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OCTOBER 2013 • ISSUE #436

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

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12 MASTER'S NOTEBOOK How Statistics Training Can Lead to Management

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



Murphy

Contributing Editor

Whitney Murphy is a senior statistician for NORC at the University of Chicago, responsible for leading sample design and implementation on government health surveys. She has 18 years of experience in sample design and operationalization for large-scale health and education surveys.

13 175 Early-Career Applied Statisticians

The ASA will celebrate its 175th anniversary in 2014. In preparation, 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 in propelling the ASA toward its bicentennial.



Thomas

Contributing Editor

Laine Thomas is an assistant professor in the department of biostatistics and bioinformatics at Duke University Medical Center. She graduated from North Carolina State University in 2013. Originally from California, she now lives in Raleigh with her husband and son.

14 SCIENCE POLICY Undergrad Statistics Degrees Continue Large Increases in 2012

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



Pierson

Contributing Editor

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

Online Articles

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

The Common Core State Standards for Mathematics

include more statistics content than previous standards, especially at the middle and secondary school levels. The Ann Arbor Chapter recognized the need to support teachers in their preparation to implement these novel standards for statistics and sponsored a three-day summer seminar, "GAISEing into the Statistics Common Core," for grades 6–12 mathematics teachers in Michigan. To read about the seminar, the topics covered, and who participated, visit <http://magazine.amstat.org/blog/2013/10/01/common-core-standards>.

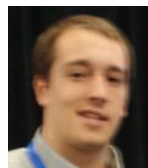
The third **Institute of Mathematical Statistics Asia Pacific Rim Meetings** will take place at Howard International House (<http://intl-house.howard-hotels.com>), Taipei, Taiwan, June 30–July 3, 2014. This meeting provides a forum for scientific communication and collaboration between researchers in Asia and the Pacific Rim. A wide range of topics in statistics and probability will be covered, including state-of-the-art research developments and applications. For information, visit the conference website at <http://ims-aprm2014.ntu.edu.tw>.

The **Division of Mathematical Sciences at the National Science Foundation** and **Global Statistical Sciences at Eli Lilly and Company** have joined forces to establish an internship program. The 12-week summer program offers an opportunity for NSF's graduate research fellows in statistics or related fields to gain research and real-world experience at Lilly. To learn more, visit <http://magazine.amstat.org> or the ASA's new professionals website, STATtr@k, at <http://stattrak.amstat.org>.

The September issue of the **Journal of the American Statistical Association** covers application topics ranging from models for text analysis to imaging genetics. Theory and Methods contributions include new statistical methods for longitudinal data, transformation models, mixture models, partial differential equation models, and machine learning. Read the issue's highlights at <http://magazine.amstat.org>.

16 STATtr@k My First JSM: A Truly Fun and Inspiring Experience in Montréal

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



Richardson

Contributing Editor

Lee Richardson graduated from the University of Washington with a double major in mathematics and statistics. He works as a data analyst for the Institute of Health Metrics and Evaluation in Seattle and plans to earn a PhD in statistics.

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JSM 2013—A Postscript

As I write this, it has been about two weeks since the 2013 Joint Statistical Meetings (www.amstat.org/meetings/jsm/2013) concluded in the beautiful city of Montréal. JSM as we know it today was established formally in 1974, after decades of combined meetings involving several statistical societies, and they are the ASA's annual meeting. For many ASA members, attending JSM is a tradition—a chance to not only hear about and share the latest advances in our field, but also to catch up with friends (and to make new ones).

Concerns that financial constraints faced by many U.S. employers might curtail attendance and travel to Canada might pose difficulties for some members were happily unfounded. The final tally shows JSM 2013 virtually tied with the 2006 meetings in Seattle for third place in total number of participants—a tad more than 6,030—behind only San Diego in 2012 (6,344) and all-time record holder Washington, DC, in 2009 (6,804). Montréal didn't only greatly exceed attendance projections. As many of you communicated to ASA staff members and me, the event—sessions, conference venue, (<http://congresmtl.com/en>), and location—also surpassed expectations and left participants energized and excited about our field.

For an ASA president, knowing that JSM in his/her presidential year was so well attended and successful is gratifying. As my predecessors will attest, the meetings are

the milestone event in a president's term, demanding one's continuing focus starting almost two years in advance.

Mere months after being elected, the future president appoints the JSM program chair based on recommendations from the ASA Committee on Meetings (<http://bit.ly/1eTYLfa>). I congratulate and thank JSM 2013 Program Chair Bhramar Mukherjee (www-personal.umich.edu/~bhramar) and her program committee (<http://bit.ly/15LB9Be>) for superb stewardship of this year's program.

The future president also selects the theme for the meetings—that 2013 is the International Year of Statistics (www.statistics2013.org) made my choice straightforward.

The two most challenging tasks a president faces are securing the ASA president's invited speaker and preparing his/her own presidential address. As for the first of these, it is the sole responsibility of the president to identify, invite, and communicate with the speaker. And this must be done far in advance, as the date is immutable, and noteworthy individuals are generally booked months or years ahead.

The increasing excitement—in the media and among statisticians alike—in the months leading up to the 2012 U.S. presidential election over the forecasts by Nate Silver (http://en.wikipedia.org/wiki/Nate_Silver) on his FiveThirtyEight blog (<http://myti.ms/16bu56j>) and his best-selling book (<http://lamzn.to/114j9T4>) solidified my objective. I wanted Nate Silver. Having someone

of his “rock star” stature, who has focused so much popular attention on the power of statistics, speak at JSM would be, frankly, as my students would say, “awesome.”

Figuring it would be pointless to contact him while he was consumed with the election, I approached him shortly after. I had some help reaching him, for which I am extremely grateful. And, fortuitously, the ASA received an invitation to an event in Washington, DC, in December 2012 at which Nate spoke, which gave me the opportunity to meet him and confirm his willingness in person.

For the record, Nate received the same compensation that all ASA president's invited speakers do—airfare and lodging. Historically, the ASA does not provide an honorarium to the president's invited speaker. I am indebted to Nate for his willingness to speak to us without one, knowing that he easily commands handsome speaker fees commensurate with his fame.

Nate's address—well summarized at <http://bit.ly/132UXDz>—generated considerable commentary (<http://bit.ly/1eTZ6it>) and attracted more than 4,000 JSM attendees, forcing us to rethink the traditional Q&A session. ASA Executive Director Ron Wasserstein had a brilliant idea—audience members would submit questions during and after the address via Twitter, which Ron would receive onstage on an iPad. If you were there, you know why I say Ron has a second career as a



Marie Davidian



Nate Silver and Marie Davidian at JSM

talk show host in his future—his adeptness at fielding, consolidating, and asking the questions was inspiring. As were Nate’s address and his answers.

If there was a defining moment, it was Nate’s response to a question regarding data science versus statistics (<http://bit.ly/16HEEvm>): “Data scientist is just a ‘sexed up’ term for statistician,” followed by “call yourself what you want, just do good work.” The audience erupted in enthusiastic applause.

This question has figured prominently throughout my time as ASA president-elect and president, during which interest in statistics has skyrocketed in the media while, simultaneously, the ongoing discourse on data science and Big Data has included scant references to statistics or statisticians. This contradiction, taking place during the International Year of Statistics no less, provided inspiration for my second major JSM responsibility—my own president’s address. Any former president will tell you that deciding on the message, crafting the prose, and perfecting the delivery are all-consuming activities during the months leading up to the meetings.

My message was that this contradiction places our discipline at a critical juncture. On the one hand, we have much to celebrate. Increasing recognition of the importance of statistical thinking among the media and public stands to affect the quality of decisionmaking and inspire interest in our field among students necessary to meet future demand for our skills. At the same time, we have much to do. Statistical science is an indispensable facet of the field called data science, and we need to be identified with this field and engaged. The ASA—and all of us—must play a role in promoting statistics at multiple levels and establishing our essential place as part of the data science team.

The numerous comments by many of you on the address and my June (<http://bit.ly/15R7SFG>) and July (<http://magazine.amstat.org/blog/2013/07/01/datascience>) columns have been diverse and thought provoking. Some of you expressed appreciation for “a needed kick in the pants” and for a “measured discussion of the data science challenge.” Others asserted that “statistics” is synonymous with “data science” and that we should lay aggressive claim to the term and call ourselves such. There were suggestions that we rebrand our discipline as “statistical science” and distinguish our unique contributions.

Many of you agreed that lack of facility with programming, machine learning, and distributed computing and data management on the part of many statisticians contributes to the disconnect with the broader data science community. And that we must consider revisions to current statistical training. Some took me to task for not emphasizing sufficiently the importance of R (www.r-project.org) to data science, while others insisted my mention of R proficiency as a requisite skill is misguided.

A few of you noted that “the song remains the same,” albeit in a new context. One eloquent email expressed dismay that, as a profession, “we continue to struggle for appropriate recognition,” opining that we need to examine why we continue to feel our “existence is constantly under threat.” Some noted relevant articles in *The American Statistician* (<http://bit.ly/17LLsHQ>, <http://bit.ly/16buZzB>, and <http://bit.ly/18dkFDh>) and that lack of visibility is a recurrent theme of presidential addresses dating back decades.

I was pointed to an interesting report (<http://oreilly.com/data/stratareports/analyzing-the-analyzers/thankyou.csp>) that acknowledges the confusion over the definition of “data scientist” and identifies various data science subgroups and skills associated with each. The authors advocate for “T-shaped” data scientists who can work effectively in interdisciplinary teams and who have “substantial, deep expertise” in at least one key aspect—for example, *statistics*.

I am grateful that so many of you have shared your views about statistics, data science, and the future of our field. The perspectives may be diverse, but all will inform the way forward for our association and profession. Please continue to do so.

The success of JSM depends ultimately on your involvement—as organizers, presenters, session chairs, and exhibitors. Thank you for your outstanding contributions and to our superb ASA meetings staff for coordinating the event. And congratulations to our new Fellows and award recipients, whose accomplishments I was honored to recognize at the two JSM award ceremonies. I hope this JSM was as memorable an experience for you as it was for me.

Marie Davidian

Highlights of the August 2013 ASA Board of Directors Meeting

Ron Wasserstein, ASA Executive Director

ASA President Marie Davidian led the board through an agenda based, as always, on the ASA's strategic plan during the August 2–3 board meeting prior to JSM in Montréal, Québec, Canada. Here are the highlights of the meeting.

Davidian welcomed Hetan Shah, executive director of the Royal Statistical Society, and Christian Leger, past president of the Statistical Society of Canada, to the board meeting. In recent years, it has been the practice of the board to invite leadership from partner societies to attend its meetings to foster understanding and collaboration among statistical societies. Both Shah and Leger reported on the activities of their respective societies and joined in the board discussions on many topics of mutual interest.

Scott Evans was appointed editor of *CHANCE* for 2014–2016, to replace Sam Behseta, whose term as editor is complete at the end of 2013.

Martha Gardner was appointed as ASA vice president for 2014 to fill the remainder of Vice President David Morganstein's term. Morganstein will become ASA president-elect in 2014.

Mingxiu Hu was appointed as ASA treasurer for 2014–2016. Keith Ord's term as treasurer is complete at the end of 2013.

The board gratefully received another cash gift from Ray and Carolyn Waller to establish a second ASA education award. Ray Waller is a former executive director of the ASA. He and his wife, Carolyn, established the Waller Education Award in 2002 to recognize the work of outstanding statistical educators who are early in their careers. This new gift will create an award for outstanding long-time statistical educators.

The board conducted policy and planning discussions on a wide range of important topics, including the following:

- How to develop a national public relations campaign to increase the visibility of the statistics profession and attract people to careers in statistics
- What's after the International Year of Statistics
- How to maintain and grow our position as the "Big Tent for Statistics"

2013 ASA Board of Directors

Marie Davidian (President)

Nat Schenker (President-elect)

Bob Rodriguez (Past President)

Mary Mulry (Third-Year Vice President)

David Morganstein (Second-Year Vice President)

Jim Rosenberger (First-Year Vice President)

John Bailer (Third-Year Council of Sections Representative)

Janet Buckingham (Second-Year Council of Sections Representative)

Dick De Veaux (First-Year Council of Sections Representative)

Bonnie LaFleur (Third-Year Council of Chapters Representative)

Nick Horton (Second-Year Council of Chapters Representative)

Mary Kwasny (First-Year Council of Chapters Representative)

Ray Chambers (International Representative)

David Banks (Publications Representative)

Keith Ord (Treasurer)

Ron Wasserstein (Executive Director)

The outcomes of these discussions will provide policy and implementation guidance for the board and staff over the coming year.

The board adopted in principle a "welcoming environment policy" at the request of the Joint Committee on Women in the Mathematical Sciences. The proposed policy encourages members of societies to take responsibility for ensuring that everyone feels welcome at the events and also to help members become aware of aspects of their behavior that may make others feel harassed or unwelcome. Details of the implementation policy will be worked out with JSM partners.

The board officially endorsed the fifth edition of "the purple book," *Principles and Practices for a Federal Statistical Agency*. The book, developed by the Committee on National Statistics of the National Research Council, sets forth four principles and 13 practices for a federal statistical agency.

The board also endorsed a request from the Committee on ASA Archives and Historical Materials to encourage each of the ASA's committees, sections, chapters, and representative bodies to create or update its history.

In actions during and subsequent to its meeting, the board agreed to a proposal from the editorial board of *Statistical Analysis and Data Mining* to add the subtitle "The ASA Data Science Journal" to the name of the journal.

The board approved in principle a proposal to collaborate with the societies that founded the International Year of Statistics (IBS, IMS, ISI, and RSS) to create an organization that would eventually award an annual International Prize in Statistics. (Details about the organization and the prize will be available later this fall, once they are adopted by all five societies.)

Treasurer Keith Ord and Associate Executive Director and Director of Programs Steve Porzio made their regular reports about the state of ASA finances and investments. ASA membership is

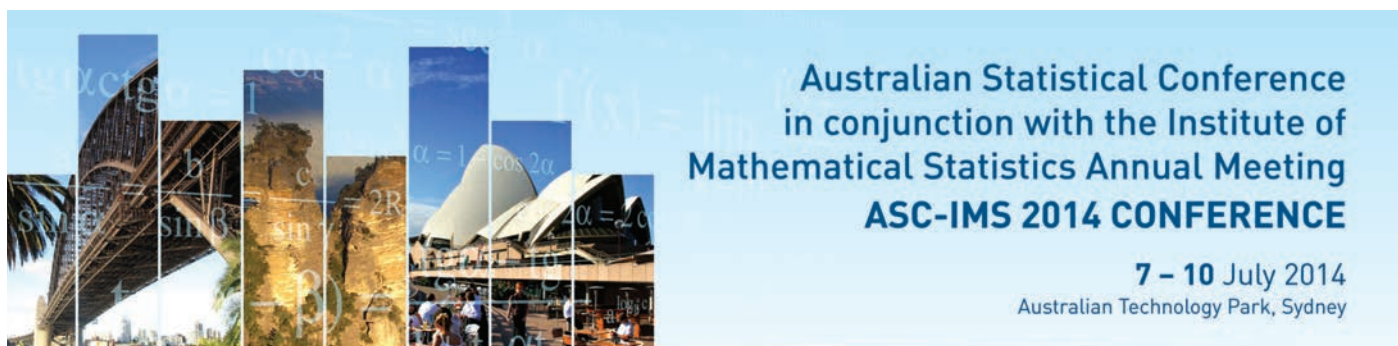
growing, Porzio reported, and the attendance at JSM 2013 was expected to be quite good. (NB: In fact, it was the third-largest JSM, second only to 2012 in San Diego and 2009 in Washington, DC.)

The board approved the ASA's roughly \$8.8 million annual budget for 2014.

The councils of sections and chapters made their reports to the board. Both councils have been active in support of sections and chapters, entities of critical importance to the ASA.

The board heard the annual report of the Professional Issues and Visibility Council, presented by Morganstein. The report helps the board stay connected with its network of committees, helping the organization to be more efficient and make the best use of the volunteer time that is so critically important to the success of the ASA.

The board next meets November 22–23 at the ASA office in Alexandria, Virginia, for its final meeting of 2013. ■



Australian Statistical Conference in conjunction with the Institute of Mathematical Statistics Annual Meeting ASC-IMS 2014 CONFERENCE

7 – 10 July 2014

Australian Technology Park, Sydney

PROGRAM UPDATE

www.asc-ims2014.com



On behalf of the Statistical Society of Australia and the Institute of Mathematical Statistics, the organising committee invites you to register in the joint Australian Statistical Conference/IMS Annual meeting, to be held 7–10 July 2014 in Sydney, Australia.

Delegates from all areas of statistics will join with world class Australian and International statisticians and mathematicians to develop, network and share their knowledge and expertise. In 2014 the Statistical Society of Australia will hold its biennial ASC in conjunction with the IMS Annual meeting. The Conference will provide opportunities for presentations on a wide range of topics and recognises the role that statistics plays in all aspects of modern life.

KEYNOTE SPEAKERS

ASC Keynote Speakers

James Brown, University of Southampton
Adrian Baddeley, University of Western Australia
Sheila Bird, Cambridge University
Rob Tibshirani, Stanford University

IMS Keynote Speakers:

Thomas G. Kurtz, University of Wisconsin-Madison
Peter Donnelly, University of Oxford
Terry Lyons, University of Oxford
Nina Gantert, Technische Universität München
Martin Hairer, University of Warwick
Timo Seppäläinen, University of Wisconsin-Madison
Matthew Stephens, University of Chicago
Harrison Zhou, Yale University

MARK THE KEY DATES IN YOUR DIARY:

**Abstract Submission
Deadline:**
30 OCTOBER 2013

Author Notification:
30 NOVEMBER 2013

Early Bird Deadline:
28 FEBRUARY 2014

Fellowships for Graduate Study

Steve Pierson, ASA Director of Science Policy

The September issue of *Amstat News* featured Q&As with recipients of National Science Foundation (NSF) and National Institutes of Health (NIH) postdoctoral fellowships and program officers. This month, we focus on graduate fellowships.

The NSF, NIH, Department of Energy (DOE), Department of Defense (DOD), and other agencies offer graduate fellowships. See the more comprehensive list, Internship and Fellowship Opportunities in Science, at www.science.gov/internships/graduate.html.

The National Science Foundation's Graduate Research Fellowship Program (GRFP) has an extensive website, www.nsfgrfp.org, with tips for applying. An October 2012 article, "NSF Graduate Research Fellowship" (<http://magazine.amstat.org/blog/2012/10/01/masters-oct-12>) by Meredith Berthelson and Jennifer Slimowitz Pearl, extensively discussed the GRFP. The 2014 GRFP applications are due in early November.

Because of the NSF GRFP page and the recent *Amstat News* article, we will focus this introduction on the NIH F31. For DOE and DOD, the primary graduate fellow programs are the following:

- Computational Science Graduate Fellowship (CSGF) (DOE), www.krellinst.org/csgf
- National Defense Science and Engineering Graduate Fellowship (DOD), <http://ndseg.asee.org>
- Office of Science Graduate Fellowship Program (DOE), <http://scgf.orau.gov>

The NIH graduate fellowship program is the Ruth L. Kirschstein National Research Service Awards for Individual Predoctoral Fellows (F31). Twelve institutes participate in the F31 program. *Amstat News* staff emailed the following four questions to the staff contact for each of the 12 programs (http://grants.nih.gov/grants/guide/contacts/parent_F31.html) seeking advice for potential applicants from the statistical science community:

- What advice do you have for people considering applying for the predoctoral fellowships through your institute? Do you have any advice specific to statisticians?
- Should a potential applicant discuss their proposal with you, the program officer? If so, at what stage of the process?
- What are the proposal funding rates for this program? How many are awarded annually?
- Any other advice or comments you'd like to add?



