

September 2011 • Issue #411

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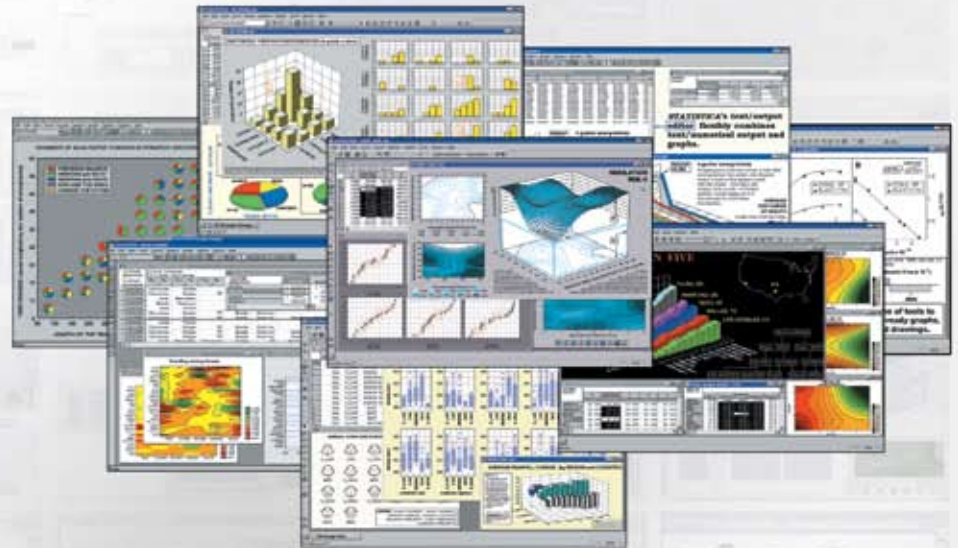
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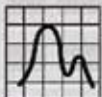
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The American Statistical Association is the world's largest community of statisticians. The ASA supports excellence in the development, application, and dissemination of statistical science through meetings, publications, membership services, education,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

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There are many routes a statistician can take to reach an area to study. In an effort to get to know these routes, we asked a few ASA members to answer questions about the paths they took to get where they are today.



## 25 The Summer Internship Partnership of ASA and Novartis Oncology: A Multi-Win Endeavor

The American Statistical Association and Novartis Oncology summer internship partnership is a win-win relationship. William Mietlowski, a biometrical fellow who has coordinated the internship program for Novartis Oncology, discusses the selection process, as well as internship projects and activities.

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Web and business analytics are two areas that are becoming increasingly popular. Vincent Granville, founder of AnalyticBridge, demonstrates how a new type of statistician is critical to optimizing these "big data" business applications.

## 33 How Not to Get Lost in Translation: Tips for Communicating with International Peers

Many statisticians are working alongside colleagues from different countries, though it is not always easy to understand people from different backgrounds. Yoko Adachi, research associate at Kitasato University, offers advice about how to work with international peers.

# column

## 35 STATtr@k How to Get the Job You Want as a Statistician

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](mailto:megan@amstat.org).



Helms

Contributing Editor

Ronald W. Helms is the chief scientific officer and co-founder of Rho, a contract research organization based in North Carolina, and professor emeritus of The University of North Carolina Department of Biostatistics.

## Online Articles

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

### Good Mentors Are Around Us: Seek Them Out

Anyone can be a mentor, however it takes hard work to train future problemsolvers. A mentor is an excellent listener; he or she listens with the intent to understand and share experiences the person being mentored can use. Sastry Pantula, head of the Division of Mathematical Sciences at the U.S. National Science Foundation, offers advice and shares ways to become a great mentor at <http://magazine.amstat.org/blog/2011/08/11/mentors>.

### Member Spotlights Wanted

The managing editor of *Amstat News* is searching for ASA members who are willing to put themselves in the spotlight and write a brief article about their life, to be published in an upcoming issue. For information, visit *Amstat News* online at <http://magazine.amstat.org/blog/2011/08/01/member-spotlights-wanted>.

**The ASA is home to several groups that reach out to members** with common activities and interests who don't fit into the traditional chapter or section structures. To learn about these groups, visit [www.amstat.org/outreachgroups/index.cfm](http://www.amstat.org/outreachgroups/index.cfm).

## What Has Ron Done for Us Lately?

**R**on? Who is Ron? Ron Wasserstein, the executive director of the ASA, of course. In many ways, he's the silent partner, sometimes the silent leader, and the person who implements many of the initiatives we undertake.

Ron has been active in promoting the practice and profession of statistics, and the past year has been no exception. Among many other things, he has had four huge projects come to fruition. The accreditation of statisticians first came before the ASA Board of Directors at JSM in 2009, with guidelines for accreditation approved in June of 2010. A pilot test was declared successful in January of 2011, and the program of voluntary individual accreditation has been under way since then (see [www.amstat.org/accreditation/index.cfm](http://www.amstat.org/accreditation/index.cfm)). Statisticians now have the option to be accredited, and more than 100 members already proudly display PStat® after their name.

Ron also facilitated the initiation and planning of the first Conference on Statistical Practice, which was described in the May 2011 president's invited column (see <http://magazine.amstat.org/blog/2011/05/01/presinvitedmay1>). This conference will be held February 16–18, 2012, in Orlando, Florida. Aside from being an educational experience, it will provide an excellent opportunity for members to network. Details can be found at [www.amstat.org/meetings/csp/2012/index.cfm](http://www.amstat.org/meetings/csp/2012/index.cfm).

A third major achievement is the completion of successful negotiations for publication of our journals by a single publisher. After evaluation of responses to a request for applications by a subcommittee of the board of directors, Taylor & Francis's

offer was accepted as the one that would give the ASA the best advantage. The publishing partnership will begin in 2012.

The fourth major achievement is enabling the creation of STATtr@k, the ASA website dedicated to students and young professional statisticians. STATtr@k was launched in March and features articles and advice for beginning professionals about careers and transitions from being a student to taking various jobs (see <http://stattrak.amstat.org>).

Ron often serves in an ex officio capacity on work groups and committees that the board of directors sets up. For example, he is facilitating the planning of our 175th anniversary, which will occur in 2014. The 175th anniversary theme is "Celebrate Our Past, Energize Our Future," and planning is already under way by a steering committee appointed by President-elect Bob Rodriguez and chaired by Vice President Christie Chuang-Stein. Ideas are being solicited for events to be held during the 175th anniversary year, especially at the annual JSM in Boston. If you have ideas, you are welcome to contact members of the committee (see [www.amstat.org/committees/commdetails.cfm?txtComm=ABTORG08](http://www.amstat.org/committees/commdetails.cfm?txtComm=ABTORG08)). Plans also are under way for an International Year of Statistics (IYStat). Several statistical societies will join in this celebration, and Ron will coordinate the ASA's contributions.

Much of the work Ron does gives the ASA presence in the broader statistics and mathematics communities. Internationally, he has facilitated networking with the Royal Statistical Society, leading to our partnership with them on *Significance* magazine, another benefit for our members. We network



Nancy Geller

as well with the International Statistical Institute (ISI) and various international organizations such as the International Chinese Statistical Association, International Indian Statistical Association, and Statistical Society of Canada. Several of us will attend the ISI meetings in Dublin later this month and participate in various activities.

Within the United States, we are members of the Conference Board of the Mathematical Sciences and the Joint Policy Board for Mathematics (JPBM). These boards discuss broad topics, with presentations, for example, from the Office of Science and Technology Policy, reports and discussions about the future of journals in this ever-more electronic age, and even the Museum of Mathematics, which will open in New York City in 2012 (see <http://momath.org>).

JPBM oversees the annual Mathematics Awareness Month, held every April. Each year, one

of the member societies selects the theme and is the lead participant in making materials available. In 2012, the ASA will be the coordinating organization and the theme will be "Mathematics, Statistics, and the Data Deluge." Many activities for Mathematics Awareness Month are local, with a general theme, poster, and online materials available in January. (See <http://mathaware.org/about.mam.html> for links to past themes and activities.)

Ron would say it is the volunteering members and excellent staff who do all this work, but he plays a central role. The ASA is fortunate to have an executive director who is so active, personable, and creative. Indeed, Ron has done a lot for us lately!

*Nancy L. Geller*



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# Cytel

# Margaret Martin: A Leader in the Federal Statistical System

Melissa Muko, ASA Graphic Designer/Production Coordinator

**M**argaret E. Martin is both an economist and statistician by professional and academic training. Throughout her career, she was known for her leadership and contributions to the federal statistical system.

In 1933, Martin graduated from Barnard College with a bachelor's degree in economics. After Barnard, Martin entered graduate school at Columbia University, where she went on to receive both an MA and PhD in economics.

With the United States in the midst of the Great Depression, jobs were scarce when Martin graduated from Barnard. She contemplated going to secretarial school or becoming a teacher of economics, but it was an occupation office from Barnard that encouraged her to take a government examination. After a few years of brushing the announcements for examinations to the side to focus on graduate school and fellowships, Martin finally took a New York State examination.

In 1938, Martin was hired by the New York State Division of Placement and Unemployment Insurance as a junior economist in the office of research and statistics. The agency had been set up as part of the New Deal, a series of economic programs that focused on relief, recovery, and reform implemented in response

to the Great Depression. It was here she learned statistics from the ground up. Martin's first assignment was the industrial and geographic classification of employers covered in the unemployment insurance system. Her job was to classify the establishments and then review the accuracy of reports and write analyses of the data.

During World War II, the War Manpower Commission (WMC) was established. It took over the research and statistics offices of the different state unemployment insurance agencies and ran the rationing of the labor force for the country. Martin was offered a higher-paying job at the WMC and moved on to become a senior economist, interviewing employers about whether they had a sufficient labor force and what they were doing to economize on that labor force.

In late 1942, Martin was recommended for a position at the U.S. Bureau of Budget's (now the Office of Management and Budget) Division of Statistical Standards (DSS) (now the Office of Statistical Policy). At DSS, she was responsible for the improvement and coordination of statistics and the review and approval of forms. After accepting the position, Martin moved from Albany, New York, to Washington, DC, and began her career with the federal government.



Margaret Martin, February 1983

### Did You Know ...?

Martin's elementary school teacher was Clara Eliot Raup, Joan Rosenblatt's mother.

February 5, 2005, was declared "Margaret Martin Appreciation Day" by the ASA.

### The Current Population Survey

Martin was involved in the early development of the Current Population Survey (CPS). The Works Progress Administration (WPA)—a New Deal agency—developed the survey and, by 1940, was producing estimates of employment and unemployment that differed from any other estimates of employment obtained from establishment statistics. The government needed to decide if it would publish the results.

DSS hired Gladys Palmer, a research professor of economics at the University of Pennsylvania who had experience with local labor market surveys and analyzing demographic data, as a consultant to deal with the issue. Palmer led a meeting composed of representatives of concerned federal agencies to determine whether this new type of statistics should be accepted. After months of discussion, the group finally agreed to recommend publication and the Monthly Report on the Labor Force (MRLF) was available for general use.

Shortly after, an unexpected situation arose. Production demands from WWII were reducing the number of unemployed so quickly that federal government assistance was no longer needed. The WPA was on the verge of being disbanded. Now the question was, should the MRLF be saved and, if so, by

whom? Palmer was brought in again to lead a meeting concerning which federal agency should take over the survey. After much debate and compromise, it was decided that the Census Bureau would operate the survey, but the interests of the other departments would be protected by setting up two committees: a policy committee of the secretaries of agriculture, commerce, and labor and a supporting technical committee. Chaired by Palmer, the technical committee went on to develop the CPS.

Martin actively worked with a subcommittee under Palmer's technical committee. One of their main concerns was trying to understand and explain differences between estimates of employment based on population and payroll samples and between unemployment estimates and the numbers claiming unemployment insurance. Martin prepared a statement on the differences between the household survey and the establishment survey on level, trend, and seasonal patterns. When differences were found, the committee resolved them by adding questions, such as whether persons were on paid or unpaid leave, to the CPS.

The survey was refined and enlarged several times as its focus changed from unemployment during the Great Depression to employment after World War II. Currently, the CPS is the primary source of information on the labor force characteristics of the U.S. population. The data retrieved from the CPS are used by government policymakers and legislators as indicators of the nation's economic situation and for planning and evaluating government programs. Today, the CPS is one of the most well known and widely used of all continuing federal household surveys. Approximately 50,000 households participate in the monthly survey.

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## A Presidential Committee

In September of 1961, *Reader's Digest* published an article criticizing the nation's employment and unemployment statistics because unemployment had not declined as expected after the recessions of 1954 and 1958. The article claimed that the statistics were inaccurate and that the Labor Department had manipulated the figures in support of President John F. Kennedy's social welfare program.

Wanting an investigation of the charges, Kennedy appointed an outside committee—the President's Committee to Appraise Employment and Unemployment Statistics—to review the statistics, define what the problems were, and make a public report. Martin was assigned to work for the committee half time.

Since the committee was small, Martin did much of the research herself. She collected reports from the major federal agencies concerned with either developing or using the various employment and unemployment series and asked them to prepare papers on their use, needs, and criticisms and/or recommendations for improvements. In 1962, a full report was delivered to Kennedy.

Both the committee and the Joint Economic Committee (JEC) had hearings on the issues and the report. The JEC invited the author of the *Reader's Digest* article to testify at the hearings, but he refused to appear. It was found that the statistics had not been manipulated and the president and statistical agencies were cleared. In 1968, Martin received the Director's Exceptional Service Award, Bureau of the Budget, for her efforts with the report.

## An Accomplished Career

After 30 years of service, Martin retired from the U.S. Office of



Martin at the 2009 Joint Statistical Meetings in Washington, DC

Management and Budget. Her final position was assistant chief of the Statistical Policy Division, in charge of labor and income statistics. In that role, she became well known for evaluating agency proposals for collecting relevant data and coordinating their efforts toward obtaining the best available information, maintaining reasonable limit burdens on respondents, and controlling expenditures for such activities. In addition, she was active in numerous special committees, both in the U.S. and abroad, and had a strong influence on U.S. economic policies. After her retirement from the government, Martin was honored by the heads of numerous agencies for her long-term significant contributions to data-collection systems concerning labor and income statistics.

In 1973, after retiring from the DSS, Martin started a new job as the first executive director of the newly formed Committee on National Statistics (CNSTAT) of the National Academy of Sciences' National Research Council. She retired from that position in 1978, but continued to work with the committee as a senior research



Martin (left) with Helen Walker—ASA president, 1944—at the 1980 Joint Statistical Meetings in Houston, Texas

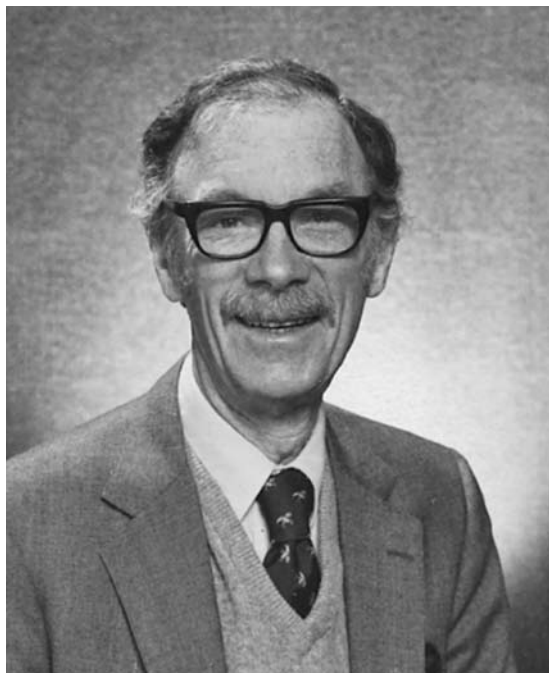
associate and then as a consultant, contributing to CNSTAT projects such as the Survey of Income and Program Participation and sharing research data.

In addition to her career responsibilities, Martin volunteered her time to several ASA posts. She is a Fellow of the ASA, was president of the Washington Chapter in 1957 and 1958, and served as the 75th president of the ASA in 1980. Martin was also a co-chair of the ASA Building and Development Fund campaign, which helped raise enough money to purchase the first ASA headquarters building in Alexandria, Virginia. She also helped develop a manual of policies and procedures, pulling together the constitution; bylaws; and various recommendations, policies, and actions that the board had taken over the preceding 20 years into a manual to hand to new ASA officers each year. In 1989, she received the first-ever Founders Award.

