullet items on it or—worse—more Greek than you'd see in an entire *Annals* article. Avoid both to the extent you can.
- Use graphics instead of tables. We all teach our students the importance of using graphical displays to communicate, but how many talks have you seen that give tables of numbers instead of well-constructed graphics? Be as visual as you can, and don't rely on someone in the back row having eagle eyesight.

Good preparation is essential. You don't necessarily have to practice giving the talk aloud (although it *never* hurts), but you should know the flow of the talk inside and out and practice to make sure

you can comfortably cover the material in the time allowed. How many talks have you seen where, two minutes before the allotted time is up, the presenter hasn't finished more than a third of the talk? Racing through the next 60 slides doesn't do anyone any good! Make sure you can finish the talk comfortably in the time allowed. Having a few minutes for questions at the end is a wonderful outcome.

I need to show everything I've done to impress the audience. This is probably the mistake I see most often at conferences, especially at JSM. Fifteen minutes (or five for a speed session) is a short amount of time. You can't tell the 'whole' story. So, think hard about the important points you want to convey. Those probably aren't the technical details. Give an outline and the main points of how you used Slutsky's Theorem to show your main theoretical result, but don't try to wade through all the details unless you have several hours (unlikely at JSM unless you're giving a series of Medallion lectures). If we want to follow up after seeing your talk, we can read the paper or contact you.

I can't do this. You want to give a great talk and everyone wants to see the speaker do well. So breathe. Be yourself, look at the audience, and tell your story. You can give a fantastic talk.

We all get nervous in some situations. Tandy Beal, a masterful performer with whom I had the privilege of touring when I danced professionally, taught me two important things about the audience. First, she said, imagine that someone who loves you very much is in the audience (she always visualized Row 8) and wants you to give a great talk. And, in any case, "Remember, 11 o'clock p.m. always comes."

Have a great talk. See you in Boston! ■

Gain Career Insights from Biopharmaceutical Section Podcasts

Richard C. Zink

Podcasts are a way to share audio and video content over the Internet for consumption at one's leisure. Within the past year or so, the ASA Biopharmaceutical Section began producing podcasts to provide news and highlights on upcoming conferences, educate the community on various areas of statistics in pharmaceutical development, and share the educational and professional background of section members (*www.buzzsprout.com/16296*).

Why are the backgrounds of other statisticians important? For one, they illustrate the diversity of educational and professional experiences that can assist new statisticians in their own development. Such information may help individuals decide whether to pursue graduate programs in statistics or steer others to particular specializations or industries in need of statistical methodology. These discussions also assist new statisticians with the particular pros and cons of different work environments and the hard and soft skills necessary to be successful. Further, these experiences are useful for understanding the amazing flexibility statisticians have with their career choices between large and small companies and within industry, government, or academia.

One podcast to highlight features the current Biopharmaceutical Section chair, Matilde Sanchez-Kam, discussing the importance of volunteering with professional organizations to build professional connections and develop leadership and communication skills (*http://bit.ly/1qzsfW1*).

Future podcasts will continue to educate and inform statisticians. Episodes include discussions on the unique challenges for developing medical devices, different regulatory and statistical hurdles faced by statisticians in Europe, news about the ASA's 175th anniversary, a feature on *Statistics in Biopharmaceutical Research*, and highlights for the upcoming Joint Statistical Meetings and FDA-Industry Statistics Workshop. Of course, I need to hear from you! Share your thoughts, experiences, and ideas in a podcast and then send me the link at *richard.zink@jmp.com*.

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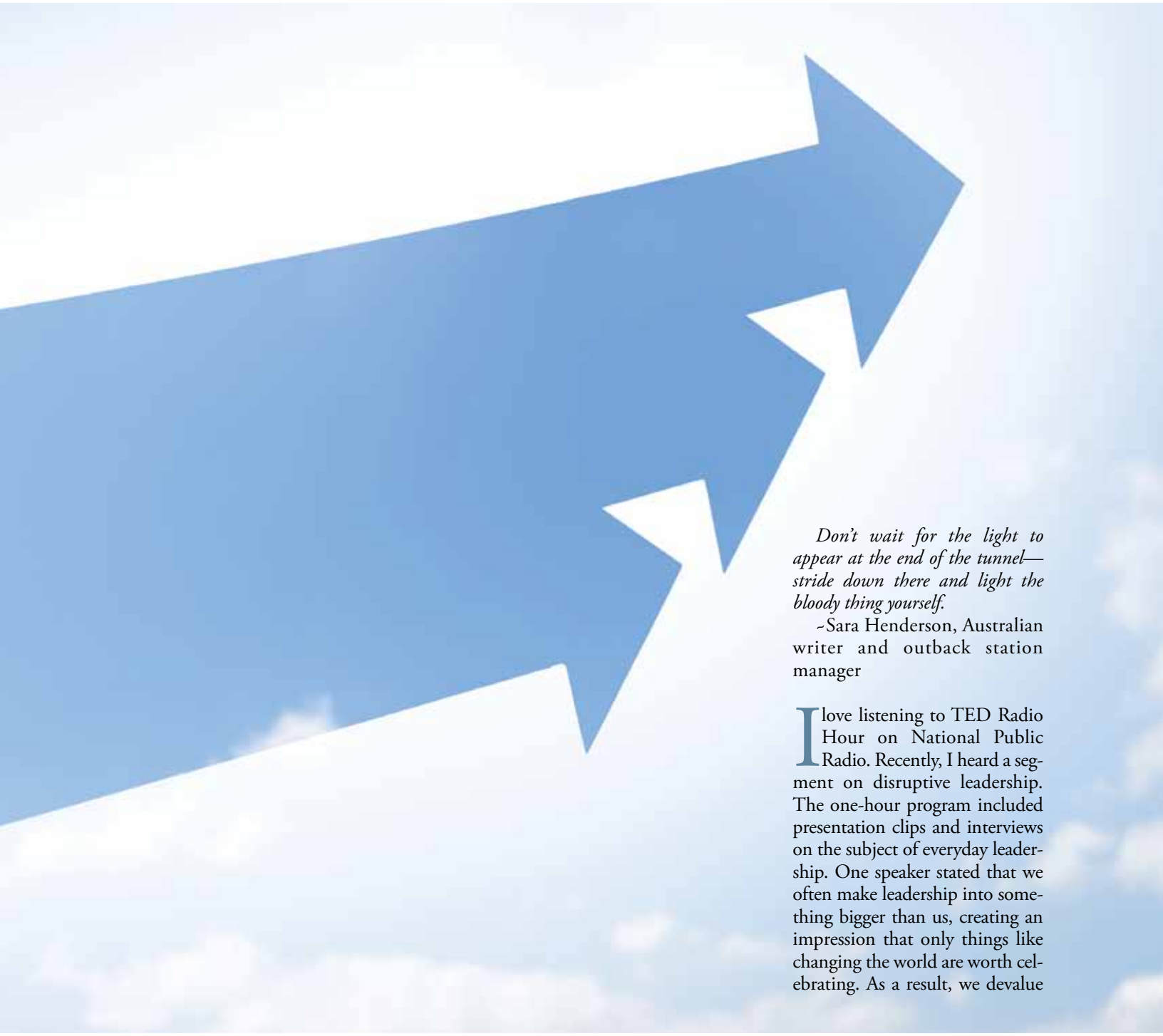
Energize Our Future by Practicing Everyday Leadership

Christy Chuang-Stein



Don't wait for the light to appear at the end of the tunnel—stride down there and light the bloody thing yourself.

~Sara Henderson, Australian writer and outback station manager

I love listening to TED Radio Hour on National Public Radio. Recently, I heard a segment on disruptive leadership. The one-hour program included presentation clips and interviews on the subject of everyday leadership. One speaker stated that we often make leadership into something bigger than us, creating an impression that only things like changing the world are worth celebrating. As a result, we devalue

things like acts of kindness or generous mentoring when these are the very actions that often have a lasting impact on somebody's life. Every day, ordinary people step into a vacuum somewhere and affect fundamental changes that would not have been possible without their activism.

A misconception identified by another speaker is the notion that we need permission to lead. In other words, we often feel compelled to wait to be selected as a leader. While this is certainly the case in some circumstances, it is often internal qualities that propel many leaders to take action on their own. Interestingly, charisma is not a necessary trait. According to the speaker, charisma could surface in leaders after they are recognized to have made a successful and broad impact. Bill Gates was cited as an example.

