May 2011 • Issue #407

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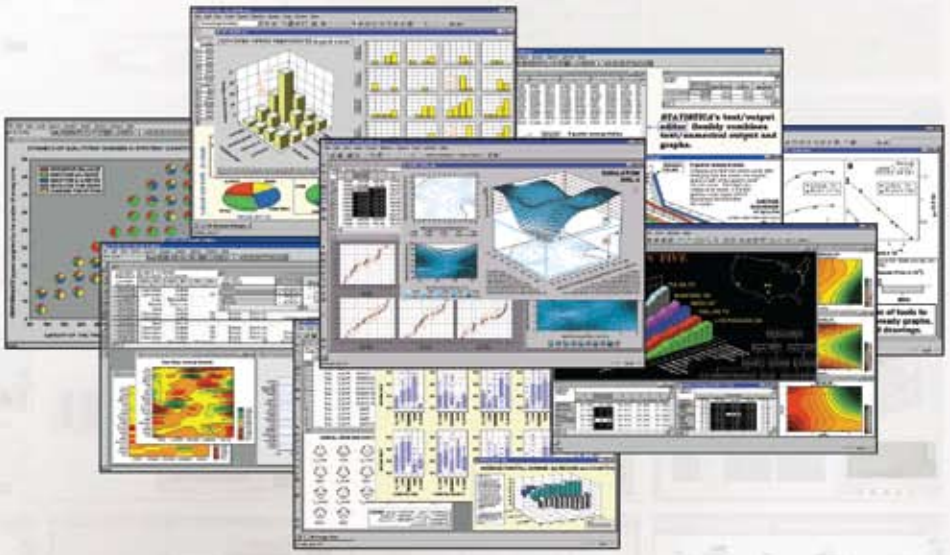

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AMSTATNEWS

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Amstat News welcomes news items and letters from readers on matters of interest to the association and the profession. Address correspondence to Managing Editor, *Amstat News,* American Statistical Association, 732 North Washington Street, Alexandria VA 22314-1943 USA, or email *amstat@amstat.org*. Items must be received by the first day of the preceding month to ensure appearance in the next issue (for example, June 1 for the July issue). Material can be sent as a Microsoft Word document, PDF, or within an email. Articles will be edited for space. Accompanying artwork will be accepted in graphics file formats only (.jpg, etc.), minimum 300 dpi. No material in WordPerfect will be accepted.

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

features

columns

This column highlights research activities that may be of interest to ASA members. These brief articles include information about new research solicitations and the federal budget for statistics. Comments or suggestions for future articles may be sent to ASA Research and Graduate Education Manager Keith Crank at *keith@amstat.org.*

Crank

Contributing Editor

Keith Crank earned a BS in mathematics education and an MS in mathematics from Michigan State University and a PhD in statistics from Purdue University. Prior to joining the ASA as research and graduate education manager, he was a program officer at the National Science Foundation, primarily in the probability program.

This column is written for statisticians with master's degrees and highlights areas of employment that will benefit statisticians at the master's level. Comments and suggestions should be sent to Keith Crank, ASA research and graduate education manager, at *keith@amstat.org.*

Fong

Contributing Editor

Jim Fong is the newly appointed founding director of research and consulting at the University Professional and Continuing Education Association (UPCEA). He has held many leadership and analytical roles within the research, marketing, and higher education communities. Fong can be reached at jfong@upcea.edu *or* jimfong@comcast.net. *His blog can be found at* www.jimfongonline.com.

Online Articles

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

What Statisticians Should Watch in Congress in 2011. The 112th Congress is well under way, with federal budget discussions grabbing most of the headlines. Once the fiscal year 2011 (FY11) budget is resolved, what are the issues that might interest ASA members in 2011? Which issues should ASA members contact their members of Congress about? ASA Director of Science Policy Steve Pierson's list includes the FY12 federal budgets, forensic science, statistics education, and U.S. Census Bureau issues. Read more in the May Science Policy column at *http://magazine.amstat.org/blog/2011/04/08/scipol511*.

Jeff Wu to Deliver the COPSS Fisher Lecture. Born in Taiwan, Wu came to the United States to study at the University of California, Berkeley and earned his PhD in statistics in 1976. His research contributions span the full range of statistics, from theory to application, and touch many applied domains, from sample surveys to nanotechnology. A special article about Wu's life, prepared by Michael Newton and Hugh Chipman, can be viewed online at *http://magazine.amstat.org/blog/2011/05/01/fisher-lecture*.

The Benefits of Using Rigorously Tested Routines from Numerical Libraries—Mathematics and Statistics Edition White Paper Available. Now mathematicians and statistical researchers—many of who are already contending with slower performance of legacy applications developed for 32-bit processors operating in 64-bit systems or supercomputer-level resources—can obtain a white paper tailored to concerns of environmental researchers. "The Benefits of Using Rigorously Tested Routines from Numerical Libraries—Mathematics and Statistics Edition" can be obtained by writing to *NAGWWMathstatcs@nag.com*. For details, visit *http://magazine.amstat.org/blog/2011/05/01/white-paper*.

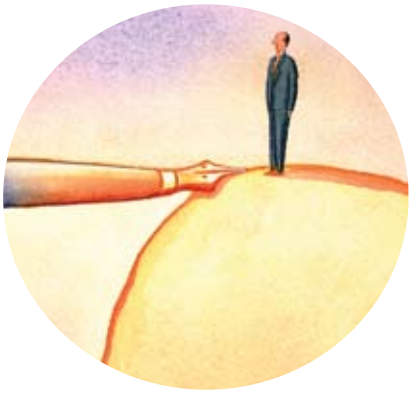
columns

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

Bilder

Contributing Editors

Christopher Bilder is an associate professor in the department of statistics at the University of Nebraska-Lincoln. He earned his PhD in statistics from Kansas State University and now focuses on developing new statistical methodology to help assay large quantities of clinical specimens through the use of group testing.