Martin was also an elected member of the International Statistical Institute, an honorary lifetime member of the board of the Council of Professional Associations on Federal Statistics, and chair of Section U (statistics) of the AAAS in 1986. ■

# A Conversation with Monroe Sirken—His Early Career

Barry I. Graubard, Paul S. Levy, and Gordon B. Willis



Monroe Sirken, 1980

This is an excerpt from the original article “A Conversation with Monroe Sirken,” published in *Statistical Science* in 2007.

The interviews conducted by Barry Graubard, Paul Levy, and Gordon Willis took place in three sessions at the National Center for Health Statistics during the spring of 2006. Nearly the entire excerpt is from the initial interview conducted by Graubard on Monroe’s early career. Subsequent interviews on later stages of Monroe’s career were conducted by Levy and Willis. The complete conversation is available for downloading from the Cornell University website at <http://arxiv.org/abs/0804.3244>.

Born January 11, 1921, in New York City, Monroe Sirken grew up in a suburb of Pasadena, California. He earned BA and MA degrees in sociology at the University of California at Los Angeles in 1946 and 1947 and a PhD in sociology with a minor in mathematics in 1950 at the University of Washington, where Z. W. Birnbaum was his mentor and thesis advisor. As a postdoctoral fellow of the Social Science Research Council, Monroe spent 1950–1951 at the statistics laboratory of the University of California at Berkeley and the office of the assistant director for research at the U.S. Bureau of the Census in Suitland, Maryland.

Monroe visited the Census Bureau at a time of great change in the use of sampling and survey methods and decided to remain. He began his government career there in 1951 as a mathematical statistician and moved to the National Office of Vital Statistics (NOVS) in 1953, where he was an actuarial mathematician and mathematical statistician. He has held a variety of research and administrative positions at the National Center for Health Statistics (NCHS), and he was the associate director of research and methodology and the director of the office of research and methodology until 1996, when he became a senior research scientist. He retired from that position in 2011.

Aside from administrative responsibilities, Monroe’s major professional interests have been conducting and fostering survey and statistical research responsive to the needs of federal statistics. His interest in the design of rare and sensitive population surveys led to the development of network sampling that improves precision by linking multiple selection units to the same observation units. His interest in fostering research on the cognitive aspects of survey methods led to the establishment of permanent questionnaire design research laboratories, first at NCHS and later at other federal statistical agencies here and abroad.

Monroe has been active in serving the statistical community. He has served on many committees of the American Statistical Association and the Washington Statistical Society (WSS). A charter member of the Federal Committee on Statistical Methodology (FCSM), he has chaired its research subcommittee that oversees a grants program in statistical and survey research that is funded by a consortium of federal statistical agencies and administered by the National Science Foundation. He is a Fellow of the American Statistical Association and the American Association for the Advancement of Science and is an elected member of the International Statistical Institute. He is a recipient of the Public Health Service Superior Service Award, the ASA WSS Roger

Herriot Award for Innovation in Government Statistics, and the Federal Committee on Statistical Methodology distinguished service award.

**Graubard:** Then you went to the University of California, Los Angeles. Why that school?

**Sirken:** Well, I never considered going elsewhere. UCLA was virtually free for California high-school graduates with good grades. As I recall, UCLA tuition my first semester in September 1938 was \$29 plus \$4 for a student membership card that entitled me to admission to all UCLA sports events. Another financially related reason is, like most students attending UCLA at that time, I couldn't afford to live on campus and UCLA was close enough to where we lived that I could commute. Foremost, I thought UCLA was a great university.

**Graubard:** I believe that your BA and MA were in the social sciences and I wonder how you became interested in statistics and mathematics.

**Sirken:** I earned my bachelor's in sociology in 1946 and, the following year, my master's in anthropology and sociology. How I became interested in statistics is a longer story. I began UCLA as a pre-med major with intentions of going to medical school, but during my sophomore year, I contracted tuberculosis. After recovering my health, about three years later, I returned to UCLA in 1943. In my financial situation, it was unrealistic to think of medical school. So, I changed my major to sociology, thinking that I might become a social worker. However, some faculty in the sociology department encouraged me to think about becoming a sociologist and advised me to take as much mathematics as possible. About 1945, I took my first course in mathematical statistics from Paul Hoel.

**Graubard:** Why didn't you stay at UCLA for your PhD?

**Sirken:** Well, for one thing, students were not encouraged to get the PhD at the same universities at which they were undergraduates. However, the more important reason is that I had become quite interested in quantitative sociology and UCLA did not offer that kind of graduate program at the time. I was awarded a fellowship in the sociology department at the University of Washington, which my UCLA advisors said was strongly quantitatively oriented.

### University of Washington

**Graubard:** So what department did you actually end up in at the University of Washington?

**Sirken:** I started out as a teaching assistant in the sociology department. But one of the greatest strokes of good fortune in my professional life occurred after I arrived in Seattle.

In 1947, the math department at the University of Washington offered a two-year sequence of graduate courses in statistics, and the person in charge of the program was Professor Z. W. Birnbaum. I was unsure that I qualified, so I went over to (Bill) Birnbaum and described my background in math and statistics and my interests in quantitative sociology. To make a long story short, he accepted me and I took the courses he offered and did very well.

He was an excellent instructor who took an interest in his students. On the final day of the last class in the sequence, the students presented Bill with a gold-plated multicolor pen with the inscription "nature is not vicious" because that was the phrase he often used when the math got really complicated. When Bill died, his daughter told me that she found the inscribed pen on top of his desk.

In 1948, Birnbaum offered me a job as a research assistant in his newly established statistics laboratory, which I accepted. However, I had already accepted a position as a research assistant in the newly formed Washington Public Opinion Poll (WPOL), which was housed in the sociology department, where I was becoming acquainted with sampling and sample survey methods. So during 1948, I had distinct appointments in the sociology and mathematics departments, which I believe was quite unusual at the time and may have been illegal.

**Graubard:** I suppose that kind of interdisciplinary-type work would be encouraged now; back then, it must have been pretty unusual.

**Sirken:** Yes, I believe it was quite unusual in those days. I was just plain lucky to be in the right place at the right time. It happened because George Lundberg, chair of the sociology department, encouraged interdisciplinary research at the intersection of the social and mathematical sciences, and Z. W. Birnbaum was willing to take a chance on a social scientist.

I worked in Bill's laboratory for two years and wrote my thesis under his direction. Bill taught me how to think in terms of statistical models. That was an invaluable gift.

### Postdoctoral Fellowship and First Job

**Graubard:** What was your first position after getting the PhD?

**Sirken:** In the fall of 1950, I headed to the Statistics Laboratory at the University of California, Berkeley. I had a Social Science Research Council Postdoctoral Fellowship and was planning to spend most of the next 12 months at Berkeley. I took courses from Jerzy Neyman and Erich Lehman

and consulted while there with Ed Barankin. I left Berkeley in June 1951.

**Graubard:** After working at Berkeley for eight or nine months, what did you do?

**Sirken:** I was pretty sure that I wanted to learn more about sampling and survey research, and what better place to get that kind of experience than at the U.S. Census Bureau? So I continued my fellowship there.

**Graubard:** Whom did you work with at the Census Bureau?

**Sirken:** Well, I was located in Morris Hansen's office. The staff included really outstanding people such as Bill Hurwitz, Joe Daly, Max Bershad, and Margaret Gurney. These people were part of the central staff, and there were others also technically responsible to Morris who worked throughout the bureau, including Joe Steinberg, Joe Waksberg, and

Harold Nisselson. However, I was mostly involved with a small group of survey methodologists, including Eli Marks and Leon Pritzker.

**Graubard:** What made you leave the Census Bureau and work at the National Office of Vital Statistics? (NOVS)

**Sirken:** It wasn't my decision. There was a Reduction in Force (RIF) throughout the government soon after Dwight Eisenhower moved into the White House. I didn't have tenure at the bureau and was RIF'd in 1953. A couple of months later, Morris Hansen got me a job at NOVS, which was quite a feat in view of the government-wide employment freeze. Well, Hansen and Halbert Dunn, the director of NOVS, were old friends and Hansen apparently convinced Dunn I was a competent actuarial mathematician. Later, when Dunn interviewed me, I noted my very limited

knowledge (virtually none) in actuarial science, and luckily he thought I was being modest.

**Graubard:** What did you do after you finished the life table assignment, and who did you work with?

**Sirken:** Unlike the U.S. Census Bureau, where most national population data are collected periodically in censuses, at NOVS, national vital statistics (births, deaths, marriages, and divorces) are compiled as by-products of information reported on vital records. Because vital records serve primarily as legal documents, the information reported on vital records is necessarily limited and virtually changeless. I had an understanding with Dunn that, after completing the life tables, I would work on sample survey methods to improve vital statistics. Just after the life table project was completed, I had a chance to do just that when Bill Haenszel, a well-known epidemiologist at the National Cancer Institute (NCI), proposed a collaborative research project in which NOVS would design and test sample survey methodologies to collect retrospective residence and smoking histories for samples of deceased persons from their surviving relatives.

With funding support from NCI, a small statistical unit that included Mort Brown, Jim Pifer, and me was established in NOVS to conduct Haenszel's pilot study. Soon after the successful completion of that pilot, NOVS established a long-range research sample survey program to expand the scope and improve the quality of vital statistics by conducting retrospective sample surveys linked to birth and death records.

**Graubard:** So you were using the idea that people like Hanson had promoted at the Census Bureau that by sampling you could expand the scope and improve the quality of vital statistics.



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**Sirken:** The NOVS survey program was sustained by conducting work for other government agencies. For example, Haenszel expanded the lung cancer pilot study into a national mortality survey and arranged with the bureau to collect information on smoking and residence histories for the national population in the Current Population Survey (CPS). Thus, we were able to estimate national lung cancer death rates by smoking habits and residence histories. As I recall, these findings were cited in the first report of the Surgeon General on smoking and health.

**Graubard:** And actually that's one of the first examples of a population-based case-control study, where the mortality follow-back survey provided exposure and other covariate information for the lung cancer cases and the CPS provided these variables for the control sample of the population at risk.

**Sirken:** Exactly. I have always felt that the linked mortality/population sample survey methodology deserves more attention than it has received from epidemiologists.

**Graubard:** Weren't you also involved in designing other surveys for federal health agencies?

**Sirken:** Yes. NOVS developed the methodology of the follow-back surveys linked to birth records, and with funding from the Division of Radiological Health, U.S. Public Health Service, conducted the first national natality survey on the exposure of pregnant women to medical radiation. With funding from the U.S. Public Health Service, NOVS contracted with the Census Bureau for CPS supplement on the population's utilization of the Salk vaccine. Using data from the CPS polio supplement, NOVS produced the first national statistics on the utilization and effectiveness of

the Salk vaccine. Thereafter, the Public Health Service often used the CPS supplements to monitor the immunization status of the national population.

On another occasion, the U.S. Children's Bureau asked NOVS to conduct a survey on the prevalence of cystic fibrosis, a debilitating and often lethal pediatric disease, and to do so within something like 100 days in order to comply with a congressional request. An unexpected estimation problem in that medical provider survey ultimately led to the development of a new kind of sampling called network sampling. These were very exciting days, when the findings of the NOVS sample surveys were used in real time to address important public health problems.

**Graubard:** When and why did you leave NOVS?

**Sirken:** In 1960, NOVS was merged with the National Health Survey (NHS) to form the National Center for Health Statistics (NCHS). Without any action on my part, I became a charter member of the NCHS.

**Graubard:** What kind of place was NCHS in those early days?

**Sirken:** A very exciting place. Forrest Linder was a good administrator and had the vision of developing a family of national data systems that intersected all important health-related activities of the population that would be capable of meeting the increasing needs for national health and vital statistics. ■

To continue reading about Sirken's innovative work on network sampling, integrated survey design, cognitive aspects of survey methodology, and the funding opportunity in survey research, download the complete version of "A Conversation with Monroe Sirken" at <http://arxiv.org/abs/0804.3244>.

## Postscript ...

### What have I been doing since retirement?

I officially retired from the National Center for Health Statistics at the end of January 2011. However, I continue to be listed on the NCHS roster as "expert without compensation," which I believe gives me about the same status as being emeritus. So far, I have chosen to spend most of my time finishing projects that were interrupted by my retirement. Within the next few months, however, I'm planning to ease myself into a semi-retirement by taking courses offered by the community college and taking more trips offered by my senior residence community to theaters and nearby points of interest.



Sirken

### Advice to statisticians with recent PhDs

Whether you would prefer to work in the private, government, or academic sectors, work experience in all three sectors will broaden your knowledge and expand your professional networks and thereby help to advance your career. From personal experience, I can strongly recommend that you seriously consider government as the sector in which to start your career.

### Advice for those currently working or interested in working in survey research

Because survey research is multidisciplinary involving the behavioral, cognitive, computer, and statistical sciences, it will be to your advantage to have multidisciplinary training and experience in conducting interdisciplinary survey research. If your training is in the statistical and/or computer sciences, expand your knowledge in the behavioral and cognitive sciences; if your training is in the behavioral and/or cognitive sciences, expand your knowledge in the statistical and computer sciences. Positions at NCHS and other federal statistical agencies offer excellent opportunities to participate in interdisciplinary survey research projects.



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# Fritz Scheuren: Human Rights Volunteer and Mensch

Megan Murphy, ASA Communications Manager

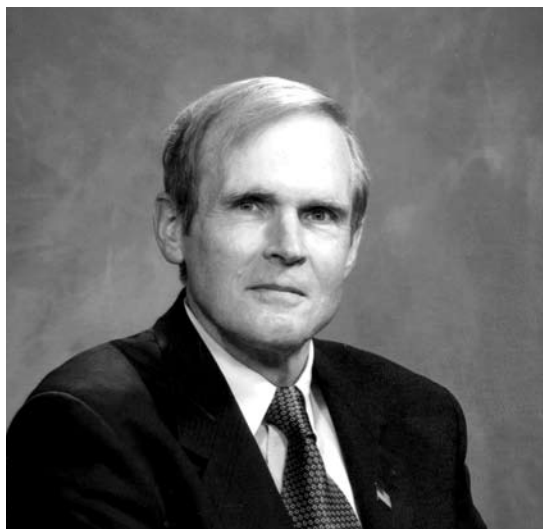
During his ASA presidential address, Fritz Scheuren said he needed to focus his presidency on a theme, so he chose the line “use our discipline to enhance human welfare,” which comes from the ASA mission statement. It is easy to see why he decided on this expression as the aim of his administration—it is also his life’s dictum. His commitment to improving the lives of others is evident through his human rights projects, volunteer work, and leadership activities.

Perhaps he is dedicated to helping people because, despite having a loving family, Scheuren’s childhood was difficult. Growing up in Boston, Massachusetts, he lived in the projects with his mother, Kathryn, and sister, Marie, and attended Boston College High School. Every day, he walked across a dump to get to school, and those were the days when open burning was still permitted. “I enjoyed school,” he said, “but because of my poverty and where I lived, it was also challenging.”

After high school, Scheuren thought he wanted to become a teacher, so he attended Tufts University and majored in English literature. By the time he graduated, however, he didn’t think he was developed enough as a person to teach, so he looked for a technical job. Eventually, he was recruited to work as a management intern for the Internal Revenue Service (IRS). “They wanted to hire a statistician, and because I was not one, they paid for classes,” he explained. “I immediately began taking statistics courses at The George Washington University (GWU), and after nine years of night school, I eventually earned my PhD.”

Scheuren saw how his work as a statistician could help others when, in 1966, he helped develop—along with Staunton Calvert and Jim Smith—the first IRS estate multiplier estimates. “The estimates,” he said, “looked at the wealth of the rich. Paradoxically, that made me realize how big was my survivor’s guilt for escaping the projects. So, I joined Smith at the Office of Economic Opportunity (OEO) and began working on the War on Poverty—the other war we lost in that era.”

While he was at the OEO, Scheuren went to work part time for the Social Security Administration (SSA), assessing the results of large-scale surveys. “I became fascinated by the measurement of income in large-scale surveys, and SSA was the place to be in those days,” he said. “Molly Orshansky, who developed the first U.S. credible poverty estimates, was



Fritz Scheuren

also there at the time.” In 1973, Scheuren started working full time at the SSA and, with his team, produced a landmark series of 11 volumes on inter-agency data linkages. In 1979, he became SSA’s chief mathematical statistician.

Despite his success at the SSA, Scheuren applied to become the director for statistics at the IRS—now the Statistics of Income Division (SOI). “When they asked me why I wanted to return to the IRS, I just blurted out, ‘I want to go home.’ Ironically, I was not prepared for that obvious question! So, it came out unrehearsed and won me the job, I am sure.”