This led me to think about our association. The ASA is a member-led organization. Members volunteer to work together every day to promote our professional identify, to voice our opinions about important issues, and to make a difference in critical decisions through the practice of statistics. While our association is fortunate to have the support of excellent staff at the ASA headquarters, it is members who determine the future of the association and lead the association toward that future. This is a dynamic process that began on the day in 1839 when the association was founded. The process often involves engineered changes—changes that need to be presented, embraced, and executed by members to render the intended benefit. And it is not just the changes, but the speed of the changes, that requires attention. To anticipate and effectuate change takes commitment, energy, and grit. It takes everyday leadership to break down the necessary tasks into bite sizes for implementation.

The theme of the ASA's 175th anniversary is "Celebrate Our Past, Energize Our Future." One does not need to look far into our association's past to find a rich history of accomplishments. Our association's website contains daily news and accomplishments of its members. The latter are integrated into our association's proud past continuously. The Committee on ASA Archives and Historical Materials will host a series of posters at the Joint Statistical Meetings this year to highlight our association's illustrious history.

In addition to celebrating our past, the 175th anniversary planning has been focused on the future of the ASA to do our best to lay the foundation for the bicentennial celebrations and beyond.

The 175th Anniversary Committee has identified three action areas—StatSharp, StatGrowth, and StatImpact—to energize our future. StatSharp focuses on expanding statistical education and raising the awareness among the next generation that statistics is an attractive career choice. StatGrowth focuses on growing our association in depth and breadth. StatImpact focuses on the influence of statistics by demonstrating the benefit of statistical thinking in making evidence-based decisions and policies. All plans require action at the grass-root level to leverage available tools and human and financial resources to take us to a future that is productive and relevant.

I asked several 'new' ASA members how they hoped to benefit from their association membership. The most common answer was the *community* feel. The ASA fosters communication and collaboration among statisticians from all sectors of employment. One new member hopes membership in the ASA will help her stay connected to the movement of the field and make her available to the community wherever she can be helpful. Many acknowledge that they expect to be 'users' of the resources the ASA makes available to them in their initial years. They also hope that, ultimately, they will be able to give back to the ASA family that provided for them during the career-building years of their professional lives.

The good news is there is no need to wait. Everybody is invited to contribute to the association in their own unique way. Opportunities such as taking an active role in a section and helping organize a chapter event abound. An association is energized when its members are engaged and energized. Members are energized when they feel empowered to practice everyday leadership in their professional world and in the home of their professional identity.

Let's be the best change agents we can be. Let's energize our future through the practice of everyday leadership that comes from within!

Be the change you wish to see in the world.

~Gandhi ■

REGISTRATION FORM

2014 ASA Biopharmaceutical Section FDA–Industry Statistics Workshop

September 22–24, 2014 • Marriott Wardman Park—Washington, DC

www.amstat.org/meetings/fdaworkshop/2014

INSTRUCTIONS

1. Print or type all information and retain a copy for your records.
2. Use a separate form for each registrant.
3. Mail form with payment to FDA–Industry Statistics Workshop Registration, 732 N. Washington Street, Alexandria, VA 22314. Fax form (credit card payment only) to (703) 684-2037.
4. Registration form must be received by 5:00 p.m., EDT, September 1, 2014, to be processed at the reduced rate. Purchase orders will not be accepted. No exceptions. ASA Federal ID #53-0204661.

Forms Received Without Payment Will Not Be Processed.

ATTENDEE INFORMATION

ASA ID # (if known)

Name

Preferred Name for Badge (if other than first name)

Organization

Address

City State/Province ZIP/Postal Code

Country (non-U.S.)

Phone

Email

In case of emergency, list the name and phone number of the person we should contact (remains confidential).

Emergency Contact's Name _____

Telephone Number _____

❑ Please update my ASA customer contact information with this contact information.
❑ Please exclude my name from the conference attendee roster that will appear on the conference website.

This meeting is ADA accessible.

❑ Please check here if you need special services due to a disability or have food allergies/restrictions and attach a statement regarding your needs.

CANCELLATION POLICY

Cancellations received by 5:00 p.m., EDT, September 1 will be refunded, less a $25 processing fee and less a $10 processing fee for each short course. Cancellations received by 5:00 p.m., EDT, September 15 will be refunded, less a $50 processing fee and less a $15 processing fee for each short course. Requests for refunds received after 5:00 p.m., EDT, September 15 will not be honored. All cancellations must be made in writing to *ASAInfo@amstat.org*, via fax to (703) 684-2037, or via mail to FDA–Industry Statistics Workshop Registration, 732 N. Washington Street, Alexandria, VA 22314.

REGISTRATION FEES Workshop Fee (required)

	By Sept. 1	Sept. 2-15	❑ Registrant
	$335	$360	$_____
❑ Academic (nonstudent)	$240	$265	$_____
❑ Biopharm Section Member	$250	$275	$_____
❑ Government Employee	$150	$175	$_____
❑ Student	$130	$155	$_____

If you would like to join the Biopharmaceutical Section and pay the reduced conference fee, visit *http://community.amstat.org/BioP/aboutus/join*.

SHORT COURSES—Monday, September 22

Add-ons to workshop fee: $105 each through September 1; $110 each September 2–15

8:30 a.m.–12:00 p.m.

❑ SC1: Patient-Reported Outcomes: Measurement, Implementation, and Interpretation—*Joseph Cappelleri* $_____

❑ SC2: An Overview of Structured Benefit-Risk Analysis—*Telba Irony, Qi Jiang, and George Quartey* $_____

❑ SC3: Multiple Testing Procedures with Gatekeeping and Graphical Applications—*Ajit C. Tamhane and Dong Xi* $_____

1:30 p.m.–5:00 p.m.

❑ SC4: Subgroup Analysis in Clinical Trial—*Alex Dmitrienko and Ilya Lipkovich* $_____

❑ SC5: Propensity Score Methods for Estimating Causal Effects in Pharmaceutical Research: The Why, When, and How—*Elizabeth Stuart* $_____

❑ SC6: Group Sequential Design and Sample Size Re-estimation in R—*Keaven Anderson* $_____

TOTAL FEES: $_____

MEAL PREFERENCE

Lunch on Tuesday, September 23, is included in workshop registration fee. Please indicate the roundtable number (see back of form) for your 1st, 2nd, and 3rd choices.

1st____ 2nd____ 3rd____ ❑ Lunch only ❑ Not attending lunch

Select one of the following menu options: ❑ Regular ❑ Vegetarian

PAYMENT

❑ Check/money order payable to the **American Statistical Association**
(in U.S. dollars on U.S. bank)

Credit Card ❑ American Express ❑ Discover ❑ MasterCard ❑ VISA

Card Number

Expiration Date Security Code

Name of Cardholder

Cardholder's Signature

Roundtable Luncheon Topics
Tuesday, September 23

ADAPTIVE DESIGN

TL1: Best Practices for Adaptive Trial Designs—*Eva Miller, Quality Data Services, Inc.*

TL2: Use of Adaptive or Group Sequential Designs in Phase 1 Studies—*Jaya Natarajan, Janssen R&D*

TL3: High Placebo Response, What Is Your Story?—*Anastasia Ivanova, University of North Carolina at Chapel Hill*

TL4: Considerations for Clinical Development Plans of Oncology Drugs with a Companion Diagnostics—*Qi Xia, Roche/Genentech*

TL5: Strategies to Mitigate Against Operational Bias in Adaptive Designs—*Greg Maislin, Biomedical Statistical Consulting*

TL6: Recent Advances in Turning Adaptive Designs Theory for Phase I Oncology Trials into Practice—*Inna Perevozskaya, Pfizer*

TL7: Adaptive Designs in Medical Device Studies—*Jie Zhou, FDA*

BENEFIT/RISK

TL8: Utility-Weighted Endpoints in Clinical Trials—*Pablo Bonangelino, FDA/CDRH*

TL9: Benefit-Risk Assessment via Responders in the Absence of Established Definition—*Amarjot Kaur, Merck Research Labs*

TL10: Statistical Issues in Balancing Pre-Market and Post-Market Studies for Medical Devices—*Terri Johnson, FDA/CDRH*

TL11: Statistical Methods in Benefit-Risk Assessment—*Yueqin Zhao, FDA*

BIOMARKERS

TL12: Biomarkers for Rare Events—*Samir Lababidi, FDA*

TL13: Surrogate Endpoints in Clinical Trials: A Statistical Perspective—*Zhong Gao, FDA/CBER*

TL14: Sample Size and Subgroup Analyses—*Hope Knuckles, Abbott*

TL15: Evaluation of Prognostic Biomarkers—*Justin Rogers, Abbott*

COMPARATIVE EFFECTIVENESS

TL16: Comparative Effectiveness in Off-Label Indications—*Jason Connor, Berry Consultants*

