


November 2014 • Issue #449

# AMSTATNEWS

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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.

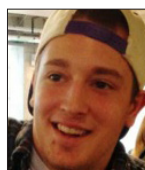
## features

- 3 President's Corner
- 5 This Month in ASA's History
- 5 ASA in Search of Editors
- 6 Highlights of the August 2014 ASA Board of Directors Meeting
- 8 Nominations Wanted for ASA President-Elect, Vice President, International Representative Candidates
- 9 SAMSI Offers Two New Research Programs for 2014–2015
- 9 AAPOR Releases Report on Survey Refusals
- 10 Meet Joseph Reilly, Associate Administrator of NASS
- 12 Using the Classroom to Bring Big Data to Statistical Agencies

## columns

### 14 **STATtr@k** Applying to Statistics PhD Programs

STATtr@k is a column in *Amstat News* and a website geared toward people who are in a statistics program, recently graduated from a statistics program, or recently entered the job world. To read more articles like this one, visit the website [www.stattrack.amstat.org](http://www.stattrack.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](mailto:megan@amstat.org).



Richardson

Contributing Editor

*Lee Richardson just graduated from the University of Washington with a BS in mathematics and statistics. He worked a year for the Institute of Health Metrics and Evaluation and is now a PhD student in the department of statistics at Carnegie Mellon.*

### 18 **175** Celebrating the Impact of Our Profession

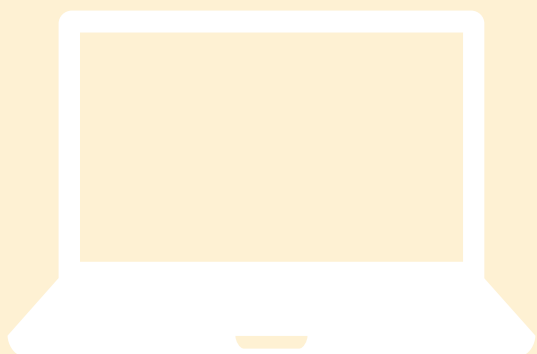
This year marks the ASA's 175th birthday. To celebrate, the column "175"—written by members of the ASA's 175th Anniversary Steering Committee and other ASA members—will chronicle the theme chosen for the celebration, status of preparations, activities to take place, and—best yet—how you can get involved.



Hulting

Contributing Editor

*Fred Hulting is the director of Global Knowledge Services at General Mills, Inc. He holds a PhD in statistics from Iowa State University and has served the ASA in a variety of roles, including section, chapter, and committee chair.*



## Online Article

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

To increase student participation in statistical conferences and other professional activities, the **ASA's Quality and Productivity Section (Q&P)** initiated a student scholarship program to attend the Joint Statistical Meetings. Q&P will offer up to three travel awards of \$400 each for students enrolled in a graduate program with a concentration in applied statistics and/or quality management to attend JSM in Seattle, Washington, from August 8–13. Complete information about the award and how to apply is posted at <http://community.amstat.org/QP/ScholarshipsAwards/JSMStudentTravelAwards>.

**Congratulations to Yuqi Chen**, the winner of the ASA's Trivia Challenge for the third and final quarter!

Thanks to all who played and helped us celebrate our 175th anniversary.

### Make the most of your ASA membership

Visit the ASA Members Only site: [www.amstat.org/membersonly](http://www.amstat.org/membersonly).

Visit the **ASA Calendar of Events**, an online database of statistical happenings across the globe. Announcements are accepted from educational and not-for-profit organizations. To view the complete list of statistics meetings and workshops, visit [www.amstat.org/datetime](http://www.amstat.org/datetime).

## departments

- 19 **education**  
'Getting Much Further, Much Faster'
- 20 **meetings**  
ASA Gears Up for CSP
- 25 **statistician's view**  
Statistics Losing Ground to Computer Science

## member news

- 27 People News
- 29 Awards and Deadlines



### Sirken Lecture

From left: Nat Schenker, Ron Wasserstein, and Monroe Sirken. Sirken provided the association with an endowment fund to recognize a distinguished survey researcher.

- 34 Professional Opportunities



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# The ASA and Big Data: What's Been Happening Lately?

During the past year, the ASA has engaged in a number of activities to strengthen the role of our profession in the areas of Big Data and data science. This column summarizes some of those activities, with an emphasis on important steps we have taken in education and professional development.

Three teams, each composed of about a dozen ASA members and facilitated by ASA Science Policy Director Steve Pierson, have created a series of white papers (<http://bit.ly/1DEBY0d>). These papers are aimed at research funding agencies, making clear that statisticians are vital partners in advancing science with their expertise in study design, inference, and quantifying uncertainty. The papers articulate the distinctive input statisticians can provide to help tackle our nation's critical research priorities. One of the papers (<http://bit.ly/1mBUuRD>) discusses how statistics can contribute to solving problems involving Big Data in applications to business, government, health, science, and societal issues. This paper emphasizes that work on such problems is most effective if it is multidisciplinary, involving statisticians, computer scientists, mathematicians, and relevant domain scientists. The authors conclude the following:

The statisticians engaged in interdisciplinary research involving Big Data will need to be computationally savvy, possessing expertise in statistical principles and an understanding of algorithmic complexity, computational cost, basic computer architecture, and the basics of both software engineering principles and handling/management of large-scale data. Just as critical—for both the training and recruitment—as the computational skills are interpersonal skills for the next generation of statisticians to be effective communicators, leaders, and team members.

To broaden our thinking, the ASA is conducting meetings around the country with leaders in data science and users of Big Data. It is extremely important to listen to voices outside of our profession, so we have intentionally sought out people in different business sectors. In Cincinnati, Ohio, we met with leaders in large companies who hire master's-level statisticians for business analytics. In Palo Alto, California, we heard from leaders in high-tech companies who hire doctoral-level statisticians for specialized problem solving. In New York City, ASA Executive Director Ron Wasserstein met

with several dozen people, mostly young people, working in Big Data enterprises.

The voices we heard complement the messages of the ASA white paper with a business perspective on the skills needed by statisticians. Participants in the meetings noted that businesses need people who can “jump in and swim with data” at a time when both the volumes and complexity of their data are increasing rapidly. Statisticians need the skills to understand business problems and find solutions using data, but—even more importantly—the leadership ability to “make it to the middle,” serving as a bridge between highly technical employees and business management-oriented employees. In summary, desirable traits include strong skills in statistical methods, data collection and management, and computing; understanding important applied problems and how to use data to solve them; communication; and leadership.

What has the ASA been doing to help statisticians enhance their skills in these important areas?

We introduced short courses in the analysis of unstructured textual data at the 2014 Conference on Statistical Practice (CSP) (<http://bit.ly/1rqpXTD>) and Joint Statistical Meetings (JSM) (<http://bit.ly/12bXhZN>), in addition to



Nat Schenker

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Our profession has a great deal to offer  
to solving problems involving Big Data,  
and the ASA will continue its efforts to  
attract data scientists to the Big Tent  
for Statistics and prepare statistical  
scientists for success in these areas.

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the many other member-initiated short courses and sessions in Big Data, data mining, etc. We plan to offer more of these kinds of courses in the future. Such activities will help attendees strengthen their ability to “swim with” complex data.

We launched a personal skills development program (<http://bit.ly/1tbWu6p>). This program was designed to enhance the ASA's offerings in the area of professional development and will include courses, workshops, and other training in effective communication, collaboration, leadership, and career planning. In particular, we developed training in statistical leadership (<http://bit.ly/ZJtea5>) and presented a JSM course titled Preparing Statisticians for Leadership: How to See the Big Picture and Have More Influence (<http://bit.ly/1DAHUra>). Based on the success of this course at JSM 2014, future leadership training will be pursued for JSM 2015 and CSP

2016. We also revised our course on giving effective presentations (<http://bit.ly/1woq8TW>) and rolled it out at the 2014 Fall Technical Conference (<http://bit.ly/1sPnDcA>). The offerings in personal skills development will help attendees improve their problem solving and communications skills and to “get to the middle,” thus enhancing their influence.

We are updating the ASA's Guidelines for Undergraduate Programs in Statistical Science (<http://bit.ly/12jrh6b>), the current version (<http://bit.ly/1rfUFj6>) of which was written in 2000. The draft updated guidelines, available from [www.amstat.org/education/curriculumguidelines.cfm](http://www.amstat.org/education/curriculumguidelines.cfm), list guiding principles. In particular, the first four, “the

scientific method and its relation to the statistical problem-solving cycle,” “real applications,” “focus on problem solving,” and “the importance of data science,” are strongly related to skills emphasized in our meetings with business leaders and in the white paper cited above.

The ASA has taken on the responsibility of coordinating DataFest (<http://bit.ly/1wfKwdj>) activities around the United States at the request of the organizers. DataFest is a data analysis competition for teams of undergraduates, who devote a weekend to analyzing a large and complex data set, looking for insight and learning to communicate what they learn. This exciting program encourages collaboration among students from different disciplines

and helps students develop skills they'll need in graduate school and in the work force. For student perspectives on DataFest, see the September 2014 President's Corner (<http://bit.ly/1DIRMIq>).

Our profession has a great deal to offer to solving problems involving Big Data, and the ASA will continue its efforts to attract data scientists to the Big Tent for Statistics and prepare statistical scientists for success in these areas.

**BIGTENT**  
statistics

*Nathaniel Schenker*

# ASA in Search of Editors

The American Statistical Association and its publishing partners are searching for editors for the following journals. Please go to the link for each journal for more information about nomination and application deadlines, as well as for more information about each editorship.

- *Journal of the American Statistical Association*, Applications and Case Studies <http://bit.ly/ZqW4M8>
- *Journal of Agricultural, Biological, and Environmental Statistics* (published by Springer for the International Biometric Society and the ASA) <http://bit.ly/1Dad2xq>
- *Journal of Business & Economic Statistics* (Co-Editors) <http://bit.ly/1z8o08c>
- *Journal of Computational and Graphical Statistics* (published with the Institute of Mathematical Statistics and the Interface Foundation) <http://bit.ly/1trIZA8>
- *Journal of Nonparametric Statistics* (published by Taylor & Francis) <http://bit.ly/1Cil0SS>
- *Journal of Statistics Education*, [www.amstat.org/publications](http://www.amstat.org/publications)
- *Statistical Analysis and Data Mining* (published by Wiley) <http://bit.ly/1CLfqZA>
- *Technometrics* (published with the American Society for Quality). Please note: The deadline for nominations for *Technometrics* is November 15, 2014. The deadline for applications is November 30. <http://bit.ly/1Fr3LDf>
- *Journal of Survey Statistics and Methodology* (published by Oxford University Press for the American Association for Public Opinion Research and the ASA) <http://bit.ly/1zhVzVx>

Nominations and applications for all editorships should be sent to [journals@amstat.org](mailto:journals@amstat.org). With the exception of *Technometrics* (see above), the deadline for nominations is December 9. Applications are due no later than February 15, 2015.

## This month in ASA's history... NOVEMBER

### 1839

The ASA was formed at a meeting in the rooms of the American Education Society in Boston and was chartered by the Commonwealth of Massachusetts. Present at the organizing meeting were William Cogswell, teacher, fundraiser for the ministry, and genealogist; Richard Fletcher, lawyer and U.S. representative; John Dix Fisher, physician and pioneer in medical reform; Oliver Peabody, lawyer, clergyman, poet, and editor; and Lemuel Shattuck, statistician, genealogist, publisher, and author of perhaps the most significant single document in the history of public health to that date.

### 1964

On November 27, 1964, the American Statistical Association celebrated its 125th anniversary in Boston. The one-day meeting started with afternoon sessions, including a talk by John Tukey: "The Technical Tools of Statistics: Past, Present, and Future." An after-dinner session was chaired by Frederick Mosteller, and the cost to attend the entire one-day event was \$15.

### 1989

During the March 1988 board meeting, the ASA Board of Directors passed a motion to unanimously designate November 1989 as National Statistics Month. To commemorate the sesqui-centennial and in conjunction with National Statistics Month, a symposium called "Statistics—A Guide to Assessing Societal Risk" was held on November 29, 1989, at the National Academy of Sciences complex in Washington, DC. Paul Meier, James Ware, Lester Lave, and Peter Preuss were present.



### Famous November Birthdays

William Farr,  
George Gallup,  
Erich Leo  
Lehmann, and  
Leonard Jimmie  
Savage







ASA President Nat Schenker (left) and ASA Executive Director Ron Wasserstein

## Highlights of the August 2014 ASA Board of Directors Meeting

**A**SA President Nat Schenker led the board through a 175th anniversary-oriented agenda during its annual meeting at JSM in Boston August 1–2, 2014.

Here are the highlights of the meeting. The board:

- Approved the ASA budget for 2015.
- Received the report of the ASA treasurer, Mingxiu Hu, on the status of ASA investments, including observations about investment policy, and the report of ASA Associate Executive Director and Director of Operations Steve Porzio on the mid-year financial status of the ASA. Porzio reported that our balance sheet is good and that we should end in the black for 2014.
- Was briefed by ASA PR Coordinator Jeff Myers on the status of the ASA's national campaign, "This Is Statistics" (<http://bit.ly/ZGGD2y>). This campaign, launched as one of the premier initiatives of the 175th anniversary, will help make high-school and undergraduate students, and those who influence them, aware of the great opportunities presented by a career in statistics.
- Welcomed the past president of the Royal Statistical Society (RSS), John Pullinger, who is the National Statistician of the UK Statistics Authority. Pullinger updated the ASA on the strategic planning and subsequent activities of the RSS, which is a major partner of the ASA. While the ASA celebrates its 175th anniversary, RSS is celebrating number 180.
- Discussed the site for JSM 2021. A final decision will be reached in the fall. The ASA plans JSM sites seven years out to be able to obtain the kinds of facilities we need in the time frame we need them.
- Approved creation of the Monroe G. Sirken Award in Interdisciplinary Survey Research Methods (<http://bit.ly/1D1SRQq>)

- Approved the creation of an advisory committee to guide the ASA's new Personal Skills Development Program (<http://bit.ly/1tbWu6p>).
- Approved taking on the responsibility of serving as the umbrella organization for DataFest, an undergraduate Big Data analysis competition.
- Heard a report on the plans for more fully creating an ASA development program, including hiring a development officer.
- Greeted Alan Karr for the final time in his capacity as National Institute of Statistical Sciences (NISS) director. As he has done annually for two decades, Karr reported on the status of NISS activities.
- Heard news of substantial progress being made on the various strategic initiatives for 2014, including the development of a statistical leadership course, the creation of a "statistical commons" (<http://bit.ly/1pASw19>), and the updating of the undergraduate curriculum in statistics. In addition, President-elect David Morganstein reported on four initiatives he has developed in consultation with the board. Details of these initiatives will be provided in future issues of *Amstat News*.
- Was updated by ASA Director of Science Policy Steve Pierson on the wide range of advocacy efforts by the ASA and similarly updated by ASA Director of Education Rebecca Nichols on the gamut of education efforts in which our association engages.
- Discussed the status and activities of the committees in the Professional Issues and Visibility Council. These discussions help keep the board and ASA committees operating in sync.
- As always, heard the important reports of activities of the ASA's sections and chapters from representatives of their respective councils. These entities represent major points of

## 2014 ASA Board of Directors

Nat Schenker (President)

David Morganstein (President-elect)

Marie Davidian (Past President)

Martha Gardner (3rd-Year Vice President, replacing David Morganstein)

Jim Rosenberger (2nd-Year Vice President)

Jeri Mulrow (1st-Year Vice President)

David Banks (Publications Representative)

Ming-Yen Cheng (International Representative)

Nick Horton (3rd-Year Council of Chapters Representative)

Mary Kwasny (2nd-Year Council of Chapters Representative)

Dan Jeske (1st-Year Council of Chapters Representative)

Janet Buckingham (3rd-Year Council of Sections Representative)

Dick De Veaux (2nd-Year Council of Sections Representative)

Cyndy Long (1st-Year Council of Sections Representative)

Mingxiu Hu (Treasurer)

Ron Wasserstein (Executive Director)

contact for members with their society and provide rich networking and professional development opportunities.

- The board's final meeting of 2014 is November 14–15 at the ASA office in Alexandria, Virginia. ■

# Committee on Nominations

## *Nominations Wanted for ASA President-Elect, Vice President, International Representative Candidates*

Marilyn M. Seastrom, Committee on Nominations Chair

**Questions & suggestions** may be directed to Marilyn Seastrom at [Marilyn.Seastrom@ed.gov](mailto:Marilyn.Seastrom@ed.gov) or ASA Executive Secretary Pamela Craven at [pamela@amstat.org](mailto:pamela@amstat.org).

The ASA needs your help. Nominations are being sought for ASA president-elect, vice president, and international representative candidates for the 2016 election year. Although the 2015 elections have not yet been held, the Committee on Nominations needs time to evaluate nominations to propose the best possible slate of candidates in 2016.

As a member of the ASA, you recognize the importance of leadership in our diverse, complex, and multidisciplinary field. You and all fellow ASA members deserve visionary leaders who can ensure our discipline has a voice

at the table where appropriate, whether it is academia; business or industry; research firms; federal, state, or local government; or nonprofit organizations. This is why we need your input.

The president-elect will be nominated from industry and the vice president from government (federal, state, local, or foreign). Think about your colleagues and associates who are members of the ASA and would make good candidates for these positions. Think about members who have helped run a conference or are active in your section or chapter. Then, nominate your choices for the 2016 elections of president-

elect and vice president by emailing Committee on Nominations Chair Marilyn Seastrom at [Marilyn.Seastrom@ed.gov](mailto:Marilyn.Seastrom@ed.gov) or ASA Executive Secretary Pamela Craven at [pamela@amstat.org](mailto:pamela@amstat.org). Forward as much information about your nominee as possible (though this is optional). We will research each candidate thoroughly and discretely. The deadline for the nominations for these two ASA positions is February 1, 2015.

Nominees for the International Representative position must reside outside the United States. Deadline for nominees for this position is also February 1, 2015. ■



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# SAMSI Offers Two New Research Programs for 2014–2015

The Statistical and Applied Mathematical Sciences Institute (SAMSI) has two new programs for 2015–2016. They are Challenges in Computational Neuroscience (CCNS) and Statistics and Applied Mathematics in Forensic Science (Forensics). ASA members who join the programs will have the opportunity to collaborate with people in disciplines such as neurobiology, applied mathematics, and forensic science.

## CCNS

The CCNS program will develop mathematical and statistical methods for neuroscience applications. These will be used to understand the underlying mechanisms that bridge multiple spatial and temporal scales, linking the activity of individual components (e.g., molecular biology, genetics, and neuron networks), and their interactions to the complex dynamic behavior of the brain and nervous system. Brain theory, modeling, and statistics will be essential to turn data into better understanding of the brain. The CCNS program will address the underlying methodological, theoretical, and computational challenges. Probability and statistics, dynamic systems, geometry, and computer science will be combined with respect to theory and in applications.

## Forensics

SAMSI's program on forensics is focused on strengthening the statistical and applied mathematical bases of forensic science. Forensic science

is fundamentally based upon statistical comparisons of the characteristics of a material left at a crime scene to characteristics of a source or suspect. These comparisons are often acknowledged by forensic scientists to be highly subjective. A series of reports by the National Research Council (NRC) has raised deep questions about major forms of forensic evidence and has made a clear case for heeding statistical underpinning for forensic procedures. These include fingerprints, patterns and impressions (footprints and tire tracks), toolmarks and firearms, hair, fibers, documents, paints and coatings, bloodstains, and fire debris. Working groups will focus on statistical issues for pattern evidence, bias, imaging, and quality control for forensics laboratories. Crosscutting challenges are identifying where statistics can have a quick impact and educating mathematical scientists about forensics and

forensic scientists about the mathematical sciences.

Financial support is available for visiting researchers to be resident at SAMSI for periods of one month to one year. Postdoctoral positions are available in both programs and give many opportunities for fellows to collaborate with senior-level researchers. Workshops and working groups give many people the opportunity to collaborate with others on research projects and network with their peers.

SAMSI offers workshops to graduate and upper-level undergraduate students who want to learn about the latest research and applications in the statistical and mathematical sciences. All involved researchers will have chances to broaden their interests and skill sets, participate in cutting-edge interdisciplinary projects, and make new connections. New researchers and members of under-represented groups are especially encouraged to participate. ■

**More online**  
To find out more about either of these research programs, or to apply, go to [www.samsi.info](http://www.samsi.info).