As the longtime director of SOI, Scheuren transformed the organization and revitalized the program. “I had a great group of colleagues on my team, such as Tom Petska, Mike Leszcz, and Susan Hinkins,” Scheuren said. “The biggest technical problem we overcame was achieving transparency while maintaining statistical disclosure protection. A second success was in achieving growing interagency cooperation, this time in support of the Federal Reserve Board’s Survey of Consumer Finances (SCF). Supporting the SCF was another way for me to study the U.S. tax/transfer system and the nature of U.S. income/wealth inequality.”

Scheuren was recognized for his efforts at SOI in 1995, when he was given the Shiskin Award in Economic Statistics for breaking ground in the construction of microeconomic files.



John Scheuren stands with Fritz and his grandsons (from left), John and James, in Boston, 1987.



Fritz Scheuren and his sister, Marie, 1946

reports? "Because statisticians provide objectivity to settings dominated by advocates," said Scheuren. It was Spirer who later told him one of the major downfalls of advocacy is overstatement.

Although Scheuren participated in many human rights projects, it was while sitting behind a computer. But in 1999, he got out from behind his desk and traveled to Albania to help count refugees fleeing from the former Yugoslavia. Patrick Ball, then at the AAAS, was going to Kosovo to survey the refugees and Scheuren asked if he could help. When they arrived, people were streaming across the Albanian border, yet the guards were unperturbed. "One of the border guards had loose sheets of paper in his hands on which he was writing down the family names and counting the members of each group as they went by," Scheuren recalled. "When he saw us looking at him, he raised the registrations over his head, as if he were saying, 'We are in control.' Patrick and I realized that, if we had those records, we could hold the perpetrators accountable. How to get them, then, became the issue."

Scheuren and Ball returned to the states to retrieve several scanners, which Ball took back with him to Albania. Risking his safety, Ball went to the border, secured the records, and scanned them. Those data became the main data set used at The Hague war crime trials.

After Scheuren's work with the refugees in Albania, David Nolle of the U.S. State Department asked him to design a survey of the Afghans in refugee camps in Pakistan. Although Scheuren wanted to go to Pakistan personally, Ruth Citrin, who was in charge of the project, went instead and did the analysis using Scheuren's sampling and data collection design. Scheuren noted in his presidential address that the Afghan survey had to be done quickly and in secret to protect the identity of the contractor and those who did the interviewing.

The refugee camps in Pakistan were complex and held three waves of refugees—some from the Russian invasion of Afghanistan, some from the Taliban takeover, and some from the North Atlantic Treaty Organization bombing. "When you are doing survey quality management in a situation like that," said Scheuren, "there are lots of challenges."

Besides handling the survey in two languages, Nolle and Scheuren faced monitoring the contractors



Fritz Scheuren (left) poses with Patrick Ball of AAAS (right) and statistical consultant Julia Belanger as they depart for the data collection and sampling phase of the survey of Kosovar refugees in Albania, 1999.

### Life of the Pro Bono Statistician

During his presidential address, Scheuren remarked that his initiation into human rights work started with a call from Tom Jabine in 1994. Jabine asked him to participate in an information gathering coordinated by the American Association for the Advancement of Science (AAAS). Scheuren's main role was to read reports about civilian casualties from land mines in Cambodia and tell Herb Spirer from Columbia University whether they made sense. Why was it important for a statistician to read these

from a distance. Six months after the fieldwork was done, they wrote a paper about their experience and presented it at the 2002 Joint Statistical Meetings. The paper also appears in the book *Statistical Methods for Human Rights*, edited by Jana Asher, David Banks, and Fritz Scheuren.

Soon after his presidential address, Scheuren, Jim Cochran, Steve Pierson, and Gary Shapiro formed Statisticians Without Borders (SWB), an apolitical group of volunteer professionals who help international health workers around the world (<http://community.amstat.org/statisticswithoutborders/home>). Since then, the organization has worked on several projects, including collecting economic data for the victims of the Haiti earthquake. Currently, there are more than 200 volunteer statisticians supporting several SWB projects. “None of us has the time, of course,” Scheuren said when asked how a statistician can begin volunteering, “but let’s offer solidarity anyway.”

Human rights issues are a large part of Scheuren’s volunteer work, but as a statistician, he also believes statistical thinking is needed for the election process. “The 2000 presidential election showed me a place where statistics can add value. So I jumped in and slowly learned enough to help.”

Inspired by his wife, Elizabeth, who is an election official in Virginia, Scheuren volunteers as a poll-taker and monitors voting problems and voter behavior in the United States. “If we are going to have better elections,” Scheuren said in his presidential address “statistical thinking is needed in much larger doses, so I ask you, who is there to do that job, if not us real statisticians?”

## The Day Job

Over the years, Scheuren has applied his survey and sampling expertise as a teacher and consultant, but much of his paid work has involved human rights matters as well. In 1999, as senior fellow at the Urban Institute, he was chief author of the National Survey of America’s Families (NSAF) Methodology Series. NSAF was designed to measure the effect of welfare reform on the poor. “This was another landmark project I got to participate in,” Scheuren said. “The main challenges were living up to high-quality standards, but being realistic about what could be accomplished in a world of declining response rates.”

The survey was a major part of the Urban Institute’s assessment of the New Federalism project, with nearly 300 publications on welfare reform and related issues. At the time, Scheuren’s distribution of NSAF data and metadata was considered a near state-of-the-art example of web-distributed statistical public use data sets.

Since 2001, Scheuren has worked as the vice president of statistics at the National Opinion Research Center (NORC) at the University of

## On a Personal Note

**You have written many books and papers. Are you proud of one in particular?**

Usually, the latest one, but the word “proud” needs to be replaced. Another word, “humbled,” fits better. So many wonderful people to meet, things to do! But as one of the lines in a Robert Frost poem goes, “I have miles to walk, before I sleep.” A few I hope, maybe so I can meet those of you who took the time to read this?

**Do you have a favorite book you recommend to others?**

Too many to mention, but okay, two that may not be familiar to statisticians: *Translated from the Japanese: An Introduction to Quality Control* (Ishikawa, 1990) and *The Measure of Reality* (Crosby, 1996).

**Throughout your education and career, what are some of the important things you have learned?**

From my experience, statisticians do not ask questions to get answers (although our clients usually do). What we do, as statisticians, is to search for a better question (and the next surprise that data will give us).

**What activities besides human rights occupy your time?**

I continue to write and speak on the statistical questions of the day. Besides my many statistician friends at NORC, like Susan Hinkins and Ed Mulrow, I continue to learn from the likes of Rod Little, Phil Kott, and Patricia Whitridge.

Chicago. “I went to work at NORC drawn there by another project that was value driven. A book on this is coming out this winter, which is currently titled *The Cobell Indian Trust Case: The Statistical Back Story*.” As part of an interdisciplinary team at NORC, Scheuren evaluates the impact on poverty reduction in other countries under grants from the Millennium Challenge Corporation. So far, he has worked in Armenia, Georgia, Lesotho, and Vanuata.

Whether volunteering his time at the polls or working to enhance human welfare, Scheuren continues to encourage others to get involved. “We American statisticians need to catch up with our times. Too many of us are working on dead problems from textbooks and not ‘getting out from behind the desk,’ as Deming advocated.”

When asked what advice he would give someone interested in becoming a statistician, he said, “Our statistical discipline gives us a set of tools to better live our values. It is not the ‘whole deal’ though. So don’t settle for just being a statistician, be a ‘mensch,’ a complete person.” ■

# Joseph Steinberg: Part of the Golden Age of the Census Bureau

U.S. Census Bureau Interns Ariel Lee, James Madison University, and Greg Boyd, University of Maryland University College



Joseph Steinberg

In 1940, the U.S. Census Bureau entered a period of transition. According to an interview with Edwin D. Goldfield, former chief of the International Statistical Programs Center, the bureau was in the process of offering thousands of positions to “any people [...] on any civil service register” to process the 1940 census. Although positions were temporary and compensation amounted to little, people were simply happy to be employed during the hardships of the Great Depression. This influx of workers brought talent and skills to the Census Bureau that birthed the renowned “Class of 1940” and the beginning of the Census Bureau’s “Golden Age.” Joseph Steinberg was part of this age and among those who changed the world of statistics.

Steinberg had a distinguished career as a public servant and in the private sector. While a public servant, he shared time between the Census Bureau, Social Security Administration (SSA), and Bureau of Labor and Statistics (BLS). Following his time in government, he created his own firm, Survey Design, Inc., where he was president until 1995.

Even considering all of his achievements, Steinberg accomplished the most as a leader and teacher. David Nolle, a sociologist who worked closely with Steinberg, expressed his appreciation for Steinberg’s willingness to explain difficult concepts

and processes in a digestible manner. Nolle consulted with Steinberg for many years on multiple projects, including handling sampling issues related to surveys conducted by the U.S. Information Agency, incorporating nonresponse corrections in specific case studies, and producing unbiased results—without weights—in an overseas contractor’s sampling plan.

Steinberg was a leader in sample design. For example, he was among those involved in formulating the sample design of the Current Population Survey (CPS), a monthly sample survey conducted by the Census Bureau used to obtain estimates and data about characteristics of the labor force. Furthermore, in *Sample Survey Methods and Theory: Volume I*, Steinberg authored a thorough overview of how the monthly CPS operates, in a way similar even today.

Part of what contributed to Steinberg’s success was his use of generalized variance functions (GVFs). Kirk Wolter, executive vice president of survey research at the National Opinion Research Center, acknowledged the significance behind using GVFs in his *Introduction to Variance Estimation* when he referenced the CPS as evidence for why the method of GVFs is ideal for large surveys in which direct computation of variance is unmanageable.

During his time in the federal government, Steinberg broke new ground on record linkage applications. Perhaps the impact of jumping back and forth from one federal agency to another brought him to realize the importance of interagency record linkage. He was convinced that to move forward and expand on coverage and accuracy, many agencies would need to combine forces, efforts, and data subjected to careful controls to protect privacy and confidentiality.

Steinberg also is known for being an advocate for the approach of linking CPS, Internal Revenue Service (IRS), and SSA records to produce more accurate income information. According to the Studies from Interagency Data Linkages series, Steinberg states that the linking process is more efficient if it involves starting with “an administrative record population, rather than a survey process [that was] ... attempt[ing] to measure the same population.” The Census Bureau has long since realized the truth and potential behind Steinberg’s words and

made it a goal to use administrative records more during the 2020 Decennial Census to save money and improve accuracy.

Record linkage is not new in censuses and surveys, predating Steinberg's involvement. For example, nearly 100 years earlier, a Norwegian statistician named Anders Nicolai Kiaer introduced modern probability sampling with the matching of sampled Norwegian tax records to the Norwegian census of 1890.

Steinberg may have been influenced, or at least inspired by, Kiaer's revolutionary concepts of data collection, particularly concerning population coverage. Kiaer wanted to expand the coverage of his sample to have a fair geographic, social, and economic representation of the entire population. He acknowledged the problem of underrepresentation and general undercount and proposed to remedy the issue by adding participants from the under-represented demographic groups to the sample.

Like Kiaer, Steinberg understood there were specific demographic groups being overlooked or undercounted, which highlighted the importance of linking Census Bureau surveys with IRS, SSA, and other administrative records. In this sense, the goal for both Kiaer and Steinberg was to "increase the scope of the large-scale statistical investigation" they both planned to carry out.



From left: Steinberg, Ida Merriam, Jack Carroll, and Lenore Epstein, Bixby Office of Research and Statistics, 1970

In summary, it can be said that Steinberg provided unrivaled contributions to the field of record linkage, as well as survey design. Although he left us in April of this year at 91 years old, his research and innovation will guide the Census Bureau and many others in record linkage and survey design for years to come. ■

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# Where Will Your Next Stop Take You?

There are many routes a statistician can take to reach an area to study. In an effort to get to know these routes, we asked a few ASA members to answer questions about the paths they took to get where they are today.



**James J. Cochran** (*my friends call me Jim*)

Bank of Ruston Barnes, Thompson, &  
Thurmon Endowed Research Professor  
Louisiana Tech University

## What or who inspired you to study statistics?

After receiving my MS in economics and my MBA from Wright State University in Dayton, Ohio, I was unable to find suitable employment in private industry, so I taught as an adjunct instructor of economics part time at Wright State for a few academic terms. An instructor position with the school eventually became available, and although it required me to teach courses in statistics, operations research, and computer programming that were outside my primary field of study at that time, I was thrilled with

the opportunity to teach full time. After accepting this position, I soon realized what I enjoyed most about economics was the analytic aspect of the discipline. After teaching full time for three years, I left academia to direct the analytic services division of a large marketing research firm. This offered me exposure to potential new applications of statistics and operations research and also made me acutely aware of how much I missed academic life. When I returned to academia, I knew I wanted statistics and operations research to be the focus of my studies and academic career.

## What is the most exciting part of your job?

Freedom and opportunity. Academic life gives me freedom to work on whatever interests me (within reason). My primary research focus is on problems and issues at the interface of statistics and operations research. There are countless opportunities for fascinating research—theoretical, methodological, and applied—in this area.

I also have had opportunities to work on several initiatives that have been interesting and satisfying. I have enjoyed serving as the founding editor-in-chief of the *Wiley Encyclopedia of Operations Research and Management Science*. The articles in this encyclopedia are well written and interesting, and I have greatly expanded my breadth of understanding of this discipline through this role. My excitement over this project is enhanced by the online version's availability in developing nations for free or at a greatly reduced cost through Research4Life ([www.research4life.org](http://www.research4life.org)).

Working with colleagues to establish Statistics Without Borders (SWB) and co-chairing the organization through its first two years of existence and its involvement in Haiti, Sierra Leone, Democratic Republic of Congo, Mexico, and Central America was gratifying. My involvement with SWB has led me to work with UNESCO and the Ethiopian EPA, Ministry of Water and Energy, and Central Statistics Agency on preliminary efforts to establish an environmental and water statistics program in Ethiopia under the United Nations Development Assistance Framework. These cross-cultural collaborations on applied statistics projects are fascinating.

I also derive satisfaction from the international education initiative I organize and chair. These colloquia, cosponsored by INFORMS [Institute for Operations Research and the Management Sciences] and IFORS [International Federation of Operational Research Societies], are held in conjunction with conferences in developing nations, and they provide me with opportunities to work with friends and colleagues all over the world. (The colloquia have attracted participants from 45 nations and have been held in Montevideo, Uruguay; Cape Town, South Africa; Cartagena, Colombia; Jaipur, India; Buenos Aires, Argentina; and Nairobi, Kenya.) I also recently was invited to work with other members of the ISI on initiatives designed to increase statistical capacity across Africa. These opportunities are very exciting.

Finally, serving on various ASA committees such as the Council of Chapters Governing Board and the Council of Sections has been rewarding. I also enjoy working with students at all levels—undergraduate, master's, and doctoral. Students are fun to be around and they constantly challenge me to think more profoundly about statistics and operations research and further develop my understanding of these disciplines.

This is an exciting and rewarding time to be a statistician. The incredible amount of data that are now collected and stored has forced the rest

of the world to catch up with us; we are now in great demand, and that trend will not reverse in the foreseeable future.

### **Name a few specific skills you need to do your job.**

Strong analytic and communication (both oral and written) skills. And while flexibility, intense curiosity, patience, self-discipline, the ability to work on a team, and the ability to work across disciplines are not necessarily skills in the strictest sense, they are supremely critical attributes.

### **What is a skill you would like to learn to be better at your job?**

All of the above.

### **Did you have a mentor? If so, what was the most effective advice he/she gave you?**

My dissertation advisors, Marty Levy and Jeff Camm of the University of Cincinnati, have been tremendous mentors. Both stressed focus, interest, and persistence as key to a successful academic career, and they hit the nail squarely on the head. I also have benefited greatly from my relationships with many individuals (too many to name) in the statistics and OR communities and owe a great deal to these friends/colleagues.

### **Name one or two favorite blogs or books you have read and would recommend to others.**

I suspect you don't want a list of statistics, operations research, or math books. I recently read and greatly enjoyed Charles Mann's *1491*, Robert Dallek's *An Unfinished Life: John F. Kennedy, 1917–1963*, and Nicholas Coghlan's *Far in the Waste Sudan: On Assignment in Africa* and *The Saddest Country: On Assignment in Colombia*.

### **What advice would you give to young statisticians just beginning their careers?**

I would repeat the advice of Marty Levy and Jeff Camm: Stay focused, pursue your interests, and be persistent.