The following program directors or officers responded to our questions: Tina Gatlin, National Human Genome Research Institute (NHGRI); Dennis A. Twombly, National Institute of Child Health and Human Development (NICHD); Mark Damico, National Cancer Institute (NCI); Shawn R. Gaillard, National Institute of General Medical Sciences (NIGMS); Michael-David Kerns and Chyren Hunter, National Institute on Aging (NIA); Leslie A. Frieden, National Institute of Dental and Craniofacial Research.

We note that much of the advice received also could be applied to the NIH F32 postdoctoral research program. The F31 Diversity Fellowship (<http://grants1.nih.gov/grants/guide/pa-files/PA-11-112.html>), whose purpose is "to improve the diversity of the health-related research workforce," was also mentioned often.

Based on an August 27 query of the NIH Research Portfolio Online Reporting Tools (<http://projectreporter.nih.gov>), there were 357 F31 fellowships awarded in FY12, totaling \$12.5 million. The top eight sponsors were NINDS (75), NCI (70), NIMH (59), NIA (43), NIDA (33), NIAAA (32), NIDCD (27), and NIDCR (14). For the F31 diversity fellowships, 154 were awarded in FY12, totaling \$5.4 million. The top sponsors were NCI (27), NIGMS (18), NINDS (17), NIAID (12), NHLBI (12), and NIMH (10). The overall F31 and F31 diversity combined proposal funding rate for FY12

was 28.5%. The next deadline is December 8 (and then April 8 and August 8).

The following are summaries and selected excerpts capturing the range of answers to the four questions.

Advice for Applying for the F31

In general, applicants are encouraged to read the F31 program announcement (<http://grants1.nih.gov/grants/guide/pa-files/PA-11-111.html>) carefully, particularly the review criteria and eligibility requirements (U.S. citizens and permanent residents). Most institutes welcome applications from statisticians and point to the institute-specific guidance at the F31 staff contact page (http://grants.nih.gov/grants/guide/contacts/parent_F31.html). For each institute, it was stressed that the application must be specific to the research mission/interests of that institute. It also was noted that all F31 applications are first processed by the NIH Center for Scientific Review and may not necessarily be directed to the targeted institute. One program officer emphasized the importance of recognizing this fellowship as a training grant with significant career development, which means the fellow must advance both intellectually and technically and will often take classes as part of the fellowship.

Other responses from the various program officers/directors follow:

- NHGRI: Priority is given to applicants who are developing methods, technologies, etc. that can be broadly applied, rather than applying existing methods to specific biomedical problems.
- NICHD: We have only supported the Diversity F31 until this year. For FY2014, we are signed onto the Parent F31, but limit the topic areas to obstetric and pediatric pharmacology and therapeutics; intellectual and developmental disabilities; fertility, infertility, and contraceptive development; medical rehabilitation research; and biology of the placenta. F31s under those subjects would have to be primarily biomedical in nature with a statistical component.
- NCI: First, read the program announcement carefully, and then read it again. For NCI, it is important that not only the research be cancer focused, but also the sponsor must be funded with cancer-focused grants. Write with the understanding that these are training awards. The training plan is as important as the research plan. Make the case, not only for you, but also for how your institution will enable your training plan. What do they provide? Make sure your sponsor(s) have a track

record of training students and postdocs. Make sure your collaborators' roles are specifically described, as well. Make sure your training plan provides professional development and exposure to facets of cancer research you haven't had in the past.

- NIA: I [MDK] am particularly attuned to the urgent need to identify and train graduate students in the rigors of statistical science.
- In my experience, fellowship applicants with a manifest interest in quantitative methodology who succeed in winning research-training support from NIH prepare and submit fellowship applications in much the same way as do other successful fellowship applicants. By that, I mean they propose a highly detailed research-training plan under the supervision of a recognized expert in (this case) quantitative methodology. For NIA, that interest must be further situated within a training program and career trajectory that focuses on aging as a primary variable or process (or as an adjunctive but central interest, as in intergenerational relations, demography of aging, health economics of aging, retirement, etc.).
- NIDCR: NIDCR is focused on training individuals for future careers in oral, dental, or craniofacial health research. We welcome all research topics directly relevant to the NIDCR scientific mission and provide training for a wide range of research disciplines, including statisticians. Applicants should articulate their long-term and short-term career goals within the application.

The primary mentor for the applicant does not necessarily need expertise in oral, dental, or craniofacial research, but there should be a co-mentor or consultant who can provide training in these areas. Potential applicants should discuss an F31 application with their mentor(s), because the training experience the applicant will receive is an important component of the F31 review.

Contact with NIH F31 Staff

The consensus here is a resounding "yes" and as early as possible. The following institutes provided this additional information:

- NHGRI: While not required, it is strongly encouraged that all potential applicants discuss their proposed project with an NHGRI staff member in the concept development stage of their application, and as early as possible. It is

preferable that the initial contact be through email, with the following information: (1) three of four paragraphs about the proposed research; (2) CV; (3) name(s) of proposed mentor(s); and (4) NIH institute/center that supports proposed mentor(s) research. In that way, the initial discussion can be more informative.

- NIDCR: Program officers can answer general questions about the application process and provide specific feedback regarding whether a topic is appropriate for assignment to their NIH institute or center. It is always helpful to find this information out in advance, rather than invest time and effort in an application that is a poor fit for the sponsoring institute/center funding opportunity.
- NCI: Absolutely! You should talk with your PD early and often, if you need it. The PD is in charge of your application process until the application is made. Then, the contact person shifts to the SRO for the review. Ask the PD questions and for advice. It's our job to help.

F31 Funding Rates

The general response here is "that depends" and, for many institutes, the number of F31s to statisticians has been small. Three institutes had additional information:

- NHGRI: [The F31 proposal funding rate] is higher than the average NIH funding rate of traditional RO1s. NHGRI recently signed on to the parent F31 (before it was just the diversity parent F31), so we do not have an average of how many we award annually. The number of new awards per year, however, we anticipate will be four or fewer.
- NCI: We award as many grants as we can, dependent on the amount of money we have to spend and the number of applications we receive in all mechanisms at NCI. We normally fund somewhere around 25% of fellowship (F) applications.
- NIDCR: The funding rates for the NIDCR F31 vary from year to year and depend on the number of applications reviewed, priority scores, and the budget in a particular fiscal year. The abstracts and specific aims of all NIH grants, including NIDCR F31s, are publically available on the NIDCR RePorter Database: <http://projectreporter.nih.gov>.

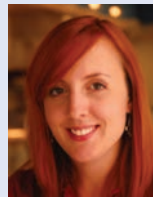
Additional F31 Advice

- NHGRI: Biostatistics can be applied in many areas, so priority is given to applicants whose mentors are supported by NHGRI.
- NIDCR: NIDCR strongly encourages students to apply for individual F31 fellowships. This provides an invaluable exposure to the NIH grant system and peer-review process. ■

The following three NSF graduate research fellows and an NIH F31 fellow responded to questions about their fellowships for STATtr@k, a website for new statistics professionals, which can be found at <http://stattrak.amstat.org/2013/10/01/nsf-grads>.



Frederick Campbell is a graduate student at Rice University, interested in optimization and statistical machine learning with applications in medicine. He was awarded the NSF graduate fellowship in 2012.



Amanda Mejia is a third-year PhD student in biostatistics at Johns Hopkins who was awarded the NSF graduate fellowship in 2010. Her research is on the analysis of high-dimensional imaging data, such as fMRI and MRI.



Jessica Trail is a doctoral candidate in the department of statistics at The Pennsylvania State University. Her research focuses on integrating techniques from functional data analysis and dynamical systems modeling to analyze intensive longitudinal data. She received an F31 from the National Institute on Drug Abuse in 2012.



Dane Van Domelon is pursuing a PhD in biostatistics at Emory University and was awarded the NSF graduate fellowship in March 2013. He studied bioengineering at the Milwaukee School of Engineering and, after graduating, completed a two-year research fellowship in epidemiology at NIH.

Statistics and Public Policy: A New ASA Journal

David Banks, Duke University; Sharon Lohr, Westat; Dan McCaffrey, ETS; and Sally Morton, University of Pittsburgh

The ASA will soon launch a new journal—*Statistics and Public Policy (SPP)*—with the goals to publish articles that apply good statistical practice to data sets that may inform the public and decisionmakers about matters of policy and provide a forum for discussion of statistical issues associated with evidence-based public policy and planning. Unlike essentially all other ASA journals, *SPP* will have no requirement for methodological novelty. Of course, novel methods are welcome, provided they apply to public policy issues and applications. The scope for content can be at any level, from city management to national or international governance.

The new journal will be entirely electronic. Taylor & Francis,

the publisher for all other wholly owned ASA journals, will provide copyediting and editorial support. Also, the new journal will be open-access, available to all free of charge without a subscription or a charge per article. Open access for the journal furthers the ASA mission to encourage the use of sound statistics by elected officials and public administrators.

All papers submitted to *SPP* will undergo a rigorous review process. The review will be overseen by one of the four editors (David Banks, Sharon Lohr, Dan McCaffrey, and Sally Morton) and directed by an associate editor (Georgiy Bobashev, Alicia Carriquiry, Ron Fricker, Alan Karr, Mary Elizabeth Landrum, Mike Larsen, Denise Liesvley, David

Marker, Jasjeet Sekhon, Bruce Spencer, and Andrew Thomas).

In addition to being open access, Taylor & Francis has agreed to provide moderated comment capability so readers can discuss an article and authors can respond to readers' questions. This functionality will not be available immediately, but the editors are optimistic that it will be added promptly.

Also, *SPP* will have a reproducibility certification. Reproducibility is weaker than replication; it means that if the author's code is run over the author's data, then the outcomes described in the paper are actually obtained. Reproducibility studies are problematic for many journals—often the statistical analysts do not own the data, or the software is proprietary, and they cannot get permission to share these with the editors. In the public policy sphere, however, most data are open access and most software is commercial or free. The editors will strongly encourage (but not require) authors to submit their work to a reproducibility test.

Open access will be a great benefit for *SPP*, but it means there is no subscription revenue to cover the costs of the technical support provided by Taylor & Francis. The ASA is exploring methods for implementing the new open-access model. The current plan is that authors may need to pay a fee if their paper is accepted for publication. The ASA Board is sensitive to the fact that this is a departure from previous ASA practice and hopes the membership will agree that, on balance, the positive outcome of world access to content outweighs the relatively small fee. The ASA intends to ease into this payment model, and authors who have good articles but no external support may, upon request, receive a subsidy. ■

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Leadership Development for Statisticians—Let’s Take the Time!

Gary R. Sullivan, Senior Director in Global Statistical Sciences & Advanced Analytics, Eli Lilly and Company

In his book *The Road Less Traveled*, M. Scott Peck shares a personal anecdote of observing a neighbor repairing his lawnmower. He says to the neighbor, “I’ve never been able to fix those kind of things or do anything like that.” The neighbor replies, “That’s because you don’t take the time.” Mr. Peck goes on to share that, at first, he was taken aback by the comment of his neighbor, but, at his next opportunity to repair something, he took the time and was able to have success.

I believe this to be the case with statisticians and leadership. It’s not that we can’t be strong leaders in the organizations in which we work. Rather, we simply haven’t taken the time to develop leaders within our profession. In his February 2012 President’s Corner article in *Amstat News*, Bob Rodriguez identified leadership ability as a “prerequisite for the growth of our field,” essentially calling out our profession and challenging us to “take the time.”

As a member of Bob Starbuck’s workgroup on Career Success Factors for statisticians, I was asked to share what we have done at Eli Lilly and Company to develop the leadership of our statisticians. I am happy to share that we’ve developed a webcast available on the ASA website that provides an explanation of our program. Before sending you off to view the webcast, let me briefly provide some background about how our program came to be, as well as its content and impact.

In 2009, as our statistics function was developing a new strategy, we realized we had little hope of having the impact we believed we could without stronger leadership from our statisticians. It was at that time that we set out to develop a leadership program for our 250+ statisticians. It took us about nine months to create a comprehensive program comprised of the following three parts:

- The **Leadership by Design** component is a wiki resource in which our statisticians can tailor a plan to develop one or two specific leadership competencies
- The **Advancing Leadership Program** is a classroom-style course in which our statisticians are exposed to different leaders in and out of the company to better understand leadership and its impact and to determine their own leadership principles
- The **Quarterly Leadership Presentation** is a series in which the entire function hears a perspective on leadership from an established leader to gain additional insight to help their individual journeys

Career Planning Webcast

In a new webcast (<http://bit.ly/1fbDr2Z>), eminent statisticians Christy Chuang-Stein, Cynthia Clark, Fred Hulting, Sally Morton, Nat Schenker, and Dan Solomon address questions about career planning issues that can arise during one’s career and discuss how they dealt with them. Their candid words may help you deal with the same or similar issues.

The 90-minute webcast may be viewed in its entirety or one chapter at a time. The following chapters comprise the webcast:

Finding a Challenging and Rewarding Position	Job Location
Career Advancement	Job Satisfaction
Work and Family	Compensation
	Involvement in Professional Society Activities

How has our program made a difference? We define leadership as “the ability to inspire people to take a specific direction or action when they truly have the freedom or choice to do otherwise.” For statisticians, this is truly necessary to convince the business to adopt innovative approaches, implement new strategies, or make decisions that have significant impact on our patients and products, both in development and in the marketplace.

I can cite many examples of how we have influenced approaches, decisions, and strategies I believe were enabled by developing the appropriate leadership competencies. However, the best evidence is perhaps the fact that we have influenced in these ways at the highest levels of the company, including our business unit presidents, our CEO, and our board of directors. The leadership of our statisticians has truly made a difference in the success of not only our function, but also our company and the lives of our patients.

The webcast is now available for viewing at <http://bit.ly/19iVCOx>. It consists of 10 short videos that explain different aspects of our journey. These include an explanation of the three components of our program, several Q&A sessions with company stakeholders, and a final section with ideas about how anyone can get started.

As leadership development continues to gain steam in our profession, there is no doubt that our influence as statisticians will grow in the organizations within which we work. We believe sharing the path we have taken at Eli Lilly can help others make progress on their leadership journeys. ASA President-elect Nat Schenker has sanctioned a workgroup led by Janet Buckingham to develop training in statistical leadership. I would also encourage others to share their programs and successes in leadership development. Let’s make leadership development “the road more traveled” by statisticians.

Good luck on your leadership journey! ■

MASTER'S NOTEBOOK

How Statistics Training Can Lead to Management

Whitney Murphy, NORC at the University of Chicago



Manager

When I earned my master's degree from The University of Chicago in 1994, little did I know that—almost two decades later—I would have an active connection to the university or that my training in statistics would lead to a position in management. While still working on my thesis, I was recruited as a research assistant by NORC at the University of Chicago, and aside from a year spent teaching abroad, I have been here ever since.

Over the years, I've worked on a variety of survey research projects related to education and public health. I started out running analyses and producing technical documentation and research papers. These tasks called on my training as a statistician, but also allowed me to continue learning about the field of survey research directly. As I gained more experience, I began to share what I'd learned with more junior staff the same way my managers did with me when I started out. I found myself on the career path that led to my current role as a statistical manager.

I loved the time I spent as an analyst and sampler on the various projects in which I've been involved over the years, and I don't think I ever saw myself heading toward management. But looking back, it seems like a natural progression, and there are many rewarding aspects of this role. While being involved in the day-to-day research, sampling, and analysis offers the instant gratification of seeing the fruits

of your labor displayed in a table, graph, paper, or report, management has the less instant—but still rewarding—gratification of seeing a project through from start to finish.

As a manager, I am responsible for other statisticians working on the project. I plan their tasks, oversee and review their work, and provide technical guidance when appropriate. I also am responsible for some of the more routine management tasks, such as monitoring the budget and developing timelines for specific tasks. But I am still involved in problemsolving, albeit from a more global perspective now. Because I am involved in a project from the start and oversee the majority of the statistical tasks, I am in the fortuitous position of being able to help inform the methodology and design of our work, contribute to the development of best practices based on past successes, and influence internal research, the results of which can lead to changes in the way we do things on the project, or sometimes even on a broader level. And while I may not be doing as many of the technical tasks, I'm rewarded by being able to guide another statistician in the same work that gave me so much fulfillment earlier in my career.

In becoming a manager, I have looked to some of the managers I have worked with as examples. The best managers I know have a few distinct traits that make them good at what they do. First, they guide their staff well, giving clear directions and teaching new skills when appropriate. They give their staff opportunities that will help them develop their careers more fully. They know the abilities of their staff and support independent work and growth as much as possible. They support their staff through the good and the bad, sharing responsibility and giving credit for jobs well done. They stand up for what they know is right, but are flexible enough to work well with people within and outside their group to solve a problem in a way that is reasonable to all parties. Second, they enjoy working with people.

As I grow in my role as a manager, I look forward to continuing to develop and strengthen these qualities in myself. And who knows? Maybe during this journey, I will encourage another to turn down the path toward management, too. ■

Early-Career Applied Statisticians

Laine Thomas, Duke University Medical Center

The Committee for Membership Retention and Recruitment (CMRR) includes representatives from various branches of statistics, including government, the pharmaceutical industry, academia, contract research, and students. Our review of the membership data indicates we have the greatest potential for high impact on membership by targeting early-career applied statisticians, irrespective of their niche.

An important consideration is whether the ASA should be a niche organization. Perhaps our committee is worrying about potential members who are “out of scope.” In fact, that is a common response when I talk to current ASA members.

However, the Board of Directors has endorsed a more inclusive perspective. The ASA mission statement includes aims such as “promote the proper application of statistics” and “seek opportunities to advance the statistical profession.” Success in this mission requires engagement with a spectrum of statisticians. Specifically, the ASA aims to “make membership attractive to students, young statisticians, applied statisticians, quantitative analysts, educators, government and official statisticians, and others in emerging areas such as business analytics and data science.” The challenge to our committee, and ASA members, is to continue the work we’ve always done and improve our interaction with these demographics.

The topic of cost frequently arises as a potential barrier to membership for these key groups. Student membership costs \$15; new graduates receive a reduced rate of \$50 during the first year after graduation, and regular membership is \$160. Despite the reduced rates, about 59% of students renew their annual membership and only 25% convert to regular membership after graduation. Given the typical salary of statisticians and these reduced rates, it seems unlikely that the cost of membership is prohibitive. Instead, we must increase awareness of existing benefits and develop new sources of value.

CMRR is working to understand the needs of early-career applied statisticians and support the Committee on Applied Statisticians in addressing them. At JSM in Montréal, we held meetings with hiring managers who were engaged with the Career Placement Service. Some communicated a sobering reality that large, well-funded companies offer most of what the ASA can provide in terms of mentoring, education, and community. Perhaps that is bad for membership, but good for the profession. Others function in an isolated environment without statistical collaboration and are eager for opportunities to connect and solve problems.

In terms of existing benefits, there was strong support for the new Conference on Statistical Practice and the Statistical Consulting Section listserv that supports discussion of statistical problems. The listserv is highly active, and yet none of the managers were aware of it. Managers indicated concern that these benefits receive sufficient support to mature and improve in accessibility and quality.

With respect to new benefits, there was interest in increased local chapter activity and support for an applied newsletter. We intend to continue the outreach to hiring managers and applied statisticians. In 2014, we will follow up on a suggestion to interview job applicants at the JSM Career Placement Service. In fact, we have already developed plans for a focus group that may be conducted among this cohort.

Increasing chapter activity is another priority identified by the CMRR in 2013. We note that master’s statisticians working in industry are rarely funded to attend JSM and will therefore interact with the organization mainly at a local level. Yet interaction with the ASA is a key benefit, whereby professional networking occurs naturally and indirect, societal benefits of the ASA become apparent.