DEVICES AND DIAGNOSTICS

TL17: Repeated Measures in Diagnostic Tests—*Bipasa Biswas, FDA/CDRH*

TL18: Development and Implementation of Objective Performance Criteria—*Theodore Lystig, Medtronic, Inc.*

TL19: Measuring Interval—*Vicki Petrides, Abbott Diagnostics*

DSMB/ADVISORY COMMITTEE

TL20: Avoiding Bias by Outsourcing—*Bill Coar, Axio Research*

META-ANALYSIS

TL21: Safety Data Meta-Analysis—*Susan Huyck, Merck*

METHODOLOGY

TL22: A Comprehensive Review of the Two-Sample Independent or Paired Binary Data: With or Without Stratum Effects Along with Homogeneity Testing and Estimation of Common Risk Difference—*Dewi Rahardja, FDA*

TL23: Clinical Trial Design with Presence of Long-Term Survivors—*Jim Xiang, ASA, IBS*

TL24: Challenges in Sample Size Planning for Randomized Clinical Trials—*Roy Tamura, Pediatrics Epidemiology Center, University of South Florida*

TL25: Recent Developments in Dynamic Treatment Regime: Theory and Implementation—*Yang Wang, FDA*

MISSING DATA

TL26: Missing Data in Medical Device Studies—*Peter Lam, Boston Scientific*

TL27: Bayesian Missing Data Analysis—*Frank Liu, Merck*

MULTIPLICITY/MULTIREGIONAL CLINICAL TRIALS/IA

TL28: Multi-Regional Clinical Trials (MRCT): Challenges and Opportunities—*Sammy Yuan, Merck*

OBSERVATIONAL STUDIES

TL29: Confounder Adjustment for Emergent Treatment Comparisons and Safety Assessment: The Use of Propensity Scores and Disease Risk Scores—*Eric Frimpong, FDA*

ONCOLOGY

TL30: Interval Censoring in Time-to-Event Data—*Mihaela Obreja, Onyx Pharmaceuticals*

TL31: Design of MTD Trials—*Nfii Ndikintum, inVentiv Health Clinical*

TL32: Randomization Needs in Oncology Trials—*Olga Kuznetsova, Merck*

TL33: Real-Time Data Analysis for Early Hematology and Oncology Trials—*Shaoyi Li, Celgene*

OTHER

TL34: Evaluating Effect of Intrinsic Factors on Pharmacokinetics—*Deborah Panebianco, Merck*

TL35: Data Poolability—*Chul Ahn, FDA/CDRH*

TL36: Cross-Industry Safety Analysis Recommendations for Clinical Trials and Submissions Utilizing a Platform for Sharing Code—*Mat Soukup, FDA/CDER*

TL37: Data Transparency/Stewardship: The Why's, Where's, and How's of the Secondary Use of Patient Data—*Stephen Wilson, FDA/CDER/OTS/OB/DBIII*

TL38: Challenges Faced by Oncology Statisticians in the Area of Innovation—*Grazyna Lieberman, Genentech*

PHARMACEUTICAL DEVELOPMENT, CMC, NON-CLINICAL

TL39: How to Promote/Advocate the Statistics Leadership in Pharmaceutical Development: Chemistry, Manufacturing, and Control (CMC) Area—*Sutan Wu, FDA*

REGULATORY TOPICS/GUIDANCES

TL40: Drug Approvals for Narrow but Critical Unmet Medical Needs and Diagnostic Performance Studies: How to Harmonize and Expedite Both—*Deepak Khatry, MedImmune*

SAFETY

TL41: Extracting Information from Observational Electronic Health and Claims Data to Enhance Post-Approval Medical Product Safety Surveillance—*Patrick Ryan, Janssen R&D*

TL42: Revisiting PSAPs: Sharing Experience, How It's Evolving—*Susan Duke, GSK*

TL43: Safety Monitoring of Events of Interest and Alert Rules—*Bradley McEvoy, FDA/CDER*

TL44: Modeling the Dissimilarities of Test-Reference Concentration Curves in Post-Marketing Safety/Surveillance Studies of Generic Drugs—*Elena Rantou, FDA*

TL45: Continuous Safety Signal Monitoring with Blinded Data—*Greg Ball, AbbVie*

THERAPEUTIC AREA SPECIFIC TOPIC

TL46: Ensuring Success in Mood Disorder Trials—*Pilar Lim, Janssen R&D*

TL47: Analyzing Subjective Measurements of Pain—*Linda Roycroft, Novartis Animal Health*

TL48: Experiences with BICR (Blinded Independent Central Review) of Progression-Free Survival (PFS) Type Endpoints—*Wenting Wu, AstraZeneca*

For additional information, please visit *www.amstat.org/meetings/fdaworkshop/2014*.

Ann Arbor, Detroit Chapters Judge Science Fair

Karry Roberts, Detroit Chapter Secretary

Judges from the Detroit and Ann Arbor chapters (from left): Kathy Peterson, Lance Heilbrun, Karry Roberts, Anamaria Kazanis, Ellen Barnes, John Gillespie, Frank Murdock, Bob Peterson, Rob Kushler, Bern DeBacker, and Huiyong (Thomas) Zheng
Photo courtesy of Huiyong (Thomas) Zheng

Continuing their longstanding annual tradition, the Ann Arbor and Detroit chapters met in Ann Arbor, Michigan, as a special awards judging team for the Southeast Michigan Science Fair on March 14. To encourage the use of statistics within the scientific method, the team judges all science project posters at the fair focusing on the students' use of statistics.

This year, the team of 11 judges included **Anamaria Kazanis**, **John Gillespie**, **Huiyong (Thomas) Zheng**, and **Frank Murdock** from the Ann Arbor Chapter and **Lance Heilbrun**, **Rob Kushler**, **Ellen Barnes**, **Bern DeBacker**, **Karry Roberts**, **Kathy Peterson**, and **Bob Peterson** from the Detroit Chapter.

Initially, each judge took a zone and reviewed all posters therein, giving certificates of recognition for any basic use of statistics and certificates of merit for a more extensive use of statistics. They also gave copies of *Significance* magazine to several certificate recipients.

After judging their individual zones, they jointly reviewed the best posters found by each judge as potential candidates for their top awards. The winners received a statistical book and an award of excellence certificate signed by all the judges.

This year's awards of excellence were given for the following projects:

High School Division
A Preliminary to RNA Interference: Which Genes Can Make Up for IRFG Deficiency to Prevent Van der Woude Syndrome? by a team of two students, one from Huron High School and one from Pioneer High School

Middle School Division
Finding the Ultimate Tensile Strength of Different Types of Pasta, by a student from Clague Middle School

Who Has Faster Reflexes? Boys or Girls? by a student from St. Francis of Assisi Catholic School

A Key to Understanding the Development of Learning and Memory: Homeschooled Goldfish, by a student from St. Francis of Assisi Catholic School

In addition to the five awards of excellence, the judges gave 59 certificates of recognition and four certificates of merit. They reviewed a total of 287 science project posters in the high-school and middle-school categories. ■

Cynthia Clark (middle) with Iowa State University President Steven Leath (left) and Alumni Association President Jeffery W. Johnson (right)

Clark Receives Distinguished Alumni Award

During the Distinguished Awards Celebration on April 11, the Iowa State University Alumni Association conferred upon **Cynthia Z. F. Clark** (MS 1973, PhD 1977, statistics) of Washington, DC, the Distinguished Alumni Award, the highest honor given to alumni by Iowa State University through the ISU Alumni Association. This award has been presented annually since 1961 to individuals who are recognized nationally and/or internationally for preeminent contributions to their professions or life's work.

Clark has devoted most of her career to government service by lending her immense expertise to the collection, advancement, and analysis of national statistical systems. Her work has a direct impact on such national measurements as unemployment rates, labor force statistics, poverty rates, agricultural production, educational attainment, environmental quality, and health statistics.

During her career, Clark has worked for the U.S. Census Bureau, the U.S. Department of Agriculture's National Agricultural Statistics Service, the Office of Federal Statistical Policy, and the Office of Management and Budget, where she edited three National Indicator System reports for President Ronald Reagan in 1981 and 1982.