### **What do you enjoy doing in your spare time?**

In addition to spending time with my wife, I enjoy reading, fast-pitch softball, gardening and landscaping, watching movies, hiking, and traveling.



## Chunqin Deng

Senior Director, Biostatistics and Data Management

Grifols, Research Triangle Park, North Carolina

### What or who inspired you to be a biostatistician?

My initial work in public health prompted me to be interested in data analysis then become a biostatistician.

### What is the most exciting part of your job?

When good results come out from the data or when a challenging statistical issue is resolved.

### Name a few specific skills you need to do your job.

Broad knowledge not only in biostatistics, but also in regulatory requirements and the diseases we are studying.

### What is a skill you would like to learn to be better at your job?

To be an excellent communicator who can explain complicated statistical issues to nonstatisticians.

### Did you have a mentor? If so, what was the most effective advice he/she gave you?

Not specifically. However, I got effective advice from my teachers, PhD advisors, supervisors, and coworkers.

### Name one or two favorite blogs or books you have read and would recommend to others.

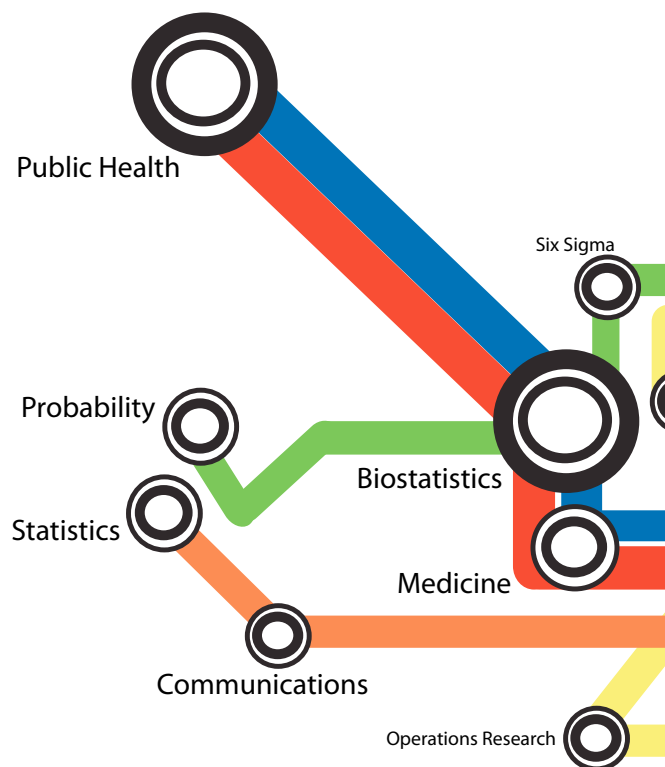
I maintain my own blog (<http://onbiostatistics.blogspot.com>) for issues in biostatistics and clinical trials to document what I learn and experience.

### What advice would you give to young statisticians just beginning their careers?

Statistics can be applied in different areas, so be sure you find an area you enjoy. Also, think about how the data are collected when you draw a conclusion from the data.

### What do you enjoy doing in your spare time?

To be with my family and kids. Reading and writing my blog.



### What or who inspired you to be a biostatistician?

I loved mathematics, but the problem was I didn't know what I could do with it, and that is when I discovered statistics. I particularly liked biostatistics because I enjoyed solving health problems and addressing health-related issues.

### What is the most exciting part of your job?

Solving problems. I work in public health and find it exciting to be able to use statistics to improve the health of human beings. Doctors save lives one at a time. As a statistician, I can help answer big public health questions and save peoples' lives all at once.

### Name a few specific skills you need to do your job.

To be a biostatistician, you need to be driven, but also focused, good at math, and especially curious about science and medicine.

### Francesca Dominici

Professor of Biostatistics, Harvard School of Public Health  
Harvard University



### What is a skill you would like to learn to be better at your job?

I would like to be more patient. I am also working on learning to write better and communicate more clearly.

### Did you have a mentor? If so, what was the most effective advice he/she gave you?

I had two mentors: Scott Zigler, former chair of biostatistics at Harvard, and Jonathan Samet of the University of Southern California Keck School of Medicine. The most effective advice I was given during graduate school was to go after very important questions. Do not be afraid to solve the very important, big problems.

### Name one or two favorite blogs or books you have read and would recommend to others.

I do not read blogs, but I do read the science section from *The New York Times*. It often gives me a good overview of important scientific problems.

### What advice would you give to young statisticians just beginning their careers?

First, I would say find a good mentor in or outside the department. Prioritize, manage your time, and identify the projects you would like to lead. Focus the most productive time of day on those projects. Take ownership of projects. The biggest danger is getting pulled in very different directions; focus on one main project. Finish everything you start. Always publish. Even if it is not revolutionary, publish.

### What do you enjoy doing in your spare time?

Right now, playing with my five-year-old daughter ... all kinds of girly stuff, from dancing to shopping to chit-chatting. I also enjoy long-distance running.





## Amy Gillespie

Associate Director, Global Scientific Programming, Head of Scientific Programming for Health Economics Statistics, Early Development Statistics, and Epidemiology

Merck & Co., Inc.

### What or who inspired you to study statistics?

I took a probability and statistics course during my undergraduate degree and found it challenging; this challenge inspired me and frustrated me at the same time! As such, I worked really hard at understanding it, which led me to pursue an advanced degree in the field.

### What is the most exciting part of your job?

I've been working in the pharmaceutical industry since 1996. Working in this industry is extremely exciting, rewarding, and challenging, as I know I'm a part (albeit just a small part) of the drug-development process and bringing medicines to people around the world.

### Name a few specific skills you need to do your job.

Leadership, communication, quantitative and problem solving, innovation

### What is a skill you would like to learn to be better at your job?

Last year, I was certified as a Six Sigma green belt. Moving forward, I would like to continue developing and applying these skills to ensure processes are lean and we're working as effectively and efficiently as possible. A statistician's educational background and skills are a natural fit for sigma methodology.

### Did you have a mentor? If so, what was the most effective advice he/she gave you?

I've had various mentors during my educational and professional careers who have been very valuable to me—both teachers and colleagues. However, I believe most of my success is attributed to an extremely high work ethic that was instilled in me by my parents.

### Name one or two favorite blogs or books you have read and would recommend to others.

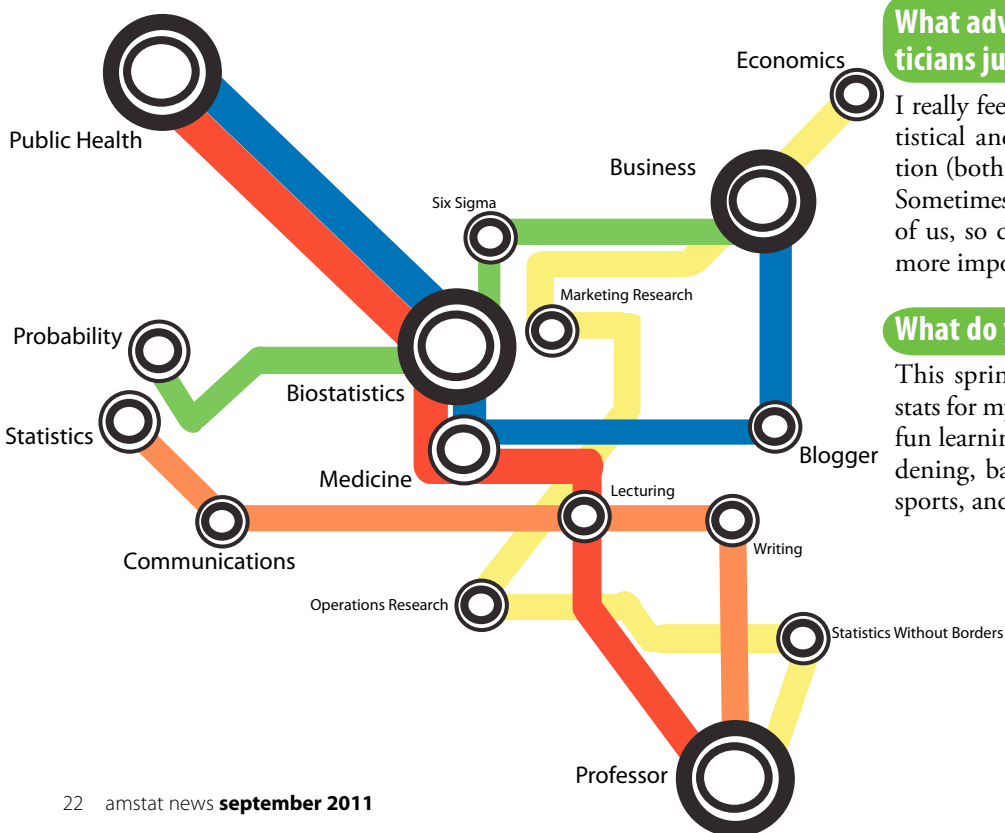
Well, right now I'm reading the Harry Potter series so I can keep current with my kids! I also enjoy reading the new ASA Section for Statistical Programmers and Analysts blog. (<http://community.amstat.org/Home>)

### What advice would you give to young statisticians just beginning their careers?

I really feel it is important to not only develop statistical and technical skills, but also communication (both verbal and written) and leadership skills. Sometimes, the technical skills come easier for many of us, so development of these softer skills is even more important to be successful.

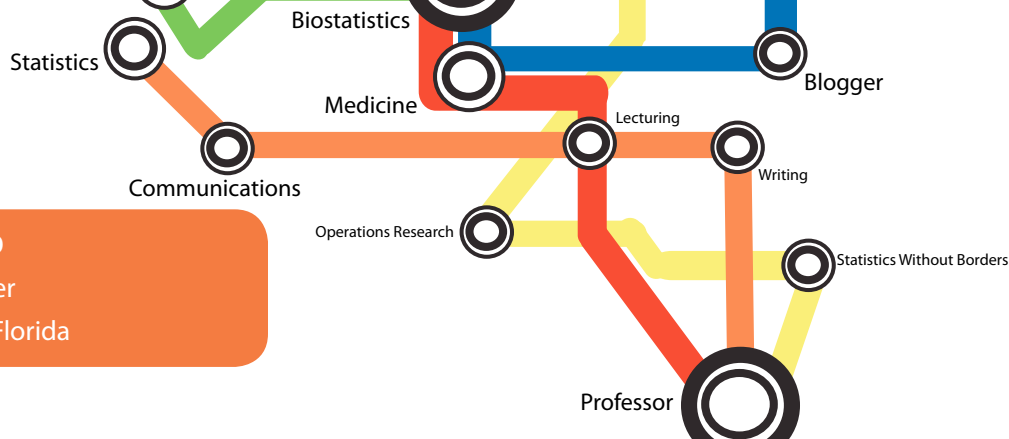
### What do you enjoy doing in your spare time?

This spring, I've been in charge of recording the stats for my son's little league baseball team. It's been fun learning about sports statistics! I also enjoy gardening, baking, watching and playing all types of sports, and spending time with my family.





**Megan Mocko**  
Senior Lecturer  
University of Florida



### What or who inspired you to study statistics?

I took my first statistics class at the University of South Carolina with Lori Thombs (who is now at the University of Missouri). I will be the first to admit that I was not excited about taking my first statistics course in college; however, I loved it. I loved the blending of mathematics with science. Before long, I was adding statistics as a major and applying to graduate school in statistics. During one of Thombs's office hours, I mentioned I was having a hard time deciding between teaching high school and pursuing a career in statistics. She told me that one of her previous students had combined these goals and was a lecturer at another university. Throughout graduate school, this was always in the back of my mind as my desired career path.

### What is the most exciting part of your job?

I love working with challenging students. By challenging, I mean students who are trying hard, but just don't get it. I love the "aha!" moments when those students finally understand. I also find it exciting to bring in current news articles to emphasize how important statistics is in our world. I feel a particular sense of achievement when one of my students brings in an example of statistics that they found in the news without being prompted.

### Name a few specific skills you need to do your job.

Being a good communicator is very important, so I find that good written and verbal communication skills are critical. I spend most of my time writing emails, writing educational materials (labs, tests, and quizzes), and talking with students. Not only is it important to get your message across, but also to make sure the student understands you are hearing their point of view as well. This doesn't necessarily mean I always agree with the student; I just agree to listen attentively. I teach very large classes (almost 2,000 students) and some smaller ones, from 25 to 300 students. I believe the key to success in all class sizes is being organized. In order for successful learning to occur, it is important to let the students know exactly what you, as the instructor, are going to do and what they, as the student, are expected to do.

### What is a skill you would like to learn to be better at your job?

I feel very comfortable lecturing to hundreds of students in large classes and working individually with students during office hours, but I am naturally an introvert, so approaching new people at conferences and meetings doesn't come naturally or easily for me and is not one of my strong points. I would like to learn to be more open with new people.

### Did you have a mentor? If so, what was the most effective advice he/she gave you?

The person who has had the biggest impact on my teaching is John Spurrier, who has since retired from the department of statistics at the University of South Carolina. I commonly remember several of his pieces of advice such as, "Your goal is to make this the best course at the university." Also, "If you find yourself with unused class time, you aren't doing enough examples."

### Name one or two favorite blogs or books you have read and would recommend to others.

I really enjoyed reading *Three Cups of Tea* and *Stones into Schools*. I enjoyed reading about places where the society's customs are so different from mine, but the thirst for education was still there.

### What advice would you give to young statisticians just beginning their careers?

Learn to write effectively. As a student, I underestimated the amount of writing I would end up doing in my chosen career. Back as a statistics graduate student, I had no idea I would be spending 90% of my time writing once I started working.

### What do you enjoy doing in your spare time?

My favorite things to do in my spare time are to travel and to scrapbook the photos of our trips. I love experiencing new places and new cultures. I am always on the lookout for that next great place to visit. My favorite places so far are Lauterbrunnen Valley, Switzerland, and Lake Bled, Slovenia. ■



# New Statistics Books

Chapman & Hall/CRC Biostatistics Series  
**Controversial Statistical  
Issues in Clinical Trials**

## Controversial Statistical Issues in Clinical Trials

**Shein-Chung Chow**

Written by one of the preeminent experts in the field, this book covers commonly encountered controversial statistical issues in clinical trials and, whenever possible, makes recommendations to resolve these problems. Numerous examples illustrate the impact of these issues on the evaluation of the safety and efficacy of the test treatment under investigation.

Catalog no. K12247, June 2011, 611 pp., ISBN: 978-1-4398-4961-3, **\$99.95 / £63.99**

Also available as an eBook

## Modern Statistics for the Social and Behavioral Sciences A Practical Introduction

**Rand Wilcox**

This text focuses on conceptual issues rather than complex computational details. It also provides a library of R functions for applying modern methods that effectively deal with these insights.

Catalog no. K11557, July 2011, 862 pp., ISBN: 978-1-4398-3456-5, **\$89.95 / £49.99**

## Introduction to the Theory of Statistical Inference

**Hannelore Liero and Silvelyn Zwanzig**

Unlike related books, this one combines the theoretical basis of statistical inference with a useful applied toolbox that includes linear models. The text offers proofs to support the mathematics and does not require any use of measure theory.

Catalog no. K12437, July 2011, 284 pp., Soft Cover, ISBN: 978-1-4398-5292-7, **\$69.95 / £29.99**

## Bayesian Analysis for Population Ecology

**Ruth King, Byron Morgan, Olivier Gimenez, and Steve Brooks**

*"... a solid introduction to Bayesian modeling. ... The authors have produced a text that is not only of good use to those who are analyzing population ecological data, but to anyone desiring a good overview of Bayesian modeling in general. ..."*

—*Journal of Statistical Software*, August 2010

Catalog no. K10597, 2010, 456 pp., ISBN: 978-1-4398-1187-0, **\$82.95 / £50.99**

Also available as an eBook

## Extreme Value Methods with Applications to Finance

**Serguei Y. Novak**

With emphasis on dependent observations, this work covers several modern topics, such as compound Poisson approximation, that have not been focused on in similar books. The text includes examples from finance and insurance as well as exercises and solutions.

Catalog no. K11611, September 2011, c. 399 pp., ISBN: 978-1-4398-3574-6, **\$99.95 / £63.99**

**Coming Soon!**

## Dynamic Prediction in Clinical Survival Analysis

**Hans van Houwelingen and Hein Putter**

Written by one of the pioneers in the area, this book covers a range of models, including prognostic and dynamic prediction of survival using genomic data and time-dependent information. Numerous examples use real data taken from the authors' collaborative research. R programs are provided for implementing the methods.