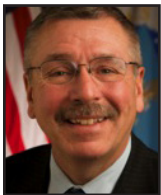
## AAPOR Releases Report on Survey Refusals

In response to the steady decrease in the public's participation in surveys over the past 25 years, the American Association for Public Opinion Research (AAPOR) has released a study called **Current Knowledge and Considerations Regarding Survey Refusals**. It is a comprehensive report on current knowledge about refusals in survey research—the impact, techniques to minimize refusals, and ethical considerations for the rights of respondents with regard to survey refusals. The report is a resource for survey researchers, institutional review boards, consumers of research, journalists, and the public.

**More online:** Download a PDF of the report at <http://bit.ly/11kC1AJ>.

# Meet Joseph Reilly, Administrator of NASS

*Amstat News invited the administrator of the U.S. Department of Agriculture's National Agricultural Statistics Service, Joseph T. Reilly, to respond to the following questions so readers could learn more about him and the agency he leads. Look for other statistical agency head interviews in past and forthcoming issues.*



Prior to his tenure at the National Agricultural Statistics Service, **Joseph Reilly** was at the U.S. Census Bureau for more than 21 years. While there in 1997, he received the department's highest award for his outstanding management of the Census of Agriculture program. He is a 1975 graduate of The Pennsylvania State University with degrees in statistics and marketing.

## **What about this position appealed to you?**

Having worked with the U.S. Department of Agriculture's National Agricultural Statistics Service (NASS) since 1997 in various leadership roles, I have developed a true passion for the agency, our staff, and the service we provide. As the source of official U.S. agricultural production statistics and a part of the federal statistical system, we provide high-quality, objective data as a public service to everyone interested in agriculture, while always keeping the identity of farmers and ranchers who provide their information confidential.

At the same time, we are unique because many of our employees come from farms and we work directly with America's farmers, ranchers, and producers, which keeps us well grounded. It is a huge and exciting responsibility, and I think everyone at NASS is proud to be in service to U.S. agriculture.

It is also an exciting time of change for the agency and for U.S. agriculture. It is incumbent upon us to keep up to date with best statistical practices, trends in agriculture, and the needs of data users within budget and regulatory frameworks provided to us. To those ends, former Administrator Cynthia Clark and I, as associate administrator, began a reorganization in 2012 that is transform-

ing the way we do our statistical work. When complete, we will be much more efficient and flexible in meeting the needs of a wide variety of program delivery. For example, we are starting to collect data or to expand existing programs on bees, conservation practices, urban agriculture and current agricultural industrial reports to keep up with changing policy and information needs. In a practical sense, this means providing the leadership that gives NASS staff the tools and working environment they need to do their jobs. At the same time, it means being as proactive as possible in anticipating needs of the people who use the data to serve agriculture, whether they be agribusiness, land grant universities, Congress, USDA agencies, or producers themselves.

Taking on the responsibilities of administrator of this great agency and working with such talented staff to modernize the work we do in service to America's agriculture sector holds great appeal to me and is an honor.

## **Describe the top 2–3 priorities you have for the National Agricultural Statistics Service.**

Our top internal priority is to complete our reorganization. In our new regionalized structure, we are using more centralized

and standardized processes that will make us more systematic and efficient in our work. We are still in transition, so our entire leadership team is evaluating where we are in the process and prioritizing our next steps. Also, from an internal perspective, I mentioned the need to focus on the needs of our staff—not only providing the tools they need, but also the working environment that is conducive to them. This involves a different type of transformation. Newer efforts include more telework and flexible work arrangements, enhanced career path and advancement opportunities, and more.

Externally, we always have an eye to the needs of those who provide data by responding to our surveys and those who use our data. In the big picture, we are working on modernizing and streamlining how respondents provide information so it is easier for them and the resulting statistics are more complete and accurate. In particular, we are focusing on various forms of electronic data response, from using tablets to collect data in the field to simplifying our online response mechanism, and looking at the use of previously reported data and administrative information to reduce the burden on respondents. On the data user's side, we want to make our data as accessible as possible. To that end, we've recently added a simplified query tool as part of our Quick Stats database and are providing some documents that summarize large amounts of data, such as the recent Census of Agriculture results, into smaller

topical publications. We'd like to hear more about how we can make the agricultural statistics we produce even more useful.

**What do you see as your biggest challenge for NASS?**

I think there are a number of challenges we face. Each has the potential to be the most important at any given time. One is the uncertain budget process in recent years. As an organization that produces statistics based on a calendar driven by sometimes-long data-collection lead times and crop-growing cycles, we have difficulty conducting surveys and producing the public data that U.S. agriculture and other data users expect when we don't get a budget on time.

Another challenge is the decreasing understanding of the importance of responding to surveys among our potential respondents. We have a great opportunity to raise this awareness by showing the value of the data and how it is and can be used to their benefit, as well as dispelling misinformation about negative uses of data. Declining response rates is a problem across the statistical community and something we as a field are exploring.

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

Overall, I think we have really strong networks and a professional community to advance our field. If I were to point to one area, it would probably be to see more emphasis placed on applied statistics in colleges. For example, in the case of agricultural statistics, there aren't as many students with farm backgrounds coming into statistical programs so necessary subject matter expertise is lacking in statistics majors

and graduates. The same may be said for labor, energy, or other fields. And there seem to be fewer opportunities to learn this subject matter in an office setting.

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

This is an easy one. We just spent five years working on the 2012

Census of Agriculture, which is one of our largest data-collection and publication efforts. I commend NASS staff for handling this major undertaking while also tackling restructuring, pushing forward our standardization efforts, and continuing to produce more than 400 of our regularly scheduled surveys and reports. It is a tremendous success story for our agency that we can build on going forward. ■

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**Taking on the responsibilities of administrator of this great agency and working with such talented staff to modernize the work we do ... is an honor.**


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# Using the Classroom to Bring Big Data to Statistical Agencies

Ron Jarmin, Julia Lane, and Alan Marco, with Ian Foster

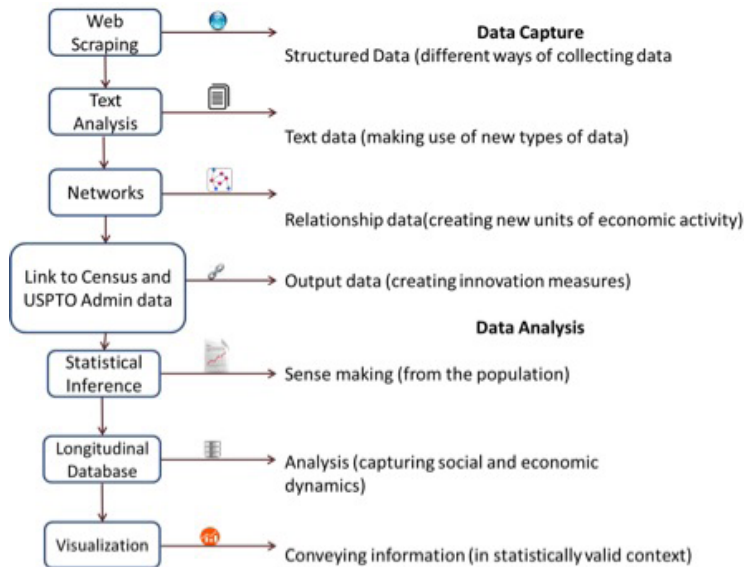


Figure 1: Schematic of course syllabus

Big Data have the potential to fundamentally change the way federal statistics are produced and disseminated. Most obviously, data types and coverage, timeliness, usability, and, of course, cost. If statistical agencies are to retain their unique role as the trusted source of statistics, they must reconsider the way data are being generated and used, lest they produce data that fail to meet user expectations and/or are too costly. Fortunately, statisticians are responding to this call to action.

In June 2013, *Amstat News* published a position paper from the leaders of the American Statistical Association and the American Association for Public Opinion Research has established a task force to produce recommendations for the survey industry's use of Big Data. There is also substantial funding for research across federal agencies (e.g., the White House Big Data initiative, <http://1.usa.gov/1tbZ0K3>). However, it is difficult to make use of Big Data in the federal statistical context. Staff in federal statistical agencies are stretched thin producing existing products, and concepts developed by computer scientists are often not easily translated into a social science framework.

To meet these challenges, we developed a class for the U.S. Census Bureau and U.S. Patent and Trademark Office (USPTO) to bring Big Data tools to bear on a concrete measurement task: developing

new statistical measures of innovation. The task is interesting and challenging. The innovation system is complex and requires thinking hard about how to measure the creation, transmission, and adoption of knowledge using new types of transactional data on innovation activity. Since human beings are key factors in innovation—J. Robert Oppenheimer pointed out that the best way to send knowledge was to wrap it up in a human being—statistical agencies need new and better data on the supply chain feeding innovation, on developing measures of networks as potential new units of analysis, and on linking those networks to economic outcomes.

Participants in the class used data from research universities to make progress on these issues. The particular focus was on the way in which scientific ideas generated from funded research projects move to the economic marketplace. This involved using several aspects of Big Data, including:

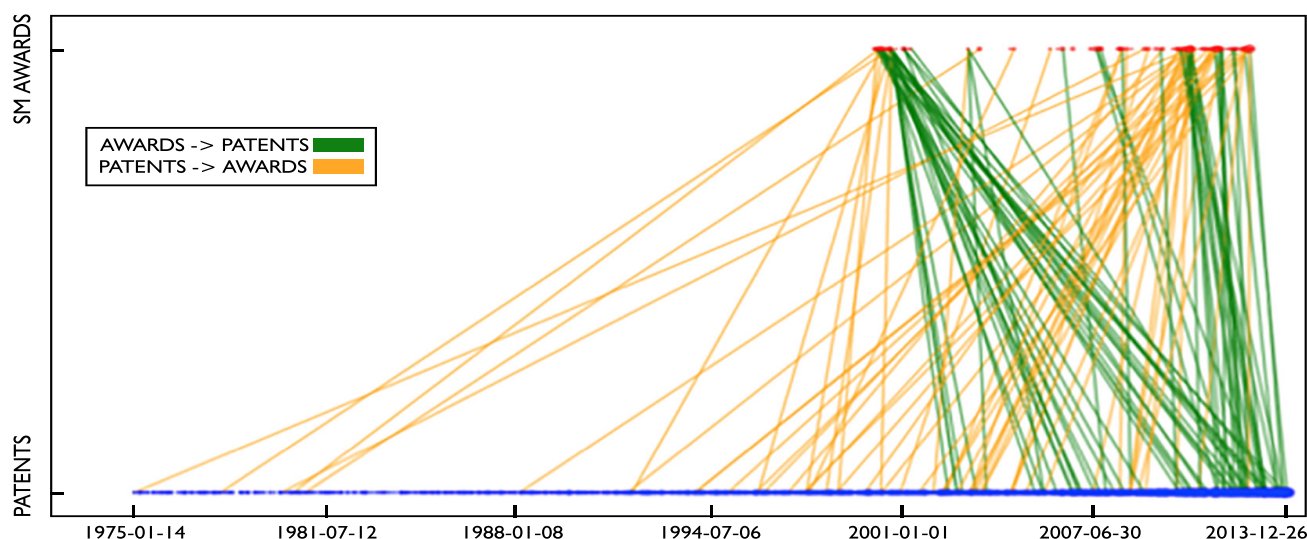
(A) Describing the subject areas of research funding using natural language processing and machine-learning techniques, rather than manual coding

(B) Describing the production function of scientific innovation, using complex administrative records from the UMETRICS program ([www.cic.net/projects/umetrics](http://www.cic.net/projects/umetrics)) to describe the networks of scientists and the purchases of scientific inputs for each project

(C) Associating research funding received by principal investigators with their subsequent activities using disambiguation techniques and investigating the quality of information that could be scraped from the web or generated from existing data (e.g., web-scraped CV data, API data from the Public Library of Science about Facebook postings and Twitter feeds, USPTO databases, and Census business data)

The work was preliminary, was for statistical purposes only, and all confidentiality protocols were observed.

The analysis of university financial transaction data provided new insights into the supply chain for scientific research, and into the Census Bureau's



**Figure 3:**  
Visualizing the  
time between  
patents and  
federal funding  
Source:  
UMETRICS

seasonality assumptions. One team (Grant Degler, Brian Dumbacher, and Sharon O'Donnell (Census); Evangelos Xydis (USPTO)) mapped the location of suppliers for one large research university and found they were distributed across one-third of all U.S. counties. The team also exploited the fact that the transaction data were logged daily to evaluate various time series assumptions used in the Census Bureau's seasonal adjustments.

The students found it was possible to characterize dynamic scientific networks—and use them as a unit of analysis. One group of students (Chandra Erdman, Star Ying, and Mary Pritts (Census); Gerard Torres and Richard Miller (USPTO)) examined how National Science Foundation-funded research centers fostered the development of such networks. They used machine learning techniques to examine questions like: How do the networks of research centers change over time? What kinds of people—particularly graduate students, postdoctoral fellows, and undergraduate students—enter and leave the network? What do the collaborations inside and outside the center look like? How do the associated vendors change over time? They found that collaborations drop significantly after the center funding ends (Figure 2, found online at <http://bit.ly/1wosfXI>). Another team (Tyler Fox, Kelly Trageser, and Randall Knol (Census); Michael Shaver (USPTO)) also zoomed in on the networks resulting from National Science Foundation Engineering Grants. They found that although the research topics and total number of awards varied widely by institution, the academic networks that existed resulted from relatively few employees who worked on multiple grants.

Another set of students examined the link between research funding and important innovation outcomes—both patents and business startups—not by mechanical methods, but by tying them to scientific networks using Big Data techniques

combined with social science. For example, although patents are often seen as a tangible measure of innovation resulting from federal funding, the direction of causality may not be clear. Does funding go to researchers who have previously patented, or does funding create researchers who subsequently patent? The team (Richard Watson, Joshua Tokle, Daniel Whitehead, and Lindsay Longsine (Census Bureau); Amanda Myers (USPTO)) examined the timing of the link between funding to all scientists on funded projects and patents; they found mixed results in establishing causality. The green lines in Figure 3 show events where awards precede patents; orange where patents precede awards (the visualization has the interesting property that the steeper the line, the closer the timeline between patenting and award).

Research funding is also anecdotally tied to business startups. (Kimberly Wortmann, Nick Zolas, Nathan Goldschlag, and Quentin Brummet (Census Bureau); Chris Leithiser (USPTO)) used employment data from 62 nanotechnology grants to three large research universities—with more than 1,000 faculty, students, and postdocs—and linked those data to firm-level data collected by the Census Bureau and USPTO. They found more than 250 researchers who either started up non-employer businesses or were involved in start-ups. The majority of nanotech researchers appeared to be graduate students who started consulting firms.

In sum, the Big Data class provided a number of Census Bureau and USPTO employees with new ideas and techniques that can be brought to bear on trenchant measurement issues—in this case, the study of innovation. Our hope is that the approach will energize changing the way federal statistics are collected by empowering and educating the very people who collect them. ■

STATtr@k

# Applying to Statistics PhD Programs

Lee Richardson

During the last several months, I've spent the large majority of my free time applying to statistics PhD programs. After accumulating so much information on the topic, I felt it would be a shame not to pass it on to applicants next year and beyond. This post is an attempt to pass on everything I've learned about the application process, with hope it will be of value to future applicants.

Statistics has risen in popularity over the past several years (<http://bit.ly/1oaXSou>). Clearly, this is due to the meteoric rise of Nate Silver (just kidding). I would actually say it's a multitude of factors: financial prospects, media coverage, and, of course, sexiness (<http://bit.ly/1qwY7FD>). Whatever the reasons, the implication for aspiring PhD students is that the competition is growing. I remember first asking graduate students last year about my chances, and the consensus was, "Of course you'll get in everywhere!" Most were genuinely surprised by how many departments accepted them.

While this may have been true in the past, a deep look into the epic Grad Cafe admissions thread (<http://bit.ly/1DdlmP>) tells a different story. There are qualified students being rejected from the majority of schools they apply to, and this trend does not appear to be reversing anytime soon.

The first question to ask yourself is: Do you want to pursue a master's, one of the newly developed one-year analytic programs (<http://bit.ly/1zbuaEF>), or a PhD? This question could spawn an entirely new discussion of the pros and cons of all three, but it really depends on what you want.

## Attributes of a PhD

Generally fully funded, 4–5 years

## Attributes of a Master's

Generally not funded, 1–2 years

I'm dramatically simplifying, but these are two pretty significant things to consider. Since I only applied to PhD programs, that's the realm in which my advice will be the most useful.

## Applying to Statistics PhD Programs

There are four main components graduate admissions committees will use to evaluate your application:

- GRE scores
- Letters of recommendation
- Grades/transcripts
- Statement of purpose/CV

Below is an attempt to go through these with as much helpful information as possible. This will include tangents of other things I thought were important.

## Statement of Purpose

Something I found controversial was the debate over the statement of purpose (SOP). See the snippet of a Twitter conversation I had with Julian Wolfson, a professor at the University of Minnesota Department of Biostatistics.

This isn't just shameless self-promotion of my Twitter handle, there's serious debate (see <http://bit.ly/1DdlKLv>) as to how useful the statement of purpose is. I'm a little biased here, because I wasn't aware of this until I spent a lot of time on the SOP, but I do think it's important! This is the only portion of your application where you can explain things that didn't fit anywhere else. The SOP is also an opportunity for committees to assess the applicant's English, so non-native English-speaking applicants should seek out a native speaker to read their draft before submitting.


The key argument against the SOP is that graduate committees are primarily concerned with mathematical ability and research potential, and the SOP isn't a great indicator for this. I think there's merit to both views, but since the SOP is the most laborious process that forces you to think about your strengths, why you're applying, etc., there is value beyond just increasing the likelihood of acceptance.


My intuition tells me that some schools look closer at the SOP than others do. I have


**Editor's Note:**  
Reposted with permission from Lee Richardson's blog, Statistical Signal (<http://statisticalsignal.com/?p=5>)





## Snippet of a Twitter Conversation


 **Julian Wolfson** @DrJWolfson · Dec 29  
Would LOVE to do a randomized experiment to see how much statements of interest/purpose really influence grad school admissions decisions.  
Expand      Reply   Retweet   Favorite   More


 **Lee Richardson** @leerichardson09 · Dec 29  
@DrJWolfson forum.thegradcafe.com/topic/44907-be..... the consensus here is not much, what would be your guess?  
Hide conversation      Reply   Delete   Favorite   Pocket   More

 **Julian Wolfson** @DrJWolfson · Dec 29  
@leerichardson09 I say not much in stat/biostat. Curious in other fields where great importance is claimed.

 **Lee Richardson** @leerichardson09 · Dec 29  
@DrJWolfson haha damn, I just spent the better part of two months agonizing over it. what are most significant factors do you think?

 **Julian Wolfson** @DrJWolfson · Dec 29  
@leerichardson09 Letters, transcripts, test scores.

 **Lee Richardson** @leerichardson09 · Dec 29  
@DrJWolfson in that order? (sorry to pester, just super interesting since I just finished the application process.)

 **Julian Wolfson** @DrJWolfson · Dec 29  
@leerichardson09 Hard to order. Strength in one can compensate for (some)

my department-specific hunches based on how quickly some schools responded, but this could vary from year to year based on things like committee members, number of students leaving, etc. There's also the argument that since the number of applications has risen, there's less time for committees to spend with individual applications. A lot to consider for sure.

### NSF-GRFP Fellowship

Spoiler: Here's what I think is one of my best pieces of advice. Although it was time consuming, I think the best decision I made was applying for the National Science Foundation Graduate Research Fellowship ([www.nsfgrfp.org](http://www.nsfgrfp.org)). The biggest upside is the deadline is much earlier than departmental application deadlines, so it forces you to think hard about why you're applying to graduate school and what type of research you would like to be doing. Then, you can write what can easily be adapted into a SOP. Even if you don't get the fellowship (I didn't), you will have a huge jump-start on finishing your applications. I came away with a polished, general template that worked as an SOP for nearly all my applications (only Michigan and Berkeley required personal/diversity statements beyond the SOP).