Clark is known as a leader and innovator in her field, specializing in methodology. During her first appointment with the National Agricultural Statistics Service in 1990, she initiated a new survey called the Agricultural Resource Management Survey, which provides integrated information about chemical usage, farm economics, and resource management and proved to be a groundbreaking innovation for informing agriculture policy. As associate director for methodology and standards at the U.S. Census Bureau from 1996–2004, she was instrumental in developing a new program to increase academic training and creating new opportunities for government staff.

For more about Clark, visit *www.isualum.org/dac*.

Read about your colleagues and friends in the news. Go to *www.amstat.org* and click on "Statisticians in the News."

ASA member **Emmanuel Candès** recently was elected to the American Academy of Arts and Sciences. A total of 204 new members were invited to join the prestigious honorary society, which is a leading center for independent policy research. New members are among the world's most accomplished scholars; scientists; writers; artists; and civic, corporate, and philanthropic leaders. Visit *www.amacad.org/content/news/pressReleases.aspx?pr=217* for details. ■

Carnegie Mellon University has selected **Christopher R. Genovese** to head its department of statistics, effective July 1. Genovese, professor of statistics, succeeds Mark Schervish, who served as department head for the past 10 years.

"The department of statistics is central to several of Carnegie Mellon's major strategic initiatives, which also reflect many of the central problems facing the world today—data science, brain science, learning science, cybersecurity and privacy, computational biology, genetics, and cosmology," said John Lehoczky, dean of the Dietrich College of Humanities and Social Sciences. "Chris Genovese is a truly brilliant applied and theoretical statistician who is ideally suited to lead the department at a time when statistical science is rapidly evolving to meet the challenging demands of Big Data and a wide array of scientific problems. Under his leadership, I am confident that the department will continue its international prominence."

Genovese joined Carnegie Mellon in 1994. His research focuses on solving complex and high-dimensional problems in the sciences. His work has produced new methods and results in neuroscience, evolutionary

biology, learning science, and cosmology/astrophysics.

Genovese's paper introducing a Bayesian model for the analysis of functional magnetic resonance imaging data was awarded application paper of the year by the American Statistical Association. He uses data from large-scale astronomical surveys to understand the evolution and history of the universe. He also helped build Carnegie Mellon's astrostatistics group, an international leader in the application of statistics to observational cosmology.

Genovese's work in the learning sciences focuses on modeling students' learning state from data collected as the students interact with online instruction. He is the co-creator of the "Learning Dashboard," a system that analyzes student data in real time and provides interpretable and actionable inferences, recommendations, and data visualizations for students and instructors. He also does theoretical work in a variety of areas, including finding low-dimensional structures in high-dimensional data and combining many statistical tests into a single coherent decision.

Genovese is a fellow of the American Statistical Association and the Institute of Mathematical Statistics. He has been awarded funding from numerous agencies, including the National Science Foundation, National Institutes of Health, NASA, and U.S. Department of Energy. He is a recipient of a CAREER Award from the National Science Foundation and a Shannon Award from the National Institutes of Health.

Genovese also has been active as an educator, both at the graduate and undergraduate levels. He has created several courses and consistently innovated in instructional design. For more information, visit *www.stat.cmu.edu/people/faculty/genovese*. ■

The Quality and Productivity (Q&P) Section has selected **Michael Hamada** as the first recipient of its Gerald J. Hahn Q&P Achievement Award. The award will be presented at the 2014 Fall Technical Conference of the Q&P and Physical and Engineering Sciences sections of ASA and the Chemical and Process Industries and Statistics Divisions of the American Society for Quality, to be held in Richmond, Virginia, October 2–3. As winner of the award, Hamada will deliver the Q&P-sponsored plenary address.

This award recognizes an individual who has demonstrated outstanding and sustained achievement and leadership in developing, promoting, and successfully improving the quality and productivity of products and organizational performance using statistical concepts and methods over a period of 20 or more years.

Hamada's selection was based upon his extensive contributions to quality and productivity motivated by real-world problems. Blending his insights gained from experience in government, industry, and academic settings, he has spent the bulk of his career at Los Alamos National Laboratory developing statistical solutions for problems of national and international importance while advancing the state of knowledge in quality

Researchers Receive *IJERPH* Best Paper Award

What are the human health implications of climate change? There is by now a well-established body of evidence about the direct effects of increasing temperature (e.g., heat stroke), but is that the full story? It is also possible that air pollution patterns may change as a result of the changing climate, especially ozone, whose production is stimulated by hot weather.

In work started at the Statistical and Applied Mathematical Sciences Institute (SAMSI) and later completed with colleagues at North Carolina State University, **Howard Chang** studied the effect of simultaneous changes in temperature and ozone, using simulations from climate models. Rather than run the model multiple times under different scenarios (a time-consuming process), Chang and his colleagues devised a statistical approach that saves computation time and allows researchers to estimate the uncertainty in their projections. As a result, they found significant increases in projected mortality in the southeastern United States during the period 2041–2050 compared with 2000 levels.

The resulting paper, written by **Chang**, **Jingwen Zhou**, and **Montserrat Fuentes**, was awarded the *International Journal of Environmental Research and Public Health* (*IJERPH*) Best Paper Award 2014. Their paper, "Impact of Climate Change on Ambient Ozone Level and Mortality in Southeastern United States," received the third prize in the Articles category.

For more information about the award, visit *http://bit.ly/1kPLhjy*. To read the paper, visit *http://bit.ly/1it78Pz*.

and productivity. Always emphasizing the science behind problems and the understanding of measurement processes, he has made contributions to reliability, design of experiments, process monitoring, quality improvement, measurement systems, tolerance intervals, sampling, simulation, and uncertainty quantification.

Hamada is known for his ability to look at a variety of problems, distilling the statistical essence, and carefully working out details to provide innovative, practical solutions. He has worked tirelessly to communicate these novel methods to a broad audience of theoretical statisticians and statistical practitioners, persuading peers in other disciplines and sharing the pivotal role statistics can play in improving engineering and scientific discovery.

Hamada has been a leader in the broader statistics community with more than 100 scholarly articles, leading books on design of experiments and Bayesian reliability, extensive editorial service, and organization of conferences and workshops. A respected colleague, a dedicated mentor, and an active collaborator both within his organization and with external colleagues in academic and industrial settings, Hamada exemplifies the qualities recognized by the Gerald J. Hahn Q&P Achievement Award.

More information about the award can be found at *http://bit.ly/SAGGdB*. ■

Obituaries

Chin Long Chiang

Chin Long Chiang, professor emeritus at the University of California at Berkeley School of Public Health, passed away on April 1 at the age of 99. He was one of the world's preeminent biostatisticians who transformed the health care field through the use of statistical methods.

Born in China, Chiang came to the United States with his wife in 1946. He attended UC Berkeley and earned both a master's degree and a PhD in statistics. With the help of Jerzy Neyman, he then began a teaching career that would span more than 40 years.

He was a member of the UC Berkeley faculty and served as chair of the biostatistics division in the school of public health and co-chair of the UC Berkeley Interdepartmental Group in Biostatistics. Following his retirement in 1987, the university honored him with the Berkeley Citation for his distinguished achievement. He was also a visiting professor at Harvard, Yale, Emory, and Peking universities and the University of London, among others.

Chiang was one of the first to recognize biostatistics as a separate entity. One of his major contributions was the development of a statistical method that could be applied to life tables, making them a more accurate and valuable tool in understanding the health of different states, countries, and segments of the population. He also went on to apply statistical methods to cancer rates, AIDS, and other diseases.

He was active in the International Chinese Statistical Association and was a Fellow of the ASA, the Institute of Mathematical Statistics, and the Royal Statistical Society of London.

Chiang was described as a generous, gracious, and gregarious man who enjoyed good conversation. One of his greatest joys was playing chess and "Go" with his grandsons.

Memorial donations may be sent to the Chin Long Chiang Graduate Student Support Fund, which supports high-achieving graduate students with particular preference for PhD students in biostatistics.

For more information about the fund or to view Chiang's complete obituary, visit *http://sph.berkeley.edu/professor-emeritus-chin-long-chiang-leader-biostatistics-berkeley-dies-99*.

Daniel Bernard Levine

Daniel Bernard Levine passed away April 29, 2014, at the age of 88.

After serving as a naval pilot in World War II, Levine earned his bachelor's degree in economics from The George Washington University and his master's degree in economics from Columbia University.

Levine worked at the U.S. Census Bureau for more than 30 years and was eventually made deputy director. While at the bureau, he earned the Department of Commerce Silver and Gold medals and an appointment by President James Carter to the rank of Meritorious Executive of the Senior Service.

Levine also worked at Westat for more than 25 years.