Catalog no. K11593, December 2011, c. 248 pp., ISBN: 978-1-4398-3533-3, **\$89.95 / £57.99**

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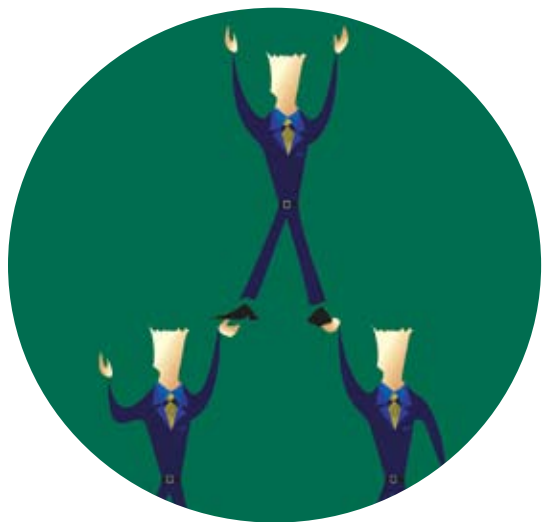
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# The Summer Internship Partnership of ASA and Novartis Oncology: A Multi-Win Endeavor

William Mietlowski, Novartis Oncology



Some multi-party relationships are zero-sum games (winner and loser). Occasionally, some relationships are win-win. Rarely do more than two parties in a relationship benefit. However, I think the American Statistical Association and Novartis Oncology summer internship partnership is a win-win-win-win-win relationship:

**The intern** benefits from exposure to real-world applied problems in a pharmaceutical setting, possible professional presentations and/or publications stemming from internship problems, and enhanced employment opportunities post-graduation.

**The university** benefits from external support for their students outside the academic year, recognition for the university in professional presentations and publications by the intern, and potential new areas of research that might follow from some of the internship projects.

**The mentor** benefits from increased understanding of the new methodology explored by the internship project, awareness of new literature and/or software, and co-authorship of the intern's presentations and publications.

**The company** benefits from potential improvement in drug development from successful internship projects and a potential source of new talent familiar with the corporate culture and environment.

**The American Statistical Association** benefits from the recognition the organization receives at the corporate level from the quality of the internship candidates that apply based on the ad published in the December issue of *Amstat News* or on the ASA website.



William (Bill) Mietlowski is a biometrical fellow who has coordinated the ASA-sponsored summer internship program for Novartis Oncology Biometrics and Data Management since October 2006.

I have had the privilege of working with the ASA on a summer internship program since October of 2006 on behalf of Biostatistics and Data Management (BDM) at Novartis Oncology. This article summarizes my experience for the first five years of our partnership and the types of activities summer interns experience. Eleven former interns from 2007–2010 were interviewed and their thoughts about how their summer internship affected their career plans are summarized below.

## Internship Applications from 2007–2011

Novartis employed four statisticians as summer interns each year from 2007–2011 at its Florham Park, New Jersey, site and a fifth statistician as a summer intern at the Cambridge, Massachusetts, site from 2009–2011. Figure 1 depicts the number of internship applications received by internship year.

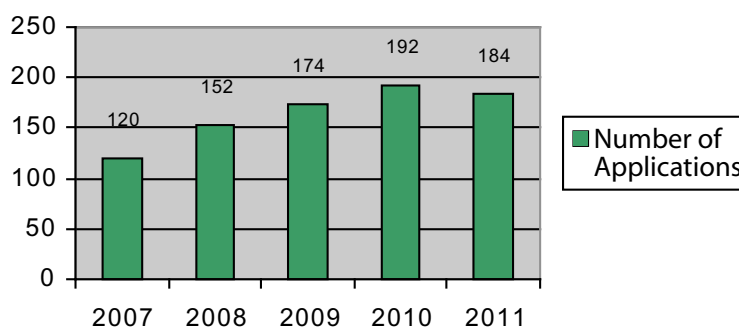


Figure 1. Number of applications by internship year

The internship employment rate from 2007–2011 was approximately 3% of applicants for each year. Figure 2 displays the distribution of the 23 selected interns by geographical region of the United States.

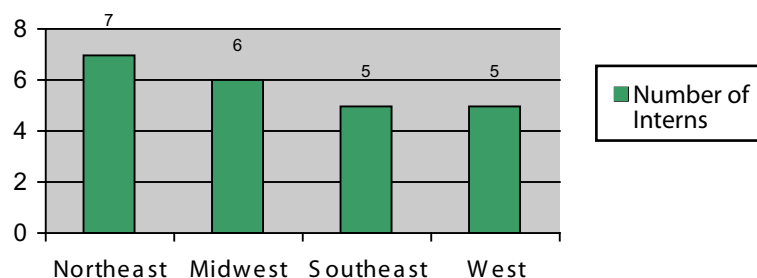


Figure 2. Interns by area of United States

There appears to be good diversity of internship selection by geographical region of the United States.

### Intern Project Selection and Intern Selection

We solicit proposals for internship projects from all of our biostatisticians globally (both U.S. sites as well as Basel, Switzerland; Paris, France; Hyderabad, India; and Tokyo, Japan). Most importantly, the project must meet a business need. It may represent, but is not limited to, developing a new method based on real problems at Novartis Oncology, evaluating a new method proposed in the literature applied to actual or simulated clinical trial data, novel applications of existing methodology, or sensitivity analyses to determine the robustness of some of our standard methods to departures from assumptions. We select projects we would like to investigate personally, but cannot due to day-to-day project work.

Ideally, the projects should represent a learning experience for both the intern and mentor and be feasible for the intern to make substantial progress with during the 12-week internship period. After the project list is reviewed and finalized, the number of interns to be allocated at each site is determined. Based on the number of interns to be employed at the Florham Park and Cambridge sites and the nature of the projects to be assigned to each intern, a draft summer internship ad is prepared and the final ad is submitted to the ASA in October.

After the internship ad is published on the ASA website and in the internship issue of *Amstat News*, the internship applications are reviewed and potential candidates are identified based on goodness of fit to the proposed projects.

### Internship Activities

Besides the projects, summer interns are welcome to participate in a variety of educational opportunities (e.g., seminars by internal and external speakers, lunch-and-learn presentations, etc.) within biostatistics and within the Oncology Business Unit (OBU) of Novartis. In 2010 and 2011, graduate interns within the OBU (e.g., master's level, MBAs, Pharm D. candidates, PhD candidates) were assigned to cross-functional projects by the OBU Human Resources Department. This gave the interns an opportunity to understand the drug development process from another perspective and to educate their nonstatistical graduate internship colleagues about the role of a statistician in drug development.

This year, we plan to have a video conference linking the summer interns at the Basel, Florham Park, and Cambridge sites so they have an opportunity to meet each other and share information.

Finally, human resources organizes a variety of social activities for summer interns (e.g., tours of the manufacturing site, barbecues, bowling, etc.).

### An Interview with 11 Former Summer Interns

To get an intern's perspective of the impact of a summer internship on their career planning, we asked two questions of 11 former interns. Their open-ended responses are summarized below.

**Question 1.** What did the summer internship teach you about the kind of work you want to do after graduation?

Clinical trial/development preference (4)

Oncology preference (4)

Industrial preference (3)

**Question 2.** What nonstatistical training, experience, or insight did you obtain that shaped or benefited your future career development?

Importance of communication with a variety of disciplines (7)

Value of more biologic/subject matter knowledge (5)

Awareness of complex multifunctional factors underlying drug development (2)

Awareness of biomarker and genomic focus in oncology (1)

Focus of employment interviews (40%–60%) on internship experience and projects (1)

Handwritten letter from a patient that was moving and inspirational (1)

The post-graduate employment positions of the 11 interviewed summer interns are the following:

| Type of Employment                | Number of Interns |
|-----------------------------------|-------------------|
| Novartis Oncology BDM             | 5                 |
| Academia                          | 2                 |
| Other pharmaceutical companies    | 1                 |
| Government                        | 1                 |
| Novartis Modeling and Simulation  | 1                 |
| Still completing PhD requirements | 1                 |

### Internship Project–Based Presentations and Publications

Based on their internship projects, six interns have either made external presentations at professional meetings, had a published abstract for a professional meeting, had a manuscript published in a peer-reviewed journal, or have a manuscript in preparation.

Professional presentations: 6 (Joint Statistical Meetings, 5; Drug Information Association annual meeting, 1)

Abstract accepted for publication but not presentation: 1 (American Society for Clinical Oncology annual meeting)

Publications in peer-reviewed journals: 2 (*Journal of Biopharmaceutical Statistics*, *Contemporary Clinical Trials*)

Manuscript in preparation: 1

### Concluding Remarks

As more knowledge is gained about the nature of cancer, the disease appears to be even more complex and heterogeneous than thought. The tasks facing the statistician in oncology research may become more daunting and challenging. However, the talents of our emerging statisticians as embodied in the interns we have employed provide hope that these challenges will be met. ■

## Announcing the SAMSI 2012 - 2013 Research Programs

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### Computational Advertising (Summer Program)

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# Visualizing Data: Challenges to Presentation of Quality Graphics—and Solutions

Naomi Robbins



Naomi Robbins, a consultant and seminar leader who specializes in the graphical display of data, offers training on the effective presentation of data. She also reviews documents and presentations for clients. She is the author of *Creating More Effective Graphs*.

Three common challenges statisticians and others face when preparing data for presentation include poor options and defaults in many software packages used for creating graphs, managers and colleagues who are socialized to expect figures that attract attention, and poor instructions from conference organizers. This article addresses each of these challenges and offers some tips for dealing with them.

## Poor Options and Defaults in Many Software Packages

Many software programs for drawing charts and graphs offer defaults and options that are full of fancy embellishments that detract from the clear and accurate communication of data. Some software vendors think graphs that wow the audience with the complexity of their artwork will produce

more sales. Therefore, they include unnecessary dimensions, use confusing ribbons in place of lines, and offer graph forms that do not communicate well. Unfortunately, these frills and decorations may distort the data, make it more difficult to understand, and may lead to poor decisions being made based on the data.

Figure 1 shows the results of an Internet/mail survey of ASA members with six to 15 years of membership. The figure appears in the October 2005 issue of *Amstat News*. Members were asked if they agreed that their primary position was professionally challenging; they also were asked about the importance of increasing professional recognition. In addition, a number of demographic variables were included.

A major problem with pseudo-three-dimensional bar charts like this one is that almost no one reads them correctly. Note that the bar for “Agree/

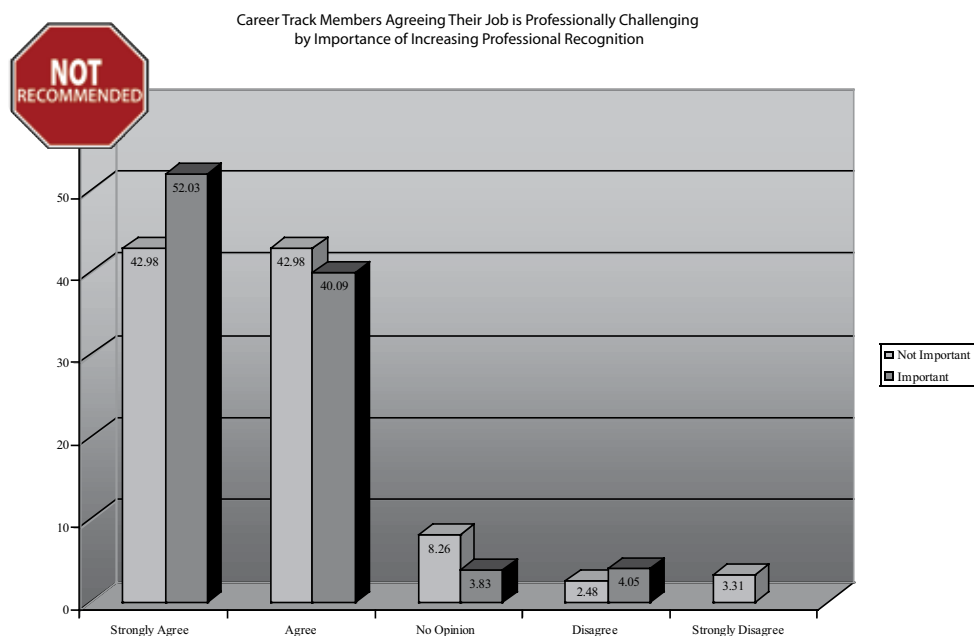
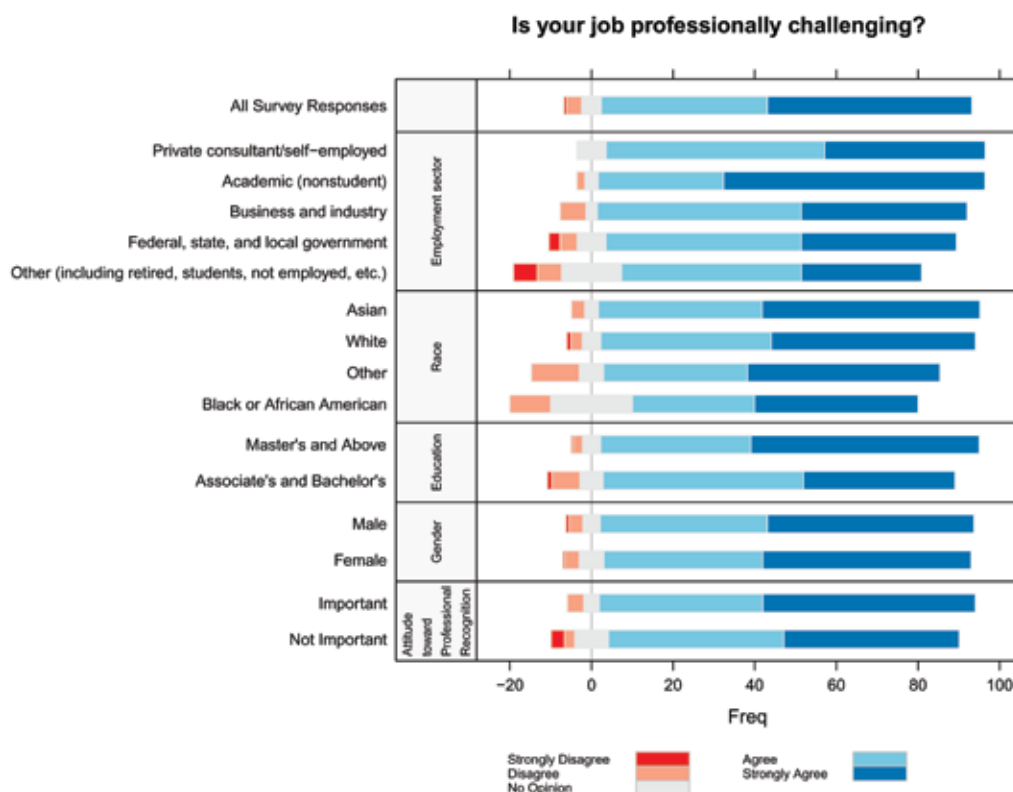


Figure 1. The use of unnecessary dimensions in bars. All titles and labels are from the original figure.



**Figure 2.** A two-directional stacked bar chart showing the percentage of various demographic groups that agreed or disagreed their positions were professionally challenging

Important” is labeled 40.09; however, all points on the top of the bar lie below the grid line labeled 40. This happens because the bar does not touch the back wall.

I assume it was designed so a plane tangential to the top of the bar would look as if it were the correct height. It doesn't work for me. This figure looks as if it was drawn using a version of Microsoft Excel prior to 2007 with the gap depth (i.e., the distance from the back of the bar to the back wall) set as the default. Note that gap depth is an option that can be changed in Excel. It confuses the audience when the labels do not match the visual representation.

The pseudo three-dimensional problem is easily solved by using a two-dimensional bar chart. In Excel, that means sticking with “2-D Column” or “2-D Bar” charts and never using what I call pseudo-three-dimensional charts: the “3-D Column,” “3-D Bar,” “Cylinder,” “Cone,” and “Pyramid” options. These are “pseudo” three-dimensional since they only display two dimensions, despite their 3D appearance. Data that are truly three-dimensional with three variables cannot be displayed with these charts. I often recommend Trellis displays, described in *Creating More Effective Graphs*, for plotting three variables.

There are numerous other problems with this figure. The small font size of the title, labels, and legend make them difficult to read. The grid lines are too prominent, distracting attention from the more important elements of the graph. The variably shaded gray background also takes attention away from the data. Some readers have difficulty interpreting the title when the graph is separated from the article in which it was originally published, since the full text of the article clarifies the title.