Exemplary chapters in San Antonio, Chicago, San Francisco, Washington, and New Jersey are highly active, suggesting the possibilities. Through discussion with our own local chapters and the Council on Chapters, the CMRR has identified two major barriers to increasing local chapter activity. The first is a perception that chapters aren’t necessary in large academic centers. However, these locations are often industrial centers whose practicing statisticians have a lot to gain from the ASA and limited interactions with academia. In fact, active chapters in New Jersey and Chicago report a major representation of industry in their leadership and participants. This is why the ASA Strategic Plan is so important. In an organization that wants to engage applied statisticians, chapters are not obsolete in the presence of academia.

The second barrier is the need for a catalyst, someone who will dedicate the time to plan and organize new chapter events. Although certainly a challenge, it may help to think broadly about who has energy and interest. It may be students, analysts, or industrial statisticians, themselves members of our key demographic. Who better to develop relevant activities? The ASA and its members can help by recognizing the importance of active chapters and rewarding and promoting the individuals who build them. ■



SCIENCE POLICY

Undergrad Statistics Degrees Continue Large Increases in 2012

Women account for large portion of degrees

Steve Pierson, ASA Director of Science Policy

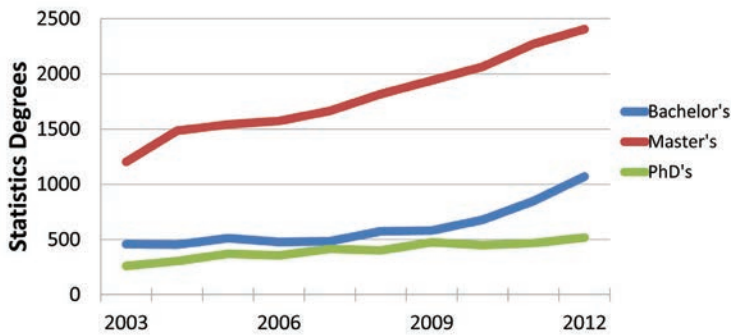


Figure 1. Statistics degrees at the bachelor's, master's, and doctorate levels in the United States. These data include the following categories: statistics, general; mathematical statistics and probability; mathematics and statistics; statistics, other; and biostatistics. Data source: *NCES Digest of Education Statistics (DES)*, <http://nces.ed.gov/programs/digest>

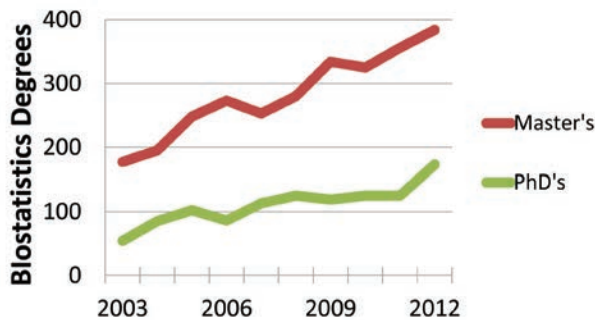


Figure 2. Biostatistics degrees at the master's and doctorate levels in the United States. Bachelor's degrees in biostatistics averaged 16 from 2003–2012. Data source: NCES DES

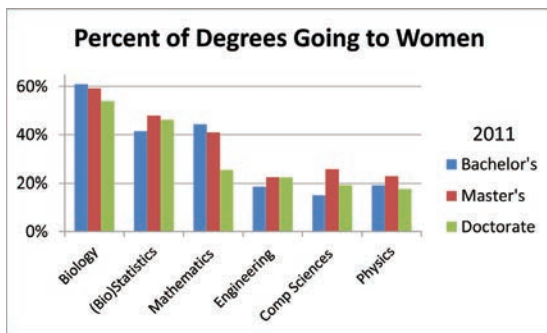


Figure 3. Percentage of 2011 degrees going to women for six disciplines, where the only the categories “Statistics, General” and biostatistics were used for “(Bio)Statistics.” It should be noted that (Bio)Statistics has the smallest number of degrees in each category for the six disciplines displayed. Source: NCES DES

The 2012 statistics degree data recently released by the National Center for Education Statistics (NCES) show that interest in undergraduate statistics degrees continues to grow rapidly. Bachelor's degrees in statistics were up 26% over the year before. Master's degrees continued strong growth at 6%, and PhD's were up 10%.

The 2011 to 2012 jump continues the strong growth reported in the May *Amstat News* column “Growing Numbers of Stats Degrees.” (That column—<http://magazine.amstat.org/blog/2013/05/01/stats-degrees>—also compared the growth in statistics degrees to mathematics and physics and showed the degree growth also extended to enrollment in undergraduate degrees and AP Statistics.) Bachelor's degrees more than doubled in five years, while master's and doctorate degrees doubled over nine-year periods. The 10% jump in PhDs from 2011 to 2012 is because of a 38% jump in biostatistics PhDs, from 125 to 173. See Figure 2.

The 2012 bachelor's degree total is even higher—1,374 instead of 1,071—if one includes statistics degrees categorized as second degrees. However, for purposes of simple comparison with growth of other degrees, I only use the first award data. The exception is the last two tables in this column, in which I used both first and second degree data.

A further examination of NCES data for statistics and biostatistics shows that, relative to other science fields, a large percentage of statistics degrees are conferred to women. While the majority of biology undergraduate and graduate degrees go to women, more than 40% of statistics degrees go to women. This is much higher than computer science, engineering, and physics. For undergraduate and master's degrees, roughly the same proportion of mathematics and statistics degrees is conferred to women. For PhDs, the percentage of mathematics degrees going to women drops to roughly 25%.

Figure 4 shows the three levels of statistics degrees for 2003, 2008, and 2012. The proportion of undergraduate degrees going to women seems fairly steady, with perhaps a small recent drop. Master's degrees are closer to 50% going to women. The PhD data show more variability, perhaps because of the smaller numbers.

Table 1—Bachelor's, Master's, and Doctorate Statistics Degrees by Racial Background or Ethnicity for 2012

	Asian	Black or African American	Hispanic or Latino	White	Race/ethnicity unknown	Nonresident alien	Other
Bachelor's	18.7%	3.4%	3.2%	49.9%	2.7%	21.6%	0.4%
Master's	10.6%	2.5%	2.7%	28.7%	3.9%	50.5%	1.1%
PhDs	9.1%	2.1%	1.5%	26.6%	2.1%	57.5%	1.0%

Source: NCES IPEDS

Table 2—Breakdown of Bachelor's, Master's and Doctorate Statistics Degrees by Racial Background or Ethnicity for 2012 Excluding 'Nonresident Alien' and 'Race/Ethnicity Unknown' Categories

	Asian	Black or African American	Hispanic or Latino	White	Other
Bachelor's	24.7%	4.5%	4.2%	66.0%	0.6%
Master's	23.3%	5.5%	5.9%	62.9%	2.4%
PhDs	22.5%	5.3%	3.8%	66.0%	2.4%

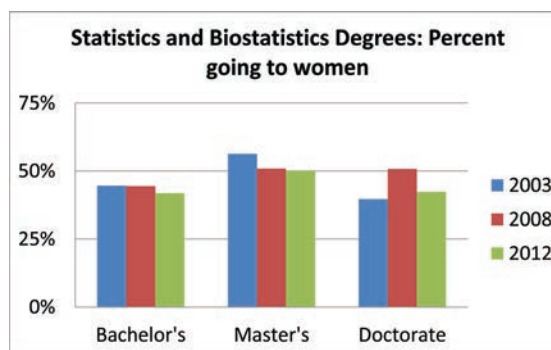
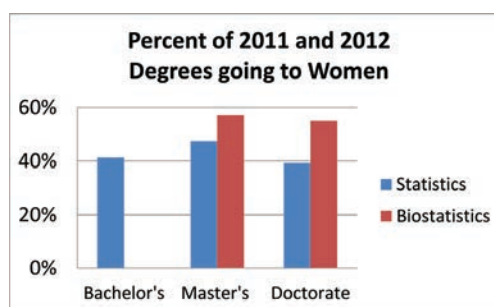
Source: NCES IPEDS

If one compares the proportion of degrees going to women between “Statistics, General” and “Biostatistics,” one finds that more biostatistics graduate degrees are going to women. For 2011 and 2012 combined, 57% of master's degrees in biostatistics went to women (740 total biostatistics degrees over the two years) and 55% of PhDs went to women (298 total degrees). For “Statistics, General,” 47% of master's degrees went to women (3,600 total degrees over two years) and 39% percent of PhDs went to women (out of 656).

Finally, turning to racial background and ethnicity, Table 1 shows the breakdown by degree level where one sees an increasing percentage of nonresidents earning the degrees as the degree level increases. The percentage of Black/African Americans and Hispanic/Latinos students earning degrees is small in all categories. Excluding the “nonresident alien” and “race/ethnicity unknown” categories, one sees in Table 2 that Asians account for about a quarter of degrees at each level, whites about two-thirds, and the others, collectively, about 10%.

The “other” category includes American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, and two or more races. The degree data in tables 1 and 2 are for the five categories used in Figure 1: statistics, general; mathematical statistics and probability; mathematics and statistics; statistics, other; and biostatistics.

For a discussion of mathematical sciences degrees by gender, citizenship/residency, and race/ethnicity, see Chapter 5 of the National Academies' 2013 report *The Mathematical Sciences in 2025*. http://nap.edu/catalog.php?record_id=15269. ■

**Figure 4.** Percentage of “Statistics, General” and “Biostatistics” degrees conferred to women for 2003, 2008, and 2012. Data Source: NCES DES**Figure 5.** 2011 and 2012 degree data were combined. Undergraduate biostatistics degrees are not shown because of low overall number: 44 combined for 2011 and 2012. “Statistics” only includes the category “Statistics, General.” Data source: NCES DES

STATtr@k

My First JSM: A Truly Fun and Inspiring Experience in Montréal

Lee Richardson, Institute of Health Metrics and Evaluation

Primary Advice for Future First-Timers

1. When in doubt, choose the introductory lectures.
2. Try to get as much cool stuff from the expo as possible. Hint: For many publishers, it costs more to ship the textbooks back than to give them away. Hence, if you're persistent, you can get lots of free things. Also, enter all the drawings you can.
3. Don't feel bad if you get lost watching a lecture. Everyone I spoke to acknowledged that it's hard to comprehend presentations unless they're in your specific field.
4. If you're not locked into a specific research field, explore other fields of statistical research.
5. Take at least one day to explore the city.

to cover statistics in education, and whether he was going to try to poach Kevin Pelton from ESPN Insider (he isn't). In hindsight, I was actually smart to have showed up early, because he was absolutely swarmed after his address.

I was very curious to see the reaction Silver got from the largest gathering of statisticians in the world. I received mixed opinions of Silver from most of the people I talked to at the conference. Some thought he was monumental for increasing the visibility of statistics as a discipline, some were unimpressed with his methods, and some didn't know much about him. Personally, I love Silver. I thought his book was extremely well written, entertaining, and had a lot of great thoughts on statistical thinking, as well as an interesting introduction to lots of applications.

Because of the mixed perspectives I got prior to the address, I was bracing for a tense and awkward Q&A discussion. I thought people who were not particularly impressed with his work were going to really try to put him on the spot. That didn't occur, and the Q&A went smoothly (maybe because the question platform was via Twitter). My favorite part came when he was asked about communicating statistics with politicians, a point of emphasis that has been discussed recently. Silver responded, "Oh, I don't know. I try to go around politicians." Haha!!

Aside from the Silver speech, there was a lot going on at #JSM2013. I was astonished at how large the statistical community is and how many niches and subfields there are within the field. That's one of the coolest things about being a statistician, you can "play in everyone's backyard" (a famous quote from John Tukey). Whether your interests are in public health, environment, finance, or technology, you could find someone who shares your interests at JSM.

Due to the sheer size of the field, arriving at JSM was somewhat overwhelming. The night before, I was going over the program for about an hour and went to sleep without a clue as to what events I was going to attend. The best advice I received for this was on Monday, when a Stanford graduate student told me my best bet was to just attend introductory lectures. This makes a lot of sense on a couple levels. For starters, I got funding for JSM through STATMOS (Statistical Methods for Atmospheric and Oceanic Sciences), and the meeting for them was all day Sunday. When people were presenting their research, the complexity of their presentations shot over my



Dave Campbell
@iamdavecampbell



NSA is recruiting at #jasm2013 - no need to bring a resume. They already have all your info

12:03 PM - 5 Aug 2013

30 RETWEETS 14 FAVORITES



Dave Campbell, a professor at Simon Fraser University, with the most popular tweet of #JSM2013

I took extremely diligent notes throughout my first JSM so I could write a thorough report for anyone else in a similar position next year. Just kidding, I actually only started writing things down after Nate Silver encouraged everyone to start blogging.

Nate Silver's address was definitely the most anticipated part of the week for me. My primary goal for the conference was to get him to sign my copy of *The Signal and the Noise* and get a picture with him. Mission accomplished! I showed up to Silver's address 45 minutes prior, hoping to get this picture/signature combination, and luckily (or sadly) I was the first one there. Silver showed up with ASA President Marie Davidian (another person on my "must meet" list) about five minutes after me and I was easily able to approach him, get the book signed, and get the picture taken. I actually was able to talk to him for 2–3 minutes about the new Five Thirty Eight, how he plans

head within the first five minutes. More demoralizing was that, after these presentations, the three directors of STAMOS's (Peter Guttorp, Montse Fuentes, and Michael Stein, the latter two on my "must meet" list. Guttorp got me funding to go; he's from UW) comments on these presentations eclipsed my brain even further. While at first this was intimidating, I exhaled after talking to one of Michael Stein's students, who described Stein as "an oracle." He said many of Stein's comments on his research went over his head, and it was months later when he finally understood what he was saying.

This complexity turned out to be a common theme for most presentations I went to the first day. As it turns out, unless it's your specific field of research, most presentations will be tough to follow (unless maybe you're an oracle). That's the beauty of the introductory lectures; they are just giving you an introduction to whatever field they are covering, and it's meant to be easy to understand. After being in over my head the first day, I converged to only attending introductory lectures. This is my best advice for people attending JSM for the first time in Boston next year. When in doubt, choose the introductory lectures!!

This also touches on something my professor June Morita told me during the year. Especially if you're an undergraduate like me, it's a good idea to become exposed to all sorts of statistical applications, and then you will be more likely to find something you are really passionate about. Who knows what you'll be interested in a couple years from now? It's better to have a broader knowledge of multiple disciplines than to be locked into one and realize you're not as into it as you expected you would be.

Another suggestion for JSM first-timers would be to spend a good portion of time in the expo hall. This is where all of the booths are set up and the easiest place for overwhelmed newbies to have conversations. It was here where I signed up for about 20,000 raffles and came away with many free, useful things. For starters, I now have enough pens, sunglasses, and lanyards to last a lifetime. I talked my way into two free textbooks, retweeted Springer Statistics (#TweetForATee!) for a tee shirt, bought another, and generally talked to a ton of interesting people.

The funniest part of the expo hall was definitely the cluster in the corner consisting of the NSA, Facebook, and Monsanto. I couldn't have done a better job clustering three companies from different sectors and evil reputations if I had tried. All we needed was Goldman Sachs or Chase and I would have lost my mind. The Facebook booth was especially funny, as a Tom from MySpace lookalike challenged people to an IQ test of sorts to see if they had what it took to be a Data Scientist, a job title that has been a cause of serious debate in the science community. (Clearly, I'm a Facebook hater, constantly between deactivation and debating deactivation. Ironically, I actually re-activated



Lee stands with Nate Silver at JSM—Mission Accomplished #JSM2013

my Facebook after the conference because I thought the picture of me and Nate Silver was so epic.)

I actually talked to people at the NSA booth for a while and came away feeling pretty good about their mission. The rep explained to me how they have been unfairly characterized by the media and urged me to read their press release. Having been a government employee for the past couple years, I have a soft spot for fellow public servants. The "government is evil" narrative is extremely digestible, and it's easier to label them as evil spies than figure out what they're actually doing.

Perhaps the most stunning part of the expo was the sheer size of the statistical software market. There were tons of companies looking to gain a share of the market, and it must be for good reason, evidenced by the recent riches Seattle-based Tableau just acquired. The most riveting battle of the week was certainly between Minitab and SAS over lanyard dominance. Minitab cleverly placed their lanyards in the bags we received upon checking into the conference, and this became the obvious place to display your nametag. Not to be outdone, SAS responded by really pushing their lanyards on those who entered their booth at the expo. Minitab's initial brilliance definitely won out over the course of the week, but it really sets the stage for an epic battle next year in Boston. Will SAS respond with a second lanyard in the check-in bag? Will Minitab have something else up their sleeve? The statistical world will be watching. ■

Editor's Note: Reprinted from Lee Richardson's Blog with permission.

To read Lee Richardson's blog and see more photos from JSM, visit his page at <http://leerichardson09.com/wp/?p=11>. To view many of the tweets during JSM and Nate Silver's talk, visit Ramnath Vaidyanathan's storify page at <http://storify.com/rammathv/jsm-2013>.

Celebrating the International Year of Statistics in Montréal

Bhramar Mukherjee, JSM 2013 Program Chair



Mukherjee

The Joint Statistical Meetings provide a unique opportunity for members of our profession to come together each year and share their scientific ideas. This year's JSM was special, with the theme being *Celebrating the International Year of Statistics*. Members of the program committee (www.amstat.org/meetings/jsm/2013/program) worked hard to put together an outstanding program, consisting of 692 sessions. The number of registrants in

Montréal staggered at 6,033, putting JSM 2013 at third place in terms of registration numbers (2009 Washington, DC, - 6,804; 2012 San Diego - 6,344; 2006 Seattle - tied with Montréal).

This year's JSM program highlighted the power and impact of statistics on all aspects of science and society on a global scale. Celebrated statistician/writer/journalist/political prognosticator Nate Silver, founder of the award-winning FiveThirtyEight.com political

website, was the President's Invited Address speaker on August 5. The attendance at his lecture was unbelievable, filling a 4,000-seat auditorium and leading to an electrifying atmosphere rarely experienced at a scientific meeting. Many people stood to get a glimpse of Silver, who has turned into a cult figure since the last presidential election. His address focused on the interface of statistics and journalism. In a candid and interactive Q&A session, Silver responded to questions twittered by members of the audience. Among his many wonderful quotes, there was one I liked in particular. He essentially said no matter what you call our discipline—data science or statistics—just do the work right!

There were many wonderful sessions and named lectures, a regular feature of every JSM. Sessions reflected the global eminence of our profession in diverse directions and illustrated cutting-edge technical advancements. I am able to mention only a few here. A new feature this year was an outstanding ensemble of seven Introductory Overview Lectures (IOLs) in the large ballrooms. On Sunday, we started with "Celebrating the History of Statistics," presented by Alan Agresti, Xiao-Li Meng, and Stephen Stigler. Agresti and Meng asked some difficult questions related to the history of statistics in the United States and gave away free copies of their new book, *Strength in Numbers: The Rising of*

SPEED Sessions

A pilot study of contributed sessions with a new and different format was successfully conducted this year. A recurrent concern for many JSM attendees has been the seemingly unbounded size of the meeting. Having to choose among 46 parallel sessions and navigate the inevitable conflicts that arise has been a source of frustration for many. In Montréal, we tested one possible approach to reducing the number of concurrent sessions: contributed SPEED sessions.

A SPEED session consisted of 20 oral presentations of approximately five minutes each, with a 10-minute break after the first set of 10 talks. These short oral presentations were followed by an electronic poster session on the same day. Light refreshments were offered at the oral presentation sessions. All the sessions were chaired by senior researchers, and the participants were presented with a certificate of appreciation at the poster sessions. The SPEED presenters were offered e-poster facilities during the poster session.

This format appeared to be appealing for presenters and attendees. The four pilot oral presentation sessions attracted more people than a typical contributed session. Participants amazed with their presentation skills, driving in the main point of their work in four and half minutes. The floor discussions were engaging, with 20 researchers commenting on and questioning each other.