Opportunities for Statistics in Radiology Clinical Trials

Diana Miglioretti, Nancy Obuchowski, and Todd Alonzo

The Biometrics Section will fund a biostatistician to attend the annual Clinical Trials Methodology Workshop for imagers taking place in January 2015 in Scottsdale, Arizona. The workshop presents an opportunity for a biostatistician interested in imaging clinical trials to learn the relevant methodology and gain experience collaborating with radiologists and imaging specialists.

Medical imaging is playing a much larger role in the diagnosis and treatment of disease. Imaging clinical trials are designed to evaluate how imaging can detect early disease, predict patient outcome to different therapies, and guide less invasive interventions. These trials can be more challenging than therapeutic trials because they often require a reference standard, must account for subjective image interpretations, and are mediated by events that take place after imaging.

Yet radiology has been underserved by biostatisticians. Studies in radiology are often ill-designed, fail to include multiple institutions or readers, focus on outcomes that are not clinically relevant, and do not properly account for clustering in the data. Radiology research requires the use of unique statistical methods, including those used for the evaluation of the accuracy of diagnostic imaging tests (e.g., ROC or fROC curves), for developing prognostic models based on imaging results and assessing the performance of new quantitative imaging biomarker algorithms. Research in radiology would benefit greatly from the attention of, and collaboration with, methodological biostatisticians with appropriate training.

Each year, the Radiology Society of North America (RSNA) holds an intensive one-week workshop on clinical trial methodology for faculty members and fellows in radiology, radiation oncology, and nuclear medicine academic departments. The workshop provides hands-on training in the design, conduct, analysis, and interpretation of clinical trials in radiology and imaging through didactic sessions, one-on-one mentoring, small discussion sessions, self-study, and protocol development workgroups. A curriculum infused with statistical and methodological concepts and examples was developed for this course. This workshop has a distinguished group of 20 MD and PhD faculty members (including five PhD biostatisticians) with extensive experience in radiology clinical trials, providing a student-to-faculty ratio close to 1:1.

The ASA-funded biostatistician trainee will shadow each of the biostatistics faculty members to observe the collaborative process of developing clinical trials in radiology, in addition to learning the methodological aspects of this field. Eligible applicants will hold a PhD degree in biostatistics or a related field (e.g., statistics) and have an interest in the design, conduct, and analysis of imaging clinical trials. Interested applicants should email a one-page letter of interest, CV, and letter of support from their department head to Diana Miglioretti at *dmiglioretti@ucdavis.edu* with "RSNA CTMW Biostatistics" in the subject line. The deadline for receipt of applications is August 15. Announcement of the award will be made by October 1. ■

sectionnews

Biometrics

Edited by Feifei Wei, Biometrics Section Publications Officer

The Biometrics Section will sponsor the following six Continuing Education (CE) courses and five invited sessions at the 2014 Joint Statistical Meetings in Boston, Massachusetts:

CE Courses

Cure Models and Their Applications in Biomedical Research
Instructors: Jeremy Taylor and Yingwei Peng

Adaptive Methods in Modern Clinical Trials
Instructors: Guosheng Yin, Byron Jones, and Frank Bretz

Analysis of Genome-Wide Sequencing Association Studies
Instructors: Xihong Lin and Mike Wu

Quantile Regression
Instructors: Roger Koenker and Huixia Judy Wang

Missing Data Methods for Regression Modeling
Instructor: Joe Ibrahim

Applied Longitudinal Analysis
Instructors: Garrett Fitzmaurice and Nan Laird

Invited Sessions

Statistical Methods for Modern Complex-Structured Imaging Data, organized by Veera Baladandayuthapani

Recent Developments on the Analysis of Semi-Competing Risks Data, organized by Sebastien Haneuse

Recent Development in Variable Selection Methods, organized by Zhangsheng Yu

Emerging Statistical Methods for Complex Data, organized by Lan Xue

New Challenges in Survival Analysis, organized by Yichuan Zhao

Visit the online program at *www.amstat.org/meetings/jsm/2014/onlineprogram* for updates on locations and times.

Mixer and Business Meeting

The Biometrics Section mixer and business meeting will be held August 4 from 5:30 p.m. to 7:00 p.m. The 2014 David P. Byar Young Investigator Award and section travel awards will be presented at the mixer, which is open to all JSM attendees.

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 ideas for one should contact the section's 2015 representative, LiHong Qi, at *lhqi@ucdavis.edu*.

A typical session consists of three 30-minute talks followed by a discussion or four 25-minute talks. June 15 is the deadline for proposals, and it is best if you have a well-defined topic and commitments from participants by that time. The more detailed the proposal, the better the chances it will be selected.

JSM 2015

It's 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 ideas for one should contact the section's 2015 program chair, Rebecca Hubbard, 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 in competing for the limited number of slots, so it's best to have ideas in final form by the middle of June. The Biometrics Section will have at least four invited sessions, but will be able to compete for additional slots.

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

Mental Health

The Mental Health Section recently completed its first student paper award competition, naming one first-place winner and three honorable mentions. In all, 16 papers were received from students worldwide.

First Place

Ying Liu of Columbia University for "Augmented Multistage Outcome-Weighted Learning for Estimating Personalized Dynamic Treatment Regimes"

Honorable Mention

Qiaolin Chen of the University of California at Los Angeles for "A Bayesian Family Factor Model for Multiple Outcomes"

Megan Schuler of the Johns Hopkins Bloomberg School of Public Health for "Addressing Confounding When Estimating the Effects of Latent Classes on a Distal Outcome"

Pan Wu of the University of Rochester for "Causal Inference for Community-Based Multi-Layered Intervention Study"

Current undergraduate and graduate students at any level, as well as those who graduated in 2013 but submitted research they conducted as students, were eligible. Each paper was judged in terms of the importance of the problem in mental health and the quality of the statistical methodology, application, and writing.

A prize of $250 was awarded to Liu. The winning entries will be displayed in poster format and the awards announced at the section's mixer during JSM 2014 in Boston.

Physical and Engineering Sciences

Bryan Smucker, Michael Crotty, and Elizabeth Schiferl

The Section on Physical and Engineering Sciences (SPES) will sponsor two short courses at JSM in August: Modern Design of Factorial Experiments, taught by Peter Goos and Bradley Jones, and The Design and Analysis of Experiments That Use Computer Simulators, taught by Thomas Santner and Brian Williams. Goos and Jones' course is based on *Optimal Experimental Design: A Case-Study Approach*, and Santner and Williams' course is based on *The Design and Analysis of Computer Experiments*.

In conjunction with the Fall Technical Conference (FTC), SPES will sponsor a short course by Heath Rushing called Text Mining and Unstructured Data Analysis Methods. Other FTC short courses include Definitive Screening Designs by Bradley Jones and Christopher Nachtsheim, Effective Presentations for Statisticians by Jennifer van Mullekom and Stephanie DeHart, and a course on reliability by William Meeker.

Volunteers Needed

As SPES members, many of you are aware that the section gives awards every year for the best JSM contributed presentations based on audience evaluation. The awards recognize the best presentations in SPES-sponsored contributed and topic-contributed paper sessions. To be successful, the awards program requires the efforts of many volunteers every year. If you would like to volunteer to help with the data collection for this year's presentation awards, contact Michael Crotty at *michael.crotty@sas.com* or (919) 531-0669. Being a member of the SPES Awards Committee gives you the opportunity to serve your community and meet your colleagues.

Volunteer responsibilities include distributing evaluation forms to the audience in each session you agree to cover and evaluating the speakers in your sessions. Detailed session information can be found at *www.amstat.org/meetings/jsm/2014/onlineprogram*.

SPES/Q&P Mixer at JSM

Making plans to attend JSM in Boston? Due to the ASA 175th Anniversary Celebration on Tuesday evening of the conference, the SPES/Q&P mixer will be on Monday night and the SPES business meeting will be Sunday evening. Exact times and locations will be in the JSM program.

Statistics in Epidemiology

The Statistics in Epidemiology (SIE) Section will sponsor five invited sessions, six topic-contributed sessions, 19 contributed sessions, three roundtable discussions, and one short course at the 2014 Joint Statistical Meetings this August in Boston. We encourage our members and other interested JSM attendees to join us for these sessions and the SIE awards reception.

SIE Awards Reception

The section welcomes our members, along with all ASA members and their families, to attend the SIE Awards Reception, where the 2014 young investigator (YI) awards will be presented. The YI awards are given annually to new researchers for the best papers in SIE presented at JSM.

This year, the YI awards go to Ian Barnett of Harvard, Xinyi Lin of Harvard, John Rice of the University of Michigan, and Jennifer Anne Sinnott of Harvard.