Another significant benefit of the NSF GRFP is that it requires a research statement, which means you have to think deeply about what type of statistical research you will be doing in graduate school. You might be thinking, "What the hell is statistics research?!" Don't worry, you're not alone, and it's perfectly all right if your research statement is bad. In fact, one of the most retrospectively funny moments of my application process was meeting with one of my professors to discuss my application a couple days after it was due. He remarked, "Your personal statement is good, but your research statement needs a lot of work!" Oh well, another plus is that you'll have two more years to apply. (Note: There are more fellowships than the NSFGRFP fellowship, Such as the National Defense Science & Engineering Graduate Fellowship (<https://ndseg.asee.org>) and the Hertz Foundation ([www.hertzfoundation.org](http://www.hertzfoundation.org)).

The research statement ties into a related debate regarding the importance of contacting professors

beforehand. Visit <http://bit.ly/1w8Eh7t> for a good summary of best practices if you decide to do it from a related field (yes, that's the same person who teaches Udacity's CS101). I invested an insane amount of time researching professors, reading their papers, and looking closely at the structures of many departments. I found this to be very useful, but it's my no means necessary; there are indeed people who got into great programs without emailing anybody. The reason this is related to the NSF GRFP fellowship is that when you're putting together your research statement, you'll be reading papers of professors, and, naturally, those are the one's you're most likely to contact.

### CV/Research Experience

Another requirement is to submit a CV, which has no real defined structure, but a vague Google search can lead you to many templates/examples. The key part for me was being able to talk about research experience and ASA membership and deliberately highlighting the best parts of my application. There's not a lot of unique information in the CV that isn't covered elsewhere, but it gives an opportunity to frame you as attractively as possible.

This leads to another conversation regarding research experience. It can be comforting to know that some say having real, statistical/mathematical research experience before attending graduate school is rare and not strictly necessary. While it's perfectly acceptable to enter without research experience, it's obviously a plus if you do. If you're

in your early years of undergraduate study, I highly encourage seeking out research experiences at your institution or elsewhere through an REU (see <http://1.usa.gov/1wJGwOH>) or job. The real benefit of doing research before applying to graduate school is trying it out and seeing if it's something you enjoy. You don't want to plunge into a PhD program not knowing whether you enjoy research, because if you don't, it's going to be a long ride.

### GRE

If you look at the number of applications Stanford receives, you might think "Hey, something isn't right here." Well, the reason is that they require the mathematics GRE test, which weeds out lots of potential applicants. If you're hell-bent on going to Stanford, then you have to take the mathematics GRE. (Some other schools—like UW, Chicago, and Columbia—strongly recommend it.) I didn't take the exam, but I've heard it is pretty hard and requires a lot of studying and deep coursework in pure mathematics. There's uncertainty around what particular score would hurt/help you if you include it in your application. Stanford posts an average of the 82nd percentile (thanks, wine in coffee cups, <http://bit.ly/1EZu3fM>), but it's unclear what the distribution of scores are, and whether the scores at Stanford are similar to scores at other schools that strongly require it.

The most annoying part of applying was the GRE test. You'll be quizzed on vocabulary words you can effortlessly look up, write timed essays on strange topics, and answer short quantitative questions. For our purposes, the most important part is *by far* the quantitative section, a significant piece of information graduate committees use to assess mathematical ability. I can understand this; as a statistics department you probably don't want to invest in someone who has evidence of struggling quantitatively. However, if you're coming from a relatively quantitative background and take some practice tests, you should be able to score in the mid-high 160s. The GRE won't get you in anywhere, but it can disqualify you. So the takeaway message is to not bomb it.

After you take the GRE test, you can send your scores to four departments for free. If you want to send your scores to anyone after this, it costs you \$25 per department. That's right; the ETS is charging \$25 to send about 8 bits of information. The Singularity Is Near.

### Grades/Transcripts

This is pretty straightforward. Basically, you want to take as many math/stat/computer science classes

as possible and get the highest grades you can (see <http://bit.ly/1w9qqzF>). It's not strictly necessary to be a math/stat/CS major, as Kristin Linn famously majored in music before getting into the PhD statistics program at NC State (see [www4.ncsu.edu/~kalinn](http://www4.ncsu.edu/~kalinn)), but it will boost your chances.

The most common classes you see as strictly required are multivariate calculus and linear algebra, and some departments strongly recommend taking a real analysis sequence. If you're still an undergraduate, I recommend taking as many mathematical proofs courses as possible. In fact, Peter Guttorp recommended that I should take the real analysis sequence in my gap year.

### Letters of Recommendation

Letters of recommendation (LOR) are a tricky topic. It seems you have to be strategically fortunate to stumble upon good LOR writers. Obviously, the younger you are, the more time you have to develop a relationship with a professor or boss through a research project and lock down a good letter testifying you will be successful carrying out research in graduate school. That's the golden standard for an LOR writer. Another thing to do while you're still in the early years of undergrad is participate in an REU. I've heard many people get their LORs from REU supervisors.

You will hear this ad nauseam, but I'll reiterate that it's better to get an LOR from someone less well known who knows you well than someone well known who barely knows you. If you're a senior and you don't have anyone who can write a good letter, my suggestion is to go all out next quarter, be a totally overachieving student (going to all the office hours), and see if you can connect with a current professor. Better yet, it would be good to seek out advice from people in the department about working on an undergraduate research project. Chances are there are professors in your university looking to have some data collected/cleaned/analyzed. It's never too late to establish a good relationship with a professor; however, it does take time and effort.

The LORs are tricky, but they're also a critical piece of your application. It can certainly be awkward asking a professor to write one for you, as professors are very busy people. However, you should keep in mind that they are asked for LORs all the time as part of their job. Try to establish as many good relationships as possible, but if it's not feasible, it's not the end of the world to default to professors you've simply taken a course with. One piece of advice is that, instead of asking whether a

professor can write a letter, ask if they can write a good letter. By asking directly, you can avoid sending unflattering letters to admissions committees.

## Where to Apply

At a certain point, you'll have to live with your performance in these categories and start filling out applications. The natural question to ask is, "Where should I apply?" There are some basic places to start looking—the most recent graduate department rankings (see <http://bit.ly/1jwiQvc>) and this insanely comprehensive list of all statistics programs (<http://bit.ly/1veVZbl>)—but I think the most important thing is to meet with someone in your department (if you're still an undergraduate) and solicit suggestions on where to apply. If you're not an undergraduate, an alternative to this is posting your profile on TheGradCafe (<http://bit.ly/1sRajqQ>), and you'll probably garner some candid responses.

One of the biggest mistakes I made while applying was never getting an honest assessment from someone inside the process about how competitive my application would be. Per sources at TheGradCafe (biostat\_prof, cyberwulf), the tier system is a realistic way to view schools. This basically means that if you're accepted into one highly ranked school, chances are you will be accepted into others—the converse is also true (IFF!). I'm somewhat skeptical about this. I do think some schools look more in depth at different factors than others do, and that they're looking for students who fit their culture. There are applicants who get into one of their reach schools, despite being rejected by others reaches (yours truly). The bottom line: You're not going to get into anywhere you don't apply, so I wouldn't let rankings intimidate you if it's a school you really want to attend.

My personal criterion for applying was: "If you get rejected everywhere *except* this school, would you actually go?" This was retrospectively pretty risky, and it's certainly possible I could have been rejected everywhere (everyone's worst-case scenario). If your goal is to be in a PhD program no matter what, I would suggest having someone give you an objective, candid assessment of which schools you could potentially be accepted into (described above).

Apply to some reaches, but also apply to schools you're fairly confident will accept you. Other than about \$100 and some opportunity cost, being rejected from schools doesn't really carry any downside.

A reason PhD programs are so selective is that they're investing money into your potential as a student, and it's a waste for them to invest resources in someone who won't be successful. Odds are certainly higher applying to master's programs; however, you will most likely be footing the bill (although I've heard of some master's programs funding students).

## TheGradCafe

Chances are the majority of your social circle will not be simultaneously applying to statistics PhD programs. Due to this, you may be seeking people eager to talk about the application process. TheGradCafe is a terrific community where fellow applicants can discuss the application process. I found it a useful place to discuss various topics relating to application season (as well as express my fears of being rejected everywhere). Also, it's extraordinarily entertaining to meet people on visits whose usernames you recognize.

## Costs/Suggested Scholarships

Applying to graduate school is quite costly. You can get a rough estimate from the following:

$$200 * (\# \text{ of GRE Tests}) + (25[\text{GRE}] + 75[\text{App Fee}]) * (\text{Number of Schools})$$

Plus countless hours and -5 years of life expectancy due to stress (sort of kidding). So, if you take the general GRE once and apply to 10 schools, you're looking at roughly \$1,200. One thing I've always felt would be a good idea is for undergraduate institutions to foot the bill for their students' application fees with something like an "applying to a STEM PhD" scholarship. This could easily already be happening, so my apologies to anyone who's already doing it.

## Post-Application Stress

I didn't want to make this post about anything except the application process, but in case I don't revisit this topic: It's pretty common to feel as if you're not going to be accepted everywhere directly after you've applied everywhere. Relax, you probably will, especially if you've gotten honest assessments of where you stand as an applicant. Applying to PhD programs is just extremely stressful.

If you have specific questions for Richardson about applying to a graduate statistics program, visit his blog, Statistical Signal, at <http://statisticalsignal.com/?p=5>. ■





175

## Celebrating the Impact of Our Profession

Fred Hulting

The 175th anniversary of the ASA occurs this month, and we are wrapping up a year of commemoration and celebration of this tremendous milestone. The anniversary theme was “Celebrate Our Past, Energize Our Future,” and the ASA focused on three efforts in support of this theme: StatSharp, StatGrowth, and StatImpact.

The aim of StatImpact is to highlight how statisticians have successfully tackled the world’s biggest problems and inspire future efforts. The motivation for StatImpact came from Roger Hoerl’s call to action in his 2011 Deming Lecture.

“Given the types of problems the world faces, such as AIDS ... we might ask why statisticians are not working on these problems,” Hoerl said. “The short answer, of course, is that they are. ... They are doing precisely what I am suggesting. Unfortunately, I don’t think there are enough of them. We need to do more, and I think we can do more.”

As an applied science, statistics is all about impact, and the expertise of our profession is needed as the world confronts the enormous societal, medical, environmental, and technological challenges taking shape. The magnitude of this opportunity was articulated again by Sallie Keller at JSM 2014 when she asked that we “... [C]onsider the health and welfare of the next billion people on earth. How do we fully understand the human condition and accommodate the needs this group?”

In that spirit, StatImpact set forth several objectives that leverage the ASA’s meetings, journals, and public outreach efforts. First, infuse the 2014 Joint Statistical Meetings with the ideas and inspiration of StatImpact. Second, publish articles in our 2015 ASA journals that highlight the impact of our profession. Finally, communicate the power of our profession as a way to influence science, policy, and the growth of the ASA.

**JSM 2014:** ASA President Nat Schenker’s support for driving the impact of statistics was reflected in his chosen theme of “Statistics:

Global Impact—Past, Present, and Future,” for JSM 2014. Many of the StatImpact-themed sessions described significant past accomplishments. In addition, several sessions focused specifically on the future impact of the profession, outlining emerging opportunities in medicine, education, public health, and the sciences. To learn more, visit [www.amstat.org/meetings/jsm/2014](http://www.amstat.org/meetings/jsm/2014).

**Journals:** Currently, *The American Statistician* will publish articles commemorating the anniversary and celebrate the impact of statistics. The ASA 175th Committee continues to work with other journals, as well.

**Outreach:** The ASA has been busy with outreach efforts, and several of these initiatives focus on communicating our impact. First, the ASA is building collaboration with other scientific societies. As an example, working with the American Association for the Advancement of Science (AAAS) has led to renewed collaboration with Section U—Statistics, the addition of statistics reviewers to raise the quality of published statistical work, and *Science* columns focused on statistics topics. Second, the ASA has published a series of white papers to help drive research funding by demonstrating we are vital partners who bring essential expertise. Finally, a nationwide campaign, “This Is Statistics,” has been launched, centered on [thisisstatistics.org](http://thisisstatistics.org). Aimed at students, parents, and educators, the site’s main message is that statistics “is not what you think it is.” It is broader and deeper and more impactful than many people realize.

All of these StatImpact activities are raising the visibility of the power of statistics. ASA Past President Bob Rodriguez often talks to students about this power, saying that, as a statistician, “You can find the power to remain in demand, the power to become purpose driven, and the power to reach higher. What could you do with this power?” As the StatImpact efforts have demonstrated, we can make a tremendous difference in our society with that power. ■

# 'Getting Much Further, Much Faster'

Chris Wild, Data to Insight

We all know the universe of data, big and otherwise, is growing explosively—in volume, in the areas it reaches into, in how it is constituted, and in what you can do with it. By comparison, changes in what students experience are glacial. Statistics education is simply far too slow. The window we open up on this rapidly expanding universe is a tiny porthole. We have to find ways to get much further, much faster—to open our students' eyes to an enormously wider world of possibility, opportunity, and excitement.

This is necessary to prepare our students for a rapidly changing world, but the self-interest of statisticians also calls for it. We need to adapt to prevent the data domain we have thought of as our own being completely overrun by species that are fleet of foot (most notably computer scientists). Otherwise, we may expend our last breaths picking up a well-deserved Darwin Award.

This year, by agreeing to be my university's MOOC guinea pig, I was given the space and production support to prototype an ambitious and radical re-thinking of intro statistics—a much-further-much-faster, more-data-more-quickly, introductory statistics course that emphasizes data visualization. This new approach was created as much for the statistical community as for the MOOC audience. We have called it “Data to Insight: A First Course in Data Analysis” ([www.futurelearn.com/courses/data-to-insight](http://www.futurelearn.com/courses/data-to-insight)).

Most of the content is delivered in 42 five-minute videos. The received wisdom from MOOC analytics is that viewership really starts to drop off at about five minutes. It is a daunting discipline (I am guilty of minor lapses), but I have been amazed by what you can get into five minutes if you “don't sweat the small stuff.” It really puts the pressure on to convey just the essence of ideas efficiently.

The course has an eight-week, “three hours a week” structure and features just 30 minutes each week of instructional video. But it is not passive. It is a hands-on data analysis course that takes beginners and quickly gets them working with up to five numeric and categorical variables simultaneously in the same analysis (over the first four weeks and just two “teaching” hours). Students extract meaning from a 10,000-observation, 70-variable data set

derived from a large observational study (NHANES) and tackle key questions of development and health using 30 country-level indicators over the last 50 years from Gapminder. For motivational reasons, it catches students up in the potential of data analysis for discovery before being mired in the “limitations” swamp. Serious consideration of systematic biases and confounding and random error (all crucial topics) does not come until the fifth week, which also forms the bridge to bootstrap confidence intervals (Week 6) and experimentation and randomization tests (Week 7). The course concludes (Week 8) with an unrelated, lighter bonus: exploring sets of time series.

## Strategies Used for Acceleration

The most novel strategies used are the following:

- Being intensely visual and driving all argument off things you can see supplemented by metaphor
- Building software solutions that prevent “how do I get this out of the software?”, limiting the speed at which students can encounter new situations and new ideas
- Finding some powerful, conceptually undermining “extender-capabilities” that immediately open much wider horizons

Other strategies are more obvious: limiting messages to just those most critical for real-world learning from data; stripping concepts back to their barest bones; and exploiting, feeding, and reshaping primary intuition. Additionally, we use vivid images (verbal and visual) to make key messages linger.

## Can It Work?

What can you pack into a total of four hours of movies? Can it possibly work? Come and see. A page has been set up at <http://tinyurl.com/4StatEducators> specifically for statisticians and educators. It lets you jump straight from a linked course outline to particular movies. You are encouraged to sample and “steal” ideas, because this MOOC is a prototype built for this community and a course designed to benefit its students. ■

## Editor's Note:

Though the site is officially closed, it will stay open “silently” until December 20 for *Amstat News* readers. After signing up and receiving a login, you will have access for many months (instructions at <http://tinyurl.com/4StatEducators>).



# ASA Gears Up for CSP

The fourth annual **ASA Conference on Statistical Practice** will provide attendees opportunities to learn new statistical methodologies and best practices in statistical analysis, design, consulting, and statistical programming. The CSP also will provide opportunities for attendees to further their career development and strengthen relationships in the statistical community.

The conference is designed to aid applied statisticians in improving their abilities to consult with and help customers and organizations solve real-world problems.

Look forward to learning the following:

- Statistical techniques that apply to your job as an applied statistician
- How to better communicate with customers
- How to have a positive impact on your organization



New Orleans, Louisiana  
February 19-21 **2015**



Two attendees participate in a poster discussion during last year's conference in Tampa, Florida.



ASA President Nathaniel Schenker gives his CSP keynote address in 2013 in Tampa, Florida.

Once again, the steering committee has organized a terrific program, with talks, courses, tutorials, and posters focused on the needs of applied and consulting statisticians concerned with urgent problems, issues, and systems for clients and organizations to improve processes, products, and decisions. ASA President-elect David Morganstein will deliver the keynote address, "Communication: A Two-way Street." You can check out the program for details at [www.amstat.org/meetings/csp/2015/onlineprogram](http://www.amstat.org/meetings/csp/2015/onlineprogram). Better yet, register for the conference and sign up for the courses.

The CSP career placement service will connect employers and applicants so they can pursue informal meetings and interviews. Applicants who

attend are able to research current job openings and contact employers they are interested in pursuing via our online system in advance of the conference.

The close-knit atmosphere of CSP is ideal for fostering a mentoring program ([www.amstat.org/meetings/csp/2015/mentoring](http://www.amstat.org/meetings/csp/2015/mentoring)). Registrants will be given the opportunity to express interest in participating as either a mentor or mentee. Just register for the conference and the ASA will automatically send you the program registration link. There is no cost to participate in this program.

Early registration for the conference closes on January 5, 2015. The housing deadline is January 19, 2015, and the conference registration deadline is February 5, 2015. Our goal is to maintain a cozy, intimate, and personal feel to the conference, so register before all the conference spots and courses are filled.

It is worth reminding everybody that this conference is for you. When you are in a course or attending a session, do not shy away from asking how the work presented is applied and how it can help you be a better statistical practitioner. When you attend the closing feedback session on February 21, speak up and let us know how the conference has served you, as well as offer suggestions for improvements.

Visit [www.amstat.org/meetings/csp/2015](http://www.amstat.org/meetings/csp/2015) to learn more about CSP 2015. For conference updates, follow @AmstatNews on Twitter and use **#CSP2015**. ■



The registration form and a list of short courses, tutorials, and practical computing demonstrations can be found on the following pages.





www.amstat.org/meetings/csp/2015

#### 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 CSP Registration, 732 N. Washington Street, Alexandria, VA 22314. Fax form (credit card only) to (703) 684-2037. Registration form must be received by **February 5, 2015**.

Forms received without payment will not be processed. Purchase orders will not be accepted. No exceptions. ASA Federal ID #53-0204661

## CSP REGISTRATION FORM

### ATTENDEE INFORMATION

☐ ASA Member ☐ SSC Member ASA ID # (if known) \_\_\_\_\_

Name \_\_\_\_\_

Preferred First Name for Badge \_\_\_\_\_

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 \_\_\_\_\_

- ☐ Update my ASA customer contact information with this meeting contact information.
- ☐ Exclude my information from contact lists managed by the ASA for use by outside entities, including offers for onsite receptions or activities and booth giveaways.
- ☐ 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 and attach a statement regarding your needs.

### PAYMENT

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

Credit Card ☐ American Express ☐ Discover ☐ MasterCard ☐ VISA

Card Number \_\_\_\_\_

Expiration Date \_\_\_\_\_

Security Code \_\_\_\_\_

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Authorizing Signature \_\_\_\_\_

#### CANCELLATION POLICY

Cancellations received by January 5, 2015, will be refunded, less 20% all items. Requests for refunds received after January 5 will not be honored. All cancellations must be made in writing to [asainfo@amstat.org](mailto:asainfo@amstat.org), via fax to (703) 684-2037, or mailed to CSP Registration, 732 N. Washington Street, Alexandria, VA 22314.

#### MEETING CONDUCT POLICY

Rules and regulations apply. See [www.amstat.org/meetings/csp/2015/conductpolicy](http://www.amstat.org/meetings/csp/2015/conductpolicy) for details.