We conducted a short attendee satisfaction survey for these sessions and 94% of the 67 respondents expressed satisfaction with the format and are likely to attend SPEED sessions in the future. Responses to other questions suggested that the majority of participants had attended past JSMs and will consider presenting at a SPEED session in the future. We plan to continue this tradition in JSM 2014 and hope you will consider participating in this new venture.

Academic Statistics Departments in the U.S., as prizes. Steve Stigler connected the work of Galton and Darwin on heritability and selection in a beautiful statistical thread.

The IOLs remained popular in terms of attendance throughout the conference, covering a varying range of topics: “Twenty Years of Gibbs Sampling/MCMC,” by Alan Gelfand and Jeff Rosenthal; “Big Data,” by Bin Yu and Bill Cleveland; “Mediation and Confounding,” by Tyler VanderWeele; “Next-Generation Bioinformatics and Beyond,” by Rebecca Doerge and Rafa Irizarry; “Personalized Medicine: Tailoring Treatment to the Right Patient,” by Butch Tsiatis and Stephen Ruberg; “Inference from Complex Sample Surveys—Past Controversies, Current Orthodoxies, Future Paradigms,” by Rod Little.

Reflecting the theme of this JSM, the program had many sessions on Big Data and international capacity building in statistics. ASA President Marie Davidian urged the worldwide statistics community to engage in the Big Data movement in her presidential address. In an invited panel session celebrating 50 years of the Committee of Presidents of Statistical Societies, energized discussion and debate took place regarding the future of our profession; training of the next generation of statistical scientists; and learning from related fields like computer science, machine learning, and artificial intelligence. The moderator of the session, Bernard Silverman, analyzed data regarding past recipients of the prestigious COPSS awards over the years and emphatically pointed out the very obvious skewness in terms of gender distribution, indicating the need for a change!

Along with many technical sessions, there was a special public lecture to commemorate the 300th anniversary of *Ars Conjectandi*, “From Gambling to Global Catastrophe: Metaphors and Images for Communicating

Poster Sessions

Joyee Ghosh, JSM 2013 Poster Chair

This year, there were five poster sessions with up to 75 traditional posters and six poster sessions with up to 20 electronic posters. The invited poster session chaired by David Dunson and held in conjunction with the opening mixer on Sunday night was a success. This session consisted of 19 electronic posters with many dynamic presentations on a variety of topics such as the role of data scientists, creating a network of statistical laboratories in developing countries, and methods and applications in biomedical data. There were many attendees, and most presenters were engaged in explaining their work for the entire two-hour session. Given the large turnout, this time slot seems promising for the invited poster session of future JSMs.

There were two poster competitions organized as topic-contributed sessions: the ASA Data Expo, sponsored by the Knight Foundation and the ASA Statistical Computing and Statistical Graphics sections, and the annual Statistical Significance Poster contest, hosted by the Scientific and Public Affairs Advisory Committee.

The theme for the Data Expo was “Soul of the Community,” and 13 teams presented their results. There was great interest from the audience, and, based on the high quality of the presentations, the judges decided to give one first and three second prizes. Andrea Kaplan and Eric Hare from Iowa State University won first prize for “Putting Down Roots: A Graphical Exploration of Community Attachment.” The winners and a selected set from the other contributions have been invited to contribute to a special issue of *Computational Statistics*.

The Statistical Significance contest had 16 participants. The judges were all impressed with the high quality of the posters and the statistical significance pieces the authors prepared to describe their posters’ implications for society. Two posters tied for first place: “Meta-Analysis Data Extraction” by Shemra Rizzo of the University of California at Los Angeles and “Identifying and Estimating a Non-Constant Hazard Ratio with Time-Varying Covariates Using Cox Regression Models” by Miranda Kroehl of the Colorado School of Public Health.

Numerical Risks.” Many local K–12 statistics and mathematics teachers came to attend this lecture and, again, the ballroom at Hyatt Regency was full. David Spiegelhalter used many intriguing and amusing examples to point out that the art and science of risk communication is an important and daunting task with many subtle nuances.

Each year at the memorial sessions, we pay tribute to members of our profession who are no longer with us. This year, we had memorial sessions honoring George Box, George Casella, Genichi Taguchi, Kesar Singh, and Keith Worsley. These sessions, filled with personal memoirs and technical presentations, showcased the breadth of the work of these stalwarts and the rich legacy they left behind.

Along with new initiatives in the scientific program, this year’s JSM had a few logistical incentives for registrants, two of which were very well received: free wi-fi at the

convention center and the head-quarter hotels and one free public transportation pass per room for the four furthest conference hotels. We also had electronic signage, increased use of Twitter, and more speaker management kiosks. We appreciate the tireless efforts of the ASA meetings staff for making JSM better each year.

I would like to thank each of you who contributed to JSM 2013. We continually attempt to improve the scientific program and organizational structure. Your support, patience, and understanding are much appreciated. I hope you enjoyed the sessions, roundtables, short courses, mixers, and seeing your friends and colleagues in the beautiful city of Montréal. I also hope you had a chance to experience the spectacular French-Canadian cuisine and culture that makes Québec so delightfully charming. Now it is time to gear up for JSM 2014 in Boston! ■

Visit <http://magazine.amstat.org/blog/2013/10/01/jsm13pics> to view more pictures from JSM 2013.

Many Honored at Presidential Address, Awards Ceremony



Meng



Mulrow



Bock

Highlighting the Joint Statistical Meetings in Montréal, Quebec, Canada, was the ASA Presidential Address and Founders and Fellows Recognition, during which the Founders Award winners were announced and 59 new ASA Fellows were officially inducted. Congratulations to all.

President Marie Davidian presented the Founders Award to Xiao-Li Meng, Jeri Metzger Mulrow, and Mary Ellen Bock for “Extended outstanding contributions to the advancement of the ASA, its mission, and the field of statistical science. “It is indeed an honor and personal privilege for me,” said Davidian, “to acknowledge the tireless commitment and dedication of these great leaders by presenting each the 2013 ASA Founders Award.”

The citations for each 2013 Founders Award honoree follow:

Xiao-Li Meng, Harvard University, for many years of dedicated service on the ASA Committee on Meetings, including leadership of the committee during a time of major growth for the Joint Statistical Meetings; for organization of the 2004 JSM; and for highly dedicated frontline service on numerous other ASA committees, working groups, and task forces.

Jeri Metzger Mulrow, National Science Foundation,

for outstanding service to the ASA over the past 16 years through her leadership on the ASA Board of Directors, Council of Sections Governing Board, Accredited Professional Statistician Program, Membership Retention and Recruitment Committee, Membership Growth Workgroup, and In-Reach Workgroup.

Mary Ellen Bock, Purdue University, for sustained and effective service to the ASA over many years as ASA vice president, ASA president, chair of the Section on Statistical Computing, chair of the Committee on Fellows, chair of the Nominations Committee, and chair of the Founders Award Committee and for her sustained presence as an extraordinary role model for women in the ASA.

Each year, ASA Fellows are nominated by the membership and selected by the ASA Committee on Fellows, chaired this year by David DeMets. The number of Fellows named is limited to no more than one-third of 1% of the active ASA member total. The following 59 ASA Fellows were inducted this year:

Keaven M. Anderson
Merck Research Laboratories

Michael Baron
The University of Texas

Scott Berry
Berry Consultants

William A. Brenneman
Procter & Gamble Company

Zongwu Cai
University of Kansas

Patrick J. Cantwell
U.S. Census Bureau

Ralph B. D’Agostino Jr.
Wake Forest School of Medicine

Tim Davis
We Predict Ltd.

Elizabeth R. DeLong
Duke University Medical Center

Vladimir Dragalin
Aptiv Solutions

Josée Dupuis
Boston University

Sylvia R. Esterby
University of British Columbia

Christopher R. Genovese
Carnegie Mellon University

William F. Guthrie
National Institute of Standards & Technology

Timothy E. Hanson
University of South Carolina

Jennifer A. Hoeting
Colorado State University

Jianhua Huang
Texas A&M University

Sin-Ho Jung
Duke University

Mel Kollander
Kollander Associates

Youngjo Lee
Seoul National University

Julie Legler
St. Olaf College

Brian G. Leroux
University of Washington

William Li
University of Minnesota



Fifty-nine ASA members received the honor of Fellow in 2013.

Hua Liang
*University of Rochester Medical
Center*

Stuart Lipsitz
Brigham and Women's Hospital

Qing Liu
*Janssen Research and Development,
J&J*

Yufeng Liu
The University of North Carolina

Richard A. Lockhart
Simon Fraser University

J. Scott Long
Indiana University

W. Y. Wendy Lou
University of Toronto

Thomas E. Love
Case Western Reserve University

Shuangge Ma
Yale School of Public Health

Craig H. Mallinckrodt
Eli Lilly & Company

Madhu Mazumdar
Weill Cornell Medical College

Lisa M. McShane
National Cancer Institute

Fabrizia Mealli
University of Florence

Alfredo Navarro
U.S. Census Bureau

Susan M. Paddock
RAND Corporation

Ruth M. Pfeiffer
National Cancer Institute

Polly Phipps
Bureau of Labor Statistics

Wolfgang Polonik
University of California

Raquel Prado
University of California

Yili Lu Pritchett
*Astellas Pharma Global
Development, Inc.*

Dabeeru C. Rao
*Washington University School of
Medicine*

C. Shane Reese
Brigham Young University

Greg Ridgeway
National Institute of Justice

Maria Matilde Sanchez-Kam
Arena Pharmaceuticals, Inc.

Douglas Schaubel
University of Michigan

Ananda Sen
University of Michigan

Janet S. Sinsheimer
*University of California at Los
Angeles*

Dylan S. Small
University of Pennsylvania

Yanqing Sun
*The University of North Carolina
at Charlotte*

Mahlet G. Tadesse
Georgetown University

Ingrid Van Keilegom
Université catholique de Louvain

Ronghui (Lilly) Xu
University of California

Guosheng Yin
University of Hong Kong

Hao Zhang
Purdue University

Tong Zhang
Rutgers University

Ji Zhu
University of Michigan

Many more people were honored for their contributions to various causes that advance the field of statistics. Following is a list of awards and recipients:

Samuel S. Wilks Memorial Award

The Samuel S. Wilks Memorial Award was established in 1964 to honor the memory and distinguished career of Sam Wilks by recognizing outstanding contributions to statistics that carry on the spirit of his work. The 2013 Wilks award winner is **Kanti Mardia** of the University of Leeds, United Kingdom, for his extensive work covering a wide span of applied and theoretical research, including seminal results in shape analysis, spatial statistics, multivariate analysis, directional data analysis, and bioinformatics with special applications to geostatistics, image analysis, and protein structure; for the international dissemination of statistical thought and innovative ideas through research publications, presentations, books, monographs, the establishment and running of annual research workshops, and interdisciplinary centers; and for his insightful guidance for future generations of statisticians.

Gottfried E. Noether Awards

The Noether awards were established in 1999 by the wife and daughter of the late Gottfried Emanuel Noether of the University of Connecticut as a tribute to his memory. They recognize distinguished researchers and teachers and support

research in nonparametric statistics. The Gottfried E. Noether Young Researcher Award winner for 2013 is **Yingying Fan** of the University of Southern California for outstanding early career contributions to nonparametric statistics. The Gottfried E. Noether Senior Scholar Award winner for 2013 is **Jayaram Sethuraman** of Florida State University for outstanding contributions to the theory, applications, and teaching of nonparametric statistics.

Statistics in Chemistry Award

The Statistics in Chemistry Award recognizes outstanding collaborative endeavors between statisticians and chemists. While this is a section award, the board of directors grandfathered it in 1995. The 2013 Statistics in Chemistry Award winners are **Peter Goos** of the University of Antwerp, Belgium and **Steven G. Gilmour** of the University of Southampton, United Kingdom for their important collaborative work between the disciplines of statistics and chemistry.

Outstanding Statistical Application Award

Each year, the ASA recognizes a paper that is an outstanding application of statistics in the physical, biological, or medical sciences. This year's winners are **Robert E. Kass** and **Ryan C. Kelly** of Carnegie Mellon University and **Wei-Liem Loh** of the National University of Singapore for the development of a powerful class of time-varying loglinear point process models to investigate synchrony between neural spike trains. Their paper, titled "Assessment of Synchrony in Multiple Neural Spike Trains Using Loglinear Point Process Models," was published in *The Annals of Applied Statistics* (2011).

W.J. Youden Award in Interlaboratory Testing

The W. J. Youden Award in Interlaboratory Testing was established in 1985 to recognize the authors of publications that make outstanding contributions to the design and/or analysis of interlaboratory tests or describe ingenious approaches to the planning and evaluation of data from such tests. The 2013 Youden Award went to **Lane F. Burgette** of RAND Corporation and **Jerome Reiter** of Duke University. Changing measurement procedures during the data-collection process is not unusual, but such procedural modifications do result in less-than-ideal data sets. Burgette and Reiter propose three approaches for handling such scenarios and illustrate their use through an example. In addition, the authors demonstrate, via simulation, the conditions under which each approach is preferred. This allows the authors to recommend a decisionmaking process for practitioners.

Waller Education Award

Retired ASA Executive Director Ray Waller and his wife, Carolyn, established the Waller Education Award in 2002 to recognize a statistics teacher early in his/her career for excellence and innovation in teaching introductory statistics at the undergraduate level. The 2013 Waller Award winner is **Nathan Tintle** of Dordt College in recognition of his outstanding contributions to and innovation in the teaching of elementary statistics.

Edward C. Bryant Scholarship Award

The Bryant scholarship trust is a permanent scholarship fund endowed by Westat to honor its cofounder and longtime leader, Edward C. Bryant. The award honors an outstanding graduate student who is studying survey statistics. The 2013 scholarship recipient is **Natalie Exner**

of Harvard University for outstanding academic achievement in survey statistics.

W. J. Dixon Award for Excellence in Statistical Consulting

Established through a gift from the family of Wilfrid Dixon, this award recognizes outstanding contributions to the practice of statistical consulting. The 2013 award was presented to **Ronald D. Snee** of Snee Associates, LLC for advancing the science and art of statistical consulting with an outstanding record of leadership in process and organizational improvement in a variety of industries, ground-breaking research in the development of statistical methods, conceptualizing the term "statistical engineering," and introducing the design of the first company-wide continuous quality improvement initiative.

Gertrude M. Cox Scholarships

Jessica Hwang from Harvard University, **Gina-Maria Pomann** from North Carolina State University, and **Daisy Phillips** from The Pennsylvania State University are the winners of the Gertrude M. Cox Scholarship in Statistics Award. Since 1989, the scholarship has been awarded by the ASA Committee on Women in Statistics and the Caucus for Women in Statistics to encourage women to enter statistically oriented professions. **Anu Mishra** and **Natalie Exner** were awarded honorable mentions.

Karl E. Peace Award

The Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society recognizes statisticians who have made substantial contributions to the statistical profession and society in general. The award—established by Christopher K. Peace, son of

Visit <http://magazine.amstat.org/blog/2013/10/01/jsm13pics> to view more pictures from JSM 2013.

Karl Peace, on behalf of the Peace family to honor the life work of his father—was offered for the first time this year. The 2013 Peace award winner is **Richard Macey Simon** from the National Cancer Institute for contributions that have played a pivotal role in bridging the gap among statistics, clinical research, and translational medicine to improve human health.

Zellner Award

Xin Tong, a former doctoral student at Princeton University, was presented the 2013 Zellner Award as the author of the best PhD thesis that addresses an applied problem in business and economic statistics. Named in honor of the late Arnold Zellner—ASA past president and chair of the ASA's Business and Economics Statistics Section—the award recognizes outstanding work by promising young researchers in the field of statistical science.

Causality in Statistics Education Award

Felix Elwert, the Vilas Associate Professor of Sociology at the University of Wisconsin-Madison, is the first honoree of the Causality in Statistics Education Award. The award was presented to Elwert for his innovative two-day course developed on causal inference with directed acyclic graphs. The course is offered to graduate-level students and applied quantitative researchers in the nonexperimental social and biomedical sciences. Established by Judea Pearl, the Causality in Statistics Education Award was established to highlight the growing importance of introducing core elements of causal inference into undergraduate and lower-division graduate classes in statistics. Pearl—who is a longtime ASA member, recipient of the 2012 Turing Award, and professor of computer science and statistics at the University of California, Los Angeles—donated \$15,000 from his Turing Award prize to fund this award through 2015. ■

COPSS 50th Anniversary Celebrated at JSM 2013



COPSS junior panelists at JSM 2013 in Montréal

Spearheaded by 2012 chair Xihong Lin, the Committee of Presidents of Statistical Societies (COPSS) planned numerous activities to commemorate its 50th anniversary in Montréal during JSM 2013.

A number of past COPSS award winners provided their insights during the junior researcher panel, offered to junior faculty members and moderated by Hans Rudolf Künsch of the Seminar für Statistik in Zürich. More than 110 attendees listened to panelists James Berger of Duke University, Tony Cai of the University of Pennsylvania, Xihong Lin of Harvard University, Xiao-Li Meng of Harvard University, Kathryn Roeder of Carnegie Mellon University, and Robert Tibshirani of Stanford University talk about the challenges of beginning a career in academia. Their comments were further enriched by questions from the audience on topics ranging from time management to the competing tasks of research and other responsibilities such as consulting and teaching.

No anniversary is complete with a reception, and COPSS held one that featured Ingram Olkin, who delighted those present with a brief history of the organization. Afterward, current and former COPSS members and award winners enjoyed the opportunity to mingle and celebrate their success.

To complete the celebration, COPSS members are looking forward to the upcoming publication of *Past, Present, and Future of Statistical Science*, edited by Lin, David L. Banks, Christian Genest, Geert Molenberghs, David W. Scott, and Jane-Ling Wang. This volume contains numerous articles by past COPSS award winners who reflect on their careers; their outlooks; the statistics discipline; and their perspectives on a variety of topics in statistical research, education, and practice. This book, scheduled to be published by CRC Press, also contains a brief history of COPSS by Olkin.

COPSS began in 1963 with founding partner societies the American Statistical Association, Eastern and Western regions of the International Biometric Society, and Institute of Mathematical Statistics. The Statistical Society of Canada came into existence in the 1970s and also joined COPSS.

The past presidents, presidents, and president-elects of the five partner societies are the members of COPSS, plus an appointed chair and secretary. The organization focuses on awards and collaboration with other societies. Over the years, the structure of COPSS has changed to invite other societies, known as “Friends of COPSS,” to the COPSS annual meeting at JSM to promote wider collaboration. ■

STATISTICIAN'S VIEW

Algebra and Statistics

Daniel Kaplan's interesting and provocative article, "Calculus and Statistics," which appeared in the July issue of *Amstat News*, raised several questions in my mind, one of which I'd like to mention and discuss: What are university statistics teachers to do with "methods" courses in social science fields like psychology and education, where most students do not have any mathematics background beyond high school? Of course this is a much-discussed problem, to which I found an unusual solution.

At an early point in my career (1969–1976), I held a joint appointment in psychology (in the School of Behavioral Sciences) and statistics (in the School of Economic and Financial Studies) at the then-new Macquarie

University in Sydney. I taught statistics in both schools—part of the mathematical statistics sequence in economics and part of the sophomore "methods" year in psychology.

The university had from its beginning a small common freshman introductory statistics course for all students, which caused a great deal of dissatisfaction. At the sophomore level and above, each school (equivalent to a faculty) developed its own statistics courses.

I was responsible for the development of statistics courses in psychology at a time when the university was expanding (along with other new universities in Australia and elsewhere). The earliest students were beginning their junior year when I began, and there was an obvious need for a strong regression and ANOVA course in this year to prepare students for their final senior year course.