Short Course

Causal Mediation Analysis
August 5, 8:30 a.m. - 5:00 p.m.
Instructor: Tyler VanderWeele, Harvard

Roundtable Discussions

Measurement Error and Misclassification: New Opportunities for Research and Applications
August 4, 7:00 a.m. - 8:15 a.m.
Donna Spiegelman, Harvard

Causal Inference in Statistics and Epidemiology
August 5, 7:00 a.m. - 8:15 a.m.
James Robins, Harvard

Analyzing Data from Older Study Samples: What Should the Toolkit of a Gerontological Biostatistician Include?
August 6, 7:00 a.m. - 8:15 a.m.
Peter Van Ness, Yale

Invited Sessions

New Developments on Meta-Analysis with Applications to Medical Research
August 3, 4:00 p.m. - 5:50 p.m.
Organizer: Sandra M. Hurtado Rúa, Weill Cornell Medical College
Chair: Jaya Satagopan, Memorial Sloan-Kettering Center

Advances in Statistical Methods for Large-Scale Genetic Data and Their Impact on Public Health
August 4, 2:00 p.m. - 3:50 p.m.
Organizer: Iuliana Ionita-Laza, Columbia University
Chair: Seunggeun Lee, University of Michigan

Statistics in Disease Mapping and Spatial Epidemiology: New Insights and New Frontiers
August 5, 8:30 a.m. - 10:20 a.m.
Organizer/Chair: Ying C. MacNab, University of British Columbia

Advances in Risk Prediction Using Genetic and Genomic Data
August 6, 2:00 p.m. - 3:50 p.m.
Organizer: Huilin Li, New York University
Chair: Mengling Liu, New York University

Modern Methods for Modeling and Forecasting of Infectious Diseases: From Visualization to Random Networks and Social Media
August 7, 8:30 a.m. - 10:20 a.m.
Organizers/Chairs: Yulia R. Gel, University of Waterloo, and Elena Naumova, Tufts University

Topic-Contributed Sessions

Applications of Statistical Techniques to the Analysis of HIV/AIDS Data at the Centers for Disease Control and Prevention
August 3, 2:00 p.m. - 3:50 p.m.
Organizer: Felicia P. Hardnett, Centers for Disease Control and Prevention

Fresh Perspectives on Causal Inference, II
August 5, 10:30 a.m. - 12:20 p.m.
Organizer: Susan Gruber, Reagan-Udall Foundation for the FDA

Counting Processes for Disease Modeling
August 6, 10:30 a.m. - 12:20 p.m.
Organizer: Vladimir Minin, University of Washington

Challenges and Innovative Solutions for Time-Dependent Survival Analysis
August 7, 10:30 a.m. - 12:20 p.m.
Organizer: Li Qin, Yale

Statistics in Epidemiology: Communication Is the Key to Success
August 5, 2:00 p.m. - 3:50 p.m.
Organizer: Jashvant Poeran, Icahn School of Medicine at Mount Sinai

Contributed Sessions

Advances in Gene-Environment Interaction and Multi-Marker Association Detection

Novel Methods for Genetic Association Studies and Vaccine Safety Surveillance

Innovative Methods for Predictive Modeling and Interesting Applications

Novel Applications and Investigations of Markov Multistate, Hierarchical, and Marginal Structural Modeling

Inventive Statistical Methods for Genetic Epidemiology

Challenges and Innovative Solutions for Measurement Error, Meta-Analysis, and Smoothing

Challenges in Performing Genetic Association Studies Using Nontraditional Sources Such as Electronic Medical Record

New Modeling Approaches for Survival and Clustered Outcomes

Progress in Analysis of Survey Data

Advanced Statistical Modeling in Spatial and Environmental Epidemiology

Modern Methods in Missing Data Imputation

Interesting Application of Complex Methods in the Fields of HIV, Aging, Asthma, and Oncology

Novel Methods for Analysis of Survival and Longitudinal Data

Innovative Statistical Modeling of Data from Disease Outbreaks and Trauma Centers

Interesting Implementations of Network Sampling and Bayesian Regression Topics in Epidemiology and Imaging

Topics in Epidemiology and Survey Research Methods

Statistics in Epidemiology

JSM 2015

The SIE section invites organization of invited sessions for JSM 2015, August 8–13, in Seattle, Washington. Please send your ideas/proposals to our 2015 JSM program chair, Haitao Chu, at *chux0051@umn.edu*.

Survey Research Methods

John Finamore, SRMS Publications Officer

JSM 2014 in Boston, Massachusetts, should be an exciting meeting for section members. The Survey Research Methods Section will sponsor four invited sessions. Here are their titles, session timeslots, and names of organizers:

Using Paradata Throughout the Survey Life Cycle for Public Sector Surveys, Sunday at 4:00 p.m., *Carma Hogue (Census Bureau)*

Applications of Calibration and Empirical Bayes Estimation Methods, Monday at 2:00 p.m., *Carma Hogue (Census Bureau)*

Use of Vendor Data in Optimization of Address-Based Sampling Procedures, Tuesday at 10:30 a.m., *Stanislav Kolenikov (Abt SRBI)*

Adaptive Survey Designs: Reflecting on the Past, Describing the Present, and Considering the Possibilities of the Future, Wednesday at 8:30 a.m., *John Finamore (National Science Foundation)*

For those considering an invited session for JSM 2015 in Seattle, Washington, begin planning now. The selection of invited sessions occurs in the early fall of the year prior to the JSM. The deadline for submitting proposals for the 2014 JSM was September 2013, and the deadline for the 2015 JSM will be equally early. The SRMS program chair for JSM 2015 will be Daniell Toth of the Bureau of Labor Statistics.

Quality and Productivity

In addition to the introductory overview lecture with topics in industrial Internet and data science (Sunday 4:00 p.m. - 5:50 p.m.) and an invited session (Monday 2:00 p.m. - 3:50 p.m.), the Quality and Productivity (Q&P) Section is sponsoring the following topic-contributed and contributed sessions at the Joint Statistical Meetings this year:

Solving Unique Statistical Challenges in Industry, organized by Shan Ba, The Procter & Gamble Company

Novel Contexts for SPC Methodology and Applications, organized by Daniel Jeske, University of California, Riverside

Recent Advances in Statistical Process Control and Monitoring Research, organized by Subhabrata Chakraborti, The University of Alabama

Statistical Process Control and Quality Assurance, chaired by William Q. Meeker, Iowa State University

DOE and Other Statistical Methods for Industrial Applications, chaired by Laura Lancaster, SAS Institute

There is also a contributed oral poster presentation for Q&P (Monday 2:00 p.m. - 3:50 p.m.). Visit the online program at *www.amstat.org/meetings/jsm/2014/onlineprogram* to build your own collection of sessions.

Teaching the Process of Statistical Investigations with a Randomization-Based Curriculum

The Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) announces the following two workshops related to teaching introductory statistics using randomization-based approaches and emphasizing the overarching process of conducting statistical investigations:

- MAA PREP Workshop, Cal Poly - San Luis Obispo, June 24–27
  See *www.maa.org/programs/faculty-and-departments/prep-workshops/schedule* or contact Allan Rossman at *arossman@calpoly.edu*.
- CAUSE/NSF-sponsored workshop, Boston, Massachusetts, August 2
  See *www.causeweb.org/workshop/jsm14* or contact Allan Rossman at *arossman@calpoly.edu*.

These workshops are intended for faculty members who have experience teaching introductory statistics. The goal is to help participants revise their introductory statistics courses.

June

16–26—Pan-American Advanced Study Institute on Spatial Statistics, Búzios, Brazil
For details, visit *www.stat.washington.edu/peter/PASI/PASI_2014.html* or contact Peter Guttorp, Box 354322, Seattle, WA 98195-4322; *peter@stat.washington.edu*.

17–20—First International Congress on Actuarial Science and Quantitative Finance, Bogotá, Colombia
For details, visit *www.matematicas.unal.edu.co/icasqf* or contact Jaime Londoño, Dept. of Mathematics, Universidad Nacional de Colombia, Bogotá, International 11001000, Colombia; *jalondonol@unal.edu.co*.

» 17–20—MMDS 2014: Workshop on Algorithms for Modern Massive Data Sets, Berkeley, California
For more information, visit *mmds-data.org* or contact Alex Shkolnik, 619 Channing Ave., Palo Alto, CA 94301; *ads2@stanford.edu*.