### REGISTRATION FEES (required)

	By Jan. 5	Jan. 6–Feb. 5	
<input type="checkbox"/> ASA Member	\$375	\$435	\$ _____
<input type="checkbox"/> New* Member	\$530	\$590	\$ _____
<input type="checkbox"/> Nonmember	\$570	\$630	\$ _____
<input type="checkbox"/> Student	\$180	\$180	\$ _____
<input type="checkbox"/> ASA/SSC Accredited Member (PStat®/GStat/A.Stat.)	\$300	\$300	\$ _____

\*Includes discounted first-year ASA dues; not available to renewing or recently lapsed members.

The ASA reserves the right to adjust member and/or accreditation registration type to an eligible type and to charge the difference if stated membership and/or accreditation is not currently active. In such an event, you will be notified first and given the opportunity to update your membership.

### ADDITIONAL FEES (optional)

Space is limited.

#### Full-Day Short Courses—February 19, 8:00 a.m.–5:30 p.m.

Oct. 1–Jan. 5—\$330 members and students; \$265 PStat®/GStat/A.Stat.; \$380 nonmembers  
Jan. 6–Feb. 5—\$375 members and students; \$265 PStat®/GStat/A.Stat.; \$425 nonmembers

- ☐ SC1: Practical Data Mining: Challenges and Solutions \$ \_\_\_\_\_
- ☐ SC2: From Statistical Consultant to Effective Leader \$ \_\_\_\_\_

#### Half-Day Short Courses—February 19

Oct. 1–Jan. 5—\$215 members and students; \$170 PStat®/GStat/A.Stat.; \$265 nonmembers  
Jan. 6–Feb. 5—\$250 members and students; \$170 PStat®/GStat/A.Stat.; \$300 nonmembers

#### 8:00 a.m.–12:00 p.m.

- ☐ SC3: What Can We Learn from Software Engineers? \$ \_\_\_\_\_
- ☐ SC4: How to Start and Run an Independent Statistical Consulting Business \$ \_\_\_\_\_
- ☐ SC5: An Overview of Clustering: Finding and Extracting Group Structure in High-Dimensional Data \$ \_\_\_\_\_

#### 1:30 p.m.–5:30 p.m.

- ☐ SC6: Building Your Professional Brand \$ \_\_\_\_\_
- ☐ SC7: Design of Not-Simple Graphs \$ \_\_\_\_\_
- ☐ SC8: Text Analytics: Integrating Topic, Opinion, and Sentiment Analysis \$ \_\_\_\_\_

#### Tutorials—February 21, 2:00 p.m.–4:00 p.m.

Oct. 1–Jan. 5—\$65 members and students; \$60 PStat®/GStat/A.Stat.; \$75 nonmembers  
Jan. 6–Feb. 5—\$80 members and students; \$60 PStat®/GStat/A.Stat.; \$90 nonmembers

- ☐ T1: A Case Study in Big Data Analytics \$ \_\_\_\_\_
- ☐ T2: An Introductory Tutorial on Mixed Models \$ \_\_\_\_\_
- ☐ T3: Speak & Connect: Harnessing PowerPoint \$ \_\_\_\_\_
- ☐ T4: Tutorial on Parallel Programming in R \$ \_\_\_\_\_

#### Practical Computing Demos—February 21, 2:00 p.m.–4:00 p.m.

Included in registration fee. Pre-registration is requested to ensure proper preparation.

- ☐ PCD1: Interactive Predictive Modeling with JMP 12 Pro: Keeping It in the Flow
- ☐ PCD2: Tesseract: Open Source Tools for Big Data Analysis in R
- ☐ PCD3: Mathematica and Statistical Computing
- ☐ PCD4: Rating College Football Teams: A Case Study on Integrating Minitab with Statistical Programming Languages

### CAREER SERVICE (optional)

Post your résumé for viewing by interested employers. This is an online-only service. Visit [www.amstat.org/meetings/csp/2015](http://www.amstat.org/meetings/csp/2015) for details.

	ASA Member	Nonmember	
Student	<input type="checkbox"/> \$50	<input type="checkbox"/> \$75	\$ _____
Nonstudent	<input type="checkbox"/> \$75	<input type="checkbox"/> \$150	\$ _____

### GUEST (optional)

Guest (name \_\_\_\_\_) \$95 \$ \_\_\_\_\_

Allows admission to the opening mixer, poster sessions/refreshments, and continental breakfast for both Friday and Saturday mornings. Admission to other conference sessions and events is not included.

**TOTAL FEES:** \$ \_\_\_\_\_

Conference registration is required. For additional information, visit [www.amstat.org/meetings/CSP/2015](http://www.amstat.org/meetings/CSP/2015).

## SHORT COURSES

### Full-Day Short Courses

**8:00 a.m. – 5:30 p.m.**

#### SC1—Practical Data Mining: Challenges and Solutions

**Instructor:** Richard DeVeaux, Williams College

Large data sets (or Big Data) are becoming more common as our ability to collect and store data increases. Many new tools and methods are now available to both the experienced analyst and casual user. Unfortunately, there is a strong belief—due in large part to a series of popular Big Data books—that good results are guaranteed with just powerful algorithms and a lot of data. Instead, success is dependent on the skill and domain knowledge of the analyst and the quality and relevance of the data. However, by using principles of statistical engineering and sound statistical knowledge, the chance of success in these problems is significantly increased. Through a series of case studies, we will show how to be successful in Big Data problems. We will show applications of many current and popular algorithms, and when and where they are most successful.

#### SC2—From Statistical Consultant to Effective Leader

**Instructors:** Ronald Snee, Snee Associates, LLC; Roger Hoerl, Union College

This workshop is designed to enhance the leadership skills of statisticians working in business, industry, and government. The goal is to help statisticians transition from being viewed as passive consultants to being viewed as proactive leaders within their organizations. Issues addressed include understanding what statistical leadership is and how it differs from consulting, why it is important to be viewed as leaders, and critical leadership skills required. As part of the course, each participant will develop a personal action plan to enhance their leadership in their own work environment.

### Morning Half-Day Short Courses

**8:00 a.m. – 12:00 p.m.**

#### SC3—What Can We Learn from Software Engineers?

**Instructor:** Paul Teetor, Quant Development LLC

Do any of the following problems sound familiar? Your organization is swimming in SAS or R code. You've saved numerous versions because you can't afford to lose anything. People are unsure of which version is best. Testing your code is difficult. You've cut-and-pasted your code so often you're seeing the same parts over and over. Everyone does their work differently, and people can't share code easily. The code is now so convoluted that newcomers cannot understand it. The thought of major changes makes your head hurt.

Software engineers have spent decades dealing with these problems, and the result is a body of best practices for managing software. These best practices are an art and not well

known outside the discipline. This course will explain the techniques of software engineering and how they apply to managing your software. Topics range from code-level practices to design issues and project control. The course will focus on software engineering in the context of R, which provides a rich environment for statistical programming. Participants are expected to arrive with R and RStudio installed on their laptops. Some familiarity with R is required.

#### SC4—How to Start and Run an Independent Statistical Consulting Business

**Instructor:** Stephen Simon, P. Mean Consulting

An independent statistical consulting job is both rewarding and challenging. If you follow this career path, you will need to learn many business skills. This course will review practical issues you will face in setting up an independent consulting business. Should you set up a limited liability corporation or a subchapter S corporation? Should you bill by the hour or the project? What insurance do you need? Should you have a standard contract in place prior to any consulting work?

In addition to these legal and accounting requirements, there are human issues that you as an independent consultant will have to face. Your most important job is finding new clients. The best method, by far, is "word of mouth," and there are several strategies you can adopt to enhance your visibility and increase the number of referrals you receive. You also need to know how to keep your current clients happy. This class will include several small-group exercises during which you will share your thoughts and experiences on how to handle specific cases involving independent statistical consulting. No specific knowledge about business models, accounting, or legal issues will be assumed.

#### SC5—An Overview of Clustering: Finding and Extracting Group Structure in High-Dimensional Data

**Instructors:** Rebecca Nugent, Carnegie Mellon University; Samuel Ventura, Carnegie Mellon University

Clustering is the search for similar or homogeneous subgroups in a population, say, of consumers, patients, genes, images, text documents, anything that can possibly contain group structure. For example, consumers might be divided into market segments based on their preferences and spending habits. In public health, we might be interested in predicting which outcome group a patient is likely to be in given their symptoms, past history, and current treatment. In document clustering, the goal is to group similar pieces of text (e.g., blogs, emails, posts, letters, articles, etc.) based on the words used, the frequency, and other text features.

In all cases, the goal is to extract structure from potentially high-dimensional data. The difficulty, however, often lies in which clustering approach to adopt, particularly given that results are rarely independent of approach. This tutorial will give an overview of algorithmic

and statistical approaches to clustering with an emphasis on how to choose an approach and its related parameter. Note that while we use the statistical software package R, these methods are available on other platforms.

### Afternoon Half-Day Short Courses

**1:30 p.m. – 5:30 p.m.**

#### SC6—Building Your Professional Brand

**Instructor:** Bill Williams, Organizational Learning Consultant

The world of work is full of people with ambition and aspirations to do bigger things as their careers progress. While the rules for success—most of which are unwritten—vary from organization to organization, two ingredients are always essential: 1) your current performance on the job and 2) the potential other people see in you. How people view your performance and potential is derived only in part by what you know and the functional expertise you possess. The rest is based on the image you project and the exposure to other people your job affords you. In this session, we'll examine both the impression you want others to have of you as a professional—your "brand"—and how your communications can influence the impressions of others. You will define the brand you would most like people to associate with you and consider how to manage your behavior to support your brand, particularly when communicating with senior managers and leaders.

#### SC7—Design of Not-Simple Graphs

**Instructor:** Richard Heiberger, Temple University

Complex data analyses may require complex graphs to place the full information of the analysis into a form the intended client will be able to read. In our opinion, graphs are the heart of most statistical analyses; the corresponding tabular results are formal confirmations of our visual impressions. Data analysts are responsible for the display of data with graphs and tables that summarize and represent the data and the analysis. The graphs are often the best means of communication between the data analyst and client. This course will emphasize the design of graphical displays that best represent the message of an analysis.

#### SC8—Text Analytics: Integrating Topic, Opinion, and Sentiment Analysis

**Instructor:** Edward Jones, Texas A&M Statistical Service, LP

This workshop discusses current statistical approaches to conducting a linked analysis of reviewer comments, sentiments, and rating. Today, statisticians have powerful tools available for integrating the analysis of structured and unstructured data. Reviewer and customer comments can be used with their ratings and other background information to build models

Conference registration is required. For additional information, visit [www.amstat.org/meetings/CSP/2015](http://www.amstat.org/meetings/CSP/2015).

linking ratings, opinions, and emotions. Done well, this provides a more complete picture of what people think and feel about services and products.

## TUTORIALS

**2:00 p.m. – 4:00 p.m.**

### T1—A Case Study in Big Data Analytics

**Instructor:** Patrick Hall, SAS Enterprise Miner

So what exactly do you do when faced with a huge data set from which you are to derive insights? This happens in banks, insurance companies, government agencies, manufacturing centers, and other institutions all the time. This tutorial illustrates best practices for mining large data sets in the context of a case study. Participants will learn real-world techniques to explore and preprocess data; to select, extract, and engineer the most predictive features; to build the best predictive model for the job at hand; and to leverage predictive analytics to make decisions for their organization. Instructors also will point out common pitfalls and trade-offs inherent in contemporary Big Data approaches. SAS Enterprise Miner will be used for the analyses, but the focus will be on the methods and not the software. Participants will have access to the example data for further study.

### T2—An Introductory Tutorial on Mixed Models

**Instructor:** Funda Gunes, SAS Institute Inc.

Mixed model analysis is one of the cornerstones of modern statistics. It extends the general linear model for independent and equivarant data by allowing a more flexible covariance for the error term. Using mixed models, you can fit models to a variety of data that follow the normal distribution, including repeated measurements and data from a randomized block design. This tutorial introduces the basics of mixed model methodology and illustrates the analysis of linear mixed models in typical applications, with numerous examples using the MIXED procedure in SAS/STAT® software. This tutorial also includes an overview of other mixed modeling procedures in SAS®, giving a brief introduction to analyzing generalized linear models by using the GLIMMIX procedure and discussing the scenarios in which you would use the nonlinear mixed models and NLMIXED procedure. Prerequisites are a working knowledge of the general linear model and basic matrix algebra.

### T3—Speak & Connect: Harnessing PowerPoint

**Instructor:** Andrew Causley, Ballistic Fish Studios  
Data-heavy presentations can quickly overload an audience with information, causing them to tune out. Learn how to create and deliver PowerPoint presentations that are interesting, effective, and memorable! It's a fresh approach, one that combines information with effective visuals and personal engagement to connect with an audience in a credible captivating manner.

If you can answer YES to any of the following

questions, you should attend this tutorial. Have some of your slides been loaded with text, bullet points, or complex data? Have there been times when you've read off your slides? Has your audience ever looked bored, inattentive, or asleep? Learn how to share data and information and create better decks.

### T4—Tutorial on Parallel Programming in R

**Instructors:** Josh Hewitt, Colorado State University; Henry Scharf, Colorado State University; and Miranda Fix, Colorado State University

This tutorial introduces participants to high-performance computing in R for analyzing research data and developing practical analytics. R is a free, open source programming language that concisely supports a wide range of statistical computing and machine learning needs. Modern data sets are large and computational procedures can be intense, which may become prohibitive to practical data analysis projects. This tutorial introduces participants to workflows and packages that let practitioners use R to take advantage of the power of modern computing resources like multicore architectures and cloud technologies. Applications and examples include demonstrating parallel forms of popular classic and machine learning methods, using bootstrapping and cross validation to estimate uncertainty and accuracy, simulating data to analyze "what if" scenarios, and discussing related topics. Demonstrations will be presented with R. Attendees are encouraged to bring laptops with R installed so they may follow along and experiment with these tools.

## PRACTICAL COMPUTING DEMONSTRATIONS

**2:00 p.m. – 4:00 p.m.**

### PCD1—Interactive Predictive Modeling with JMP 12 Pro: Keeping It in the Flow

**Mia Stephens and Scott Wise, JMP Division of SAS**

Interactive predictive modeling in JMP Statistical Software from SAS is more than building models. It allows you to take advantage of interactive and dynamic graphs and advanced analytic tools, keeping data visualization, analysis, and modeling in the flow. In this talk, we will use case studies to see how to explore and prepare data using the Column Switcher, Data Filter, Recode, and Graph Builder. We will use the Partition platform, Fit Model, and Generalized Regression platforms, as well as tools such as the Prediction Profiler and the Solution Path in JMP Pro 12, to interactively explore parameters and select potential models. Finally, we'll compare a variety of competing models using Model Comparison.

### PCD2—Tessera: Open Source Tools for Big Data Analysis in R

**Ryan Hafen and Amanda White, Pacific Northwest National Laboratory**

Tessera is a set of R-based tools to enable data

scientists to explore and analyze large, complex data. The Tessera computational environment is powered by divide and recombine (D&R), an approach for dividing data into subsets and computing on them in parallel. At the front end, the analyst programs in R. At the back end is a distributed parallel computation environment such as Hadoop. In between are three Tessera packages: DataDR, Trelliscope, and RHIPE.

The DataDR R package provides a high-level interface to D&R operations, making specification of divisions, analytic methods, and recombinations easy. The interface is designed to be back-end agnostic, so it can harness new distributed computing technologies as needed.

Trelliscope is a scalable visualization tool in which data sets are divided into subsets and a visualization method is applied to each subset and shown in a multi-panel trellis display. This framework has proven to be a powerful mechanism for all data, large and small.

RHIPE is the R and Hadoop Integrated Programming Environment. RHIPE allows an analyst to run Hadoop MapReduce jobs from within R. RHIPE is used by DataDR when the back end is Hadoop.

### PCD3—Mathematica and Statistical Computing

**Michael Kelly, Wolfram Research Inc.**

Mathematica is the world's leading symbolic and numerical software, pioneering the use of symbolic functional programming for the representation of mathematical, statistical, and computational objects in a universal consistent high-level language that has allowed for a systematic treatment of the entire area of statistical analysis. Unlike other statistical programs that are mainly numerical, Mathematica combines the many advantages of symbolic representation of mathematical statistics with the numerical capabilities of advanced and novel algorithms. See [www.wolfram.com/solutions/industry/statistics](http://www.wolfram.com/solutions/industry/statistics).

### PCD4—Rating College Football Teams: A Case Study on Integrating Minitab with Statistical Programming Languages

**Daniel Griffith and Joel Smith, Minitab**

College football is a sport with highly variable outcomes and teams that play highly unbalanced schedules due to conference affiliation, a large pool of potential opponents, and incentives that disfavor competitive balance. Despite these difficulties, it is highly desirable for fans, media, and the playoff selection committee to rate teams as accurately as possible. Utilizing an unconventional method, the case study demonstrates how teams can be rated with minimal effect from uncontrollable aspects of the game. The method is performed using a combination of Minitab Statistical Software for its ease of use and graphical capabilities integrated with a statistical programming language for complex routines.

## STATISTICIAN'S VIEW

# Statistics Losing Ground to Computer Science

Norman Matloff

The American Statistical Association leadership and many in statistics academia have been undergoing a period of angst the last few years. They worry that the field of statistics is headed for a future of reduced national influence and importance, with the feeling that the field is to a large extent being eclipsed by other disciplines, notably computer science (CS).

This is exemplified by the rise of a number of new terms, largely in CS, such as data science, Big Data, and analytics, with the popularity of the term machine learning growing rapidly. To many of us, this is “old wine in new bottles,” just statistics with new terminology.

I write this as both a computer scientist and statistician. I began my career in statistics, and though my departmental affiliation later changed to CS, much of my research in CS has been statistical in nature. And I submit that the problem goes beyond the ASA's understandable concerns about the well-being of the statistics profession. The broader issue is not that CS people are doing statistics, but rather that they tend to do it poorly.

This is not a problem of quality of the CS researchers themselves; indeed, many are highly talented. Instead, there are a number of systemic reasons for this:

- The CS research model is based on very rapid publication, with the venue of choice being conferences rather than slow journals. The work is refereed, but just on a one-time basis, not with the back-and-forth interaction of journals. There is also rapid change in fashionable research topics. Thus there is little time for deep, long-term contemplation about the problems at hand. As a result, the work is less thoroughly conducted and reviewed.
- Due in part to the pressure for rapid publication and the lack of long-term commitment to research topics, most CS researchers in statistical issues have little knowledge of the statistics literature, and they seldom cite it. There is much “reinventing the wheel,” and many missed opportunities.
- For instance, consider a well-known CS paper

by a prominent author on the use of mixed labeled and unlabeled training data in classification. Sadly, the paper cites nothing in the extensive statistics literature on this topic, going back to 1977.

- The CS “engineering-style” research model often causes a cavalier attitude toward underlying models and assumptions. Consider, for example, a talk I attended by a machine learning specialist who had just earned her PhD at one of the very top CS departments in the world. She had taken a Bayesian approach, and I asked why she had chosen that specific prior distribution. She couldn't answer—she had just blindly used what her thesis adviser had given her. Moreover, she was baffled as to why anyone would want to know why that prior was chosen.
- CS people tend to have grand—and sometimes starry-eyed—ambitions. On the one hand, this is a huge plus, leading to highly impressive feats such as recognizing faces in a large crowd. But this mentality leads to an oversimplified view, with everything being viewed as a paradigm shift.

Neural networks epitomize this problem. Enticing phrasing such as “neural networks work like the human brain” blinds many CS researchers to the fact that neural nets are not fundamentally different from other parametric and nonparametric methods for regression and classification. Among CS folks, there is often a failure to understand that the celebrated accomplishments of “machine learning” have come mainly from applying huge resources to a problem, rather than because fundamentally new technology has been invented.

None of this is to say that people in CS should stay out of statistics research. But the sad truth is that the process of CS overshadowing statistics researchers in their own field is causing precious resources—research funding, faculty slots, the best potential grad students, attention from government policymakers—to go quite disproportionately to CS, even though the



**Norman Matloff** is a professor of computer science at the University of California, Davis, and was formerly in the statistics department at that institution. His research interests include parallel processing, statistical computing, and regression and classification methodology.