The departmental emphasis at the time was on experimental psychology, but the social psychology strand was expanding, and both experimental and survey data structures needed to be dealt with. This was the period when card-programmable electronic calculators were coming onto the market in Australia, and we considered developing courses based on these cards. This would have required a major department investment in machines.

A major advance occurred in 1971 with the university's computer center acquiring and mounting the U.S. National Bureau of Standards OMNITAB statistical package for the UNIVAC 1108 machine. This was a revolution in statistical software for the time, providing a simple English-language spreadsheet structure with powerful statistical functions, including a general

(normal) regression routine, which provided residual plots and a hierarchical partition of the total sum of squares into orthogonal components determined by the order of variables specified by the user. (The design of OMNITAB was closely followed by the commercial MINITAB package, though without the hierarchical partitioning of the ANOVA table.) The university system provided remote card-deck input, another major advance over paper tape.

The arrival of this package on our computer system coincided with my research leave year at the Educational Testing Service as a visitor to Frederic Lord's Psychometric group, supported by a Fulbright Senior Fellowship. I spent much of the year writing a textbook exposition of regression, ANOVA and ANCOVA through the general linear model, with an integrated OMNITAB handbook for the examples. I began to teach this approach in a new junior linear models course when I returned in 1972 to a combined group of psychology and statistics students.

A difficulty I had to face was the same one Kaplan refers to, but one which was and still is endemic in the social sciences: the lack of mathematical background. I took a full-frontal approach to this. The course *must* be mathematically based, and therefore I would give an intensive short course in the foundational mathematics necessary in the first four weeks, with intensive tutorial back-up from other members of the psychology staff.

This may seem daring, or [like] madness, as some of my statistics colleagues thought at the time. My view was that a

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student coming into the third year who intended to be a professional psychologist had the cognitive ability to cope with the necessary high-school algebra, linear and quadratic functions, and the coordinate geometry of points in the plane. (As Dr. Kaplan notes, these are what we require of mathematics for regression courses.) The psychology students' fear of their inadequacy could be dealt with by supportive tutorials, and (in later years) by the fact that no one had failed this course. In addition, the course book and its computer manual support were provided from the beginning to students, and the lectures were essentially tutorial expositions of the examples in the text.

I should say that I had pressured the psychology department to make passing this course a prerequisite for the final year in psychology. All final-year psychology students had to do an empirical project, which counted for 25% of the final grade. There was quite strong opposition to my proposal (which did not apply to sociology or anthropology students), especially from the social psychologists. In the department meeting [during] which [we were] to vote on this, I was asked, "Murray, can you put your hand on your heart and say that *every* student in psychology, in whatever sub-field, *must* have this course to successfully complete the professional year?" I replied, "No, I cannot say that. What I *can* say though is that if a senior-year student asks me for help on the senior project, and the student has not taken my course, then I *will not* assist them. That will be the responsibility of the student's advisor." There was silence. The vote was taken, and passed by a large majority.

The course was very successful and expanded year by year, from 25 students in 1972 to 65 in 1976, the last year I taught it. It quickly acquired the reputation of the most difficult course in psychology. At student advising

before each year began, I was regularly approached by three or four psychology students with the same question: "Dr. Aitkin, I'm considering taking the honors (professional year) in psychology. But I know I have to take your course and I've heard that it's very difficult. Do you think I'll be able to cope with it?" I would reply:

This course *is* very difficult. It's the most difficult course you'll meet in your university experience. In the first four weeks of the course, you'll sweat blood—you'll weep! But if you have gotten this far in your course and you want to be a professional psychologist, you can manage this course. Why did I make it so difficult? Because to understand statistical analysis you have to think like a mathematician, and you're not a mathematician. But we can train you to think like one, as far as is necessary. That's the hard part. The payoff for you is that you will understand statistical analysis in a way no student from any other psychology course in Australia does. You'll be able to work out analyses of very complex structures. You'll be an analysis leader in any group of your contemporaries.

This was perhaps boastful, but it was no idle boast. The practical exam (50% of the assessment—there was no theory exam) required students to analyze a real observational study of hostility and affection in the husbands of wives who had attempted suicide (unsuccessfully) by overdoses of sedatives and compare their affect levels with those of husbands of wives who had been admitted to hospital with critical organic abdominal conditions from which they had recovered.

Husbands were cross-classified by nationality and whether there had been a previous occurrence of the suicide attempt or acute abdominal condition. There were multiple measures of affect for hostility and affection.

The data structure was a severely unbalanced three-way cross-classification, with multiple

covariates. Each student had a unique data set with a single affect response measure. They had four weeks for the take-home analysis and could discuss their work with any other student.

This analysis was, at the time, beyond the range of most statistics undergraduate programs. The hierarchical partitioning of the ANOVA table, leading to several orthogonal decompositions, was a logical but major innovation, and was not accepted later by many applied statisticians, who sought instead a single "ANOVA" table constructed by various adjustment arguments. I published years later an argument for the hierarchical approach as a discussion paper in *Journal of the Royal Statistical Society*, "The analysis of unbalanced cross-classifications."

Designing and teaching this course gave me great professional satisfaction. It also improved my teaching abilities: Macquarie had a heavy concentration of part-time mature-age students, many of them teachers or public servants aiming for promotion in their professions. These students were intolerant of time-wasting and lack of clarity in exposition and were not afraid to be critical.

I submitted the course-book to several publishers under the title *Linear Models with Applications in the Social Sciences*. Their referees' reports were similarly negative: the book approach was not sufficiently mathematical for statistics students, was not particularly social science oriented, and was *far too difficult* for social science students. This approach eventually appeared in a different computational framework, with three co-authors (Aitkin et al 1989, *Statistical Modelling in GLIM*. Oxford University Press). The GLM approach was by then completely standard.

*Murray Aitkin, Honorary
Professorial Fellow
Department of Mathematics and
Statistics
University of Melbourne*

Is Nate Silver a Statistician?

I recently had the pleasure of attending Nate Silver's ASA invited address at the Joint Statistical Meetings in Montréal. Mr. Silver delivered an engaging talk about the interplay between statistics and journalism, but I was most intrigued by the early disclaimer that he does not consider himself a statistician. About half of the colleagues I have informally polled since then similarly do not consider Nate Silver to be a statistician.

Is Nate Silver a statistician? On one hand, his popular blog *FiveThirtyEight.com*, sports applications, and successful book career (including *New York Times* bestseller *The Signal and the Noise*) have focused the public's attention on the power of statistical thinking in a way not seen since W. Edwards Deming. On the other hand, detractors note that Mr. Silver does not publish his approaches in peer-reviewed statistical journals, and that he does not hold any degrees in statistics. (Mr. Silver has a bachelor's degree in economics from The University of Chicago.)

Before we decide *how* to answer the title question, let us recognize *why* the answer to this question is important. After all, Mr. Silver is at the head of a burgeoning media empire, and he is likely to do very well whether or not statisticians regard him as a colleague. The question of Nate Silver's candidacy as a statistician is timely, since our community is facing the biggest public perception problem of the day. The president's corner column in the July issue of *Amstat News* by ASA President Marie Davidian—"Aren't We Data Science?"—notes that our field has been conspicuously absent from much of the Big Data discussion, despite the quantitative and inferential abilities that statisticians could bring to this arena. The fact that the Big Data era has gotten off to a rapid start with a lack of visible involvement from our community indicates we face an underlying public perception problem. Therefore, the title question is important. If Nate Silver is a statistician,

then he is a famous statistician who already has and will continue to make important impacts for the perception of statistics in the public domain. If Nate Silver is not a statistician, then who exactly is?

A profession constitutes "participating for gain or livelihood in an activity or field of endeavor often engaged in by amateurs" (Merriam-Webster's dictionary). If a statistician is one who is able to ethically use statistical principals at a professional level (i.e., make a livelihood), then Mr. Silver clearly meets the criterion. If being a statistician requires publishing methodological advancements in statistical peer-reviewed journals, then I fear a great number of individuals with bachelor's, master's, and even doctorate degrees in statistics are not actually statisticians. I recommend Jeff Leek's *Simply Statistics* blog entry, titled "What Statistics Should Do About Big Data: Problem Forward Not Solution Backward," as it provides an elegant perspective on the apparent tension between methodology and application in the Big Data context.

I would make the case that Mr. Silver is a professional statistician by definition (even if he claims he is not) and that his rise to stardom has come during a watershed moment for our field. Mr. Silver is in the class of exceptional people who are hard to categorize exactly. He has captured the public's imagination surrounding the use of statistical methods to an extent that will surely continue to have a great impact on the public perception of and interest in the field of statistics. Few degree-holding statisticians will have a similar career impact. I suggest we acknowledge these exceptional contributions by bestowing on him an honorary PhD. It is my hope that, as a community, we will fully embrace Nate Silver as a colleague and ally. After all, he is one of us.

Christopher Franck
 Assistant Director of LISA (Laboratory for Interdisciplinary Statistical Analysis)
 Virginia Tech

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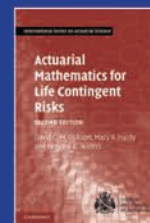
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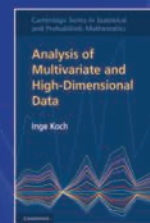


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I wish to advance the points that statisticians are already involved and must expand their involvement in Business Analytics, Big Data, Data Mining, Data Science, Machine Learning, and Predictive Modeling (Analytics). Also, I wish to clarify that any topic involving data analysis, necessitates statistical thinking, statistical techniques, and statistical assumptions.

The current bizarre and restrictive pronouncements about what we do aim to limit us to a rigid set of ‘small data’ tools. This distasteful propaganda, in the form of straw-man characterizations of the established fields, is intended to differentiate some new vision of how to work with data without knowing statistics.

Experiencing similar discouraging statements from fellow ASA members has its own special flavor. I recently attended JSM 2013 and read articles in *Amstat News*—“Aren’t We Data Science?” (<http://magazine.amstat.org/blog/2013/07/01/datascience>) and “The ASA and Big Data” (<http://magazine.amstat.org/blog/2013/06/01/the-asa-and-big-data>)—and *Significance*—“Big Data and Big Business: Should Statisticians Join In?” As a result, I have a new list of things I am not doing and cannot do—primarily data science, Big Data, and data mining.

These comments from ASA members limit our credibility in the eyes of employers and

recruiters—providing aid and comfort to those who covet our role in the corporation. This comes at a time when ASA’s left hand (Ron Wasserstein, et al.) is offering the long-awaited PStat® and Conference on Statistical Practice, and when statistics departments are offering an MS in analytics. Of course, many ASA members do not think in self-limiting ways or confine themselves to classical techniques. As a group, we statisticians are not homogeneous. The unstated issue is, however, whether we can remain one profession.

The Business Analytics Role

Corporations house two data functions. Roughly put, the IT silo manages data and business quants analyze the data. I will use the less-tainted term, business quants, to denote those econometricians, industrial engineers, operations researchers, statisticians, etc., who apply the tools of complete and incomplete information. Our jobs are to help run a business. This involves making and supporting decisions, and this requires mastering the business and extracting information by any means possible.

We must augment our publication-centric education to master all three toolboxes—mathematics, statistics, and algorithms (logic, heuristics, optimization)—or be crowded out by more strident professionals. The mathematics we use consists

of numerical tools for making deductions from complete numbers, as in $E = MC^2$.

Statistics consists of making inferences based upon incomplete information arising from incomplete or poorly measured data. The pride of our most powerful and indispensable statistical assumptions is the error term, as in $E = MC^2 + \epsilon$.

No statistics means no error term, no inference, and no corresponding statistical assumptions for incomplete information.

Data Science and Big Data Require Statistics

We reside in a global community possessing a low statistical literacy. As Deming said, “The nonstatistician cannot always recognize a statistical problem when he sees one.” We should expect depictions of data science and Big Data void of an understanding of statistics.

The business press and Big Data vendors are portraying Big Data as complete information. Instead, it is often excessive incomplete information enabling a paradigm shift in approach and methodology for certain applications, but not in statistical thinking or statistical assumptions. Non-quants are unfamiliar with our three old friends from the statistics tool box: missing values, missing Xs (the wrong data), and measurement error.

Also, we do not want unrefined Big Data! We want information, and this often requires us to reduce Big Data. eBay’s approach to Big

In Response to 'ASA's Delegation to Cuba'

The ASA recently sponsored a trip to Cuba, led by its president. An “ASA all-volunteer group,” Statistics Without Borders, is planning to provide pro-bono instructors for a summer institute in North Korea (unless the project has been cancelled because of the recent rise in tensions).

Of all of the places that might benefit from statistical expertise, why do we choose two states whose governments are declared enemies of the United States? Why send experts to countries where academic freedom is nonexistent and whose statisticians would risk their lives if they reported data or drew conclusions at variance with state propaganda? Why allow totalitarian governments to gain the positive publicity and the thousands of dollars in hard currency per visitor these trips will produce?

In North Korea, foreigners are followed by state security officials, and some have been arrested and held hostage. North Korea's price for releasing two jailed journalists in 2009 was a state visit by former President Clinton.

As one example of the many human rights violations committed by the Cuban government, there is the continuing imprisonment for “improper use of state-owned materials” of a Cuban physician whose crime was releasing a statistical study of abortions in Cuba to the foreign press. Many more examples can be found in the American Association for the Advancement of Science's “Directory of Persecuted Scientists, Health Professionals, and Engineers” (http://shr.aaas.org/pubs/pdfs/directory_2005.pdf).

Why are we undertaking these initiatives? The North Korean trip might be a naïve continuation of failed appeasement policies, in which North Korea, in return for immediate aid, makes promises it has no intention of keeping. Travel to Cuba and trade with Cuba are normally prohibited, but the ASA trip presumably falls within the exception for “licensed trips involving cultural or educational exchanges.”

I sense that most missions to Cuba are an expression of opposition to current travel and trade restrictions. While individual members of the ASA are free to oppose longstanding U.S. policies, these are inappropriate goals for the ASA as an organization. Regardless of its goals or motives, the ASA is lending a veneer of legitimacy to regimes that view statistics as a tool of state propaganda.

Malcolm J. Sherman
University at Albany, SUNY

Response from ASA Executive Director Ron Wasserstein

I appreciate Dr. Sherman's note and am glad he expressed his perspective. The Statistics Without Borders project in North Korea was cancelled. ASA President Marie Davidian's column in the August issue of *Amstat News* clearly showed the focus of the Cuba trip was interaction with Cuban statisticians. It was not in any way a protest of policy, as Dr. Sherman suggests.

Regarding his assertion that the ASA trip lends legitimacy to the government, I see and respect his point of view, but I disagree. The development of collegial relationships with Cuban statisticians is not an act in support of the Cuban government. I further note that hundreds of groups are visiting Cuba each year under current U.S. policy, developing the same sorts of collegial relationships.

Data is typical: keep buying more hardware storage. This allows for searching, reporting, counting/summarizing, and, at a slightly higher conceptual level, segmentation. However, this light analysis is merely descriptive in character; it will take the quants to deliver the promises of Big Data.

Next, we need statistical diagnostics to measure the accuracy and reliability of results.

Conclusion

I second Marie Davidian's call to arms and the recommendations in her aforementioned *Amstat News* articles. ASA members, like everyone else, must embrace change. In private industry, government, and all other organizational settings in which we work, statisticians and other quants must be data science generalists and practice every type of data analysis, whether in business analytics, Big Data, data mining, data science, machine learning, or predictive modeling (analytics). To differentiate our value proposition, we must be involved.

Furthermore, an understanding of statistics is necessary to properly lead and organize resources, which can address our concerns about involving the most appropriate professionals. I discuss in greater detail the needed changes in *A Practitioner's Guide to Business Analytics*.

Randy Bartlett PhD (Statistics),
PSTAT® Statistician and Author of
A Practitioner's Guide to Business Analytics

CORRECTION

In the August issue, Minge Xie's talk, “A Split-and-Conquer Approach for Analysis of Extremely Large Data,” was erroneously omitted from the New Jersey Chapter News. We regret the error.

Professional Development Opportunities Planned Before JMM 2014

The Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) will host the following two pre-conference workshops January 14, the day before the opening of the MAA-AMS Joint Mathematics Meetings 2014 at the Marriott Inner Harbor in Baltimore, Maryland. There is no registration fee to attend the workshops, but advance registration is required.

An afternoon workshop (1:30 p.m. – 4:30 p.m.), **Interactive Probability Instruction**, will introduce participants to novel web-based technologies for blended teaching of computational statistics and applied probability theory. This workshop will be presented by Dennis Pearl (The Ohio State University), Kyle Siegrist (University of Alabama), and Ivo Dinov (University of Michigan). The topics and techniques are suitable for introductory and cross-listed applied probability and statistical methods courses. The workshop is designed to be accessible to those with little or no computational background and will provide skills, examples, and resources to use in your own teaching.

Teaching the Statistical Investigation Process with Randomization-Based Inference, a full-day

workshop (9:00 a.m. – 4:30 p.m.), is intended for faculty members who have experience with or soon will be teaching introductory statistics. The workshop will provide direct experience with hands-on activities designed to introduce students to fundamental concepts of inference using randomization-based methods. The learning activities involve using freely available applets to explore concepts and analyze real data from genuine research studies. The workshop presenter will be Nathan Tintle (Dordt College); Beth Chance, Allan Rossman, and Soma Roy (Cal Poly - San Luis Obispo); Todd Swanson and Jill VanderStoep (Hope College); or George Cobb (Mount Holyoke College).

Both workshops are supported by NSF funding, CAUSE, and MAA.

Additional information and information is available at www.causeweb.org/workshop. If you are attending the Joint Mathematics Meetings, consider arriving a day early and taking advantage of these registration-free professional development opportunities. However, JMM registration is not required to attend these workshops. ■

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Seventh Annual Meeting Within a Meeting Brings 40 Teachers to DC Area

Katherine Halvorsen, MWM Program Chair, and Rebecca Nichols, ASA Director of Education

The American Statistical Association sponsored a two-day Meeting Within a Meeting (MWM) statistics workshop for middle- and high-school mathematics and science teachers August 15–16 at the ASA office. Though the workshop is usually held in conjunction with JSM, it was held in partnership with the Washington Statistical Society (WSS) in the Washington, DC, area this year.

Forty middle- and high-school teachers, administrators, and mathematics educators attended the workshop that addressed statistical concepts taught in middle and high school. MWM emphasizes the growth of statistical literacy and thinking as teachers explore problems that require them to formulate questions; collect, organize, analyze, and draw conclusions from data; and apply basic concepts of probability. The follow-up program will include webinars and activities with the WSS.

The primary goals of MWM 2013 (www.amstat.org/education/mwm) were to introduce middle- and high-school math and science teachers to the

Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report: A Pre-K–12 Curriculum Framework and the statistical content of the Common Core Mathematics Standards (adopted by most states, including Maryland and DC) and Virginia State Standards, as well as provide an opportunity for teachers to discuss and apply these data analysis and statistical concepts. A secondary goal was to encourage cooperation between mathematics and science teachers in the teaching of statistics. The MWM program is designed to enhance educators' understanding of statistics and provide them with hands-on activities they can use in their own classrooms to strengthen the teaching of statistics in their schools.

“One of the primary missions of the American Statistical Association is to work for the improvement of statistical education at all levels,” said Ron Wasserstein, the ASA's executive director. “We are pleased to reach out to the K–12 mathematics and science community through the MWM workshop and follow-up activities,” he added. “MWM will not only enhance understanding and teaching of statistics concepts in the classroom, but also provide participants with a network of statisticians and educators to assist in developing the quantitative literacy of their students.”