The diverging stacked bar chart of Figure 2 shows a much improved way of conveying all the information available in Figure 1, with the addition of a breakdown by employment sector, race, education, and gender. Yet, the figure takes about the same space as Figure 1. Adding unnecessary dimensions is just one example of a poor option that occurs in many software programs.

While standard stacked bar charts are difficult to read, centering the bars around zero (“No Opinion” in this case) makes it easy to check whether the majority in any subgroup find their job professionally challenging or not. The length of the bar to the right of zero shows the percent who agree that their positions are professionally challenging, while the length to the left of zero shows those who

disagree. People with no opinion are split down the middle. The shading shows whether the agreement was strong.

In a glance, we can see which groups have the strongest agreement/disagreement. This is more difficult to notice from a table or separate bar graphs for each category, as in Figure 1. Figure 2, programmed by Richard Heiberger, uses a diverging stacked bar chart created with a forthcoming R function to be included in the HH package.

### Managers and Colleagues Who Expect Figures That Attract Attention

Statisticians who are well versed in the principles of effective graphs often ask me how to convince their managers or colleagues that the figures requested are misleading or inappropriate. They say their bosses want figures with a “wow” factor. The first challenge and this one together form a vicious cycle: Managers like the decorated graphs that they see software vendors providing, and software vendors believe the managers prefer and demand them.

Almost no one would write a business report in a font that attracts attention, such as Algerian. Business writers reserve display fonts for single words or phrases in advertisements or for invitations to a child’s birthday party. There are a number of analogies about using display fonts and graphs that attract attention for the wrong reasons: They both emphasize the design, rather than the message the words or graphs are meant to communicate. They both show off the designer’s skills with technology. There may have been a day when people were impressed that you could produce these fancy graphs, but today it is no more impressive than knowing how to change fonts. I often find that making analogies with words helps others see the parallels and encourages them to show the same respect for numbers.

Another effective technique I use to convince others that their favorite graphs do not communicate well is to ask questions about the data that are difficult to answer from their preferred graph. As an exercise at meetings or seminars, participants answer questions about fancy graphs they did not draw. The people who proposed the graphs can readily see that colleagues misinterpret the data. For example, you could show Figure 1 without the data labels and ask how high the “Agree/Important” bar is. When most of the others in the room underestimate the value, the person who designed or requested it will likely realize its limitations.

A number of years ago, there was a discussion on S-news, a support group for the S-Plus software, about the use of pie charts. I still remember a message from Eric Gibson, who said that when he was asked to draw a graph he thought did not communicate well, he did not lecture the requester or play

better than thou. He prepared what he was asked to do, but also what he thought should be done. Then, he delivered them, saying, “I always like to give my clients a choice.” Many times, the client would see the superiority of his method and use his figure.

A number of statisticians have told me they like to give a book emphasizing principles of effective graphs to their management or clients who request graphs they dislike. Another option is to arrange for a seminar or short course for the department or organization about communicating data clearly. Offering training courses is often the solution when it is management that appreciates communicating data clearly and staff who include unnecessary decorations in their charts.

### Poor Instructions from Conference Organizers

A number of conferences advise their speakers to use yellow text on a dark blue background. They claim these are the easiest to read. I’ve seen articles about effective presentations that recommend light on dark and others that recommend dark on light. There is a problem when light on dark is used and handouts are made from the slide decks, since the colors are inverted for the handouts so the text shows up. The problem is that the original graphs usually have a light background with dark data markers and text. Then, when the colors are inverted, the graphs are illegible.

Also, the handouts are often black and white, even if the original slides were in full color. Any colors used to distinguish points or lines are lost. Handouts are often referred to years after a presentation, so intelligible handouts are essential. I have seen many prominent statisticians with useless handouts since they followed the directions of the conference organizers. The solution: Just say no. I have refused to use yellow on navy, but explained my reasons. The conference organizers replied that they wished other speakers gave as much thought to their handouts.

### Summary

Even statisticians well acquainted with the principles of effective graphs face challenges when trying to visualize data. These challenges may be caused by the software the graph designer is required to use, the instructions given by management, or the instructions given by conference organizers. Solutions include recognizing these problems so you choose software options and software carefully, selecting a method for communicating with management that you are comfortable with and is appropriate for the situation, and considering the consequences of following instructions when preparing slides for presentations and speaking up if necessary. ■

# Statisticians Have Large Role to Play in Web Analytics

Vincent Granville

**W**eb and business analytics are two areas that are becoming increasingly popular. While these areas have benefited from significant computer science advances such as cloud computing, programmable APIs, SaaS, and modern programming languages (Python) and architectures (Map/Reduce), the true revolution has yet to come.

We will reach limits in terms of hardware and architecture scalability. Also, cloud can only be implemented for problems that can be partitioned easily, such as search (web crawling). Soon, a new type of statistician will be critical to optimize “big data” business applications. They might be called data mining statisticians, statistical engineers, business analytics statisticians, data or modeling scientists, but, essentially, they will have a strong background in the following:

- Design of experiments; multivariate testing is critical in web analytics
- Fast, efficient, unsupervised clustering and algorithmic to solve taxonomy and text clustering problems involving billions of search queries
- Advanced scoring technology for fraud detection and credit or transaction scoring, or to assess whether a click or Internet traffic conversion is real or botnet generated; models could involve sophisticated versions of constrained or penalized logistic regression and unusual, robust decision trees (e.g., hidden decision trees) in addition to providing confidence intervals for individual scores
- Robust cross-validation, model selection, and fitting without over-fitting, as opposed to traditional back-testing
- Integration of time series cross correlations with time lags, spatial data, and events categorization and weighting (e.g., to better predict stock prices)
- Monte Carlo; bootstrap; and data-driven, model-free, robust statistical techniques used in high-dimensional spaces

## Recommended Books on Web Analytics

*Handbook of Natural Language Processing* by Nitin Indurkha and Fred J. Damerau

*Collective Intelligence* by Toby Segaran

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- Fuzzy merging to integrate corporate data with data gathered on social networks and other external data sources
- Six Sigma concepts, Pareto analyses to accelerate software development lifecycle
- Models that detect causes, rather than correlations
- Statistical metrics to measure lift, yield, and other critical key performance indicators



Vincent Granville is chief scientist at a publicly traded company and the founder of AnalyticBridge. He has consulted on projects involving fraud detection, user experience, core KPIs, metric selection, change point detection, multivariate testing, competitive intelligence, keyword bidding optimization, taxonomy creation, scoring technology, and web crawling.

- Visualization skills, even putting data summaries in videos in addition to charts

An example of a web analytics application that will benefit from statistical technology is estimating the value (CPC, or cost-per-click) and volume of a search keyword depending on market, position, and match type—a critical problem for Google and Bing advertisers, as well as publishers. Currently, if you use the Google API to get CPC estimates, Google will return no value more than 50% of the time. This is a classic example of a problem that was addressed by smart engineers and computer scientists, but truly lacks a statistical component—even as simple as naïve Bayes—to provide a CPC estimate for any keyword, even those that are brand new. Statisticians with experience in imputation methods should solve this problem easily and help their companies sell CPC and volume estimates (with confidence intervals, which Google does not offer) for all keywords.

Another example is spam detection in social networks. The most profitable networks will be those in which content—be it messages posted by users or commercial ads—will be highly relevant to users, without invading privacy. Those familiar with Facebook know how much progress still needs to be made. Improvements will rely on better statistical models.

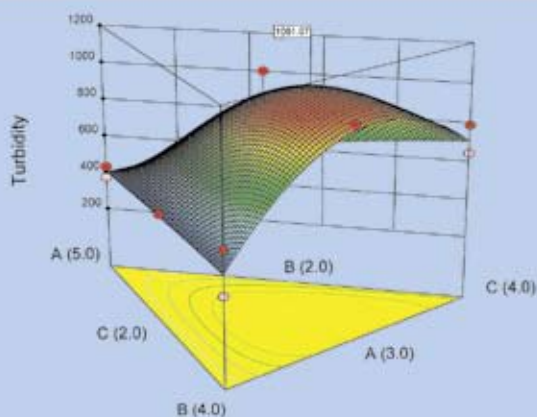
Spam detection is still largely addressed using naïve Bayes techniques, which are notoriously flawed due to their inability to take into account rule interactions. It is like running a regression model in which all independent variables are highly dependent on each other.

Finally, in the context of online advertising ROI optimization, one big challenge is assigning attribution. If you buy a product two months after seeing a television ad twice, one month after checking organic search results on Google for the product in question, one week after clicking on a Google paid ad, and three days after clicking on a Bing paid ad, how do you determine the cause of your purchase?

It could be 25% due to the television ad, 20% due to the Bing ad, etc. This is a rather complicated advertising mix optimization problem, and being able to accurately track users over several months helps solve the statistical challenge. Yet, with more user tracking regulations preventing usage of IP addresses in databases for targeting purposes, the problem will become more complicated, and more advanced statistics will be required. Companies working with the best statisticians will be able to provide great targeting and high ROI without “stalking” users in corporate databases and data warehouses. ■

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# How Not to Get Lost in Translation: Tips for Communicating with International Peers

Yoko Adachi, Kitasato University

Cultural diversity brings a spectrum of skill sets, perspectives, and values to a team. Many statisticians are already working alongside colleagues from different countries, and when mutual understanding of cultural perspectives exists among members of a team, it permits the development of a sense of trust and affinity, which ultimately bolsters productivity.

Of course, it is not easy to understand people of different backgrounds. It may, in fact, be difficult to understand people within a country or region, as personalities vary remarkably as a reflection of generational and geographical differences. Strengthening the bond among team members requires profound understanding of one another's cultural background, more so for a multinational group. In spite of this, once given a chance to brew some team chemistry, the effort often pays off. Many studies show that highly diverse groups outperform moderately diverse ones.

No culture is completely homogeneous or static, but certain generalizations are helpful in understanding cultures. Dutch anthropologist Geert Hofstede, whose principles have been applied in areas such as marketing and global communications, introduced the notion of cultural



dimensions, which quantified the following cultural aspects:

- Power distance index
- Individualism vs. collectivism
- Uncertainty avoidance
- Masculinity vs. femininity
- Long-term vs. short-term orientation
- Indulgence vs. restraint

Power distance index is a measure of the extent to which less-powerful members of institutions and organizations within a country expect and accept that power is distributed unequally. In a lower power distance culture, people typically call their superiors by their first name and gather at the same table for a meal. Countries such as Austria, Germany, and the United States tend to have lower power distance indexes, while countries

such as Malaysia, the Philippines, China, and Russia tend to have higher power distance indexes.

Anglo countries such as Great Britain, Australia, and the United States have individualistic cultures, while countries such as China, South Korea, and Indonesia have collectivistic cultures. While individualism places a premium on the needs and achievements of the individual, collectivism emphasizes the good of the group.

Moreover, countries such as Greece, Portugal, and Russia tend to have relatively low tolerance for uncertainty. Hence, to reduce uncertainty, low-tolerance countries often rely on rules and regulations. On the other hand, countries such as Singapore, China, and Great Britain have high tolerance for uncertainty, and people tend to accept unstructured situations and opinions that are different from what they are used to.



Yoko Adachi is a research associate at Kitasato University School of Pharmacy Department of Biostatistics and Pharmaceutical Medicine. She has worked in the United States, Japan, and the United Kingdom as a biostatistician and has an interest in multi-regional clinical studies.

In a masculine society, men are supposed to be assertive, tough, and focused on the traditional notion of success, while women are supposed to be modest, tender, and concerned with the quality of life. In a masculine society, social roles are closely linked to gender, while in a feminine society, gender roles overlap. A feminine society places high value on quality of life and relationships among people. A masculine society believes boys don't cry, girls don't fight, and failing (especially in the academic sense) is a disaster, while a feminine society believes both boys and girls cry, neither should fight, and failing is a minor accident.

Finland, where both the prime minister and president are women, is considered to be one of the most feminine countries, along with other Scandinavian countries, while the Slovakian Republic, Japan, and Germany are considered to be masculine countries.

Long term-oriented societies tend to focus on future gratification, especially in terms of humility, perseverance, and saving. Short term-oriented societies tend to value past and present and emphasize the importance of fulfilling social obligations and respecting tradition. China, South Korea, Japan, and other East Asian countries tend to be long term-oriented, while the United States, Great Britain, Nigeria, Zimbabwe, and other African countries tend to be short term-oriented. Highly long term-oriented countries tend to have deep Confucian roots (although there are exceptions such as India) and, interestingly, tend to perform well in mathematics. This is thought to be due to long term-oriented cultures nurturing those who solve pragmatic, well-defined problems requiring analytical thinking.

Finally, while some societies believe leisure and enjoying life are important, other societies are more stoic and try to restrain

human drives in order to maintain social norms. Latin-American countries such as Venezuela, Mexico, Puerto Rico, and El Salvador score high in terms of indulgence, while Eastern European countries and Middle Eastern countries such as Ukraine, Latvia, Egypt, and Pakistan tend to score high in terms of restraint. While smiling is a norm in countries that value indulgence, a stern face is regarded positively as a sign of seriousness in countries that value restraint.

American anthropologist Edward Hall provided another insightful guide to understanding culture. In the late 1970s, he introduced the notion of high-context versus low-context communication. China, Japan, Spain, and Latin-American and Arab countries tend to engage in high-context communication, characterized by valuing implicit exchange of information, confidence in the unspoken, and eagerness to avoid confrontation. Collectivist societies are relatively culturally homogeneous, usually engaging in high-context communication. On the other hand, individualistic societies such as the United States, Canada, Germany, France, and Scandinavian countries are usually culturally heterogeneous and tend to engage in low-context communication. In low-context communication, very little is taken for granted. Accountability is important, and being able to convey one's opinion effectively is a valued skill. Awareness of and sensitivity to these tendencies in communication styles should help build understanding among people of different cultural backgrounds.

While translating and interpreting what has been said from one language to another is challenging, it is even more difficult to translate what is not said. There is a saying, "Speech is silver, but silence is golden." However, silence may leave a lot of room for

interpretation. *Qui tacet consentire videtur* is a Latin proverb meaning that silence gives consent, particularly when one was able and ought to have spoken. To avoid misunderstandings, one should say something, rather than nothing.

Antoine de Saint-Exupéry said, "Language is the source of misunderstandings." Indeed, communication is more than simply mastering words, as cultural barriers exist even within regions that share the same language, such as the United States and the United Kingdom. Communication tools such as email, Internet phones, smart phones, and social networking sites have brought great convenience. The cost and time for reaching out to people has been greatly reduced compared to the days of the telegraph, snail mail, and travel by ship and propelled plane. Still, conveying our ideas to others requires thoughtfulness, as there are more opportunities for us to meet people from around the world.

Principles of low-context versus high-context communication and the six cultural dimensions provide a guide for people who want to explore other cultures. Furthermore, culturally adequate translations are indispensable assets. Many people may have encountered the difficulty of finding a quality translation or interpretation of highly technical terms and documents, such as statistical terms and analysis reports. Should professional statisticians be trained in language translation, or should professional translators be trained in statistics? Either way, finding someone who is proficient in both is not easy, particularly depending on the choice of language.