#### Editor's Note:

This article also was published on the StatsLife website at [www.statslife.org.uk](http://www.statslife.org.uk).



statistics community is arguably better equipped to make use of them. Statistics is important to the nation and to the world, and if scarce resources aren't being used well, it's everyone's loss.


What can be done? I offer the following as a start:

- There should be more joint faculty appointments between CS and statistics departments. Teaching a course in the "other" department forces one to think more carefully about the issues in that field and fosters interaction between fields.
- CS undergraduates should be encouraged to pursue a double major with statistics, and to go on for graduate work in statistics. There are excellent precedents for the latter, such as Hadley Wickham and Michael Kane, both of them winners of the John Chambers Statistical Software Award.
- Statistics researchers should be much more aggressive in working on complex, large-scale,

"messy" problems, such as the face recognition example cited earlier.

- Though many statisticians have first-rate computing skills, stat should reach out to CS for collaboration in advanced areas, such as the R project is doing with CS compiler experts.
- Stat undergraduate and graduate curricula should be modernized (while retaining mathematical rigor). Even math stat courses should involve computation. Emphasis on significance testing, well known to be under-informative at best and misleading at worst, should be reduced. Modern tools, such as cross-validation and nonparametric density/regression estimation, should be brought in early in the curriculum.

The academic world is slow to change, but the stakes here are high. There is an urgent need for the fields of CS and statistics to re-examine their roles in research, both individually and in relation to each other. ■



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Terry Speed

**Terry Speed**, an ASA member and leader of the bioinformatics division of the Walter and Eliza Hall Institute of Medical Research in Melbourne, Australia, was awarded one of that country's top science prizes. He was presented the Commonwealth Scientific and Industrial Research Organisation-sponsored (CSIRO) Eureka Prize for Leadership in Science on September 10 for his superb leadership of the bioinformatics team at the Hall Institute and his other contributions to the science of bioinformatics. The Australian Museum presents the Eureka awards, and CSIRO is Australia's national science agency.

To watch Speed's YouTube video and read more about the award, visit the Australian Museum website at <http://australianmuseum.net.au/media/2014-Eureka-Leadership>. ■

The National Institute of Standards and Technology (NIST) has appointed ASA members **Hal Stern** of the University of California, Irvine, **Bruce Weir** of the University of Washington, and **William Guthrie** of NIST to Scientific Area Committees (SAC). Stern was named to the physics/pattern group, Weir to the biology/DNA panel, and Guthrie to the chemistry/instrumental analysis committee. These NIST-administered committees provide the critical bridge between the Forensic Science Standards Board and the 23 discipline-specific subcommittees working

to strengthen forensic science through the identification and development of new standards and guidelines. ■



Nathaniel Schenker

ASA President **Nathaniel Schenker** is the recipient of the 2014 Owen Thornberry Excellence in Leadership Award, a major award bestowed annually by the National Center for Health Statistics (NCHS). He was presented the honor September 17. The award was established in 1996 to recognize the outstanding managerial leadership of an NCHS employee. Its namesake, who served as the director of the Division of Health Interview Statistics, led efforts to conduct the first nationwide surveys of health promotion and disease prevention and AIDS knowledge and attitudes. Thornberry is recognized for his contributions to data quality in telephone surveys. ■

**Mike West**, the Arts & Sciences Professor of Statistics and Decision Sciences at Duke University, was recognized recently by the International Society for Bayesian Analysis (ISBA) through the award of the Zellner Medal.

Named for the founding president of the society, the medal is awarded once every two years to (at most two) statisticians in recognition of their

“... outstanding service to Bayesian statistics and the society.”

2014 was the first year of the award. The presentation was made at the latest in the ISBA biennial series of World Meetings in Mexico in July of 2014.

West, who was one of the founders and a past president of the society, received the 2014 inaugural award with a citation that noted, “A scientific life spent always at the top, and a vision of the future which became reality, from the work to establish ISBA as a society to its construction on sound bases.”

For more information about the medal, visit Duke University website at <https://stat.duke.edu/news/mike-west-wins-zellner-medal>. ■



Nandini Kannan

ASA fellow **Nandini Kannan** recently was named a Statistics Program director of the National Science Foundation's Division of Mathematical Sciences (DMS), announced DMS Director Michael Vogelius. Prior to joining DMS full-time, Kannan was a professor of statistics at The University of Texas at San Antonio (UTSA). She brings significant administrative experience to her new position, having served as a department chair at UTSA and as president of the International Indian Statistical Association. Previously, she was a DMS “rotating” Statistics Program director from 2011 to 2013. ■



Sally Morton

ASA Past President **Sally Morton** was appointed to the Patient-Centered Outcomes Research Institute's (PCORI) Methodology Committee. This committee assists in developing and updating methodological standards and guidance for comparative clinical effectiveness

research. Morton is professor and chair of the department of biostatistics at the University of Pittsburgh's Graduate School of Public Health. PCORI assists patients, clinicians, purchasers, and policy-makers in making informed health care decisions by providing quality, relevant evidence on how best to prevent, diagnose, treat, and monitor diseases and other health conditions. Read more at [www.gao.gov/press/pcori\\_methodology\\_comm2014sep18.htm](http://www.gao.gov/press/pcori_methodology_comm2014sep18.htm) ■



C. R. Rao

The Polish Statistical Association recently awarded **C. R. Rao** the Splawa-Neyman Medal. The citation read, "In appreciation and admiration of your extraordinary scientific work and your invaluable commitment to statistical education all over the world."

The medal was established in 2012 to celebrate the 100th anniversary of the Polish Statistical Association and to appreciate the most outstanding statisticians, teachers of statistics, and all people of science that by their work significantly contributed to the development of statistics or its education.

For information about the Polish Statistical Association, visit [pts.stat.gov.pl/en](http://pts.stat.gov.pl/en). ■

## OBITUARY

### Robert "Bob" Newcomb

Robert "Bob" Newcomb of the University of California at Irvine (UCI), the founding president of the ASA's Orange County Long Beach Chapter (OCLB), passed away on July 10 due to complications of a sudden illness.

Newcomb was faculty at UCI for more than 40 years, was the founding director of the UCI Center for Statistical Consulting, helped form the UCI Department of Statistics in 2002, and was a driving force in the creation of the UCI men's volleyball program. A dedicated professor, Newcomb continued to teach statistics courses at UCI, completing his last course in the spring of 2014.

Three regional ASA chapters in southern California—San Diego, Southern California, and OCLB—are organizing a memorial service to celebrate Newcomb's successful life, which influenced the statistical community and lives of many statisticians. The service will be followed by a statistical seminar with presentations by invited statisticians who had developed personal and professional relationships with Newcomb over many years. The service and seminar will take place November 15, 2014.

Details about the program are available at [www.sc-asa.org/calendar.html](http://www.sc-asa.org/calendar.html).

To read more about Newcomb's extraordinary life, visit [www.legacy.com/obituaries/orangecounty/obituary.aspx?pid=171958185](http://www.legacy.com/obituaries/orangecounty/obituary.aspx?pid=171958185).

Read about your colleagues and friends in the news. Go to [www.amstat.org](http://www.amstat.org) and click on "Statisticians in the News."



# Sirken Endows Fund to Recognize Survey Researchers

**M**onroe Sirken, a longtime member of the ASA, recently provided the association with an endowment fund to recognize a distinguished survey researcher. The honoree will give the first Sirken Lecture at this year's Joint Statistical Meetings in Seattle, Washington, and receive a \$5,000 honorarium.

"Monroe's generosity opens an opportunity to recognize outstanding interdisciplinary work by survey researchers," Ron Wasserstein, ASA Executive Director, said. "By shining a beacon on this work, the Sirken Award will encourage and stimulate future research in this important area of statistical practice."

Sirken earned his PhD in 1950 at the University of Washington after majoring in sociology with a minor in mathematics. Awarded a Social Science Research Council Post Doctoral Fellowship, he spent the 1950–1951 academic year in the statistics laboratory at the University of California, Berkeley, and the following summer at the U.S. Census Bureau. Sirken was a charter member of the National Center for Health Statistics (NCHS) and worked there for more than 50 years as chief mathematical statistician and associate director for research and methodology.

Interested in survey methods, Sirken introduced network sampling to improve survey designs of rare and elusive populations and applied the method to a broad range of practical and often



**Sirken Lecture**

From left: Nat Schenker, Ron Wasserstein, and Monroe Sirken. Sirken provided the association with an endowment fund to recognize a distinguished survey researcher.

intractable survey problems. He strongly advocated conducting survey methods research at the intersection of the statistical, social, and cognitive sciences and information technology. Sirken also introduced the first cognitive research laboratory dedicated to designing and testing survey questionnaires and data presentation methods.

Wasserstein said it is fitting that this award bears Sirken's name. "Monroe's contributions to NCHS, to the monitoring of our national's health, are legendary and still impact the work being done at that agency. Recipients of

the award will be highly honored to be associated with Dr. Sirken in this way."

With the quality of Sirken's work in mind, the Sirken Award Committee will select the Sirken Lecturer based on outstanding contributions to interdisciplinary survey research that improve methods of collecting, verifying, processing, presenting, or analyzing survey data.

Nominations are due December 15 and should include a nominating letter, three supporting letters, and a curriculum vitae. Send nominations to Pam Craven at [pamela@amstat.org](mailto:pamela@amstat.org). ■

**For more information** about this award, visit [www.amstat.org/awards/monroe/sirkenaward.cfm](http://www.amstat.org/awards/monroe/sirkenaward.cfm).

**To read more about Sirken,** visit <http://magazine.amstat.org/blog/2011/09/01/monroesirken>.



# 2014 Causality in Statistics Education Prize Winners Announced

During the 2014 Joint Statistical Meetings, the ASA awarded the second Causality in Statistics Education Prize, which was established to “encourage the teaching of basic causal inference methods in introductory statistics courses.” The prize was awarded to **Maya Petersen** and **Laura B. Balzer** for developing the path-blazing course “Introduction to Causal Inference” at the University of California at Berkeley.

With clear lectures, detailed discussion assignments, and innovative labs and homework using R, Petersen and Balzer prepared a new generation of scientists, who have acquired the tools of modern causal analysis and are equipped to tackle each step of the causal roadmap. The course is publicly available at [www.ucbbiostat.com](http://www.ucbbiostat.com) and thereby provides other institutes an educational resource for this foundational material.

Petersen and Balzer’s course was chosen primarily on the basis of its “teachability” and appeal to a broad range of statistics-minded disciplines.

Judea Pearl, who donated the prize and serves as co-chair of the prize selection committee, said the prize

## 2014 Prize Committee Members

Dennis Pearl (The Ohio State University, CAUSE, co-chair)

Judea Pearl (University of California at Los Angeles, co-chair)

Felix Elwert (University of Wisconsin-Madison)

Daniel Kaplan (Macalester College)

Michael Posner (Villanova University)

Larry Wasserman (Carnegie Mellon University)

## Student Paper Competitions Offered for JSM Travel Awards

Many ASA sections sponsor student paper competitions to reward gifted students and help them mitigate the costs of attending JSM. This is an opportunity for students to get involved by being a participant at the meeting. Students can submit papers to up to two sections; however, they cannot accept more than one prize.

Papers are due to the sections’ award committees by December 15, 2014. Winners will be contacted by January 15, 2015. Winners must submit their abstracts online at the JSM website by February 2. Some sections schedule their student paper award winners in one JSM session, while others match each winner’s topic with a similarly themed session.

Each section’s award program varies in the submission requirements and what the winners receive. For a listing of which sections sponsor student paper competitions and links for more information, visit [www.amstat.org/sections/studentpaperawards.cfm](http://www.amstat.org/sections/studentpaperawards.cfm).

is aiming to close a growing gap between research and education in this field. “While researchers are swept in an unprecedented excitement over new causal inference tools that are unveiled before us almost daily, the excitement is hardly seen among statistics educators and is totally absent from statistics textbooks.”

In a recent interview (see <http://magazine.amstat.org/blog/2012/11/01/pearl>), Pearl said to ASA Executive Director Ron Wasserstein, “I hope this prize will stimulate the generation of effective course material. ... And would convince every statistics instructor that causation is easy (It is!) and that he/she too can teach it for fun and profit. The fun comes from showing students how simple mathematical tools can answer questions that Pearson-Fisher-Neyman could not begin to address (e.g., control of confounding, model diagnosis, Simpson’s paradox, mediation analysis), and the profit comes because most customers of statistics ask causal, not associational, questions.”

The following prize criteria set by the selection committee were pragmatic:

- The extent to which the material submitted equips students with skills needed for effective causal reasoning
- The extent to which the submitted material assists statistics instructors gain

an understanding of the basics of causal inference and prepares them to teach these basics in undergraduate and lower-division graduate classes in statistics

- The skills listed were, likewise, problem-oriented, and included the following:
  - Ability to take a given causal problem and articulate in some mathematical language (e.g., counterfactuals, equations, or graphs) both the target causal quantity to be estimated and the assumptions one is prepared to make (and defend) to facilitate a solution
  - Ability to determine, in simple cases, how the target causal quantity can be estimated using the observed data
  - Ability to take a simple scenario (or a model), determine whether it has statistically testable implications, and then apply data to test the assumed scenario

This year, the committee received four nominations. The selection was difficult, considering a balance had to be struck between three competing objectives: mathematical rigor, breadth of topics, and accessibility to a large audience of students and instructors.

The inaugural Causality in Statistics Education award in 2013 was given to Felix Elwert of the department of sociology at the University of Wisconsin-Madison for his two-day course, “Causal Inference with Directed Acyclic Graphs.” Elwert received \$5,000 and a plaque at the 2013 Joint Statistical Meetings in Montréal, Québec, Canada. A gift from Microsoft Research enabled the prize to double in 2014 to \$10,000. Slides covering about eight lecture hours of Elwert’s short course and accompanying publications are available at [www.ssc.wisc.edu/~felwert/causality](http://www.ssc.wisc.edu/~felwert/causality).

### Nominations Sought for 2015 Prize

Nominations are wanted for the 2015 Causality in Statistics Education Award, which, due to a gift from Microsoft Research, will again be \$10,000. The nomination deadline is February 15, 2015. For additional information, see [www.amstat.org/education/causalityprize](http://www.amstat.org/education/causalityprize). ■

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

[www.amstat.org/awards](http://www.amstat.org/awards)

### February 1, 2015

**Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: G. David Williamson  
[dxw2@cdc.gov](mailto:dxw2@cdc.gov)

### February 1, 2015

**ASA W. J. Dixon Award for Excellence in Statistical Consulting**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Michael H. Kutner  
[mkutner@emory.edu](mailto:mkutner@emory.edu)

### February 15, 2015

**Causality in Statistics Education Award**

Nominations and Questions:

[educinfo@amstat.org](mailto:educinfo@amstat.org)

### February 15, 2015

**ASA Samuel S. Wilks Memorial Medal**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Lynne Billard  
[lynnestat.uga.edu](mailto:lynnestat.uga.edu)

### February 15, 2015

**ASA Waller Distinguished Teaching Career Award**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Bradley A. Hartlaub  
[hartlaub@kenyon.edu](mailto:hartlaub@kenyon.edu)

### February 15, 2015

**ASA Waller Education Award**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Bradley A. Hartlaub  
[hartlaub@kenyon.edu](mailto:hartlaub@kenyon.edu)

### February 15, 2015

**ASA W. J. Youden Award in Interlaboratory Testing**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Blaza Toman  
[blaza.toman@nist.gov](mailto:blaza.toman@nist.gov)

### February 20, 2015

**ASA Statistics in the Physical and Engineering Sciences Award**

Nominations and Questions:

Philip J. Ramsey [pjrstats@aol.com](mailto:pjrstats@aol.com)

### February 23, 2015

**ASA Gertrude M. Cox Scholarship**

Applications: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Eloise E. Kaizar  
[ekaizar@stat.osu.edu](mailto:ekaizar@stat.osu.edu)

### March 1, 2015

**ASA Edward C. Bryant Scholarship**

Applications: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Tapabrata Maiti  
[maiti@stt.msu.edu](mailto:maiti@stt.msu.edu)

### March 1, 2015

**ASA Excellence in Statistical Reporting Award**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Morteza Marzjarani  
[mortkm2@yahoo.com](mailto:mortkm2@yahoo.com)

### March 1, 2015

**ASA Fellows**

Nominations accepted online at [www.amstat.org](http://www.amstat.org) beginning October 1, 2014

Questions: Stephanie S. Shipp  
[steph19@vbi.vt.edu](mailto:steph19@vbi.vt.edu)

### March 1, 2015

**ASA Outstanding Statistical Application Award**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: DuBois Bowman  
[dubois.bowman@columbia.edu](mailto:dubois.bowman@columbia.edu)

### March 15, 2015

**ASA Founders Award**

Nominations: Pam Craven

[pamela@amstat.org](mailto:pamela@amstat.org)

Questions: Nathaniel Schenker  
[natschenker@gmail.com](mailto:natschenker@gmail.com)

# Student Paper Competition, John M. Chambers Statistical Software Award Competitions Announced

The Statistical Computing and Statistical Graphics sections of the ASA are co-sponsoring a student paper competition on the topics of statistical computing and statistical graphics. Students are encouraged to submit a paper in one of these areas, which might be original methodological research, some novel computing or graphical application in statistics, or any other suitable contribution (e.g., a software-related project).

The selected winners will present their papers in a topic-contributed session at the 2015 Joint Statistical Meetings. The sections will pay registration fees for the winners as well as a substantial allowance for transportation to the meetings and lodging.

Anyone who is a student (graduate or undergraduate) on or after September 1, 2014, is eligible to participate. An entry must include an abstract, a six-page manuscript (including figures, tables, and references), blinded versions of the abstract and manuscript (with no authors or references that easily lead to identifying the authors), a CV, and a letter from a faculty member familiar with the student's work. The applicant must be the first author of the paper. The faculty letter must include a verification of the applicant's student status and, in the case of joint authorship, should indicate what fraction of the contribution is attributable to the applicant. Electronic submissions of papers in Postscript or PDF are preferred, and all materials must be in English.

Students may submit papers to no more than two sections and may accept only one section's award. Students must inform both sections applied to when he or she wins and accepts an award, thereby removing the student from the award competition for the second section.

All application materials must be received by 5:00 p.m. EST, December 14, 2014. Members of the Student Paper Competition Award Committee of the Statistical Computing and

Graphics sections will review the applications. The selection criteria used by the committee will include innovation and significance of the contribution as well as the professional quality of the manuscript. Award announcements will be made by January 15, 2015.

More information about the competition can be found at [www.amstat.org/sections/student/paperawards.cfm](http://www.amstat.org/sections/student/paperawards.cfm).

## John M. Chambers Statistical Software Award

The Statistical Computing Section also announces the competition for the John M. Chambers Statistical Software Award. In 1998, the Association for Computing Machinery presented its Software System Award to John Chambers for the design and development of S. Chambers donated his award to the Statistical Computing Section to endow an annual prize for statistical software written by, or in collaboration with, an undergraduate or graduate student. The prize carries with it an award of \$1,000, plus a substantial allowance for travel to the annual Joint Statistical Meetings (JSM), where the award will be presented.

Teams of up to three people can participate in the competition, with the cash award being split among team members. The travel allowance will be given to just one individual in the team, who will be presented the award at JSM. To be eligible, the team must have designed and implemented a piece of statistical software. The individual within the team indicated to receive the travel allowance must have begun the development while a student and must either currently be a student or have completed all requirements for her/his last degree after January 1, 2014. To apply for the award, teams must provide the following materials:

- Current CVs for all team members.
- A letter from a faculty mentor at the

academic institution of the individual indicated to receive the travel award. The letter should confirm that the individual had substantial participation in the development of the software, certify her/his student status when the software began to be developed (and either the current student status or the date of degree completion), and briefly discuss the importance of the software to statistical practice.

- A one- to two-page description of the software, summarizing what it does, how it does it, and why it is an important contribution. If the team member competing for the travel allowance has continued developing the software after finishing her/his studies, the description should indicate what was developed when the individual was a student and what has been added since.
- An installable software package with its source code for use by the award committee. It should be accompanied by enough information to allow the judges to effectively use and evaluate the software (including its design considerations). This information can be provided in a variety of ways, including a user manual (paper or electronic), a paper, a URL, and online help to the system.