The first MWM workshop was held in Salt Lake City, Utah, in 2007 and focused on middle-school math and science teachers. Its success led Martha Aliaga, former ASA director of education and creator of MWM, to recommend expanding the Denver MWM workshop in 2008 to a two-day format that included separate strands for K–4, 5–8, and 9–12 teachers. MWM 2009 in Washington, DC, included parallel strands for K–4, 5–8, and 9–12 teachers on the first day with a field trip to the U.S. Census Bureau on the second day. MWM 2010 in Vancouver, British Columbia, was the first international MWM workshop jointly sponsored by the ASA and Statistical Society of Canada and included both U.S. and Canadian presenters and participants. MWM 2011 in Miami Beach, Florida, and MWM 2012 in San Diego, California, included separate workshops for middle- and high-school teachers focused on the statistics content in the Common Core State Standards. Additionally

MWM 2014 in Boston

We are in the process of planning the 2014 statistics workshops for middle- and high-school teachers, which will be held in conjunction with JSM in Boston, Massachusetts. Do you know K–12 mathematics or science teachers who are interested in enhancing their understanding and teaching of statistics within their mathematics and science curriculum? If so, encourage them to register to attend the 2014 workshops.

The registration process will begin in March 2014, and further information about the workshops will be available at www.amstat.org/education/mwm. There are flyers about K–12 statistics education programs and resources to share with your local schools available at the bottom of www.amstat.org/education. Questions should be directed to Rebecca Nichols, ASA director of education, at rebecca@amstat.org or (703) 684-1221, Ext. 1877.

in 2012, MWM participants were able to choose to attend the International Census at School workshop for two additional days after MWM (<http://magazine.amstat.org/blog/2012/10/01/international-census-at-school>).

Each workshop day of MWM 2013 consisted of three sessions and a closing period. The workshop sessions were preceded by a brief overview of the GAISE report and Common Core and Virginia standards relevant to the audience. Sessions on Day 1 included formulating statistical questions and recognizing the purposes of and differences among sample surveys, experiments, and observational studies and how randomization relates to each; summarizing and describing distributions of measurement data, including a focus on understanding measures of center and spread and developing understanding of statistical variability; understanding statistics and the scientific method; and using random sampling to draw inferences about a population and comparative inferences about two populations. Sessions on Day 2 included investigating patterns of association in bivariate data, focusing on bivariate categorical data; using simulation to decide if results are statistically different; looking at free K–12 statistics education resources, including the ASA poster competition; and using randomization tests to make inferences and justify conclusions. The MWM program schedule is available at www.amstat.org/education/mwm.

The Washington Statistical Society sponsored the registration fees of the local teachers, provided a free one-year membership in the WSS, reached out to local school districts, and arranged for local representatives to attend the workshop to meet and eat lunch with MWM participants.

MWM Program Chair Katherine Halvorsen planned the MWM program, while ASA Director of Education Rebecca Nichols managed the website, registration and evaluation procedures, and logistics of setting up and advertising the conference in the Washington, DC, metro area. Mark Otto and Dhuly Chowdhury of the Washington Statistical Society reached out to local school districts to help spread the word, and members of the ASA/NCTM committee and the MWM speakers provided guidance.

MWM 2013 presenters included ASA/NCTM Joint Committee Chair Patrick Hopfensperger (University of Wisconsin-Milwaukee), past-Chair Jerry Moreno (John Carroll University), and Halvorsen (Smith College). Otto provided a lunch presentation regarding statistics and the scientific method, and Chowdhury welcomed attendees and explained the WSS sponsorships.

All teachers attending MWM were given a certificate of participation issued by the ASA. They also may receive one semester graduate credit hour



MWM program chair Katherine Halvorsen addresses workshop participants.



Presenter Patrick Hopfensperger and ASA/NCTM chair lead workshop participants in an activity.

through Adams State University. The ASA and WSS will provide follow-up activities throughout the 2013–2014 school year, including webinars that will continue to be archived at www.amstat.org/education/webinars. ■

December Internship Listing

The deadline for listing an internship opportunity in the December 2013 issue of *Amstat News* is October 20. Any listings received after October 20 will be posted on the ASA website only. For details, visit www.amstat.org/education/internships.cfm.

Iowa State Team Is Top U.S. Team in 2013 Data Mining Cup

A data analytics team in the department of statistics at Iowa State University placed fifth in the 2013 Data Mining Cup (DMC), an international competition hosted by the German data analytics company Prudsys AG (www.data-mining-cup.de/en/dmc-competition), and first among all the teams from U.S. institutions.

The Iowa State team included six statistics PhD students: **Cory Lanker**, **Fangfang Liu**, **Jia Liu**, **Ian Mouzon**, **Wei Zhang**, and (team leader) **Wen Zhou**. Their participation in the 2013 DMC was motivated by their interest in applying material from a doctoral-level course in machine learning to a large real predictive analytics problem. The course, taught by Steve Vardeman, covers such topics as linear methods of prediction and classification, basis expansions and regularization, kernel smoothing methods, variance-bias trade-offs, inference and model averaging, additive models and trees, boosting, neural nets, support vector machines, prototype methods, unsupervised learning, random forests, and ensemble learning.

This year, the competition required teams to develop an algorithm to predict whether a visitor to a retail website will place an order. Customers who visit online shops carry out various “transactions” during any given session or visit. Transactions may include clicking on specific products to read more about them, adding or removing products from the shopping cart, etc. At the end of a session, the visitor may place an order for one or more products or end the session without any purchases. The goal of the 2013 DMC was to develop a method to predict whether the visitor will place an order on the basis of the transaction data collected during the session.

So that teams could develop their methods, Prudsys AG made available a large dataset with historical information about transactions and outcomes (purchased/did not purchase) from a German retailer. The training data corresponded to 50,000 customer sessions and included almost a half million transactions. The test dataset included 5,111 sessions for which contestants were asked to predict whether a purchase had or had not resulted. To win the competition, a team needed to make the fewest classification mistakes on the 5,111 test sessions.

The strategy adopted by the Iowa State team combined a variety of methodologies from what is currently known as data analytics, machine learning, or

The strategy adopted by the Iowa State team combined a variety of methodologies . . .

statistical learning. Data analytics is not a new field, but it has grown in importance as the amount of data collected by the private sector, government, and universities has ballooned. The goal of statistical learning is to find the intrinsic patterns hidden in such data and enable researchers and practitioners to make reliable predictions and accurate forecasts. Modern statistical methods for Big Data have become critical in the successful design of management strategies and decisionmaking as well as in areas as diverse as drug discovery, climate modeling, and finance.

The winning team, from the Technical University of Dortmund, made 144 classification errors in the 5,111 test sessions (2.82% error rate). The Iowa State team made only 10 more errors than the winning team and ended the competition with an error rate of 3.01%. That is, using the transaction information from the test sessions and algorithms developed from the training data, the ISU team was able to correctly predict whether a visit to the online shop would result in a purchase almost 97% of the time.

Winners of the competition were announced in Berlin during Prudsys AG’s User Days. The top 10 teams were invited to attend the awards presentation in person and present their work, and two of the ISU team were on hand to represent the team and be recognized as up-and-coming data miners.

The competition has been held annually since 2002, and participation is limited to teams from educational institutions. In 2013, the competition included 99 teams from 77 educational institutions and 24 countries. Other teams from the United States included those from the University of California at Los Angeles, University of Southern California, and Northwestern University. ■

University of Southern Queensland statistics professor **Shahjahan Khan** was elected recently as an Expatriate Fellow of the Bangladesh Academy of Science, the leading scientific organization in Bangladesh and a leading representative to the government for matters of science and research.

For more information about the Bangladesh Academy of Science, visit www.bas.org.bd. To read more about Khan, visit people news at <http://magazine.amstat.org>.

Kathryn Roeder, professor in the department of statistics at Carnegie Mellon University's Dietrich College of Humanities & Social Sciences, is the recipient of the twelfth annual Janet L. Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences.

Roeder is an elected member of the International Statistical Institute and a Fellow of the Institute of Mathematical Statistics and American Statistical Association. The Committee of Presidents of Statistical Societies has twice honored her with the Presidents' Award and Snedecor Award.

A snapshot of activities over her career include board positions with the Institute of Mathematical Statistics, serving as advisor to both the FBI and NRC/NAS on DNA forensics, and working in numerous editorial positions for prominent journals.

For more information, visit <http://magazine.amstat.org>.

Michael Vogelius will become the director of the National Science Foundation's Division of Mathematical and

Physical Sciences (MPS) in January. He succeeds Sastry Pantula, ASA past president (2010), who will become dean of the Oregon State University College of Science. For more information, visit People News at <http://magazine.amstat.org>.

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Jeanne E. Griffith 2013 Mentoring Award Winner Announced

Kevin Cecco, Jeanne E. Griffith Selection Committee



Jeanne E. Griffith 2013 Mentoring Award Winner Brian Harris-Kojetin and his nominator, Shelly Martinez

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

Brian Harris-Kojetin was recently announced winner of the 2013 Jeanne E. Griffith Mentoring Award for his mentoring of junior staff across government.

Harris-Kojetin is a senior statistician in the Statistical and Science Policy Office at the U.S. Office of Management and Budget (OMB), Executive Office of the President. He has earned degrees from the University of Denver and University of Minnesota, where he studied psychology and statistics.

At the OMB, Harris-Kojetin has the unique ability to see across the federal statistical community and identify mid-career staff to teach, coach, and mentor about their role in that community. Whether it's a new position, a detail, or a new interagency

committee, he often identifies connections between interests and individuals and helps them to successfully connect.

Prior to working at the OMB, Harris-Kojetin spent several years teaching psychology and then as a research psychologist at the Bureau of Labor Statistics and a senior project leader at the Arbitron Company. He is a Fellow of the American Statistical Association and chair of the Federal Committee on Statistical Methodology. He also has held leadership roles in several other professional associations.

Award Ceremony

Kevin Cecco presided as master of ceremonies. He presented several opening remarks and then introduced Katherine Wallman, chief statistician at the OMB and chair of the Interagency Council on Statistical Policy.

Wallman first introduced the past awardees and important members of the audience. She then talked about the Griffith Award during its early life and how it has grown over the years. Given her close relationship with Harris-Kojetin, she also articulated her excitement about his selection and expressed a few thoughts about his outstanding character and ability to be a great mentor.

Andy Orlin, Jeanne E. Griffith's spouse, talked about how pleased he was with the direction of the award over the past 11 years and how pleased he was with this year's selection of Harris-Kojetin. Orlin closed by expressing his gratitude to the members of the award selection committee.

Debbie Griffin followed Orlin's remarks in the program

and presented Harris-Kojetin with the Jeanne E. Griffith plaque after reading his citation.

Shelly Martinez, senior statistician at the OMB and Harris-Kojetin's nominator, spoke on behalf of his award and offered a number of outstanding remarks. Among them: "Brian's dedication and outreach to the federal statistical system embodies many of the tenets of this award. Although Brian doesn't formally supervise staff, he has no trouble finding folks to mentor. Brian has the innate ability to establish relationships with many individuals in a variety of roles and is able to see how they can benefit from and help to address needs of the federal statistical community at the same time. Despite the fact that Brian is a statistician, his tools of the trade are not spreadsheets matching names to assignments or algorithms to decide who would be good at what. No, Brian's chief tools are his time and active listening skills—this means both formal and informal interactions at meetings, lunches, and professional conferences."

In conveying his thanks, Harris-Kojetin talked about how the ceremony was a wonderful opportunity to celebrate the legacy of Jeanne Griffith and that he was deeply honored to have been selected for this year's award. He mentioned that Wallman often refers to the federal statistical system as a family.

Harris-Kojetin also said he had the great opportunity to work with wonderful colleagues at the Bureau of Labor Statistics, OMB, and Arbitron, as well as during his details at the U.S. Census Bureau and work with the Committee on

National Statistics. He stated he has grown a great deal from those experiences and the colleagues he worked with throughout his career. He stressed to the audience that they take advantage of these same kinds of opportunities, and this award will inspire him to do more to encourage colleagues to grow and pursue opportunities and learn more about our federal statistical system.

Nominations for the 2014 Award

Nominations for the 2014 Jeanne E. Griffith Mentoring Award will be accepted beginning in January 2014. Look for an article in *Amstat News* early next year that will describe the nomination process for 2014. We will also advertise for the award in the Government Statistical Society, Washington Statistical Society, and other newsletters and list-serves.

To learn more about the award and to find out why there is a Tree on the Jeanne Griffith Plaque, visit <http://magazine.amstat.org/blog/2013/08/01/griffith-award>. ■

Roger Herriot Award

The 2013 recipient of the Roger Herriot Award is the 1973 Current Population Survey (CPS)-Internal Revenue Service (IRS)-Social Security Administration (SSA) Exact Match Study. The study was a joint undertaking of the SSA and U.S. Census Bureau that linked survey records for persons in the March 1973 CPS to their respective earnings and benefit information in SSA administrative records and to selected items from their 1972 IRS individual income tax returns.

To view the list of contributors, visit people news at <http://magazine.amstat.org>. ■

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

www.amstat.org/awards

November 15, 2013 ASA Deming Lectureship	Nominations: Pam Craven, pamela@amstat.org Questions: Marilyn M. Seastrom, marilyn.seastrom@ed.gov
December 15, 2013 COPSS Fisher Lectureship and Award	niss.org/copss
December 15, 2013 ASA Noether Senior and Young Scholar Awards	Nominations: Pam Craven, pamela@amstat.org Questions: Dennis Boos, boos@stat.ncsu.edu
January 15, 2014 COPSS Presidents' Award	niss.org/copss
January 15, 2014 COPSS Elizabeth L. Scott Award	niss.org/copss
March 1, 2014 ASA Fellows	Nominations accepted online at www.amstat.org beginning October 1, 2013 Questions: Katherine L. Monti, kmonti@rhoworld.com
March 31, 2014 ASA Statistics in Chemistry Award	Philip J. Ramsey, pjrstats@aol.com
March 15, 2014 ASA W. J. Dixon Award for Excellence in Statistical Consulting	Nominations: Pam Craven, pamela@amstat.org Questions: Lloyd J. Edwards, lloyd_edwards@unc.edu
March 15, 2014 ASA Founders Award	Nominations: Pam Craven, pamela@amstat.org Questions: Marie Davidian, davidian@ncsu.edu
March 15, 2014 ASA W. J. Youden Award in Interlaboratory Testing	Nominations: Pam Craven, pamela@amstat.org Questions: Michael J. Messner, messner.michael@epa.gov
March 15, 2014 ASA Waller Distinguished Teaching Career Award	Nominations: Pam Craven, pamela@amstat.org Questions: Bradley A. Hartlaub, hartlaub@kenyon.edu
March 15, 2014 ASA Waller Education Award	Nominations: Pam Craven, pamela@amstat.org Questions: Bradley A. Hartlaub, hartlaub@kenyon.edu
March 15, 2014 Karl E. Peace Award for Outstanding Statistical Contributions for the Betterment of Society	Nominations: Pam Craven, pamela@amstat.org Questions: G. David Williamson, dwx2@cdc.gov
April 1, 2014 ASA Gertrude M. Cox Scholarship	Applications & Questions: Pam Craven, pamela@amstat.org
April 1, 2014 ASA Outstanding Statistical Application Award	Nominations: Pam Craven, pamela@amstat.org Questions: DuBois Bowman, dbowma3@emory.edu
April 1, 2014 ASA Edward C. Bryant Scholarship	Applications: Pam Craven, pamela@amstat.org Questions: Tapabrata Maiti, maiti@stt.msu.edu
April 1, 2014 ASA Excellence in Statistical Reporting Award	Nominations: Pam Craven, pamela@amstat.org Questions: Morteza Marzjarani, mortkm2@yahoo.com
April 1, 2014 ASA Samuel S. Wilks Memorial Medal	Nominations: Pam Craven, pamela@amstat.org Questions: Lynne Billard, lynne@stat.uga.edu

sectionnews

Biometrics

The Biometrics Section held its annual business committee meeting at this year's Joint Statistical Meetings (JSM), during which they shared conference updates and announced the winners of several section awards.

JSM 2014 Program Chair Jonathan Schildcrout told attendees potential applicants were contacted to give invited sessions in machine learning, Big Data, outcome-dependent follow-up, and semi-competing risk model. Applications in other areas are welcome.

Council on Sections Representative Page Moore reported that JSM attendance was ~5,700. New this year were speed talks/electronic posters. With the increasing number of sessions, exploring more of these types of presentations and fewer invited orals is needed.

Treasurer Yu Shen noted that the financial status of the section is sound and, based on the current surplus, it was suggested a special call for proposals for Strategic Initiative awards be due in October. The award should be decided before the end of the year. The section can sponsor up to three awards with the maximum budget of \$3,000–\$5,000 for 1.5–2 years each.

ENAR 2014 Representative Jason Roy noted that the ENAR program committee received 74 applications for invited sessions and 40 were selected for ENAR 2014.

Dianne Finkelstein, past-chair of the section, reported that the Young Investigator Award committee was pleased with the quality of the applications it received. To view the list of awardees, visit <http://magazine.amstat.org/blog/2013/07/01/biom-july>. Applications are being accepted for the 2014 award and section travel awards; the deadline is December 1.

Complete minutes of the meeting are available at www.bio.ri.ccf.org/Biometrics. For more information about the travel award, visit <http://magazine.amstat.org/?cat=17>.

Physical and Engineering Sciences

Matthew Pratola, The Ohio State University and SPES Publicity Chair

SPES had an active program at JSM 2013 in Montréal. There were three invited sessions, four topic-contributed sessions, and six contributed sessions, as well as a contributed poster session. Topics covered included experimental design, computer experiments, reliability, and spatiotemporal information processing. We saw applications of statistics in a wide variety of

areas, including chemistry/chemical biology, the environment, government and industry, physical and engineering sciences, and astrostatistics. There was also a session with highlights from the Conference on Data Analysis.

The program was followed by plenty of discussion and camaraderie at the annual JSM SPES mixer. Thanks to those who contributed door prizes for this event.

This year's Statistics in Chemistry Award was given to Peter Goos and Steven G. Gilmour for their paper, "A General Strategy for Analyzing Data from Split-Plot and Multistratum Experimental Designs." SPES also congratulated members William Brenneman, Shane Reese, William Li, and Will Guthrie, who were elected ASA Fellows for their efforts in research, leadership, and service to our profession.

Finally, SPES welcomes newly elected officers Stephanie DeHart (chair-elect), William Li (program chair-elect), and Peter Hovey (secretary/treasurer).

Statistics Education

Larry Lesser

The ASA Section on Statistics Education had a productive JSM 2013, sponsoring or co-sponsoring eight invited panels/sessions, 12 topic-contributed panels/sessions, seven contributed paper sessions, one poster session, and 13 roundtable discussions.

Also, many section members were recognized. Julie Legler, Thomas Love, and Alfredo Navarro became ASA Fellows. Nathan Tintle won the 2013 Waller Education Award, Erin Blankenship was awarded the National Mu Sigma Rho's 2013 William D. Warde Statistical Education Award, and Felix Elwert won the Causality in Statistics Education Award. Tanner Caverly won the Ron Wasserstein Award for the section's best contributed paper of JSM 2012. The Jacqueline Dietz Award for the year's best *Journal of Statistics Education* paper was presented to Roger Woodard and Herle McGowan for their article, "Redesigning a Large Introductory Course to Incorporate the GAISE Guidelines," which appeared in the November 2012 issue.

In addition to the JSM award winners, active section members Jackie Miller and Chris Franklin were given honors. At the 2013 Joint Mathematics Meetings, Miller was given the Robert V. Hogg Award for Excellence in Teaching Introductory Statistics. At the 2013 United States Conference on Teaching Statistics, Franklin was presented with the 2013 USCOTS Lifetime Achievement Award (see www.causeweb.org/uscots/awards).