18–20—39th Annual Summer Institute of Applied Statistics, Provo, Utah
For more information, visit *statistics.byu.edu* or contact Amy Royer, 223 TMCB, Provo, UT 84602; (801) 422-4506; *aroyer@stat.byu.edu*.

***23–24—ASA Q&P and SPES Joint Research Conference, Seattle, Washington**
For more information, visit *jrc2014.org* or contact Robert Gramacy, University of Washington, Seattle, WA 98195; (206) 543-2100; *rbgramacy@chicagobooth.edu*.

» 23—One-Day Conference on Geometry and Statistics, Bath, United Kingdom
For more information, visit people.*bath.ac.uk/kai21/conference.html* or contact Karim Anaya-Izquierdo, Department of Mathematical Sciences, Bath, International BA27AY, United Kingdom; 447949622545; *kai21@bath.ac.uk*.

» 23–27—Summer Institute in Statistics for Clinical Research 2014, Seattle, Washington
For details, visit *www.biostat.washington.edu/suminst/siib/general* or contact Mónica Feliú-Mójer, 4333 Brooklyn NE, Box 359461, Seattle, WA 98195; (206) 543-5912; *monicai@uw.edu*.

***24–28—Flint: One City, 100 Years Under Variability: International Conference, Flint, Michigan**
For details, visit *bulldogs.kettering.edu/fisc* or contact Boyan Dimitrov, 1700 University Ave., Flint, MI 48504; (810) 762-7910, *bdimitro@kettering.edu*.

26–27—International Conference on Survival Analysis in Memory of John P. Klein, Milwaukee, Wisconsin
For details, visit *www.mcw.edu/biostatistics/JPKconference.htm* or contact Haley Montsma, 8701 Watertown Plank Road, Suite H2100, Milwaukee, WI 53226; (414) 955-7439; *hmontsma@mcw.edu*.

» 27–28—International Symposium on Financial Engineering and Risk Management 2014 (FERM 2014), Beijing, China
For details, visit *www.stat.wisc.edu/~zjz/FERM2014/index.html* or contact Zhengjun Zhang, 1300 University Ave., Madison, WI 53706; (608) 262-2614; *zjz@stat.wisc.edu*.

» 28–7/2—NSF/CBMS Mathematical Phylogenetics Conference, Rock Hill, South Carolina
For more information, visit *www.birdnest.org/phylogeny* or contact Joe Rusinko, 142 Bancroft Hall, Rock Hill, SC 29733; *phylogeny@winthrop.edu*.

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

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

›› Indicates events posted since the previous issue

29–7/2—34th International Symposium on Forecasting, Rotterdam, The Netherlands
For more information, visit *forecasters.org/isf* or contact Pamela Stroud, 53 Tesla Ave., Medford, MA 02155; (781) 234-4077; *pamstroud@forecasters.org*.

July

2–4—2014 International Conference of Applied and Engineering Mathematics, London, United Kingdom
For details, visit *www.iaeng.org/WCE2014/ICAEM2014.html* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, International HK, Hong Kong; (852) 3169-3427; *wce@iaeng.org*.

» 4–5—Conference on Experimental Designs and Analysis (CEDA) 2014, Taipei, Taiwan
For more information, visit *www3.stat.sinica.edu.tw/ceda2014* or contact Frederick Kin Hing Phoa, 128 Academia Road Section 2, Nangang District, Taipei, International 115; +886 2783-5611; *ceda2014@stat.sinica.edu.tw*.

To view the entire list of statistics meetings and workshops, visit *www.amstat.org/dateline.*

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7–9—Building Statistical Methodology and Theory: An International Conference in Honor of C.F. Jeff Wu for His 65th Birthday, Mile, China
For more information, visit *www.stat.purdue.edu/~sunz/Jeff_2014/index.html* or contact Jun Shao, 9402 Eaglewood Drive, Verona, Prince Edward Island 53593; (608) 262-7938, *shao@stat.wisc.edu*.

7–10—Australian Statistical Conference in Conjunction with the Institute of Mathematical Statistics Annual Meeting (ASC-IMS 2014), Sydney, Australia
For more information, visit *www.asc-ims2014.com* or contact ASC-IMS 2014 Conference Managers, 51 Druitt St., Sydney, International 2000, Australia; +61 2 9265 0700; *asc-ims2014@arinex.com.au*.

7–18—The MBI-CAMBAM-NIMBioS Summer Graduate Program at MBI, Columbus, Ohio
For details, visit *www.mbi.osu.edu/eduprograms/graduate2014.html* or contact Rebecca Martin, The Ohio State University, Jennings Hall, 3rd Floor, 1735 Neil Ave., Columbus, OH 43210; (614) 688-3519; *rebecca@mbi.osu.edu*.

» 7–23—Summer Institute in Statistics and Modeling in Infectious Diseases (SISMID 2014), Seattle, Washington
For more informatin, visit *depts.washington.edu/sismid* or contact Mónica Feliú-Mójer, 4333 Brooklyn Ave. NE, Box 359461, Seattle, WA 98195; (206) 543-5912; *sismiduw.edu*.

» 7–25—Summer Institute in Statistical Genetics (SISG 2014), Seattle, Washington
For more informatin, visit *www.biostat.washington.edu/suminst/sisg/general* or contact Mónica Feliú-Mójer, 4333 Brooklyn Ave. NE, Box 359461, Seattle, WA 98195; (206) 543-5912; *sisg@uw.edu*.

» 8–16—SAMSI and NCAR: The International Surface Temperature Initiative, Boulder, Colorado
For details, visit *bit.ly/1gbL6wB* or contact Jamie Nunnelly, 19 T.W. Alexander Drive, RTP, NC 27709; (919) 685-9350; *admin@samsi.info*.

***11–13—2014 International Indian Statistical Association (IISA) Conference, Riverside, California**
For details, visit *2014iisa.intindstat.org* or contact Subir Ghosh, Department of Statistics, University of California, Riverside, Riverside, CA 92521-0138; (951) 827-3781; *subir.ghosh@ucr.edu*.

14–18—29th International Workshop on Statistical Modelling (IWSM), Göttingen, Germany
For more information, visit *www.uni-goettingen.de/iwsm2014* or contact Julia Meskauskas, Platz der Göttinger Sieben 5, Göttingen, International 37073, Germany; +49 (0)551 39 21104; *iwsm2014@uni-goettingen.de*.

» 31–8/2—16th IMS New Researchers Conference, Cambridge, Massachusetts
For details, visit *www.stat.harvard.edu/NRC2014* or contact Dale Rinkel, 1 Oxford St., Cambridge, MA 02138; (617) 495-5496; *symposia@stat.harvard.edu*.

August

***2–7—2014 Joint Statistical Meetings and ASA's 175th Anniversary, Boston, Massachusetts**
For details, visit *www.amstat.org/meetings/jsm/2014* or contact ASA Meetings, 732 North Washington St., Alexandria, VA 22314; (888) 231-3473; *meetings@amstat.org*.

» 11–15—Undergraduate Capstone Conference, Columbus, Ohio
For more information, visit *mbi.osu.edu/event?id=874* or contact Mathematical Biosciences, The Ohio State University, Jennings Hall, 3rd Floor, 1735 Neil Ave., Columbus, OH 43210; (614) 292-3648; *shelton.221@mbi.osu.edu*.

18–22—SAMSI Mathematical and Statistical Ecology Opening Workshop, Research Triangle Park, North Carolina
For details, visit *http://bit.ly/1hzWqmw* or contact Jamie Nunnelly, 19 TW Alexander Drive, RTP, NC 27709; (919) 685-9350.

» 19–22—9th International Conference on Forensic Inference and Statistics, Leiden, The Netherlands
For details, visit *icfis2014.org* or contact Marjan Sjerps, Laan van Ypenburg 6, The Hague, International 2497 GB, The Netherlands; +31708886666; *info@icfis2014.org*.

24–28—35th Annual Conference of the International Society for Clinical Biostatistics, Vienna, Austria
For more information, visit *www.iscb2014.info* or contact AIM Group, Spitalgasse 23, Vienna, International 1090, Austria, +43 1 4027755 600, *iscb2014@aimgroup.edu*.

»24–28—LINSTAT2014, Linköping
For details, visit *www.mai.liu.se/LinStat2014* or contact Dietrich von Rosen, Department of Energy and Technology, Box 7032, Uppsala, International SE - 750 07, Sweden; +4618672025; *dietrich.von.rosen@slu.se*.