All materials must be in English. Electronic text submitted in Postscript or PDF is preferred. Entries will be judged on a variety of dimensions, including the importance and relevance for statistical practice of the tasks performed by the software, ease of use, clarity of description, elegance, and availability for use by the statistical community. Preference will be given to those entries that are grounded in software design, rather than calculation. The decision of the award committee is final.

All application materials must be received by 5:00 p.m. EST, February 17, 2015. The winner will be announced in May, and the award will be given at the 2015 Joint Statistical Meetings.

Application materials for either the student paper award or John Chambers Award can be sent to Aarti Munjal at [aarti.munjal@ucdenver.edu](mailto:aarti.munjal@ucdenver.edu). ■

## Nominations Sought

### Spiegelman Award

The Applied Public Health Statistics Section (<http://bit.ly/1nz9QaS>) of the American Public Health Association (APHA) invites nominations for the 2015 Mortimer Spiegelman Award, which honors a statistician below the age of 40 in the calendar year of the award who has made outstanding contributions to health statistics, especially public health statistics. The award was established in 1970 and is presented annually at the APHA meeting.

The award serves the following three purposes:

- To honor the outstanding achievements of both the recipient and Spiegelman
- To encourage further involvement in public health by the finest young statisticians
- To increase awareness of APHA and the Applied Public Health Statistics Section in the academic statistical community

To be eligible, a candidate must have been born in 1976 or later. Please email a nominating letter that states the candidate's date of birth and how their contributions relate to public health concerns, up to three letters of support, and the candidate's CV to the award committee chair, Amy Herring, at [aherring@bios.unc.edu](mailto:aherring@bios.unc.edu). Nominations are due by April 1, 2015.

### Deming, Noether Lecturers

Consider nominating a colleague for the prestigious Deming and Noether lectures that honor the life and work of W. Edwards Deming and Gottfried E. Noether. Awardees will give the lectures at the Joint Statistical Meetings and receive a cash prize and engraved award. For details, visit [www.amstat.org/awards/awardsscholarships.cfm](http://www.amstat.org/awards/awardsscholarships.cfm).

### 2015 Fellows, Awards

We believe it is important to recognize individuals who have made significant contributions in the field of statistics. Please consider nominating one of your colleagues for an ASA award or Fellow. For more information, visit [www.amstat.org/awards/awardsscholarships.cfm](http://www.amstat.org/awards/awardsscholarships.cfm).



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](http://www.amstat.org)). Vacancy listings will appear on the website for the entire calendar month. Ads may not be placed for publication in the magazine only; all ads will be published both electronically and in print.

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

Listings will be invoiced following publication. All payments should be made to the American Statistical Association. All material should be sent to *Amstat News*, 732 North Washington Street, Alexandria, VA 22314-1943; fax (703) 684-2036; email [advertise@amstat.org](mailto:advertise@amstat.org).

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

Also, look for job ads on the ASA website at [www.amstat.org/jobweb](http://www.amstat.org/jobweb).

### Arizona

■ Arizona State University. The School of Mathematical and Statistical Sciences at Arizona State University invites applications for two positions in statistics beginning in fall 2015. One is tenure-track (assistant professor) and the other is tenured (associate or full). These positions are part of a substantial expansion of the statistics program at Arizona State. Information and application available through Mathjobs at [www.mathjobs.org/jobs/ASU](http://www.mathjobs.org/jobs/ASU). EO/AA Employer.

### California

■ San Diego State University's MIS Department seeks applicants for one full-time, tenure-track business analytics/statistics position at the assistant-professor level starting August 2015. Applicants should possess a PhD in statistics or related discipline by August 2015 and demonstrate potential for excellence in both teaching and research. Apply at <http://apply.interfolio.com/26335>. Applications will be reviewed until the position is filled. SDSU is an equal opportunity employer and does not discriminate against persons based on race, religion, national origin, sexual orientation, gender, gender identity and expression, marital status, age, disability, pregnancy, medical condition, or covered veteran status. The person holding this position is considered a "mandated reporter" under the California Child Abuse and Neglect Reporting Act and is required to comply with the requirements set forth in CSU Executive Order 1083 as a condition of employment.

■ The department of mathematics at California State University, Fullerton, invites applications for a tenure-track faculty position in statistics at the assistant professor level beginning August 2015. Applicants must have a solid theoretical background in statistics. A complete description of the position is available at [www.mathjobs.org](http://www.mathjobs.org). Applicants must submit their materials through [www.mathjobs.org](http://www.mathjobs.org). Application deadline is December 1, 2014. EOE.



**UNC**  
GILLINGS SCHOOL OF  
GLOBAL PUBLIC HEALTH

The Department of Biostatistics and the Lineberger Comprehensive Cancer Center (LCCC) at the University of North Carolina at Chapel Hill are seeking a non-tenure track faculty member with expertise in basic cancer research including but not limited to clinical trials, outcomes research, and protocol development to collaborate with cancer researchers in these areas. This position is open at the Research or Clinical track and at the Assistant or Associate Professor level. The faculty member is expected to engage in independent methodological research. The LCCC is one of 27 NCI-designated comprehensive cancer centers. Applicants should hold a PhD in biostatistics or statistics, and possess good communication skills. This position will remain open until filled.

To apply, use the electronic submission website at <https://unc.peopleadmin.com/postings/50034> and upload PDF versions of your CV, cover letter, and research and teaching statements. Candidates must also arrange for three letters of recommendation to be emailed to [vera\\_bennett@unc.edu](mailto:vera_bennett@unc.edu) addressed to:

**Faculty Search Committee**  
c/o Vera Bennett  
Department of Biostatistics  
CB #7420, McGavran-Greenberg Hall  
University of North Carolina at Chapel Hill  
Chapel Hill, NC 27599-7420

At the UNC Gillings School of Global Public Health, diversity, inclusiveness and civility are core values as well as characteristics of the School. We strongly encourage applications from diverse individuals, including but not limited to diversity in such characteristics as race/ethnicity, color, national origin, age, gender, socioeconomic background, religion, creed, veteran's status, gender identity, gender expression, sexual orientation and disability. The University of North Carolina at Chapel Hill is an equal opportunity employer that welcomes all to apply, including protected veterans and individuals with disabilities.

■ The department of mathematics and statistics at San Diego State University seeks applicants for a tenure-track assistant professor position in data science starting in fall 2015. Focused research areas include but are not limited to machine learning, large-scale statistical analysis, Bayesian methods, biostatistics, and/or business/financial analytics. PhD in statistics/biostatistics required. See [www.math.sdsu.edu/departments/jobops](http://www.math.sdsu.edu/departments/jobops) for a full posting. SDSU is a Title IX, equal opportunity employer and does not discriminate against persons on the basis of race, religion, national origin, sexual orientation, gender, gender identity and expression, marital status, age, disability, pregnancy, medical condition, or covered veteran status.

■ Department of statistics & applied probability, University of California, invites applications for a tenure-track assistant professor position in statistics, starting July 1, 2015. Qualifications: research/teaching excellence; PhD in statistics, biostatistics or related fields. Candidates who can contribute to the diversity of excellence of the academic community through research, teaching, and service are particularly encouraged to apply. An EO/AA employer. Additional information at [www.pstat.ucsb.edu/employment.htm](http://www.pstat.ucsb.edu/employment.htm).

■ RAND Corporation is seeking PhD statisticians for exciting opportunities to collaborate on multidisciplinary public policy research projects. Openings exist for recent graduates and experienced statisticians. See our ad in the September *Amstat News* for details or go to [www.rand.org/statistics/jobs](http://www.rand.org/statistics/jobs). Applications received by December 1, 2014, will receive priority. Applications must be submitted online following the instructions at [www.rand.org/statistics/jobs](http://www.rand.org/statistics/jobs) (search "PhD Statistician"). Send questions to [Lou\\_Mariano@rand.org](mailto:Lou_Mariano@rand.org). EO/AA Employer.

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- U.S. citizenship
- Bachelor's, Master's or Ph.D with at least 24 semester hours in math and statistics (see website for more specifics on required coursework)

Apply at [www.census.gov](http://www.census.gov), click on Jobs@census, Headquarters and NPC Employment Opportunities, Mathematical Statistician

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U.S. Department of Commerce,  
Economics and Statistics Administration,  
U.S. Census Bureau

■ **Biostatistician.** The Graduate School of Public Health at San Diego State University invites applications for tenure-track assistant professor position starting fall 2015. Requires doctorate in biostatistics, or statistics with public health applications. Complete information at <http://publichealth.sdsu.edu/open-positions>. Applicants should apply via Interfolio at: <http://apply.interfolio.com/25795>. AA/EOE.

■ **California State University, Fresno.** Decision Sciences—Assistant/Associate Professor Tenure-track. Requires an earned doctorate (PhD or DBA) in business administration, decision sciences, statistics, management science, supply-chain management, or related field from AACSB or ABET accredited institution (or equivalent); however, candidates nearing completion of doctorate (ABD) may be considered. For more information and to apply, visit <http://apptrkr.com/517511> EOE.

### Georgia

■ The H. Milton Stewart School of Ind. & Systems Eng. Georgia Tech, Atlanta, invites applications for asst professor, assoc professor, and professor positions. Consideration from research areas, including advanced mfg, analytics, informatics & control, economic decision analysis, health systems, supply chain & logistics, quantitative & computational finance, optimization, simulation, statistics and stochastics. Application submission: [www.isye.gatech.edu/candidate](http://www.isye.gatech.edu/candidate). Interview process begins fall semester 2014. Deadline: March 31, 2015. Georgia Tech is an Affirmative Action/Equal Opportunity Employer, A Unit of the U System of GA.

### Indiana

■ Two positions in data science, one senior, at Indiana University Department of Statistics ([www.stat.indiana.edu](http://www.stat.indiana.edu)). Research should complement existing strengths in machine learning, spatial statistics and Bayesian inference. Senior applicants should be renowned scholars with

demonstrated commitment to department service. Apply by November 14 at PeopleAdmin: <http://indiana.peopleadmin.com/postings/992> (full professor) or <http://indiana.peopleadmin.com/postings/990> (assistant professor). Address questions to Kelly Hanna [khanna@indiana.edu](mailto:khanna@indiana.edu). EOE.

### Iowa

■ The department of statistics at Iowa State University is seeking candidates with strong research expertise in applied probability and stochastic processes for an open-rank tenure-track/tenured faculty position. Candidates applying for tenured associate or full professorship should have excellent credentials and track records in research, external funding, teaching, and graduate supervision. For further information about the position, visit [www.stat.iastate.edu/faculty-open-position](http://www.stat.iastate.edu/faculty-open-position). Iowa State University is an affirmative action/equal opportunity

employer and strongly encourages women and members of underrepresented groups to apply.

■ The department of statistics at Iowa State University invites applications for an open-rank faculty position in the area of bioinformatics. We seek a candidate who can develop statistical methodology for complex biological data, collaborate with biological scientists, and enhance bioinformatics education. Candidates applying for a tenured position should have excellent records in research, external funding, teaching, and graduate student supervision. For further information, visit [www.stat.iastate.edu/faculty-open-position](http://www.stat.iastate.edu/faculty-open-position). Iowa State University is an affirmative action/equal opportunity employer and strongly encourages women and members of underrepresented groups to apply.

## FACULTY POSITION AT THE FRED HUTCHINSON CANCER RESEARCH CENTER

The Clinical Research Division of the Fred Hutchinson Cancer Research Center (FHCRC) invites applications for a biostatistician at the Associate or Full Member level to lead the clinical statistics program and provide collaborative statistical support for the clinical research activities of the division and the affiliated Cancer Consortium with the University of Washington.

The Clinical Research Division of FHCRC is a world-renowned group of investigators who conduct cutting edge research both in the laboratory and in the clinic to elucidate the pathogenesis and treatment of cancer. In particular, the CRD is internationally recognized for its leadership in the fields of hematopoietic cell transplantation and immunotherapy. The successful candidate for this position will be a member of the CRD Research Executive Committee and will participate in determining the scientific and operational priorities of the CRD, will oversee the statistical and data management staff of the division, and maintain their own research program. Independent research in statistical methodology is strongly encouraged. A Ph.D. or equivalent in statistics or biostatistics and excellent managerial and communications skills are required. Prior experience in a biomedical research environment is highly desirable. A joint appointment with the Division of Public Health Sciences at the FHCRC is possible, as is an affiliate appointment in a relevant department at the University of Washington.

Please send curriculum vitae, a letter describing research interests, and the names of four references to Stephanie Lee, MD at [http://bit.ly/FHCRC\\_ClinStats](http://bit.ly/FHCRC_ClinStats)

*The Fred Hutchinson Cancer Research Center is an equal opportunity employer, committed to workforce diversity.*

## Tenure Track Assistant Professor Position

The Department of Statistical Science at Duke University invites applications for appointments at the level of Assistant Professor to begin in Fall 2015. Preference will be given to candidates whose core statistical science research interests are complemented by collaborative research interests in areas including economics, finance or other areas of the social and policy sciences, computer science, neurosciences, and environmental science. We are particularly interested in applicants with demonstrated experience in complex stochastic modeling and computation or large-scale problems and data sets.

The Department is an internationally recognized center of excellence for research and education in contemporary statistical methodology. With leading strengths in Bayesian analysis, interdisciplinary applications and computationally intensive methods, the Department offers outstanding computational facilities and opportunities for interdisciplinary research. We currently have 18 regular rank faculty, 16 visiting, adjunct, and postdoctoral faculty, and over 75 graduate students. Beyond core research in statistical and computational sciences, we have many collaborative interactions with multiple other Duke departments, institutes and centers, including the Information Initiative at Duke (iID), Duke Institute for Brain Sciences (DIBS), and Social Science Research Initiative (SSRI). Complementary interactions involve long-standing associations with the Statistical and Applied Mathematical Sciences Institute (SAMSI) and the National Institute of Statistical Science (NISS), located nearby in the Research Triangle Park, as well as many collaborators, institutes and companies around the US and worldwide.

Our internationally recognized PhD program is complemented by our MS in Statistical Science, our MS in Statistical and Economic Modeling, and our Statistical Science undergraduate degree. More information is available at the department website <http://stat.duke.edu>.

To apply, submit a letter, curriculum vitae, personal statement of research and teaching and names/letters from three references via <https://academicjobsonline.org/ajo>. Enquiries can be emailed to [search@stat.duke.edu](mailto:search@stat.duke.edu). The application pool will remain open until the position is filled; screening will begin on December 1st 2014.

Duke University, located in Durham, North Carolina, is an Affirmative Action/Equal Opportunity Employer committed to providing employment opportunity without regard to an individual's age, color, disability, genetic information, gender, gender identity, national origin, race, religion, sexual orientation, or veteran status. Applications from women and minorities are strongly encouraged. Individuals in dual career couples are encouraged to visit <http://provost.duke.edu/faculty/partner/>, the website on Duke's Advantages for Faculty, for information on opportunities for dual career couples in the area and how the university can help.

■ The department of statistics and the Center for Survey Statistics and Methodology at Iowa State University is seeking candidates for an open-rank tenure-track/tenured faculty position. Excellence in research and teaching expected, survey expertise desirable. Candidates applying for tenured associate or full professorship should have excellent track records in research, external funding, teaching, and graduate student supervision. For further information, please visit [www.stat.iastate.edu/faculty-open-position](http://www.stat.iastate.edu/faculty-open-position). Iowa State University is an affirmative action/equal opportunity employer and strongly encourages women and members of underrepresented groups to apply.

■ The department of statistics at Iowa State University invites applications for an open-rank tenure-track/tenured faculty position. The position requires an ability to engage in collaborative research with scientists in the College of Agriculture and Life Sciences. Candidates applying for tenured associate or full professorships should have excellent records in research, external funding, teaching, and graduate student supervision. For further information, please visit [www.stat.iastate.edu/faculty-open-position](http://www.stat.iastate.edu/faculty-open-position). Iowa State University is an affirmative action/equal opportunity employer and strongly encourages women and members of underrepresented groups to apply.

## Kansas

■ The department of statistics at Kansas State University has openings for up to three tenure-track assistant professor positions to begin August 2015. Email a cover letter, a complete CV, transcripts of graduate-level coursework, and three recommendation letters to [statsearch@ksu.edu](mailto:statsearch@ksu.edu). Screening begins during fall 2014 and continues until positions are filled. KSU is EOE. For the full announcement, see [www.ksu.edu/stats](http://www.ksu.edu/stats). EOE.

## Kentucky

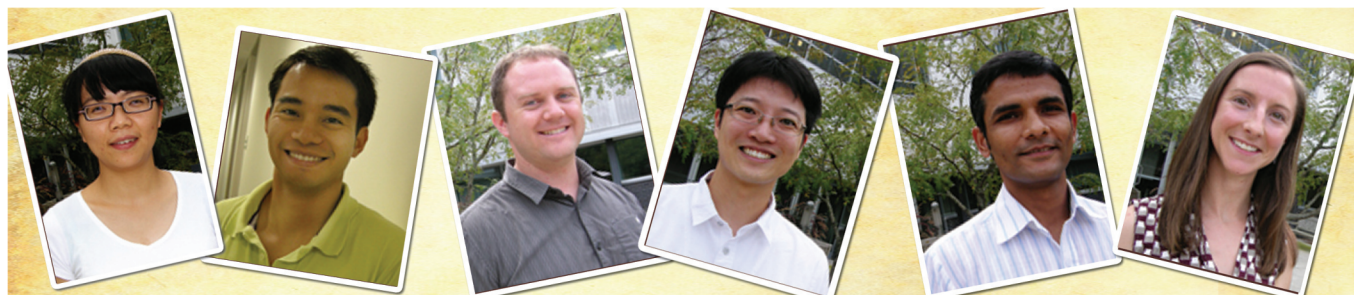
■ University of Kentucky. Assistant professor, tenure track, biostatistics (public health), beginning August of 2015. Potential for demonstrated excellence in methodological and collaborative research and in teaching public health professional students and biostatistics students. Selection begins Dec. 1, 14 and continues until filled. CV, three reference letters to Richard Kryscio, 230 Sanders Brown Center on Aging, 800 South Limestone St., University of Kentucky, Lexington, KY 40536-0236. [kryscio@email.uky.edu](mailto:kryscio@email.uky.edu). The University of Kentucky is an affirmative action, equal opportunity employer.

## Massachusetts

■ Boston University mathematics and statistics invites applications for tenure-track probability/stochastics/statistics assistant professor. PhD required. Begins July 2015 pending final budgetary approval. Commitment to research and teaching both undergraduate and graduate level essential. Submit cover letter, CV, research statement, teaching statement, and four recommendation letters (one teaching): [www.mathjobs.org](http://www.mathjobs.org). Alternatively, submit materials: Probability/Stochastics/Statistics Search, Mathematics and Statistics, Boston University, 111 Cummington Mall, Boston, MA 02215. Deadline Dec. 15, 2014. We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law. We are a VEVRAA federal contractor.

■ Boston University mathematics and statistics invites applications for a three-year postdoctoral position in statistics/probability, starting July 2015 pending final budgetary approval. Strong commitment to research and teaching is essential. Submit cover letter, CV, research statement,





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## 2015-16 Postdoctoral Fellowships at SAMSI

Up to 6 postdoctoral fellowships are available at the Statistical and Applied Mathematical Sciences Institute for either of the two SAMSI Research Programs for 2015-16: **Challenges in Computational Neuroscience (CCNS)** and **Statistics and Applied Mathematics in Forensic Science (Forensics)**. Appointments, for up to 2 years, will begin in August 2015, and will offer competitive salaries, travel stipend and health insurance.

### Challenges in Computational Neuroscience (CCNS)

The CCNS program will develop mathematical and statistical methods for neuroscience applications to understand the underlying mechanisms that bridge multiple spatial and temporal scales, linking the activity of individual components (e.g., molecular biology, genetics, and neuron networks), and their interactions to the complex dynamic behavior of the brain and nervous system. Brain theory, modeling, and statistics will be essential to turn data into better understanding of the brain. The CCNS program will address the underlying methodological, theoretical, and computational challenges. Probability and statistics, dynamical systems, geometry, and computer science will be combined with respect to theory and in applications.