If a statistician is eager to learn from and is respectful of another culture, then he or she can increase his or her dimensions of thinking. Statisticians who understand multiple cultures and languages can make unique contributions to this globally close-knit world. ■

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# How to Get the Job You Want as a Statistician

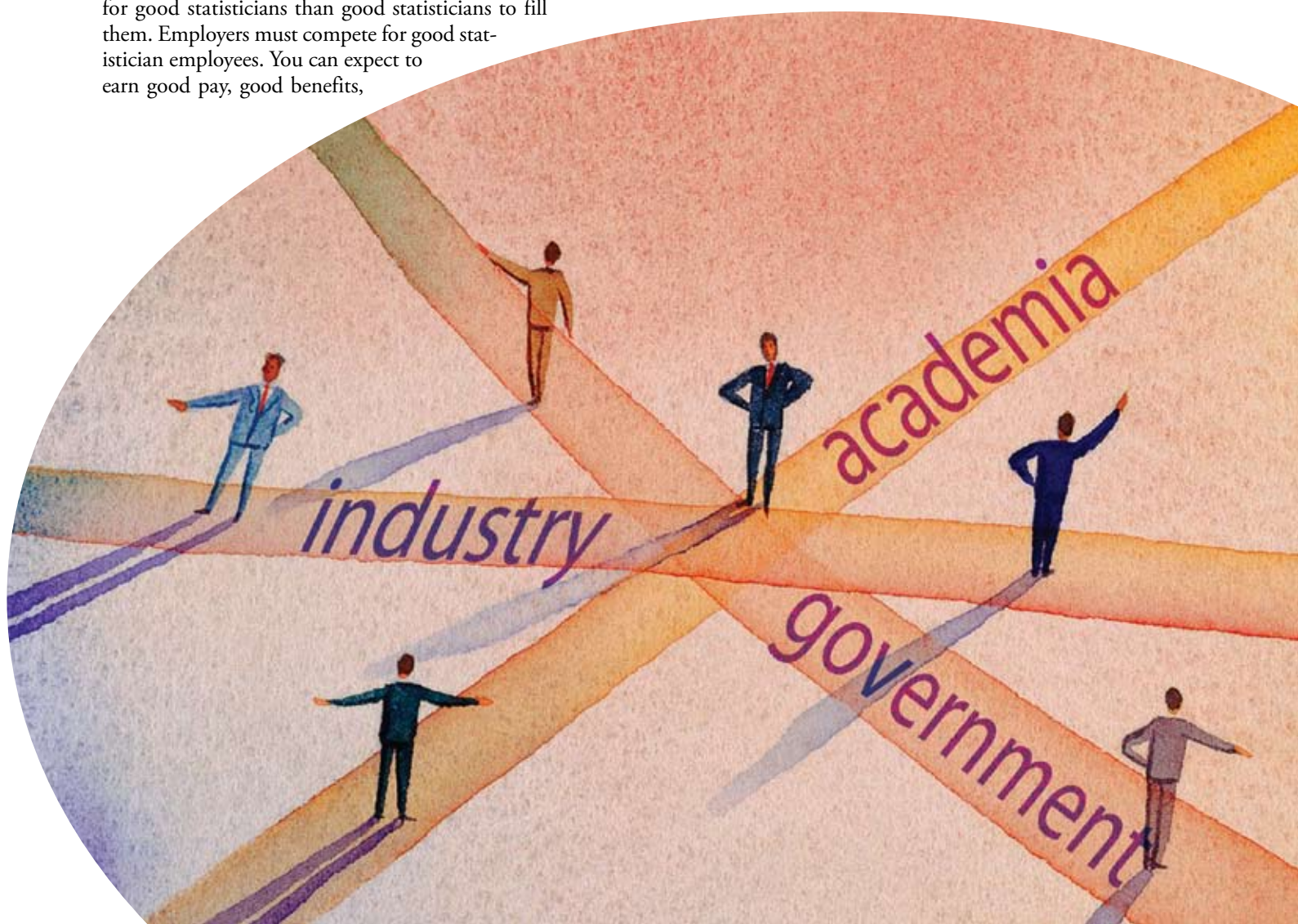
Ronald W. Helms, Rho

“Okay,” you say to yourself, “I’ve been a student for umpteen years, I’ve lived *la dolce vita*, I’ll graduate soon, and now I’ve got to get a job. I’m well trained—I know a lot about statistics—but how do I get a really good job?”

First, as they say, the good news: If you’ve been a good student, which is likely because most professional statisticians were good students, you already have most of the skills you need to get that great job. More good news, which you probably already know, is that there are more good jobs for good statisticians than good statisticians to fill them. Employers must compete for good statistician employees. You can expect to earn good pay, good benefits,

good working conditions, and so on. That’s not good news; that’s great news!

Now the bad news: Those great professors who taught you all that cool statistical stuff probably didn’t teach you how to find and win a great job. That’s okay. This topic is pretty mysterious to many professors. But remember, you’ve been a good student, which means you learn quickly and thoroughly. You also can quickly learn how to find and win a great job. Let’s start with finding an employer.



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## Do Your Homework

Search the Internet and think carefully about your own preferences and feelings to find answers to the following questions, then perform the listed tasks.

### Would I prefer to work in academia, industry, or government?

If you'll be called doctor, you may get to choose any of the three, but most bachelor and master's graduates choose between the latter two. This article is far too short to give much help on those, but I have found students are often biased toward academia, partially because it's more familiar—students have actually lived in academia for years.

### What do industry or government statisticians do day by day?

Many students have only a vague notion of what industry or government statisticians actually do day in and day out, or that, in addition to typically having higher salaries and better fringe benefits, many nonacademic statisticians have jobs that are personally fulfilling and rewarding, as well as interesting and fun.

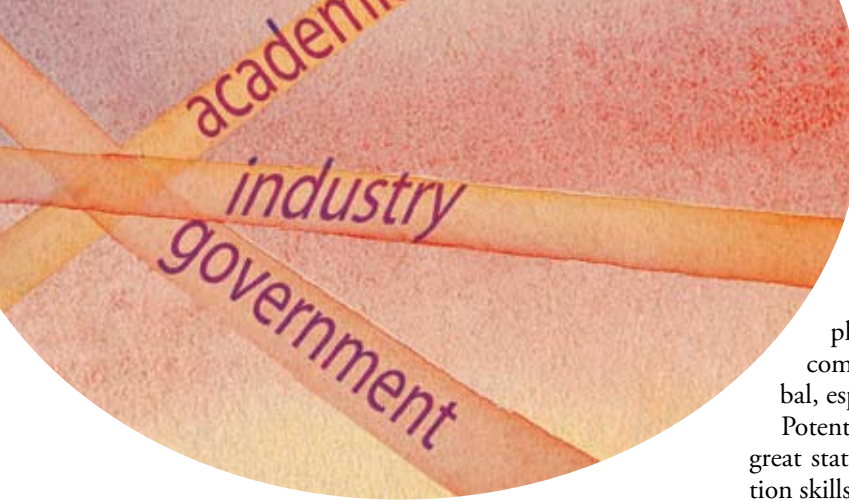
How to answer the question? Start with the obvious: Google. Then, try a "networking" approach: Talk to a local friendly statistician. It's relatively easy. Just email the president or chair of your nearest ASA chapter ([www.amstat.org/chapters](http://www.amstat.org/chapters)), or talk to the person in your statistics department who handles alumni affairs and ask her or him to find nearby industry or government statisticians who would be willing to spend an hour or so talking with you about jobs in their environment. You'll find that you are about to join a community—professional statisticians—many of whom really like their jobs and love to talk about them. Talk to statisticians in a variety of work environments that interest you. Ask questions. Take notes. Jobs vary, quite a lot actually, so get a reasonable sample. Go "maximum likelihood"—drill down and get more information about jobs that seem more appealing to you, the ones you have a higher likelihood of enjoying.

### Why would I prefer to work in government, industry, or academia?

Write out the pros and cons—to you, personally—of each choice.

### Which geographic locations do I prefer?

Some years ago as graduation was approaching, I was all set to take a great job with a great company in Philadelphia. Then my wife said, "I'm not moving to Philadelphia." Bottom line: We didn't. Write out the pros and cons—to you, personally, and to significant



others—of each general geographic location, and then rank order your choices. Try to keep several options open.

**Make a list of your potential employers.**

Populate your list with institutions that are actively recruiting for statisticians at your training and experience levels to work in areas that are of interest to you and, of course, that meet the criteria in the previous questions.

**Rank your list of potential employers from most to least desirable.** Be prepared to revise your rankings as you learn more about them.

**Study your top five.** Mine the information on potential employers' websites to learn which ones particularly appeal to you. Learn about each potential employer's core purpose and ideology. Are they real, or just for marketing? What is the corporate culture like? Is this employer a good fit for you?

**Work the network.** If alumni from your statistics department work at your current favorites, call them to talk "off the record" (if they're willing) about their employer, their work environment, their job. Re-rank your list of potential employers and become familiar with your top five.

## Relentless Preparation

Former New York City Mayor Rudy Giuliani said, "You can't prepare for all the unknowns. You just have to be flexible. You have to be relentlessly prepared." I believe being "relentlessly prepared" is a primary key to success in getting that job, being a successful student, and many other areas of life. In my experience, relentless preparation for communication is critically important to statisticians.

Completing the assignment above produced your personal list of potential employers. Now it's time to prepare to communicate. There is much to communicate, and you must do it effectively!

Potential bad news: Most employers place great importance on a statistician's communication skills, both written and verbal, especially in the English language.

Potentially worse news: Lots of statisticians with great statistics skills don't have good communication skills.

Major point: Be completely honest with yourself and potential employers. If your communication skills are good or excellent, great! If not, remember that you are a good student. You've tackled and learned statistics, one of the toughest of academic disciplines.

Good communication skills can be learned, and you know you're good at learning. But if you need to learn communication skills, you must make a plan for how you will do that and then go and actually do it. I can't tell you how to do this, but I can tell you it is important that you identify your communication shortcomings and initiate action to correct them before you start contacting potential employers.

An interview, a review of your writing, or a brief presentation by you will make your communication shortcomings readily apparent to a potential employer. The employer will be much more likely to de-emphasize these issues if you honestly include something like the following in your CV or résumé: "My studies have focused on statistical technology, leaving little time to develop my communication skills. I am determined to improve my communications skills. Indeed, I have already enrolled in a course that I will complete by .... After completing the course, I will conduct an objective evaluation and do whatever is necessary to further improve my skills." (Hint: Don't plagiarize this text. Ask a friend with good English-language communication skills to help you rewrite it to suit your specific circumstances.) It is important that you be able to say, honestly, that you acknowledge the problem and have already initiated action to correct it.

Next, the résumé. Trite but true: "You don't get a second chance to make a first impression." And the résumé often makes the first impression on a potential employer. Go online and learn how to write an effective résumé (2–4 hours). Write it (2–4 hours). Go to your university's placement office (or similar) and ask for professional help polishing it (2–4 hours). Use it with confidence.

Next, the cover letter "template." Your cover letter, which will probably be sent as an email message with your résumé attached, will be your initial response to an employer's advertisement.

[The first sentence in the paragraph on the résumé also pertains to the cover letter/email.] Use the same procedure you used for the résumé to prepare a cover letter template that you will use as a starting point for preparing an actual cover letter to a potential employer.

Develop your telephone interviewing skills. Many employers use telephone interviews to “screen” potential employees. Often, the interviewer is a human relations person, not a statistician, who will be less interested in your statistical knowledge than (1) your ability to communicate effectively via telephone, (2) whether you really meet the minimum qualifications for the position for which you have applied, and (3) whether there are any obvious reasons why the organization should not put more resources into recruiting you (for example, you were convicted of violent crimes against fellow students and are hoping to get out of prison in the near future).

Performing well in a telephone interview is a skill a good student, like you, can master. Study about phone interviews by using the Internet. Find someone in your statistics department who interviews potential staff members (or faculty) and ask that person to help you practice. Then practice. Evaluate your shortcomings, work on overcoming them, and practice again. Polish your skills.

Develop your face-to-face interviewing skills. An employer who is interested in you will want you to visit their offices and participate in personal interviews conducted by one or more potential supervisors, potential co-workers, and one or more human relations person. The technical folks—supervisors and co-workers—primarily want to evaluate how well you would perform on the job(s) and whether you would fit in with potential colleagues. They will have your cover letter, résumé, and information about your statistical training. They will want to discuss your statistical skills and any important ancillary skills—such as your ability to program in SAS, R, or similar—and evaluate your level of knowledge about the subject-matter areas in which you apply your statistical skills. They also will answer your questions about the position(s) and work environment.

Some larger companies administer a written exam to evaluate statistical knowledge and skills, but this is unusual and you would be forewarned. The human resources staff will evaluate your paper qualifications for the open position(s); check for disqualifying matters; and answer your questions about salary level, fringe benefits, etc.

Performing well in personal interviews is a skill that you, as a good student, can learn. The learning



**Social & Scientific Systems, Inc.** and panel members Eleanor Feingold, Gina D'Angelo and Joan Bailey-Wilson invite you to join us at a symposium to honor Brad Efron for his many contributions to theoretical and applied statistics. We will be discussing emerging statistical challenges in large scale inference, with a focus on applications in genetics and biomedical imaging. The goal of the symposium is to stimulate discussion; it will include both formal and informal meeting and discussion time, in addition to the featured speakers.

Brad Efron's trailblazing work helped earn him a Presidential National Medal of Science. Besides his extensive research, Brad Efron has held many leadership positions in the statistics community. His most famous breakthrough, the “bootstrap” (1979), marked the start of statistics' continuing computer-intensive age.

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process is essentially the same as learning telephone interviewing skills, but the actual skills are somewhat different. For example, it's important in a personal interview to maintain eye contact with your interviewer. Follow the process described previously for developing telephone interviewing skills to develop and polish your personal interviewing skills. Go!

You're now well prepared—hopefully “relentlessly prepared”—to go after the top three potential employers on your list. This is no time for a shotgun approach. It's usually too difficult to juggle more than three potential employers at a time, and you want to pursue your top choices seriously.

Use your cover letter template and knowledge about your top choices to prepare a cover letter for each. The letters will be similar, but adapted to each organization. Have your cover letters reviewed by a friend who is accomplished in English communication or by someone in your university's placement office. Misspelled words or incorrect grammar scream to a potential employer that you are not careful when working on the most important matters—not good for a professional statistician!

Translating a cover letter template into a good cover letter for a specific position can be an art form. Part of the letter is as cut-and-dried as, for example, carefully identifying yourself, specifying your contact information, and stating explicitly the position you are applying for (and how you came to know about it). But this is your only chance to make a first impression, and you want to convince the reader—quickly—that you are a great candidate. Accordingly, your letter will include a paragraph with the theme (not explicitly stated) “I am a great candidate for this position.” The art is to brag about your qualifications without coming across as bragging. If that is beyond your communication skills, don't worry about it; just state the facts and let them speak for themselves.

Submit your materials exactly as instructed by the potential employer. However, if you submit by email, request a return receipt to ensure the email was received. If you don't get a “received” email, resend your email and follow up with a telephone call to the addressee. Keep at it until you have definitive knowledge that your materials were received by the right person.

In addition, if you are acquainted with some of the employer's statisticians, it's okay to work the network. Send them an email informing them that you are applying for a position, that you are very interested in the position, and that their organization is in your top three. Also, attach copies of your cover letter and résumé. Don't ask them to intercede

## If you are acquainted with some of the employer's statisticians, it's okay to work the network.

for you; just let them know you think working at their organization would be a win-win situation and you would enjoy being their colleague.

In the process of writing this article, I discussed it with a pharmaceutical industry colleague who provided the following helpful hints for personal interviews. I hope they amuse you, at least a little.

**Be on time.** (Unless you are stuck in horrible traffic that has the city so clogged that you can't move, in which case use your cell phone to keep them apprised. Don't sweat it, you'll be forgiven, and if you aren't, then you don't want to work there anyhow.)

**Be neat and tidy.** (Bathe, use deodorant, no mini-skirts, no sheer blouses, no pants around your ankles.)

**Act interested.** (Giving abrupt short answers and tapping your fingers is not helpful.)

**Say why you are interested in drug development.** (But don't supply that you like working in this field so you can take the drugs you test—and this new antidepressant really works!)

**Don't be arrogant.** (If you think you are the best candidate in the job market this year, perhaps it's best not to share your perspective.)

**Tell us about your accomplishments.** (Almost finished your degree, then almost finished this big project, then almost finished that ... we'll almost hire you in that case.)

**Tell us about yourself.** (But if you show undue interest in the local watering hole and how acceptable it is to leave the building for said destination for lunch ... well, we might want you sober in the afternoon.)

Good luck! ■

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## California

■ **Decision Sciences**—San Jose State University College of Business: assistant professor/tenure-track vacancy beginning August 2012. Candidates should possess demonstrated excellence in teaching and research in introductory and advanced statistics, data mining, forecasting, probability modeling, and decision sciences. Teaching assignments will be at undergraduate and graduate levels. Must possess an appropriate doctorate from AACSB accredited institution by date of appointment. See complete position description at [www.sjsu.edu/cobl/docs/Decision\\_Sciences.pdf](http://www.sjsu.edu/cobl/docs/Decision_Sciences.pdf). SJSU is an Equal Opportunity/Affirmative Action Employer committed to the core values of inclusion, civility, and respect for each individual.

■ **RAND Statistics Group** is seeking PhD-level statisticians interested in 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 description or go to [www.rand.org/statistics](http://www.rand.org/statistics). Application deadline December 15, 2011. Applications must be submitted online following the instructions at [www.rand.org/statistics/jobs.html](http://www.rand.org/statistics/jobs.html) (Job ID #2962). Send questions to [Susan\\_Paddock@rand.org](mailto:Susan_Paddock@rand.org). EO/AA Employer.