Along with the award winners, the 2013 section officers were announced. The officers include Bill Notz as chair-elect, Jennifer Kaplan as publications

To view section news in its entirety, visit <http://magazine.amstat.org>.

officer, and Kari Lock Morgan and Tim Jacobbe as executive committee at-large members. Also, Chad Schafer was elected as a Council of Sections Board representative. In 2013, the section contributed support toward the Mathematical Association of America's Project NeXT. Funding requests are due by February 1, 2014, to Jim Albert at albert@bgsu.edu.

This year, the section has been collecting feedback for internal and external purposes. As discussed at the business meeting, those with further thoughts about whether and how the section can help the ASA evaluate statistics MOOCs may email Deborah Nolan at Nolan@stat.berkeley.edu. A task force headed by Michelle Everson reviewed the College GAISE report and relayed its recommendations for updates to the ASA Education Council. Nick Horton is chairing the ASA's Education Workgroup on Undergraduate Curriculum Guidelines, and comments about updating those guidelines may be emailed to him at nhorton@amherst.edu or relayed through the survey at www.amstat.org/education/curriculumguidelines.cfm. Finally, members can expect to receive a link to a membership survey conducted by Tintle, head of the section's membership subcommittee.

Statistics in Epidemiology

The Section on Statistics in Epidemiology invites applications for travel awards from young investigators who will present their papers at next year's Joint Statistical Meetings (JSM), to take place in Boston from August 2–7. Winners will receive \$500 to help defray travel costs to the meeting. The awards are open to all current graduate students in statistics, biostatistics, and epidemiology and also recent graduates who earned their degrees no earlier than December 31, 2011.

To apply, submit your paper to Susan Shortreed at shortreed.s@ghc.org by December 15, along with a cover letter stating where you are a current student or your year of graduation. Email 2014 Section Chair John Neuhaus at john@biostat.ucsf.edu with questions.

For details and to see who won this year's awards, visit the epidemiology section news at <http://magazine.amstat.org/blog/category/membernews/amstatsections/statistics-in-epidemiology>.

Statistics in Imaging

The Section on Statistics in Imaging initiated a Statistical and Applied Mathematical Sciences Institute (SAMSI) summer two-week workshop on neuroimaging data analysis (NDA) from June 4–14.

The SAMSI NDA program was motivated by the need for the analysis of high-dimensional, correlated, and complex neuroimaging data and clinical and genetic data obtained from various cross-sectional and clustered neuroimaging studies. The SAMSI NDA program serves as a platform for bringing together

the leading figures in NDA, exchanging new research ideas, and training the next generation of mathematicians and statisticians in the field of NDA. The workshop was co-chaired by Jane-Ling Wang, Robert Kass, Haipeng Shen, and Hongtu Zhu.

Lecture notes and slides for all invited talks are available at www.samsi.info/programs/summer-2013-program-neuroimaging-data-analysis-june-4-14-2013. A year-long SAMSI program on neuroimaging data analysis is proposed for 2015–2016.

chapternews

Ann Arbor

The objective of the Ann Arbor Chapter is to promote the science of statistics, provide statisticians and statistics practitioners the opportunity to network with like-minded individuals, and stimulate membership in the ASA. To fulfill this objective, the chapter hosted a conference and membership social and sponsored an educational seminar.

In May, the annual conference of the Michigan SAS Users Group became the setting for a new kind of membership drive. Three books on Bayesian statistics were raffled off to those who joined the ASA before the end of the meeting. Former ASA President Robert Rodriguez, a speaker at the meeting, congratulated the chapter for the novel membership drive initiative.

Also during the summer, the chapter sponsored a three-day seminar, "GAISEing into the Statistics Common Core," for teachers of mathematics in Michigan, grades 6–12. The seminar used the ASA's *Guidelines for Assessment and Instruction in Statistics Education* as a framework to help participants learn how to effectively teach the statistics part of the Common Core State Standards for Mathematics. To read more about the seminar, visit <http://magazine.amstat.org/blog/2013/10/01/ann-arbor>.

Read about more of this chapter's recent activities at <http://magazine.amstat.org>.

San Francisco Bay Area

San Francisco Bay Area Chapter volunteers were invited to give lectures to AP Statistics students at Menlo Atherton High School. The lecturers were Heather Watson of Exponent, Bart Burington of Geron, and Doug Okamoto and Chris Barker, both consultants. A teacher from Abraham Lincoln High School in San Francisco learned about the event and also invited a volunteer to lecture.

To view photos of the lectures, visit <http://magazine.amstat.org>.

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

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

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

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

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.

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.

associate/full professor positions. assistant professor deadline date December 15, 2013. For additional information, visit <http://facstaff.phhp.ufl.edu/services/humanresources/PHHP%20FAC%20JOB%20VACANCIES-Bio.htm>. The University of Florida is an Equal Employment Opportunity Institution dedicated to building a broadly diverse and inclusive faculty and staff. If an accommodation due to a disability is needed to apply for this position please call (352) 392-2477 or The Florida Relay System at (800) 955-8771 (TDD). Searches are conducted in accordance with Florida's Sunshine Law.

Georgia

■ The Goizueta Business School of Emory University invites applications for a full-time non-tenure track faculty position beginning fall 2014. Teaching involves 6 sections/year in statistics and data/decision analytics. Emory is located in Atlanta, home to the third largest concentration of Fortune 500 companies. Salary commensurate with experience. Multiple year contracts may be possible. Please send curriculum vitae, teaching statement, courses taught, and course ratings isomrecruiting@emory.edu. Emory University is an AA/EOE.

Idaho

■ Assistant Professor of Statistical Science. Department of statistical science at University of Idaho invites applications for a tenure-track assistant professor (9-month) in computationally intensive statistical methods applied to systems biology, as defined by NIH: www.nigms.nih.gov/Research/FeaturedPrograms/SysBio/; application screening begins 11/1/2013; position starts 8/17/2014; AA/EOE; www.uidaho.edu/human-resources. AA/EOE.

Iowa

■ The department of biostatistics (cph.uiowa.edu/biostat/) in the University of Iowa College of Public Health invites applications for tenure-track assistant professor positions. Candidates with expertise in the area of statistical genomics, clinical trials, Bayesian methods, or a combination of these areas are of particular interest. See <http://jobs.uiowa.edu> (requisition #62969)

California

■ SJSU mathematics and statistics department has one tenure-track assistant professor opening in statistics starting August 2014. The candidate must teach undergraduate and graduate statistics courses, maintain an active research program, and supervise student research and industry sponsored student projects. PhD required at time of appointment. For full consideration, submit all application materials by December 16, 2013. See the complete position description at www.sjsu.edu/math/statistics/employment. San Jose State University is an Equal Opportunity/Affirmative Action Employer committed to the core values of inclusion, civility, and respect for each individual.

■ 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. Applications received by December 15, 2013, will receive priority. Applications must be submitted online

following the instructions at www.rand.org/statistics/jobs.html (search PhD statistician). Send questions to Susan_Paddock@rand.org. EO/AA Employer.

Colorado

■ Sr. Analyst, Westminster, CO, Datalogix. Client & product-specific analysis. Req. MA (or foreign equiv.) in math, stats, econ, or mktg + 2 yrs exp. or BA (or foreign equiv.) in math, stats, econ, or mktg + 5 yrs exp. Résumé to L. Swanson, VP/HR, ref 121447, 10075 Westmoor Dr., #200, Westminster, CO 80021. EOE.

Florida

■ Assistant, Associate, or Full Professor Positions. UF is recruiting tenure-track positions (two assistant professors, two associate/full professors) within the department of biostatistics, administered by college of medicine and college of public health and health professions. Qualifications include a doctoral degree in biostatistics, statistics, or related discipline. Application review ongoing for



The Department of Biostatistics at The University of Iowa College of Public Health invites applications for tenure-track assistant professor positions. A PhD or equivalent in biostatistics, statistics, or a related area, as well as evidence of excellent written and oral communication skills are required. Candidates with expertise in the areas of statistical genomics, clinical trials, Bayesian methods, or a combination of these areas are of particular interest.

See <http://jobs.uiowa.edu/> (requisition #62969) for the complete position description and electronic application information. Applicants should arrange to have three letters of reference emailed to biostatistics@uiowa.edu.

Additional information about The University of Iowa is available at www.uiowa.edu. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.

for complete application information. cph.uiowa.edu/biostat. The University of Iowa is an Affirmative Action/Equal Opportunity Employer.

Maryland

■ NCI is seeking candidates with PhD in statistics/or/biostatistics. Statisticians conduct research in biostatistics/bioinformatics/computational biology, and provide statistical leadership for national and international research programs. Applicants must be U.S. citizens. Experience in statistics of clinical trials, especially involving biomarkers is advantageous. This is pre-application announcement to gauge interest. Applicants should send their résumé and three references to Richard Simon, Chief BRB, at rsimon@nih.gov. Additional information is at <http://brb.nci.nih.gov>. Department of Health and Human Services, National Institutes

of Health, National Cancer Institute, and Biometric Research Branch are Equal Opportunity Employers.

Massachusetts

■ Hampshire College, an independent, innovative liberal arts institution in Massachusetts, is accepting applications for an assistant professor of statistics in the school of cognitive science. Applicants must have a PhD in statistics or closely related field and be oriented toward applied statistics and data analysis. Review of applications begins October 15, 2013, and continues until position is filled. Further information and application details at <http://jobs.hampshire.edu>. Hampshire College is an equal opportunity institution, committed to building a culturally diverse intellectual community and strongly encourages applications from women and minority candidates.



Department of Applied and Computational Mathematics and Statistics

Assistant, Associate or Full Professor of Statistics

The University of Notre Dame has committed **six new faculty positions** to the Department of Applied and Computational Mathematics and Statistics (ACMS) to be filled over the next three years. Positions at both the junior and senior level are available. At this time we especially seek a statistician at the tenured level in any area of research that builds on our existing activities. Preference will be given to applicants whose statistical research includes multi-disciplinary collaborations.

ACMS includes research groups in applied mathematics, statistics and computational science. The current eleven faculty members have research interests in Bayesian statistics, statistical bioinformatics and high-dimensional data, finance, statistics in networks and Big Data, multiscale modeling of blood clotting and biofilms, mathematical modeling in cell biology and tumor growth, MEMS, and numerical and computational algorithms. ACMS offers a Bachelor of Science, a doctoral degree, a research masters degree and a professional masters degree. ACMS is a member of the College of Science.

The successful applicant must have a doctorate in statistics, biostatistics or a closely related field, and a record of success in both research and teaching. The teaching load in ACMS is 3 courses per year, and the position begins in August 2014. Applications received by December 1, 2013 will be given full consideration.

Applications, including a cover letter, curriculum vitae and research and teaching statements, should be filed through MathJobs (www.MathJobs.org). Applicants should also arrange for at least three letters of recommendation to be submitted through the MathJobs system. These letters should address the applicant's research accomplishments and supply evidence that the applicant has the ability to communicate articulately and teach effectively. Senior faculty are invited to contact the Department Chair, Steven Buechler, at buechler.1@nd.edu, at any time.

Notre Dame is an equal opportunity employer, and we particularly welcome applications from women and minority candidates.

acms.nd.edu

■ Assistant Professor of Statistics. The Smith College Department of Mathematics and Statistics invites applications for a tenure-track position in statistics starting fall 2014. PhD in statistics or biostatistics, excellence in teaching, and evidence of research required. For more information and to apply, visit www.mathjobs.org/jobs/jobs/4876. Applications received by November 15, 2013, are guaranteed full consideration. www.mathjobs.org/jobs/jobs/4876. Smith College is an equal opportunity employer encouraging excellence through diversity.

Michigan

■ The dept. of statistics at the University of Michigan, Ann Arbor, invites applications for an assistant professor to begin September 1, 2014. Candidates at higher ranks will be considered subject to additional approval from the administration. Applicants are expected to have demonstrated outstanding research potential and

AMERICAN UNIVERSITY

The Department of Mathematics and Statistics at American University (Washington, DC) invites applications for two full-time, tenure-line positions, beginning in August 2014, in either mathematics or statistics. One position is at the **Assistant Professor** level. The other, the **David Carroll Professorship**, is at the rank of **Associate or Full Professor**. Depending on qualifications, the appointee to the latter position may be recommended for tenure at the time of hiring.

An ideal candidate will have facility with computation, and can identify specific prospects for on-campus collaboration, possibly interdepartmental. We are particularly interested in candidates who can assist colleagues who need to deal with data sets that are too large, distributed, or heterogeneous to be amenable to traditional methods of analysis. From a mathematician, we also seek a research program with deep roots in mathematics. From a statistician, we seek a familiarity with Bayesian modeling. We are open to researchers who ignore traditional disciplinary boundaries.

Applicants must have a PhD in a relevant discipline. Teaching and post-doctoral experience are preferred. Responsibilities include: establishing an internationally recognized research program, preferably one that can involve undergraduate research participation; teaching and curriculum development; and service to the department and to the wider university.

American University's areas of long-time strength and recent investment include computational and behavioral neuroscience, environmental science, public health, persuasive gaming, metropolitan studies, economics, international relations, public affairs, and business.

Applicants should submit a cover letter explaining how they fit the criteria above. In addition, they should submit a curriculum vitae, teaching statement, and research statement, and applicants must arrange for at least three letters of recommendation, at least one of which should address teaching ability, to be sent directly to the search committee. Materials can be submitted online (highly preferred) at mathjobs.org, or via email to Linda Greene at lgreene@american.edu, or in hard copy to Search Committee, Department of Mathematics and Statistics, American University, Washington, DC 20016-8050. Applications received by December 1, 2013 will receive full consideration.

American University is an EEO/AA institution, committed to a diverse faculty, staff, and student body. Women and minority candidates are strongly encouraged to apply. American University offers employee benefits to same-sex domestic partners of employees and prohibits discrimination on the basis of sexual orientation/preference and gender identity/expression.



Department of Statistics Open Rank Position

The Department of Statistics (<http://statistics.gmu.edu>), George Mason University (GMU), Fairfax, Virginia, is seeking candidates for an **open rank faculty appointment** (tenured or tenure-track).

The candidate should have a Ph.D. in Statistics or closely related field, be prepared to conduct independent and collaborative research, and to teach and mentor at the advanced graduate level. At the Full and Associate Professor levels, candidates should demonstrate a strong record of externally funded research. Research areas of the Department include applied probability, biostatistics, data exploration, federal statistics, high-dimensional data analysis, statistical computing, and theoretical statistics. The Department offers M.S. and Ph.D. degrees in Statistical Science, M.S. in Biostatistics, and a concentration in the proposed M.S. in Data Analytics Engineering. The Department is located in the Volgenau School of Engineering, which occupies a new building on our rapidly growing campus in the high-tech corridor of northern Virginia, 30 minutes from downtown Washington and two international airports. GMU is a growing research university of over 32,000 students, which offers competitive salaries and faculty rental housing on campus.

For full consideration, applicants must apply for position number F9753z at jobs.gmu.edu; complete and submit the online faculty application; and upload a cover letter, CV, teaching statement, research statement, transcript, and the names and contact information for three references. Please upload your research statement using the link for Other Docs. The review of applications will begin November 15, 2013, and continue until the position is filled.

George Mason University is an equal opportunity employer encouraging diversity.

CARNEGIE MELLON UNIVERSITY
Assistant/Associate Teaching Professor

Applications are invited for the position of Teaching Professor, rank (Assistant, Associate or Full) to be determined. The Department of Statistics, Carnegie Mellon University is seeking a passionate, master teacher to contribute to our thriving, modern undergraduate and graduate programs. The successful candidate will be expected to have a strong and successful teaching record, demonstrate excellence in statistical pedagogy, and an active research agenda. This position emphasizes teaching, student advising, curriculum development, and supervising collaborative research projects. PhD in statistics, biostatistics or related area required.

See <http://www.stat.cmu.edu> or email hireing@stat.cmu.edu for more details. Send CV, relevant transcripts, teaching and research statements, and three recommendation letters to:

Teaching Faculty Search Committee, Statistics,
Carnegie Mellon University, Pittsburgh, PA
15213, USA or hireing@stat.cmu.edu.

Application screening begins immediately,
continues until positions closed.

Women and minorities are encouraged to apply. AA/EOE.



NORC at the University of Chicago is an independent research organization headquartered in downtown Chicago with additional offices on the University of Chicago's campus, in the D.C. Metro area, Atlanta, and Boston. With clients throughout the world, NORC collaborates with government agencies, foundations, educational institutions, nonprofit organizations, and businesses to provide data and analysis that support informed decision making in key areas including health, education, economics, crime, justice, energy, security, and the environment. Learn more about NORC's leadership and experience in data collection, analysis, and dissemination at:

www.norc.org.

NORC is actively seeking statisticians, survey methodologists, statistical programmers, data managers, survey directors, and social scientists with advanced training or experience in survey research or survey operations. New staff will be based in our Chicago, IL or Bethesda, MD offices. To apply for employment, please visit our website at:

<http://norccareers.silkroad.com>

NORC is an affirmative action, equal opportunity employer that values and actively seeks diversity in the workforce.

Doctoral-Level Faculty Position in Biostatistics
Group Health Research Institute, Seattle, WA

Group Health Research Institute (GHRI) is seeking an experienced faculty member in biostatistics to collaborate on multidisciplinary research teams and lead independent methods research in a setting with access to rich data on a large, defined health plan population.

GHRI (www.grouphealthresearch.org/) is an internationally recognized academic research organization that conducts non-proprietary research, primarily through federally funded grants and contracts that total more than \$45 million annually. GHRI's scientific faculty consists of more than 36 doctorate-level investigators trained in medicine, biostatistics, epidemiology, behavioral science and economics. Programmatic research areas include cancer prevention, pharmacoepidemiology, immunizations, behavioral medicine, and aging. GHRI is part of a vibrant research community, including the University of Washington and Fred Hutchinson Cancer Research Center, and is a member of multiple large, national research networks. The Biostatistics Unit (www.grouphealthresearch.org/research/areas/biostatistics.aspx) includes 6 PhD biostatistician investigators and 10 MS biostatisticians. All biostatistician investigators have affiliate appointments at the University of Washington. GHRI's position as an administrative unit within Group Health, a large not-for-profit health care delivery system, provides an ideal natural laboratory to study important health and biostatistical issues through clinical trials, observational studies, and qualitative research.

Applicants must have a doctoral degree (PhD or equivalent) in Biostatistics or Statistics, excellent oral and written communication skills, and a strong interest in interdisciplinary collaboration. Appointment is open rank with preference for an Associate- or Senior-level Investigator with a demonstrated research track record. Ability to serve in a leadership role within the Biostatistics Unit is also highly desired. Group Health is an affirmative action, equal opportunity employer.

Submit letter of interest and CV to GHRI Associate Investigator Jennifer Clark Nelson, PhD (nelson.jl@ghc.org). Applications may also be submitted online at <http://www.ghc.org/careers/index.jhtml> (job posting #131569). Review of applications will continue until the position is filled.



excellence in teaching. Review of applications will begin on November 1, 2013. For more information, visit <http://jobs.amstat.org/jobs>. EOE.

New York

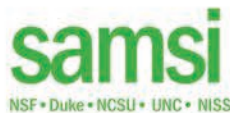
■ Assistant/Associate Professor in Statistics. The department of mathematics and computer science at Skidmore College invites applications for a tenure-track position in statistics beginning September 2014. Qualifications include a PhD in statistics. Review of applications will begin November 1, 2013, and will continue until the position is filled. To learn more about and apply for this position please visit us online at <https://careers.skidmore.edu/applicants/Central?quickFind=55075>. EOE.

North Carolina

■ Dickson Advanced Analytics at Carolinas Medical Center in Charlotte, NC, is seeking a statistician with a PhD in biostatistics/statistics. A minimum of 5 years of experience in medical research is required. Duties include planning biomedical research, analyzing data, statistical consulting, supervising master-level statisticians, and teaching. Knowledge of SASÆ, excellent verbal and written communication skills required. Applicant must apply at <http://careers.carolinashhealthcare.org>. EOE.