### Program on Statistics and Applied Mathematics in Forensic Science (Forensics)

In response to the NRC, White House, and congressional call for forensic reform, that includes a greater statistical and mathematical presence, SAMSI announces a yearlong program in forensic science. The central goal is to strengthen the statistical and applied mathematical bases of forensic science. Forensic science is, in major part, based upon statistical comparisons of the characteristics of a material left at a crime scene to characteristics of a source or suspect. These comparisons are often acknowledged by forensic scientists to be highly subjective. A series of reports by the National Research Council (NRC) has raised deep questions about major forms of forensic evidence, and has made a clear case for a needed statistical underpinning for forensic procedures, including fingerprints, patterns and impressions (footprints and tire tracks), toolmarks and firearms, hair, fibers, documents, paints and coatings, bloodstains, and fire debris. Working groups are planned on statistics and forensic science; pattern evidence; bias; imaging; quality control for forensics laboratories; identifying where statistics can have a quick impact; and educating mathematical scientists about forensics and forensic scientists about the mathematical sciences.

### Application to SAMSI

In your cover letter, please indicate your interest in one of the two programs (CCNS or Forensics).

Criteria for selection of SAMSI Postdoctoral Fellows include demonstrated research ability in statistical and/or applied mathematical sciences, computational skills along with good verbal and written communication abilities, and finally, a strong interest in the SAMSI program areas. The deadline for full consideration is December 15, 2014, although later applications will be considered as resources permit.

*SAMSI is an AA/equal opportunity employer All qualified applicants are encouraged to apply, especially women and members of minority groups.*

**To apply, go to [mathjobs.org](http://mathjobs.org), SAMSIPD2015 Job #6133**

teaching statement, and four recommendation letters (one teaching) to [www.mathjobs.org](http://www.mathjobs.org). Alternatively, submit all materials to: Statistics/Probability Search, Mathematics and Statistics, Boston University, 111 Cummington Mall, Boston, MA 02215. Deadline Dec. 15, 2014. We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability status, protected veteran status, or any other characteristic protected by law. We are a VEVRAA federal contractor.

■ Mathematics Department MIT seeking to fill combined teaching and research positions as instructor, assistant professor, and higher in statistics, beginning September 2015. Appointments based mainly on exceptional research qualifications. PhD required by employment start date. See

full classified and instructions to submit online, in October and November, at [www.mathjobs.org](http://www.mathjobs.org). Applications should be complete by December 1, 2014. Massachusetts Institute of Technology is an Equal Opportunity Affirmative Action Employer.

■ The department of quantitative health sciences at the University of Massachusetts Medical School is recruiting a tenured or tenure-eligible faculty member at the associate professor or professor levels for the division of biostatistics and health services research. Applicant should have an established, nationally recognized research program. Responsibilities include sustained excellence in independent research focused on methodological innovation, doctoral-level teaching and mentoring. Apply to: <https://academicjobsonline.org/ajol/jobs/4341>. As an equal opportunity and affirmative action employer, UMMS recognizes

the power of a diverse community and encourages applications from individuals with varied experiences, perspectives and backgrounds.

### Michigan

■ Michigan State University invites applications for chairperson of the department of statistics and probability. Required doctoral degree in statistics or related field and internationally recognized and externally funded research program. Must exhibit communication and interpersonal skills. Candidates should be qualified to hold the rank of tenured professor. Review of applications begins December 1, 2014. For detailed information, go to <https://jobs.msu.edu> (position #0044) EOE.

■ Grand Valley State University invites applications for assistant professor of



## DEPARTMENT OF BIOSTATISTICS

The Department of Biostatistics at the Johns Hopkins Bloomberg School of Public Health is seeking an outstanding applicant to join our tenure track faculty. Rank of appointment will be commensurate with experience, and new PhDs and recent postdoctoral fellows are encouraged to apply. Candidates should have a PhD or equivalent in statistics, biostatistics, or a comparable data science field. In 2014-15 the Department particularly seeks new faculty members who are committed to education and to engagement in cutting edge research on statistical inference and methods and subject-area content for the population health, clinical and social health sciences. Women and under-represented minority candidates are particularly encouraged to apply.

### Track Faculty Positions

The Hopkins Department of Biostatistics, founded in 1918, was the first degree-granting department of statistical science in the US and has ranked among the best throughout its history. The Johns Hopkins Health Institutions (Schools of Public Health, Medicine, and Nursing, and the Johns Hopkins Hospital) are among the top worldwide and provide a research environment in which energetic faculty can promulgate scientific excellence. Today, the Department comprises 21 tenure track faculty members, 18 research track faculty members, 13 postdoctoral fellows, 49 PhD students, 12 full-time master degree students, and 10 students pursuing joint master degrees together with doctorates in other departments.

### TO APPLY

Email cover letter, CV, contact information for three references, a statement of research interests and goals, a teaching statement, and two manuscripts or articles representing your most important work to: Faculty Search Committee at [margo@jhu.edu](mailto:margo@jhu.edu).

The Johns Hopkins University is an affirmative action/equal opportunity employer.

statistics. Qualifications include a PhD in statistics or related field, evidence of commitment to teaching excellence and active scholarship, and an interest in using technology in teaching at all levels. For information regarding application materials, see our complete position description at [www.gvsu.edu/stat](http://www.gvsu.edu/stat). Applications only accepted online; review begins on November 21, 2014. AA/EOE.

### Minnesota

■ The biostatistics division, school of public health, University of Minnesota, seeks applicants for open-rank tenured/tenure-track faculty position. Especially interested in individuals with academic and research records in the development of innovative approaches, methods and software for the manipulation and analysis of "big data" in the biomedical sciences, especially using machine learning techniques. Longer ad: [www.sph.umn.edu/biostatistics](http://www.sph.umn.edu/biostatistics). Applicants should apply online: <http://employment.umn.edu/applicants/Central?quickFind=124351>. EOE.

### Missouri

■ University of Missouri Department of Statistics is seeking one tenure-track assistant professor starting fall 2015. Exceptional candidates considered at rank of associate professor. PhD in statistics or related field required by August 15, 2015. Apply online <http://hrs.missouri.edu/find-a-job/lacamic>. Cover letter, CV, and transcripts required. Email three letters of reference to [umcstatfacsearch@missouri.edu](mailto:umcstatfacsearch@missouri.edu). Deadline December 1, 2014. The University of Missouri is an Equal Opportunity/Affirmative Action/ADA Employer.

■ Assistant/Associate Professor Statistics with Emphasis in Biological Science. Statistics & biological sciences departments, University of Missouri, announce a tenure joint position with emphasis on current research trends in biology and a research program that



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## Faculty Positions in Biostatistics

The Department of Biostatistics at The University of North Carolina at Chapel Hill is seeking applications for two tenure-track Assistant Professors. The appointments will start in the summer or fall of 2015. A doctoral degree in Biostatistics, Statistics or equivalent is required. This search is not restricted to any specific area of biostatistics. Applicants should have broad research and teaching interests, the potential to direct PhD-level research, and the ability to engage in collaborative research with other faculty members at the University. Review of applications will start in December, 2014. The positions will remain open until filled.

To apply, use the electronic submission website at <http://unc.peopleadmin.com/postings/50978> and upload PDF versions of your CV, cover letter, and research and teaching statements. Candidates must also arrange for four letters of recommendation to arrive via email at [bennett@bios.unc.edu](mailto:bennett@bios.unc.edu) addressed to:

Faculty Search Committee  
c/o Vera Bennett  
Department of Biostatistics  
CB #7420, McGavran-Greenberg Hall  
University of North Carolina at Chapel Hill  
Chapel Hill, NC 27599-7420

At the UNC Gillings School of Global Public Health, diversity, inclusiveness and civility are core values as well as characteristics of the School. We strongly encourage applications from diverse individuals, including but not limited to diversity in such characteristics as race/ethnicity, color, national origin, age, gender, socioeconomic background, religion, creed, veteran's status, gender identity, gender expression, sexual orientation and disability. **The University of North Carolina at Chapel Hill is an equal opportunity employer that welcomes all to apply, including protected veterans and individuals with disabilities.**

## PENNSTATE



## FACULTY POSITIONS AT PENN STATE

The Department of Statistics at The Pennsylvania State University seeks to fill multiple faculty positions beginning in the 2015–16 academic year:

- **Open-Rank Tenure-Track position(s):** We welcome applicants in any area of statistics, with particular interest in those areas that strengthen existing interdisciplinary ties, which include but are not limited to astrostatistics, bioinformatics and "omics" sciences, and computationally oriented cross-disciplinary research (see <http://ics.psu.edu/what-we-do/hire/>).
- **Director of Undergraduate Program:** The successful candidate will lead a robust and growing program that currently boasts about 150 students majoring in statistics and an additional 150 minoring in statistics. Possibilities also exist for leadership in our sizable undergraduate service teaching mission, both in-residence and online, depending upon interest. This non-tenure-track faculty position includes the same teaching load as our tenure-track faculty.

Requirements for these positions include a PhD in statistics or a related field, excellent teaching, and research/undergraduate education credentials as appropriate to the position. Screening begins in mid-November of 2014.

The Pennsylvania State University is located in the center of the state, in a valley surrounded by the Appalachian Mountains and state forestland. The adjoining town of State College is part of a metropolitan area with ample health care, indoor and outdoor recreation, and excellent quality of life. All the amenities of a metropolitan area—first-rate public transportation, world-class theater and concert events, advanced technology and research facilities—are available without the attending stress.

Applicants must apply online and complete the Penn State application at <http://psu.jobs/> (search job #53770 for the tenure-track position; search #53748 for the undergraduate program position) and must apply online and submit an application and materials, including cover letter, CV, and reference letters, through [mathjobs.org](http://www.mathjobs.org/jobs) (<http://www.mathjobs.org/jobs>). Additional information about the department can be found at <http://www.stat.psu.edu/>.

**CAMPUS SECURITY CRIME STATISTICS:** For more about safety at Penn State, and to review the Annual Security Report which contains information about crime statistics and other safety and security matters, please go to <http://www.police.psu.edu/clery/>, which will also provide you with details on how to request a hard copy of the Annual Security Report.

Penn State is an equal opportunity, affirmative action employer, and is committed to providing employment opportunities to minorities, women, veterans, disabled individuals, and other protected groups.

complements each department's and campus strengths. Required: Statistics or biostatistics PhD. Apply <http://hrs.missouri.edu/find-a-job/academic>. Cover letter, vita, research & teaching statements, three references. Deadline: December 1, 2014. The University of Missouri is an Equal Opportunity/Affirmative Action/ADA Employer.

### New Jersey

■ Merck, a global health care leader with a diversified portfolio of prescription medicines, vaccines and consumer health products, as well as animal health products seeks an associate principle programmer, Rahway, NJ. Req# STA000521- Required: bachelor's degree in computer science, statistics, biological sciences, or engineering- Minimum of 9 years SAS programming

experience in a clinical trial environment. Apply online at [www.merck.com/careers](http://www.merck.com/careers). Req# STA000521 EOE.

■ Assistant Professor, Biomathematics/ Statistical Computing, Rowan University. Full-Time Tenure-Track. PhD in biomathematics, statistics or related disciplines. Responsibilities include teaching mathematics and data analytics. Must demonstrate ability to conduct research in computational biology/statistical computing, with applications to biological or biomedical sciences. Must show potential for obtaining external grants, and help develop courses in a master's program in biomathematics. Application deadline November 15th. Details and procedure: <http://rowanuniversity.hodesiq.com/job-details.aspx?jobid=4620400>. EOE.

■ Merck, a global health care leader with a diversified portfolio of prescription medicines, vaccines and consumer health products, as well as animal health products seeks a: senior scientist, biostatistics, Rahway, NJ. Req# BIO004013. — Required: Master's degree in statistics or related field. — Minimum of 3 years experience in statistical planning and data analysis. Apply online at [www.merck.com/careers](http://www.merck.com/careers). Req# BIO004013. EOE/AA.

■ Merck, a global health care leader with a diversified portfolio of prescription medicines, vaccines and consumer health products, as well as animal health products seeks a: senior programmer, Rahway, NJ. Req# STA000522. — Required: bachelor's degree in computer science, statistics, biological sciences, or engineering. Minimum of 5 years SAS programming

## BIOSTATISTICS FACULTY POSITION

The School of Public Health is seeking qualified candidates for a tenure track faculty of biostatistics in the Department of Epidemiology and Biostatistics. This position is 12-month, open-rank, and state-funded with a possible start date of January 2015. Applicants are expected to hold a Ph.D., Sc.D., or equivalent degree in biostatistics or statistics. Applicants with interests in all areas of health-related statistical research are highly encouraged to apply. Particular interest is in those candidates with consulting and/or online teaching experience. Pending budgetary approval, a second position that focuses on collaborative research in cancer will be available. The successful candidates will be expected to contribute to the research, teaching and service mission of the Department and the School.

Current departmental statistical expertise is in biological processes, survival and longitudinal data analysis, semiparametric inference, bioinformatics, measurement error models, radiation epidemiology, statistical proteomics, and statistical computing. Faculty members actively collaborate with colleagues in the Department of Statistics, College of Medicine, Veterinary Medicine, and other departments of the school.

The School of Public Health is located in College Station, and is part of the Texas A&M Health Science Center. The Health Science Center offers a supportive environment for professional development as a unit of Texas A&M University, a research-intensive flagship university with more than 50,000 students — including 10,000 graduate students — studying in more than 120 undergraduate and 240 graduate degree programs in ten colleges. The A&M System is one of the largest systems of higher education in the nation, with a budget of \$3.8 B.

Interested individuals should submit a letter describing their interest in the position, research and teaching experiences deemed most relevant to this position, current curriculum vitae, and three references (letters will be requested at a later date) to

### Search Committee for Biostatistics Faculty Position

c/o Samantha Payton

Department of Epidemiology and Biostatistics  
Texas A&M Health Science Center, School of Public Health  
1266 TAMU  
College Station, TX 77843-1266  
or email: [payton@srph.tamhsc.edu](mailto:payton@srph.tamhsc.edu)



**PUBLIC HEALTH**  
TEXAS A&M HEALTH SCIENCE CENTER

Review of applications will begin immediately and continue until the position is filled.

The TAMHSC SRPH is an Affirmative Action/Equal Opportunity employer; women and minority individuals as well as persons with disabilities are actively encouraged to apply.



experience in a clinical trial environment. Apply online at [www.merck.com/careers](http://www.merck.com/careers) Req# STA000522. AA/EOE.

■ Merck, a global health care leader with a diversified portfolio of prescription medicines, vaccines and consumer health products, as well as animal health products seeks an associate principle programmer, Upper Gwynedd, PA. Req# STA000520. — Required: Bachelor's degree in computer science, statistics, biological sciences, or engineering. — Minimum of 7 years experience using SAS in clinical trials setting. Apply online at [www.merck.com/careers](http://www.merck.com/careers) Req# STA000520. AA/EOE.

■ Assistant Professor, Biostatistics, Rowan University. Full-time, tenure-track. PhD in biostatistics or related discipline. Responsibilities include teaching undergraduate and graduate statistics courses. Must demonstrate ability to conduct research in biostatistics or statistical theory and/or methodology applicable to the health sciences and medical research. Must show potential for obtaining external grants and contributing to new graduate data analytics program. Application deadline November 30. Details and procedure: <http://rowanuniversity.hodessiq.com/job-details.aspx?jobid=4772480>. EOE.

■ The department of statistics and biostatistics and the Center for Integrative Proteomics Research at Rutgers University seek to hire an outstanding tenure-track assistant professor with strong research and teaching interests in statistical analyses of biological and biomedical information. Applicants must have a PhD in statistics or related field by Sept. 1, 2015. Apply online through the Rutgers Interfolio website link (<http://apply.interfolio.com/25963>). Rutgers is an Equal Opportunity/Affirmative Action Employer.

## Survey Sampling Statistician

EOE

Westat is an employee-owned corporation headquartered in the suburbs of Washington, DC (Rockville, Maryland). We provide statistical consulting and survey research to the agencies of the U.S. Government and to a broad range of business and institutional clients. With a strong technical and managerial staff and a long record of quality research, Westat has become one of the leading survey research and statistical consulting organizations in the United States.

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

Our statistical efforts continue to expand in areas such as the environment, energy, health, education, and human resources. Westat statisticians are actively involved in teaching graduate-level courses in statistical methods and survey methodology in collaborative arrangements with area colleges and universities.

We are currently recruiting for the following statistical position:

### Survey Sampling Statistician

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

Westat offers excellent growth opportunities and an outstanding benefits package including life and health insurance, an Employee Stock Ownership Plan (ESOP), a 401(k) plan, flexible spending accounts, professional development, and tuition assistance. To apply, go to [www.westat.com/careers](http://www.westat.com/careers).



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## Faculty Positions Available



The Department of Statistics at Texas A&M University anticipates multiple open-rank faculty positions (tenure/tenure-track) to begin September 2015. Salary is open depending upon qualifications presented. Completion of all requirements for a PhD/DSc degree in Statistics (or a closely related field) prior to beginning employment is required. The department encourages persons from all areas of research to apply, but is particularly interested in areas at the interface of statistics and computer science (i.e., big data, computational statistics and data mining) and in spatial statistics. Successful candidates will have a strong commitment to research and teaching. Excellent computing facilities are available and highly competitive startup funding is anticipated.

The department has a tradition of outstanding theoretical and interdisciplinary research. Current faculty members actively collaborate with colleagues in the Colleges of Science, Agriculture and Life Sciences, Engineering, Geosciences, Medicine, Public Health, Veterinary Medicine, and with the Faculties of Genetics, Nutrition and Toxicology. For more information on the department and the research interests of its faculty, and **for details on how to apply, please visit** [www.stat.tamu.edu](http://www.stat.tamu.edu). Applications received by November 10, 2014 will be given full consideration. Applications will continue to be accepted until the positions are filled.

Texas A&M University is an equal opportunity/affirmative action employer. The university is dedicated to the goal of building a culturally diverse and pluralistic faculty and staff committed to teaching and working in a multicultural environment and strongly encourages applications from women, minorities, individuals with disabilities and veterans. Texas A&M University has a partner placement program and is responsive to the particular needs of dual career couples. The Department of Statistics is interested in candidates who can contribute to the diversity of the academic community through their research, teaching and/or service.

## New York

■ NYU Stern School of Business Statistics Group, tenure-track assistant professor appointment in statistics. Candidates should have evidence of boundary-spanning interests across fields that reflect significant interfaces of statistics with areas of relevance in a business school. Expected that candidate will be productive researcher and effective teacher at both undergraduate and graduate levels. See <http://apply.interfolio.com/25737> for full details, including information on application procedure. New York University is an Affirmative Action/Equal Opportunity Institution.

## Ohio

■ Biostatisticians (statisticians) (four openings) needed in Cleveland, Ohio.

Provides statistical expertise for study design, statistical analysis and data analysis. MS + expertise with SAS or R. Mail resumes to: Jill Ortman, Lerner Research Institute, Cleveland Clinic, 9500 Euclid Ave., ND46, Cleveland, OH 44195. No calls (principals only). EOE.

■ Tenure-track assistant professor position beginning August 2015. PhD in statistics/OR/management science/related quantitative area, demonstrated potential for excellence in teaching and research. Research and experience in data mining/business analytics highly desirable. Send cover letter, CV, three recommendation letters, official transcripts to [cmathis@bgsu.edu](mailto:cmathis@bgsu.edu) or The Search Committee, Department of Applied Statistics and Operations Research, Bowling Green State University, Bowling Green, OH

43403-0267 postmarked by Dec. 12, 2014. Visit [www.bgsu.edu/business/asor.html](http://www.bgsu.edu/business/asor.html). BGSU is an AA/EO Employer and encourages applications from women, minorities, veterans, and individuals with disabilities.

## Oregon

■ The Fariborz Maseeh Department of Mathematics and Statistics of Portland State University invites applications for a tenure-track, associate-level Maseeh Professorship in Mathematical Sciences to begin fall 2015 (Position # D93383). For full job description and application instructions, see Portland State University's employment website: <https://jobs.hrc.pdx.edu/postings/13663>. Consideration of applications will begin Nov. 15, 2014, and continue until the position is filled. AA/EOE.



## DEPARTMENT HEAD AND PROFESSOR OF STATISTICS

The College of Science at Virginia Tech is seeking an accomplished, visionary head for its Department of Statistics. The successful candidate will be appointed as a tenured full professor in the department at our Blacksburg campus and will be expected to teach graduate and/or undergraduate courses.