24–29—MiF 2014: Fifth International Conference on Mathematics and Statistics in Finance, Skukuza, Kruger National Park, South Africa
For more information, visit *www.nwu.ac.za/content/mif-2014-landing-page* or contact PJ (Riaan) de Jongh, Centre for BMI, North-West University, Hoffmanstreet, Potchefstroom, International 2531, South Africa; +27182992585; *riaan.dejongh@nwu.ac.za*.

September

»1–4—RSS 2014 International Conference, Sheffield, United Kingdom
For more information, visit *www.rssconference.org.uk* or contact Paul Gentry, 12 Errol St., London, International EC1Y 8LX, United Kingdom; 442076143918; *conference@rss.org.uk*.

» 8–12—SAMSI Beyond Bioinformatics: Statistical and Mathematical Challenges Opening Workshop, RTP, North Carolina
For more information, visit *www.samsi.info/workshop/2014-15-bioinformatics-opening-workshop-september-8-12-2014* or contact Jamie Nunnelly, 19 TW Alexander Drive, RTP, NC 27709; (919) 685-9350.

» 18–19—Second Bayesian Young Statisticians Meeting 2014, Vienna, Austria
For details, visit *baysm2014.wu.ac.at* or contact Gregor Kastner, Welthandelsplatz 1 / Building D4 / Level 4, Vienna, International 1020, Austria; *gregor.kastner@wu.ac.at*.

» 22–25—Workshop on Statistical Inference for Lévy Processes, Leiden, The Netherlands
For details, visit *tinyurl.com/ph86pbw* or contact Shota Gugushvili, P.O. Box 9512, Leiden, International 2300 RA, The Netherlands; +31 (0)71 5277126; *shota.gugushvili@math.leidenuniv.nl*.

October

» 2–5—The IAFOR North American Conference on Business and Public Policy 2014, Providence, Rhode Island
For more information, visit *nacbpp.iafor.org* or contact NACBPP Organizing Committee, Sakae 1-16-26-201, Naka Ward, Nagoya, Aichi, International 460-0008, Japan; *nacbpp@iafor.org*.

» 10–11—10th Conference on Real-Time Data Analysis, Methods, and Applications, Philadelphia, Pennsylvania
For details, visit *http://bit.ly/1fRJQUm* or contact Keith Sill, Ten Independence Mall, Philadelphia, PA 19106-1574; *Keith.Sill@phil.frb.org*.

» *10–12—International Conference on Advances in Interdisciplinary Statistics and Combinatorics - AISC 2014, Greensboro, North Carolina
For more information, visit *www.uncg.edu/mat/aisc/2014/index.html* or contact Sat Gupta, Department of Mathematics and Statistics, UNC Greensboro, Greensboro, NC 27412; (336) 334-6285; *sngupta@uncg.edu*.

» 22–24—World Congress on Engineering and Computer Science 2014, San Francisco, California
For more information, visit *www.iaeng.org/WCECS2014* or contact IAENG Secretariat, Unit 1, 1/F, 37-39 Hung To Road, Hong Kong, International HK, Hong Kong; (852) 3169-3427; *wcecs@iaeng.org*.

» 31–11/1—Recent Innovation in Info-Metrics, Washington, DC
For details, visit *www.american.edu/cas/economics/info-metrics/conference/Conference-2014-fall.cfm* or contact Aisha Khan, 4400 Massachusetts Ave. NW, Washington, DC 20016; (202) 885-3783; *info-metrics@american.edu*. ■

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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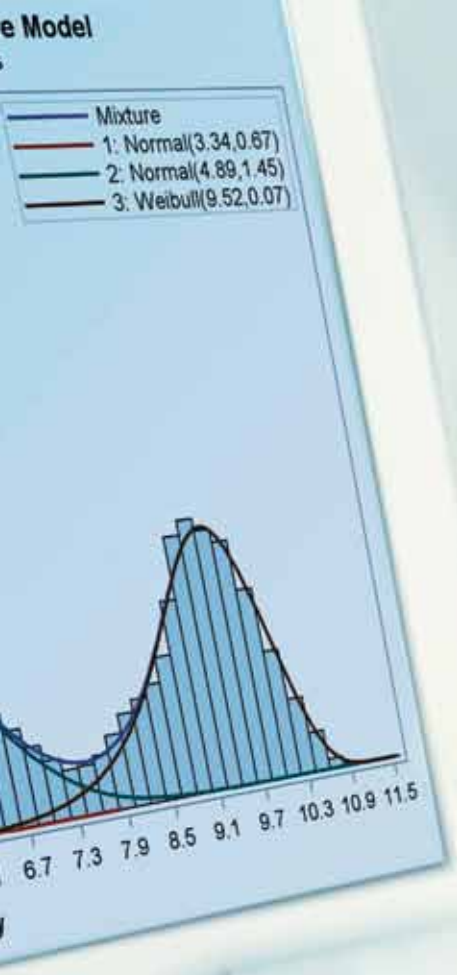

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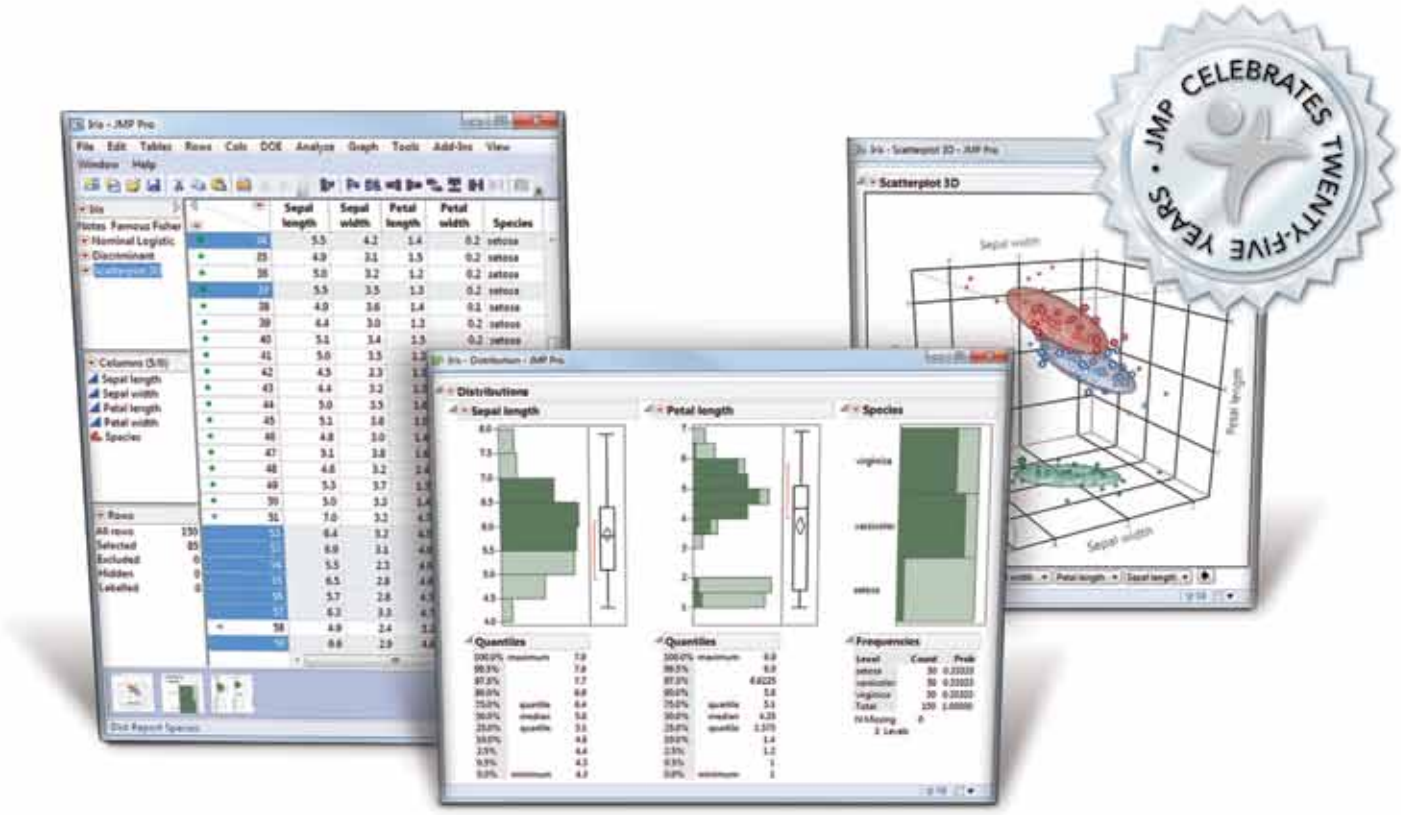

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