Oklahoma

■ Seeking biostatistician to perform various analyses including but not limited to, parametric and nonparametric statistics, evaluating statistical methods and procedures, interpreting data, preparing conclusions, identifying trends, and reporting results. Master's degree in statistics, mathematics, quantitative psychology or equivalent field and two years of relevant biostatistics consulting or other relevant experience or PhD in applied or theoretical statistics, mathematics, epidemiology, or equivalent field is required. <https://jobs.omrf.org/applicants/Central?quickFind=51164>. Oklahoma Medical Research Foundation is an EOE/AA.



2014-15 Postdoctoral Fellowships at SAMSII

Up to 6 postdoctoral fellowships are available at the Statistical and Applied Mathematical Sciences Institute for either of the two SAMSII Research Programs for 2014-15: Beyond Bioinformatics: Statistical and Mathematical Challenges, and Mathematical and Statistical Ecology. Appointments, for up to 2 years, will begin in August 2014, and will offer competitive salaries, travel stipend and health insurance.

2014-15 Program on Beyond Bioinformatics: Statistical and Mathematical Challenges (Bioinformatics)

The aim of the SAMSII Bioinformatics program is to bring together researchers to address challenges arising in processing and analysis of genomic and related data to answer biological questions. The program will address topics including the statistical pre-processing of emerging high throughput data, methods for assessing dependence in high-dimensional data (in particular, multivariate discrete counts), integration of multi-omics data, modeling dynamics of mixtures (eg. populations of cells, variants, metagenomics) and other topics arising in big data and machine learning methods for 'omics data.

For additional information on this program, please see: <http://www.samsii.info/bioinformatics>

2014-15 Program on Mathematical and Statistical Ecology (Ecology)

The aim of the SAMSII program on Mathematical and Statistical Ecology is to bring together researchers in statistics, applied mathematics and the ecological sciences to develop improved modeling tools. SAMSII seeks postdocs with a primary expertise in at least one of these three areas and an interest in developing interdisciplinary research. Specific areas of expertise include multi-scale modeling, the analysis of dynamical properties such as tipping points, statistical analysis of large spatio-temporal datasets and statistical methods for large multivariate datasets. Applications areas include forest degradation, the influence of climate change on ecological systems, inverse problems for the global carbon cycle, and landscape genomics. There will be opportunities for collaboration with national organizations such as the US Geological Survey, the National Center for Atmospheric Research and the National Ecological Observatory Network.

For additional information on this program, please see: <http://www.samsii.info/ecology>

Application to SAMSII

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

Criteria for selection of SAMSII 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 SAMSII program areas. The deadline for full consideration is December 15, 2013, although later applications will be considered as resources permit.

SAMSII 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, SAMSII PD2014 Job #4946

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- Improve statistical methods for modeling and adjustment of seasonal time series.
- Perform research on statistical methodology that will improve the quality and value of the data collected.
- Publish research papers and technical documentation of your work.

Requirements

- 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, click on Jobs@census, Headquarters and NPC Employment Opportunities, Mathematical Statistician

The U.S. Census Bureau is an Equal Opportunity Employer.

Pennsylvania

■ The Wharton Statistics Department, University of Pennsylvania, is seeking full-time, tenure-track faculty at any level: assistant, associate, or full professor, appointment beginning July 2014. Applicants should show outstanding capacity in research and teaching. Applicants must have a PhD (expected completion by June 30, 2015, is acceptable) from an accredited institution. Please visit our website to apply: <https://statistics.wharton.upenn.edu/recruiting/facultypositions>. Questions should be sent to statistics.recruit@wharton.upenn.edu. The University of Pennsylvania is an equal opportunity affirmative action employer; women and minority applicants are strongly encouraged to apply.

■ Possible tenure-track and visiting positions. Collegial environment emphasizing disciplinary and cross-disciplinary research and teaching. All areas of statistics welcome. Joint appointments possible with other units in the Pittsburgh area. See www.stat.cmu.edu (email: hiring@stat.cmu.edu). Send CV, research papers, relevant transcripts, and three recommendation letters to: Faculty Search Committee, Statistics, Carnegie Mellon University, Pittsburgh, PA 15213, USA. Application screening begins immediately, continues until positions closed. www.stat.cmu.edu. Women and minorities are encouraged to apply. AA/EOE.

Tennessee

■ Assistant/Associate Professor, Tenure Track. The preventive medicine department at the University of Tennessee Health Science Center is seeking applications for an assistant or associate professor in population health with emphasis in quantitative methods. Requirements include a doctorate in a health related area with training in biostatistics/quantitative methods. For more information, see http://oracle.uthsc.edu/a206_job_desc.php?pin=22301. University of Tennessee Health Science Center is an equal opportunity/affirmative action employer.

■ The University of Tennessee, College of Business Administration, Department of Statistics, Operations,



and Management Science. Tenure-track assistant professor in business analytics, beginning August 2014. Commitment to publish scholarly research in top-tier journals; primary research interest should include developing analytic tools relevant to business. Work experience in business analytics role highly valued. Teaching at all levels expected. Full description and application procedures at <http://bus.utk.edu/soms/analytics/position.htm>. The University of Tennessee is an EEO/AA/Title VI/Title IX/Section 504/ADA/ADEA institution.

Texas

■ Southwest Research Institute (SwRI) in San Antonio, Texas, is seeking an applied statistician to provide analytical support in solving real-world problems found in R&D environments associated primarily with the physical and engineering sciences. Skills will include design of experiments, development and implementation of data analysis approaches to address customer needs, and statistical analysis of data. Requires

TENURE TRACK ASSISTANT PROFESSOR AT UNIVERSITY OF CINCINNATI

Applications are invited for a tenure-track Assistant Professorship in Statistics

The Department of Mathematical Sciences has a strong graduate program offering both MS degree and PhD in statistics, and in pure and applied mathematics. The department is dedicated to excellence in both research and teaching. Statistics faculty in the department are involved in both methodological and interdisciplinary research. Their research interests include Bayesian methods, spatial and environmental statistics, and statistical methods & computing for massive data. The normal teaching load for research-active faculty is 6 credit hours per semester with a 25% reduction for new faculty each of the first 2 years and a reduced service role. The job duties include maintaining an active research program, to constantly seek external funding, to mentor graduate students, and to teach both graduate and undergraduate courses.

Completed applications consisting of a cover letter, CV, description of research program (if applicable), description of teaching experience (if applicable), and three letters of recommendation should be submitted on <http://www.mathjobs.org>. Applicants should also submit a CV and cover letter on UC's recruitment system @ <https://www.jobsatuc.com/>. Review of applicants will begin on December 1, 2013. The appointment will begin on August 15, 2014. The position requires a PhD degree in the area of statistics or equivalent awarded by August 14, 2014. Inquiries concerning the position should be directed to, Dr. Siva Sivaganesan, the Search Committee Chair, or Dr. Shuang Zhang, Head, Department of Mathematical Sciences. Applications will be accepted until the position is filled. The University of Cincinnati is an equal opportunity/affirmative action employer. Women, people of color, the disabled and veterans are encouraged to apply.



UNIVERSITY OF PENNSYLVANIA PERELMAN SCHOOL OF MEDICINE

The Division of Biostatistics in the Department of Biostatistics and Epidemiology at the University of Pennsylvania Perelman School of Medicine seeks highly qualified candidates for standing faculty positions in both clinician educator (non-tenure) track and tenure track at the Assistant, Associate, or full Professor level. Academic rank will be commensurate with credentials and experience. A doctoral degree in biostatistics, statistics, or a related discipline is required. Review of applications will begin on September 30, 2013 and will continue to be accepted after this date, until the positions are filled. The expected start date is July 2014 or later.

Clinician Educator track applicants will focus primarily on collaborative research as co-investigators, with secondary emphasis on methodological research. Applicants with collaborative research interests in translational science, health services, pediatrics, mental/behavioral health, renal/urological, comparative effectiveness research, and/or clinical trials are especially encouraged to apply. Applicants in other areas of research areas will also be considered. Applicants with additional expertise in leading multicenter clinical research network projects are particularly encouraged to apply.

Tenure track applicants will focus primarily on methodological research, with secondary emphasis on collaborative research projects within the School of Medicine. Applicants with biostatistical research interests in meta-analysis, structural equation modeling, psychometrics (test/scale development, item response theory), causal models, mediation analysis, instrumental variables, nonparametric statistics, and specialized biostatistical methods for next generation sequence data are especially encouraged to apply. Applicants in other areas of research areas will also be considered. There is a rich mix of ongoing biomedical research projects in the Perelman School of Medicine to provide motivation and opportunities for the development of novel statistical methods on wide ranging topics.

Candidates for both tracks are expected to have a strong commitment to teaching and must demonstrate outstanding research productivity. Primary teaching responsibilities include participation in Penn's Center for Clinical Epidemiology and Biostatistics academic programs.

The Graduate Group in Epidemiology and Biostatistics, jointly with the Department of Statistics in the Wharton School, offers degree programs leading to both the Doctor of Philosophy (PhD) and Master of Science (MS) in Biostatistics.

The University of Pennsylvania, founded by Benjamin Franklin, is a world-class research institution, located near the heart of Philadelphia. All of Penn's 12 schools are located within walking distance of one another. The Penn Perelman School of Medicine is one of the top ranked medical schools in NIH funding.

We seek candidates who embrace and reflect diversity in the broadest sense. The University of Pennsylvania is an affirmative action/equal opportunity employer. Qualified applicants should send a cover letter indicating the specific position to which they are applying, curriculum vitae, three letters of reference, and a statement of research interests to:

Clinician Educator: Apply for this position online at: http://www.med.upenn.edu/apps/faculty_ad/index.php/g303/d3363

Tenure Track: Apply for this position online at: http://www.med.upenn.edu/apps/faculty_ad/index.php/g303/d3362

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.



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UNIVERSITY OF
SOUTH CAROLINA
College of Arts and Sciences

DEPARTMENT OF STATISTICS Full/Associate/Assistant Professor Position Assistant Professor Position

The Department of Statistics at the University of South Carolina, Columbia invites applications for two positions: an open rank tenure-track Full/Associate/Assistant Professor and a tenure-track Assistant Professor.

Research focus for the open rank position is in the analysis of high-dimensional data, while research focus for the Assistant Professor position is in highly-structured data analysis. For details see www.stat.sc.edu.

Review of applications will begin November 30, 2013. Send application to Faculty Search Committee, Department of Statistics, University of South Carolina, Columbia, SC 29208 USA. The e-mail address is FacultySearch@stat.sc.edu.

The University of South Carolina is an affirmative action, equal opportunity employer. Minorities and women are encouraged to apply. The University of South Carolina does not discriminate in educational or employment opportunities or decisions for qualified persons on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, or veteran status.

an MS or PhD degree in statistics. More information: www.swri.org/hr/ViewPosition.asp?JobID=3145&Type=Exempt. Southwest Research Institute is an AA/EOE.

Virginia

■ Open-rank faculty position in the department of biostatistics. Applicants should have a PhD in biostatistics, statistics or related field; demonstrated experience in the analyses of high-throughput genomic or proteomic data; familiarity with statistical programming environments for analyzing such data; and excellent oral and written communication skills. Submit curriculum vitae, research statement, teaching philosophy, and contact information for three professional references to yfshargro@vcu.edu. 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. Virginia Commonwealth University is an equal opportunity/affirmative action employer. Women, minorities, and persons with disabilities are encouraged to apply.

Wisconsin

■ The department of actuarial science, risk management, and insurance at the Wisconsin School of Business invites applications for tenure-track faculty positions effective Fall 2014. Qualified candidates are expected to hold a PhD in economics, risk management and insurance, actuarial science, statistics, or related fields prior to the start of the academic appointment. Please click the Position Vacancy link on the website www.bus.wisc.edu/asrmi for details. University of Wisconsin School of Business is an EOE.

■ Lawrence University, Appleton, WI. Assistant professor of statistics (tenure-track) starting September 2014. A PhD in statistics or closely related field required by August 2014. Lawrence University is a highly selective liberal arts college with an enrollment of 1,500 students. For more information and to apply, visit www.mathjobs.org/jobs/jobs/4779. Apply by 10/18/13. Open Until Filled. EOE.

Division of Biostatistics
School of Public Health - University of Minnesota

ASSISTANT/ASSOCIATE/FULL PROFESSOR OF BIOSTATISTICS

The Division of Biostatistics, School of Public Health, at the University of Minnesota is announcing openings for two tenured or tenure-track faculty positions at the Assistant, Associate, or Full Professor rank.

We are especially interested in individuals with academic and research records in (1) the development of innovative approaches, methods, and software for the manipulation and analysis of “big data” in the biomedical sciences, (2) methods for survey sampling small area estimation, or (3) structural equation modeling (SEM), causal analysis, and other methods useful for accounting for latent factors in observational data. We will however consider applications from candidates in other important related research areas, as well as those with PhDs in areas besides biostatistics or statistics.

The Division has significant strengths in the broad areas targeted by this search. Current research in statistical methodology includes causal modeling, adaptive clinical trials, statistical genetics and bioinformatics including genomics and proteomics, analysis of spatial and longitudinal data, medical imaging methods, Bayesian methods, computer-intensive methods such as Markov chain Monte Carlo, survival analysis, and statistical data mining. Our faculty’s methods grants complement our large, more collaborative research projects with investigators in the University’s Academic Health Center.

At the present time, the Division has statistical and data coordinating centers for NIH-funded clinical trials networks in HIV/AIDS, other infectious disease, and in lung and cardiovascular disease. The Division also collaborates actively on research in cancer prevention and treatment, dentistry and periodontology, psychiatry/psychology, environmental and occupational health, health policy, chronic and neurodegenerative diseases, and smoking prevention. Multi-year grants and contracts for various Divisional projects total over \$53 M.

Applications received before **November 15, 2013** will be given first consideration for an interview. However we will continue to accept applications until the positions are filled.

The Division of Biostatistics (www.sph.umn.edu/biostatistics) currently includes 33 graduate faculty and 65 staff. The Division offers MS, MPH, and PhD degrees as well as a Certificate in Applied Biostatistics, and interacts in teaching, advising and research with the University of Minnesota School of Statistics.

A successful candidate will also be responsible for teaching and advising students at the graduate level. At the present time, the Division has 72 graduate students (39 MS and 33 PhD). The salary range for these faculty positions will be very competitive, and the University of Minnesota offers excellent fringe benefits.

Applicants should submit a cover letter, current curriculum vitae, and the names of at least three references online at <http://employment.umn.edu/applicants/Central?quickFind=113880>. Please reference requisition # 186416. In addition, a letter of recommendation from each of the three references should be sent to: Biostatistics Search Committee, Division of Biostatistics, A460 Mayo Building, MMC 303, 420 Delaware Street SE, Minneapolis, MN 55455. For questions contact Megan Schlick (megana@biostat.umn.edu).

The University of Minnesota is an equal opportunity educator and employer.

■ The departments of biostatistics & medical informatics and population health sciences at the University of Wisconsin (Madison) School of Medicine and Public Health seek applicants for a joint faculty position at the (tenure-track) assistant or (tenured) associate rank. PhD in statistics, biostatistics, or related field and expertise in clinical investigation, epidemiologic studies or health services research is required. Additional information found at www.ohr.wisc.edu/WebListing/Unclassified/PVLSummary.aspx?pvl_num=74852. UW-Madison is an equal opportunity/affirmative action employer. We promote excellence through diversity and encourage all qualified individuals to apply.

International

Moscow

■ Faculty Positions in Science, Technology, and Innovation. Skolkovo

Institute of Science and Technology (Skoltech), Moscow, Russia. Seeking candidates in science and technology for tenured and tenure-track positions to begin early 2014 or thereafter. Established in collaboration with MIT, Skoltech integrates strong graduate educational programs and cutting-edge research with an ecology of innovation and entrepreneurship. Visit www.skoltech.ru/faculty for more information and application details. Application deadline: 12/15/13. EOE.

Ontario

■ Actuarial Science - Open Positions. Tenure-track or tenured positions in actuarial science. PhD in area of actuarial, statistical or mathematical sciences; research in actuarial science or related disciplines. Professional actuarial qualifications and experience an asset. Good teaching and communication skills. Apply through MathJobs (www.mathjobs.org/jobs). Requirements

include cover letter, CV, research/teaching statements, up to three reprints/preprints, and at least three reference letters. Closing: November 15, 2013. www.mathjobs.org/jobs. University of Waterloo is an EOE.

Qatar

■ Applications are invited for a teaching-track faculty position at Carnegie Mellon Qatar in Education City, Doha. This position emphasizes undergraduate teaching primarily, but also involves a combination of course development and/or research. All areas of statistics are welcome. See www.stat.cmu.edu (email: hiring@stat.cmu.edu). Send CV, relevant transcripts, teaching statement, and three recommendation letters to Search Committee, Statistics, Carnegie Mellon University, Pittsburgh, PA 15213 or hiring@stat.cmu.edu. www.stat.cmu.edu. Women and minorities are encouraged to apply. AA/EOE. ■

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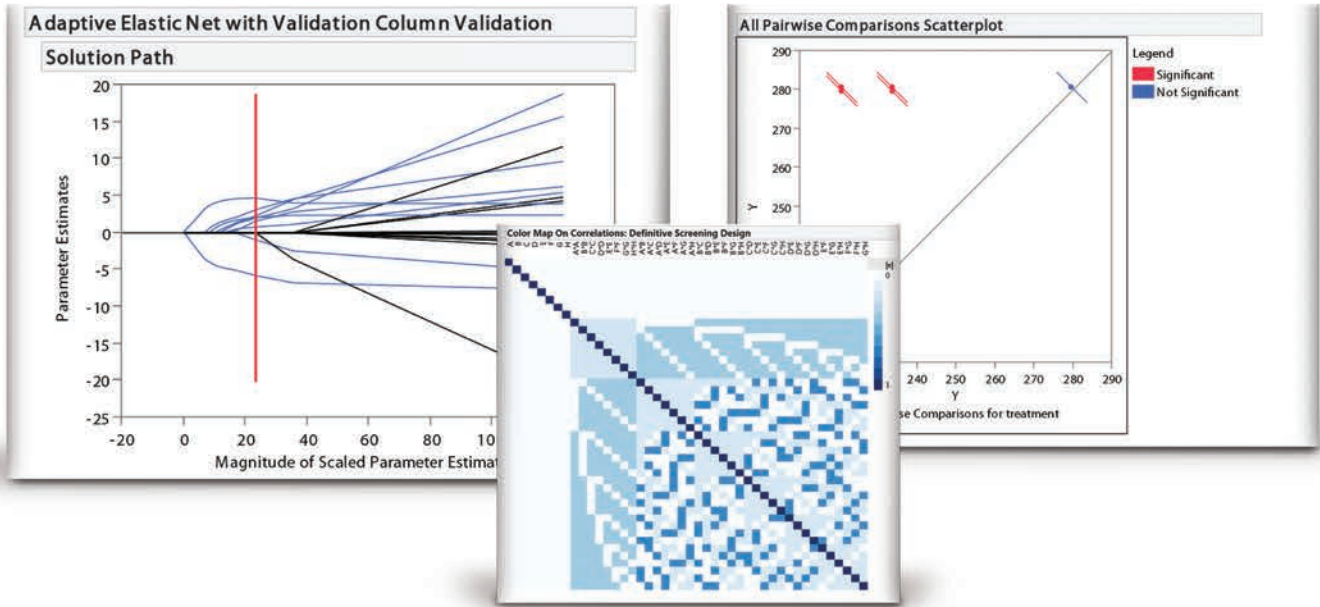
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- Time Series Analysis
- Design of Experiments
- Consumer and Market Research Methods
- Categorical Data Analysis
- Reliability and Survival Analysis
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