**All applicants must:** 1) show evidence of visionary leadership in supporting and promoting excellence in teaching, research, and outreach, 2) have an outstanding academic record including an internationally recognized level of professional achievement and commensurate funding appropriate to appointment at the rank of full professor with tenure at Virginia Tech, 3) have the ability to effectively mentor and manage human and financial resources, 4) have an earned doctorate in statistics, biostatistics, or closely related area, 5) have demonstrated the ability to advise and teach students and to work effectively with a diverse faculty, and 6) travel on occasion to attend professional meetings and conferences. The hiring process requires the candidate to successfully pass a criminal background check.

Applicants must complete the faculty application online at <https://listings.jobs.vt.edu/postings/51540>. To be included are a cover letter, a curriculum vitae, the names of three references and a statement summarizing the applicant's administrative philosophy and vision for the position and the department. Review of applications will begin on October 15, 2014 and will continue until the position is filled. Direct inquiries to Bill Woodall, Chair of Search Committee, [bwoodall@vt.edu](mailto:bwoodall@vt.edu), (540) 231-7792.

Virginia Tech is an EO/AA university. Individuals with disabilities desiring accommodation in the application process should notify Ms. Betty Higginbotham, Department of Statistics, (540) 231-5657, or call TTY 1-800-828-1120

## Academia Sinica Institute of Statistical Science Research Positions

The Institute of Statistical Science, Academia Sinica, is seeking candidates for tenure-track or tenured research positions at the level of assistant or associate research fellow available in 2015. Candidates in all areas of Statistics will be considered. Candidates should have a PhD degree in statistics or areas related to data sciences. Application materials must include (1) a curriculum vitae, (2) three letters of recommendation, and (3) representative publications and/or technical reports. Additional supporting materials such as transcripts for new PhD degree recipients may also be included. Except for the letters of recommendation, electronic submissions are encouraged. Applications should be submitted to

### Dr. Ching-Kang Ing

Chair of the Search Committee  
Institute of Statistical Science, Academia Sinica  
128 Sec. 2 Academia Road,  
Taipei 11529, Taiwan, R.O.C.  
Fax: +886-2-27831523  
E-mail: [cking@stat.sinica.edu.tw](mailto:cking@stat.sinica.edu.tw)

Applications should be received by  
**December 31, 2014** for consideration.

For more information, please visit [http://www.stat.sinica.edu.tw/statnewsite/?locale=en\\_US](http://www.stat.sinica.edu.tw/statnewsite/?locale=en_US)

## Pennsylvania

■ The Wharton Statistics Department, University of Pennsylvania, seeks applicants for a full-time, tenure-track assistant professor position, appointment beginning July 2015. Candidates should show outstanding capacity and achievement in research, along with excellent teaching skills. Applicants must have a PhD (expected completion by June 30, 2016, is acceptable) from an accredited institution. Please visit our website to apply: <https://statistics.wharton.upenn.edu/recruiting/facultypositions>. Questions can be sent to [statistics.recruit@wharton.upenn.edu](mailto:statistics.recruit@wharton.upenn.edu). The University of Pennsylvania is an EOE. Minorities/women/individuals with disabilities/protected veterans are encouraged to apply.

## Utah

■ The department of mathematics at the University of Utah invites applications for the following faculty positions: Full-time tenure-track or tenured appointments at the level of assistant, associate or full professor in all areas of mathematics and statistics. Applications must be completed through the website [www.mathjobs.org/jobs/Utah](http://www.mathjobs.org/jobs/Utah), and will be accepted until the position(s) have been filled. For more information see [www.math.utah.edu/positions](http://www.math.utah.edu/positions). The University of Utah is an AA/EOE and is committed to diversity in its work force. In compliance with applicable federal and state laws, university policy of equal employment opportunity prohibits discrimination on the basis of race or ethnicity, religion, color, national origin, sex, age, sexual orientation, gender identity/ expression, veteran's status, status as a qualified person with a disability, or genetic information. Individuals from historically underrepresented groups, such as minorities, women, qualified persons with disabilities, and protected veterans are strongly encouraged to apply. Veterans' preference is extended to qualified applicants, upon request and consistent with university policy and state law.

# VCU Medical Center

Virginia Commonwealth University

## Open Rank Tenure-Eligible Faculty Positions Department of Biostatistics Positions #F38130 and #F38140

The Department of Biostatistics at Virginia Commonwealth University (VCU) is seeking to fill two tenured/tenure-eligible faculty positions at the level of assistant, associate, or full professor. For position #F38130, we are seeking applicants with training and research interest in the design and statistical analysis of high-throughput genomic data (e.g., next generation sequencing, microarray, proteomic technologies), bioinformatics, computational biology, or closely related area. For position #F38140, the candidate should have interdisciplinary research interests with the potential for external funding and scholarship that complements existing expertise in the department. Research areas of particular interest for position #F38140 include (but are not limited to) statistical learning and data mining, non-linear modeling, longitudinal and hierarchical modeling, survival analysis, stochastic processes, Bayesian statistics, statistical computing, and risk analysis. Additionally, applicants for both positions should have collaborative research experience. Faculty are expected to maintain extramural grant support, teach and advise graduate students, and provide departmental and university service.

The Department of Biostatistics has a 40+ year history in the VCU School of Medicine and is committed to excellence in both biostatistical research and graduate education. The department offers both M.S. and Ph.D. programs in Biostatistics, including a concentration in Genomic Biostatistics and a M.S. in Clinical Research in Biostatistics. Our biostatistics faculty, students, and staff collaborate with clinical investigators on the Medical College of Virginia Campus (which includes the Schools of Medicine, Dentistry, Pharmacy, Nursing, and Allied Health) in a wide variety of biomedical research projects. Located in Richmond, Virginia, VCU has established relationships with the Virginia Department of Health as well as local and regional health departments. In addition to other computational resources at VCU, our department supports its own high-performance computing cluster.

**Qualifications:** For all levels, candidates should have a Ph.D. in biostatistics, statistics or a related field. Applicants must demonstrate research experience in one or more of the focus areas, have a record of publication/presentation in the area of expertise, have teaching experience preferably at the graduate level, and excellent oral and written communication skills.

### By Level of Appointment:

**Full Professor:** Applicants should have an established track record publishing in peer-reviewed journals, have national or international prominence in their area of expertise, and have demonstrated experience obtaining extramural research support.

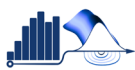
**Associate Professor:** Applicants should have an established track record publishing in peer-reviewed journals and have demonstrated experience obtaining extramural research support.

**Assistant Professor:** Applicants should have at least two years of experience beyond completion of their degree program and must demonstrate excellent oral and written communication skills.

All candidates should have demonstrated experience working in and fostering a diverse faculty, staff, and student environment or commitment to do so as a faculty member at VCU. Potential candidates can submit applications noting the position number, including a statement of research, teaching philosophy, curriculum vitae and contact information for three professional references, via mail – to Mrs. Yvonne Hargrove, Department of Biostatistics, Virginia Commonwealth University, P.O. Box 980032, Richmond, VA 23298-0032 – or by e-mail to [yfhargro@vcu.edu](mailto:yfhargro@vcu.edu).

Virginia Commonwealth University is an equal opportunity/affirmative action employer. Women, minorities and persons with disabilities are encouraged to apply.





## Assistant Professor of the Practice

The Department of Statistical Science at Duke University invites applications for faculty appointment at the level of Assistant Professor of the Practice to begin in Fall 2015. This position is a regular rank faculty with a term renewable appointment. Preference will be given to candidates demonstrating outstanding teaching and strong interests in developing and growing our undergraduate major in Statistical Science and our MS in Statistical Science. We are also interested in applicants with complementary interests in Bayesian statistical science research and collaborative applications.

The Department is an internationally recognized center of excellence for research and education in contemporary statistical methodology. With leading strengths in Bayesian analysis, interdisciplinary applications and computationally intensive methods, the Department offers outstanding teaching support, computational facilities, and opportunities for interdisciplinary statistics teaching and collaboration. We currently have 18 regular rank faculty, 16 visiting, adjunct, and postdoctoral faculty, and over 75 graduate students.

The educational program (graduate and undergraduate) as well as the Department's research agenda benefit from strong connections with many other groups at Duke, with the Statistical and Applied Mathematical Sciences Institute (SAMSI) and the National Institute of Statistical Sciences (NISS) located nearby in the Research Triangle, and with other collaborators, centers, companies and organizations nationwide. Visit <http://www.stat.duke.edu> for more information.

To apply, submit a letter, curriculum vitae, personal statement of teaching and research, and three reference letters via <https://academicjobsonline.org/ajo>. For inquiries and e-mail correspondence please write to [dalene@stat.duke.edu](mailto:dalene@stat.duke.edu). The application pool will remain open until the position is filled; screening will begin on 1 December 2014.

Duke University, located in Durham, North Carolina, is an Affirmative Action/Equal Opportunity Employer committed to providing employment opportunity without regard to an individual's age, color, disability, genetic information, gender, gender identity, national origin, race, religion, sexual orientation, or veteran status. Applications from women and minorities are strongly encouraged. Individuals in dual career couples are encouraged to visit <http://provost.duke.edu/faculty/partner/>, the website on Duke's Advantages for Faculty, for information on opportunities for dual career couples in the area and how the university can help.

■ Faculty, Assistant Professor — Biostatistics. The department of mathematics at Utah Valley University seeks applicants at the rank of assistant professor (tenure track) of biostatistics starting August 2015. Applicants having specialization in the area of biostatistics or similar will be preferred. Major duties comprise teaching statistics, serving as a consulting statistician, and pursuing scholarly activities. To apply, visit [www.uvu.jobs](http://www.uvu.jobs). Utah Valley University is an Equal Opportunity Employer.

## Virginia

■ The Virginia Tech Department of Statistics ([www.stat.vt.edu](http://www.stat.vt.edu)) has a tenure-track opening to support its Computational Modeling and Data Analytics program ([www.science.vt.edu/ais/cmda](http://www.science.vt.edu/ais/cmda)). Required are a PhD in statistics

or related field, and research focus in data analytics, machine learning, stochastic modeling, or related computationally intensive statistical methods. Further information is available at the links above. Applications must be submitted online at <http://listings.jobs.vt.edu> (posting #TR0140103). Virginia Tech is an EOAA university, and offers a wide range of networking and development opportunities to women and minorities in science and engineering.

■ Department of statistics, University of Virginia, invites applications for two tenure-track positions (assistant/associate/full professor) beginning fall 2015. Applicants must present evidence of outstanding accomplishments and promise in research and teaching. Candidates are expected to teach graduate and under-

## NC STATE UNIVERSITY

### Forensic Statistician - Department of Statistics Tenure-Track Assistant/Associate Professor

The NC State Chancellor's Faculty Excellence Program and Department of Statistics at NC State University seeks to hire a tenure-track Assistant Professor to begin in August 2015. Exceptional candidates at the associate and full-professor levels will also be considered.

The Chancellor's Faculty Excellence Program is a cluster hire program that marks the first major initiative of the university's strategic plan, "The Pathway to the Future." NC State has hired more than 30 of the expected 40 faculty members across twelve research areas, or "clusters," to promote interdisciplinary scholarship and the development of innovative curricula in emerging areas of strategic strength. Explore the Chancellor's Faculty Excellence Program and the twelve clusters at: <http://ncsu.edu/workthatmatters>.

We seek individuals who are interested in developing teaching, along with basic and collaborative research programs in statistical theory and methods applicable to forensic science, with emphases in areas related to, and in support of, the university's Forensic Science Institute (FSI). The position is affiliated with the FSI and carries with it the expectation of teaching statistics to students in forensic science programs and participation in activities serving the needs of the forensic science community on campus.

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

Of particular importance for this position is the opportunity and expectations for interactions with local law enforcement and government agencies (Raleigh/Wake City-County Bureau of Identification, and the North Carolina State Crime Laboratory) through presentations, consulting, training, and collaborations as a representative of the FSI, the Department of Statistics, and NC State.

All applicants must have a Ph.D. in Statistics, Biostatistics or relevant field by the time of employment. Comprehensive review of applications will begin December 1, 2014, and continue until the position is filled. Questions about the position may be directed to Len Stefanski ([stefansk@ncsu.edu](mailto:stefansk@ncsu.edu)).

To apply: visit <http://jobs.ncsu.edu/postings/42463>

NC State University is an equal opportunity and affirmative action employer. In addition, NC State University welcomes all persons without regard to sexual orientation or genetic information. Persons with disabilities requiring accommodations in the application process please call (919) 515-3148.



graduate courses and provide service. We seek candidates dedicated to UVA's mission of excellence in research and teaching. UVA is EO/AA Employer. See [www.stat.virginia.edu](http://www.stat.virginia.edu). University of Virginia is an EO/AA Employer.

■ Biostatistician, Department of Periodontics and Office of Research, Virginia Commonwealth University School of Dentistry. Position F37990. Opening for a master's-level biostatistician in the school of dentistry. Master's degree, 3–5 years of biomedical research experience required. Candidates must apply through the university's career website: [www.vcujobs.com](http://www.vcujobs.com). For further information, con-

tact the search chair, Al Best, [albest@vcu.edu](mailto:albest@vcu.edu). Virginia Commonwealth University is an Equal Opportunity/Affirmative Action University.

### International

■ Tenure-track assistant professor for business statistics, Dept. of ISOM, HKUST. Demonstrated excellence in research and teaching and a doctoral degree by July 1, 2015, are required. Prior business school experience or interests in business related statistical research are especially welcome. Excellent computational skills in handling large and complex data sets is a plus. Submit CV and three referees to: [statrecruit@ust.hk](mailto:statrecruit@ust.hk). [jobs.amstat.org/](http://jobs.amstat.org/)

[jobs/6473822/tenure-track-assistant-professor](http://jobs/6473822/tenure-track-assistant-professor). Hong Kong University of Science and Technology is an Equal Opportunity Employer.

■ Wang Yanan Institute for Studies in Economics & School of Economics, Xiamen University, China. Full-time, tenure-track/tenured professorship positions in statistics. Preferred areas of specializations are theoretical and applied statistics. PhD degree in statistics or probability theory must be completed by Aug. 1, 2015. Send applications, including cover letter, CV, samples of research work, and three reference letters to [recruit.wise.xmu@gmail.com](mailto:recruit.wise.xmu@gmail.com) before Nov. 30. EOE.



### INFORMATICS FACULTY POSITIONS

The University of Iowa Department of Biostatistics invites applications as part of a university-wide Informatics Initiative. Applicants will be considered at the ranks Assistant, Associate, Full Professor, or fixed-term Associate appointment level. Individuals with expertise and research interests in statistical computing, graphics, visualization, inference from biomedical images, algorithms, data analytics, and machine learning are of particular interest.

For the complete position description and electronic application information visit <http://jobs.uiowa.edu/> (requisition #64879). Applications only accepted online. Applications received by November 1, 2014 will receive full consideration.

The University of Iowa is an AA/EOE.

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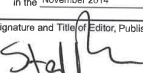


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■ The department of statistics and actuarial science, University of Waterloo, invites applications for one tenure-track or tenured position in actuarial science. PhD in area of actuarial, statistical, or mathematical sciences; research in actuarial science or related disciplines. Apply through [www.mathjobs.org/jobs](http://www.mathjobs.org/jobs). Include cover letter, CV, research/teaching statements, up to three reprints/preprints and three reference letters. Full advertisement <https://math.uwaterloo.ca/statistics-and-actuarial-science/available-positions>. Closing: Dec. 1, 2014. EOE/AA.

■ The department of statistics and actuarial science, University of Waterloo, invites applications for two tenure-track or tenured positions in statistics or biostatistics. PhD in any area of statistics or biostatistics required. Apply through [www.mathjobs.org/jobs](http://www.mathjobs.org/jobs). Include cover letter, CV, research/teaching statements, up to three reprints/preprints, and three reference letters. Full advertisement <https://math.uwaterloo.ca/statistics-and-actuarial-science/available-positions>. Closing: Dec. 1, 2014. AA/EOE. ■

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### professional opportunities

Academia Sinica Institute of Statistical Science..... p. 43

Duke University..... p. 37, 45

Fred Hutchinson Cancer Research Center ..... p. 36

Johns Hopkins Bloomberg SPH ..... p. 39

North Carolina State University ..... p. 45

Penn State..... p. 40

SAMSI..... p. 38

Texas A&M University ..... p. 41, 42

University of Iowa ..... p. 46

The University of North Carolina  
at Chapel Hill..... p. 34, 40

U.S. Census Bureau ..... p. 35

VCU Medical Center ..... p. 44

Virginia Tech..... p. 43

Westat..... p. 42

### software

Cytel Inc. ....p. 8

Dell Software..... cover 2

Minitab Inc.....centerfold

NCSS.....p. 11

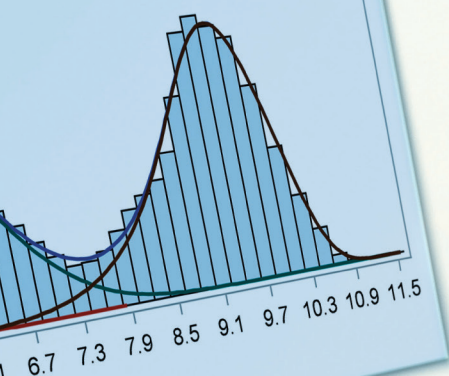
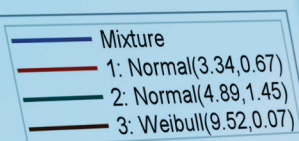
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SAS JMP software..... cover 4

Statistical Solutions ..... p. 26





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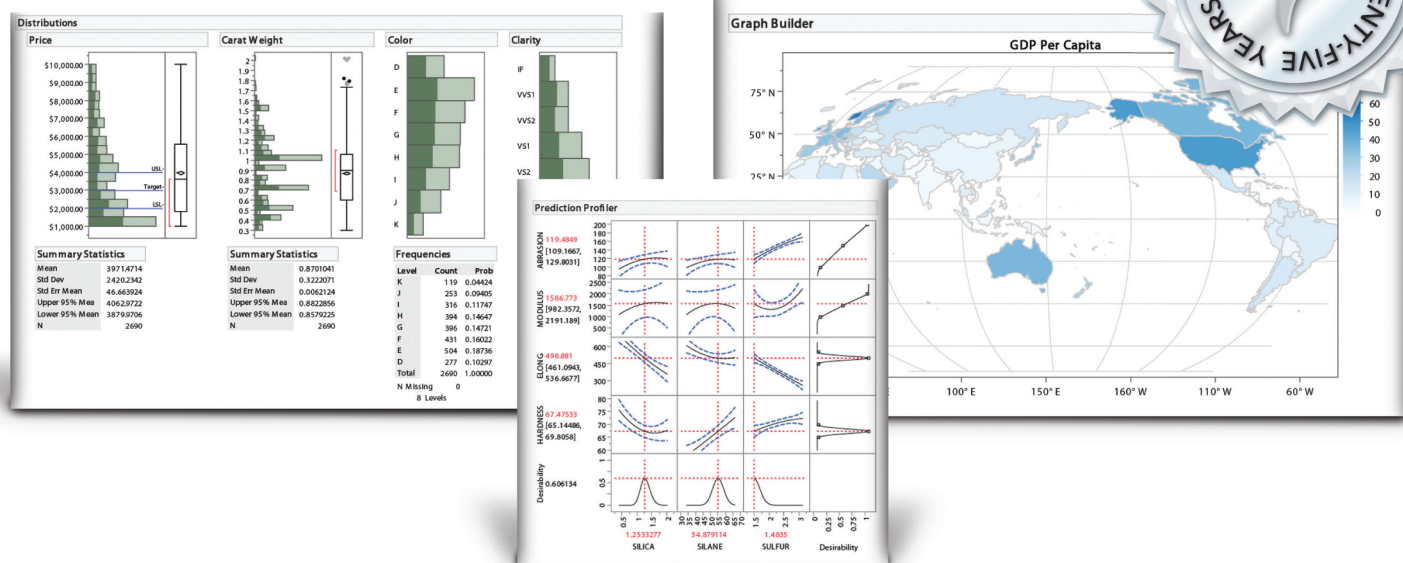
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