## Georgia

■ **MS-Level Positions**. The Winship Cancer Institute of Emory University Biostatistics and Bioinformatics core has MS-level senior biostatistician and bioinformatics analyst positions. We are recruiting candidates with experience in clinical trials, omics areas, and Bayesian methods. Preference will be given to candidates with cancer research experience. Applicants should submit a cover letter, CV, and three reference letters to MS Search Committee ([beverly.jones@emory.edu](mailto:beverly.jones@emory.edu)). See <http://winshipBBISR.emory.edu/Job.html>. Winship Cancer Institute of Emory

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



### DEPARTMENT OF STATISTICS Full Professor Position High-Dimensional Data Analysis

The Department of Statistics at the University of South Carolina invites applications for a tenured Full Professor position. Research focus for this position is in the analysis of high-dimensional data. For details see [www.stat.sc.edu](http://www.stat.sc.edu). The Closing date for applications is December 31, 2011. Send application to Faculty Search Committee, Statistics Department, University of South Carolina, Columbia, SC 29208.

The University of South Carolina is an affirmative action, equal opportunity employer. Women and minorities are encouraged to apply. The University 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.

University is an equal opportunity/affirmative action employer. The department has a culturally diverse faculty and strongly encourages applications from women and minority candidates.

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■ At least one tenure-track assistant professor in statistics fall 2012. A PhD in statistics or related field by August 15, 2012. Apply online at <http://hrs.missouri.edu/find-a-job/academic> with a cover letter, CV, and transcripts required; three letters of reference sent to Search Committee, University of Missouri, Department of Statistics, 146 Middlebush Hall, Columbia, MO 65211 or [umcstatfacsearch@missouri.edu](mailto:umcstatfacsearch@missouri.edu). The University of Missouri is an Equal Opportunity/Affirmative Action/ADA Employer.

### North Carolina

■ The UNC Lineberger Comprehensive Cancer Center, the division of hematology-oncology, and the department of biostatistics at The University of North Carolina at Chapel Hill are recruiting a non-tenure track faculty member to provide collaborative biostatistical support, particularly in the areas of clinical trials and clinical correlative science. Applicants should hold a doctorate. To apply, go to <http://jobs.unc.edu/2501439>. The University of North Carolina at Chapel Hill is an Equal Opportunity/ADA employer. Women and minorities are encouraged to apply.

### Ohio

■ The Ohio State University Statistics Department ([www.stat.osu.edu](http://www.stat.osu.edu)) invites applications for two tenure-track assistant professor positions beginning autumn semester 2012. PhD in statistics/biostatistics, and excellence in research and teaching required. One position is targeted to interest in methodological research with application to biomedical sciences; the second is targeted to interest in theoretical statistics



## University of Pittsburgh Graduate School of Public Health

Department of Biostatistics  
Tenure-Track Faculty Positions

The Department of Biostatistics in the Graduate School of Public Health at the University of Pittsburgh seeks applicants for two tenure-track positions at the assistant, associate, and/or professor level, to begin in fall 2012 or earlier. We seek outstanding individuals with a commitment to methodological and collaborative research, and teaching. We have particular interest in candidates with research expertise in several areas including, but not limited to, clinical trials, comparative effectiveness, longitudinal data analysis, and observational studies. For further information, please go to [www.biostat.pitt.edu](http://www.biostat.pitt.edu).

Formal review of applications will begin December 1, 2011 and continue until the positions are filled. Rank and salary will be determined by the candidate's credentials. New PhDs and postdoctoral fellows are encouraged to apply. Candidates should submit a letter of application, a statement of research and teaching interests, and a curriculum vitae. Candidates should also arrange for three reference letters to be submitted. Electronic applications are preferred and should be sent to [biost@pitt.edu](mailto:biost@pitt.edu). Applications may also be submitted via mail to: University of Pittsburgh Graduate School of Public Health Department of Biostatistics; Biostatistics Faculty Search Committee; Howard Rockette, PhD; 130 DeSoto Street; Pittsburgh, PA 15261.

The University of Pittsburgh is an equal opportunity, affirmative action employer. Women and minority candidates are especially encouraged to apply.

## Challenging Statistics Problems

The RAND Statistics Group is seeking Ph.D. statisticians interested in exciting opportunities to collaborate on multidisciplinary research projects in public policy areas such as health, national security, criminal and civil justice, education, and population and regional studies; to conduct research on statistical methods; to consult; and to teach. RAND projects pose novel challenges in analysis, design, sampling, measurement, and computing. Locations include Santa Monica, CA (RAND's headquarters), Washington, DC, and Pittsburgh, PA. For more information, please visit [www.rand.org/statistics/](http://www.rand.org/statistics/).

Candidates should have strong theoretical training and a genuine interest in applied statistics. We seek both recent graduates and experienced statisticians with substantial publication records and extensive applied experience. Excellent oral and written communication skills essential.

Application deadline is December 15, 2011 and applications must be submitted online at [www.rand.org/statistics/jobs.html](http://www.rand.org/statistics/jobs.html) and reference Job ID 2962. Please submit cover letter, CV/résumé, statement of research interests and consulting experience, and writing sample. Three letters of reference and graduate transcripts (if degree received after 2008) should be sent to: RAND Corporation, Attn: Susan M. Paddock, Ph.D., Head, Statistics Group, 1776 Main Street, Box 2138, Santa Monica, CA 90407-2138. Questions may be emailed to [Susan\\_Paddock@rand.org](mailto:Susan_Paddock@rand.org).



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## Utah

■ Statistician—The Center for Clinical and Translational Science at the University of Utah is seeking a senior MS or applied PhD statistician to assume a leadership role in collaboration with clinical and translational investigators. Requirements include skills in data analysis, supervisory skills, interest in new statistical methods, and proficiency in statistical programming. Send résumé, letter of interest, and names of references to [Camie.Derricott@hsc.utah.edu](mailto:Camie.Derricott@hsc.utah.edu).

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EOE

## Survey Sampling Statistician

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.

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## Biostatistics Faculty Position

University of California, Davis, School of Medicine  
Department of Public Health Sciences

Position #PU-03R-11: Recruitment for an Endowed Deans' Professorship in Biostatistics at the Associate or Full Professor in Residence level.

Appointee's responsibilities will include collaborative and independent research, teaching, and student mentoring. Applicants must possess a doctoral degree in Biostatistics or Statistics. Demonstrated experience or potential for assuming administrative and leadership roles in Biostatistics in a School of Medicine or School of Public Health setting are highly desirable.

For a full list of responsibilities and requirements please see the Position Announcement at: <http://phs.ucdavis.edu/Jobs/JobListings.php>. Candidates should send a cover letter referencing position #, a CV and the names of five references to Laurel A. Beckett, Ph.D., ([labeckett@phs.ucdavis.edu](mailto:labeckett@phs.ucdavis.edu)) Professor and Chief, Division of Biostatistics, MS1C, UC Davis, Davis, CA 95616. Applications must be received by **November 1, 2011** for full consideration.

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## DEAN

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George Mason University seeks an experienced and exceptional leader for the position of Dean of the Volgenau School of Engineering to begin in July of 2012. The Dean provides overall academic and administrative leadership for the school.

**About George Mason University:** George Mason is a public university located in the heart of northern Virginia's technology corridor, just outside Washington, D.C., which makes Mason the destination for students from all over the world. Mason features Nobel laureate faculty members, Division I sports teams, and a technologically advanced campus. The university enrolls over 32,500 students, making it the largest university by head count in the commonwealth of Virginia.

**About The Volgenau School of Engineering:** The Volgenau School of Engineering at George Mason University was established in 1985. Currently, the school is comprised of the following academic departments: Applied Information Technology; Bioengineering; Civil, Environmental and Infrastructure Engineering; Computer Science; Electrical and Computer Engineering; Statistics; and Systems Engineering and Operations Research.

The Volgenau School is housed in the Long and Kimmy Nguyen Engineering Building. It is a state-of-the-art building which contains more than 180,000 square-feet of classroom, research and office space. As such, it is the largest academic building on Mason's Fairfax campus. It is also Mason's first Leadership in Energy and Environmental Design (LEED) - certified green building.

The Volgenau School was the first engineering school in the United States to offer a Ph.D. degree in information technology. Today, the school offers six Ph.D. degrees, 14 master's degrees, and eight B.S. degrees in programs that cover a large range of information technology (IT) and engineering disciplines. The Volgenau School has also recently added a new B.S. in bioengineering and a new Bioengineering Department. The faculty are active in research, with \$17.3 million in research expenditures last year. The school has developed and maintained strong partnerships with northern Virginia IT companies. These partnerships broaden and strengthen the school's academic programs and ensure that classes are current and relevant. Over 50 senior-level executives serve on the school's advisory boards. The school's high-quality faculty and programs make it well-poised to be a top-ranked engineering school in the next decade, and the successful applicant will lead the school in fulfilling that aspiration.

Additional information about the Volgenau School of Engineering can be found at: <http://volgenau.gmu.edu/>.

Candidates for the position of Dean should have significant academic leadership experience in at least one field represented among the academic programs of the school, while also having familiarity with the broad array of fields in the school. Candidates must have an earned doctorate and a strong record as a scholar consistent with the academic rank of professor. Candidates should have a record of securing and managing external funding; effective and open communication skills; and success in working with internal and external constituencies to support teaching, research, employment opportunities and ongoing professional education.

Nominations and applications should be sent with a letter addressing qualification; curriculum vitae; and the names, addresses and telephone numbers of four professional references to: Dean Jorge Haddock, Chair, Volgenau School of Engineering Search, School of Management, MS 1B1, George Mason University, 4400 University Drive, Fairfax, VA 22030.

Review of applications will begin on October 3, 2011, and continue until the position is filled. For full consideration, please complete the online faculty application for position FA010z at <http://jobs.gmu.edu>; and attach a cover letter, CV, and list of four professional references with contact information. EOE



## School of Public Health

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The position also includes research, teaching and service responsibilities, and comes with a tenured or tenure-track faculty line supported by hard dollars. Candidates should be proven scholars with a strong publication record in biostatistics and extensive independent and collaborative research experience. They must also be seasoned educators who have taught a range of statistics courses and mentored graduate students. Individuals with a variety of methodological research areas of interest will be considered.

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Questions/inquiries can be addressed to:

Craig J. Newschaffer, Ph.D.  
Chair, Department of Epidemiology & Biostatistics  
[cjn32@drexel.edu](mailto:cjn32@drexel.edu)

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The University of Utah is an Affirmative Action/Equal Opportunity employer. Upon request, reasonable accommodations in the application process will be provided to individuals with disabilities. The University of Utah is committed to diversity in its work force. Women and minorities are encouraged to apply.

### Wyoming

■ Tenure-track assistant professor, statistics, beginning August 2012. Requirements include PhD in statistics or related field and excellence in both research and teaching at all levels. Seeking candidate with expertise in computational statistics. Valuable complementary interests include Bayesian statistics and interdisciplinary research. Collaborative opportunities exist both on campus and with NCAR. Full description and application instructions are at [www.ezfacultysearch.com/uwyo/stats/6](http://www.ezfacultysearch.com/uwyo/stats/6). The University of Wyoming is committed to diversity and endorses principles of



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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 Washington, DC offices. To learn more about NORC and to apply for employment, visit our website at:

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Located in Seattle, Washington, the Fred Hutchinson Cancer Research Center is a world-renowned research institution. The Biostatistics and Biomathematics Program at the Fred Hutchinson Cancer Research Center's Division of Public Health Sciences is recruiting a faculty member in statistical genetics at the Assistant Member level, titles that correspond to Assistant professor at a university. The appointee will be able to interact with an unusually strong group of faculty in statistical genomics and have the opportunity to collaborate with top research in the field.

We are seeking a candidate who will establish a dynamic research program consisting of independent and collaborative research projects pertinent to the mission of the Fred Hutchinson Cancer Research Center. We are looking for researchers with an interest in population genetics, statistical methods for genetic association studies, high-throughput technologies, and other areas in statistical genetics or genomics.

Applicants should have a Ph.D. or equivalent advanced degree in statistics, biostatistics, statistical genetics or another quantitative area with a strong record of, or high potential for, independent methodological research and scientific collaboration. We are looking for a candidate with strong communication and collaboration skills.

An affiliate appointment at the Assistant Professor level in a relevant department at the University of Washington may be possible, depending on mutual interest and involvement with university activities.

A letter summarizing independent and collaborative biostatistical and genetic experience and research interests, a complete CV, and four reference letters should be sent electronically (PDF preferred) to Sandy Ormbrek ([sormbrek@fhcrc.org](mailto:sormbrek@fhcrc.org)). Applications should be received by January 1, 2012 to assure consideration. Later applications may also be considered if the position is not yet filled. The Fred Hutchinson Cancer Research Center and the University of Washington are equal opportunity/affirmative action employers. The two institutions are building culturally diverse faculty and strongly encourage applications from female and minority candidates.



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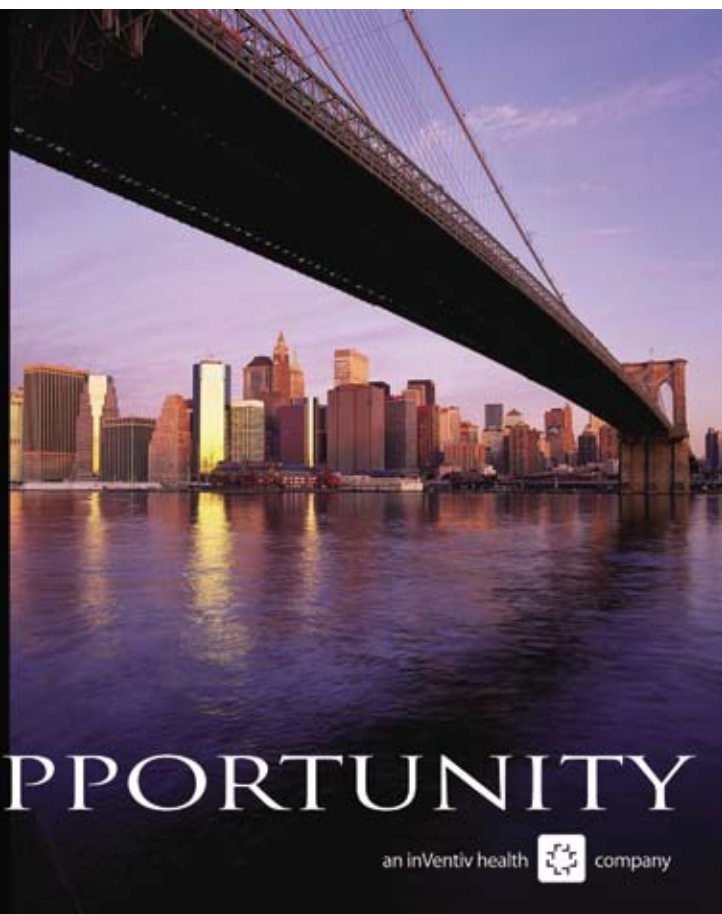
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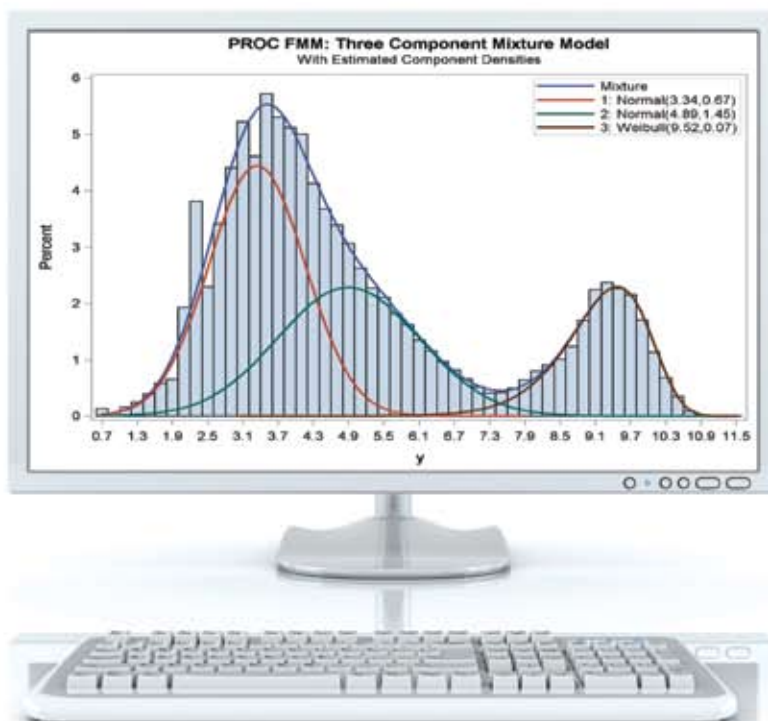
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