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member news

First ASA Conference on Statistical Practice

Phil Scinto

To meet the needs of its various constituencies, the ASA decided through its strategic planning process to launch a new meeting aimed at statistical practitioners. That vision is coming to fruition in early 2012 with the ASA Conference on Statistical Practice. This month, I have invited Phil Scinto, chair of the Conference on Statistical Practice Organizing Committee, to give you an update on this new and exciting opportunity.

~ Nancy Geller, ASA President

In response to the requests of many members, the first ASA Conference on Statistical Practice (CSP) has been set for February 16–18, 2012, in Orlando, Florida, at the Renaissance Orlando at SeaWorld (*www.amstat.org/meetings/csp/2012/index.cfm*).

While the Joint Statistical Meetings (JSM) is the premier conference for statisticians, it is large and diverse. In particular, JSM cannot focus on the needs of applied and consulting statisticians working on urgent problems, issues, and systems for clients and organizations to improve processes, products, and decisions.

The vision for CSP is to bring together statistical practitioners—including data analysts, researchers, and scientists—who use statistics to solve real-world problems on a daily basis. The conference will provide an opportunity to learn about the latest statistical methodologies and best practices in statistical design, analysis, programming, and consulting. Additionally, you will learn the following:

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

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The CSP will focus on invited presentations and courses full of information for you, the practicing statistician, to take back to your job.

The intended CSP audience includes those statisticians, data analysts, researchers, educators, and scientists who engage in statistical analysis, design, and consulting as a major component of their jobs. A sizable portion of the audience will have graduate degrees in statistics or a related area, while others will have no statistics degree, but will have mastered their skills through self-study or coursework as part of another discipline.

It is not the ASA's goal that the CSP mimic JSM or be an extension of JSM. Nor is the CSP intended to be a vehicle to highlight or promote statistical theory. The conference will have an intimate feel (we are targeting 400 people for the initial conference) and will provide opportunities for you to learn new statistical methodologies and best practices through invited courses and sessions, posters, and plenary presentations. The conference also will provide opportunities for you to further your career development through workshops and seminars on effective communication, management, and leadership skills. In addition, a goal is to strengthen relationships in the statistical community for those practitioners not necessarily part of an academic community or a large statistical organization.

Members of both the CSP Organizing Committee and the Annual Conference Committee are diligently working on the 2012 conference program. In fact, 2012 ASA President Bob Rodriguez has agreed to be the plenary speaker and kick off the conference.

This initiative will serve applied statisticians in all areas. While sessions and courses are still in development, we plan to have tracks in research and development, operations and engineering; business analytics; and communication, impact, and career development. However, do not let the track names lead you to believe the topics are limited. These tracks, still preliminary, are intended to span diverse areas, industries, and disciplines. Whether you are in industry; government; medical, pharmaceutical, environmental, business, or economic statistics; education; software; or general consulting, there will be something for you. Check the CSP website for updates. ■

Pfizer Contributes to ASA's Educational Ambassador Program

Pfizer recently contributed $6,000 to the ASA's Educational Ambassador (EA) program for 2011. The EA program was launched in 2005 as a means to foster collaboration between the ASA and other international statistical societies for permanent exchanges of knowledge. It has been successful in bringing statistical education to countries and regions in which statistical education receives less-organized support. Pfizer considers this contribution especially worthwhile, since the EA program could help elevate scientific rigor worldwide.

Pfizer also sponsored the JSM 2010 Student Mixer in Vancouver, British Columbia, and will cosponsor the Student Mixer at JSM 2011 in Miami Beach, Florida.

Pfizer is the world's leading innovation-based pharmaceutical company. It employs a large number of statisticians in several parts of the world. Being a global company driven by research and development, Pfizer places a strong emphasis on cutting-edge science and technology in all areas of discovery, development, and manufacturing of medicines for people and animals.

State-of-the-art science and technology is only possible through advanced education and training at all levels. The EA program is fundamental in contributing to the knowledge necessary to evaluate the value of medicinal products in improving human life. ■

From left: Martha Aliaga, ASA director of eduction; Christy Chuang-Stein, ASA vice president; and Ron Wasserstein, ASA executive director

CORRECTION:
In the April issue of *Amstat News,* Andrew Beam's name was misspelled in the STAT*tr@k* column. We regret the error.

TAS Article Cited in Supreme Court Case

Rosanne Desmone, ASA Public Relations Specialist

A 2009 *The American Statistician* article, "How Likely Is a Simpson's Paradox?" was recently cited in a case before the Supreme Court. Oral arguments were heard by the court in the case of *Dukes v. Wal-Mart Stores Inc.* on March 29. An *amicus curiae* brief filed by CostCo in the case cites the article, which was written by Marios G. Pavildes and Michael D. Perlman. The paper also was cited in a footnote in the written decision by the U.S. Court of Appeals for the Ninth Circuit (California), allowing the case to move ahead as a class action.

At issue is whether the Supreme Court will certify the case as a class-action suit. The court agreed to hear arguments about whether a federal rule of civil procedure [Rule 23(b)(2)] can be used to file a class-action suit that demands monetary damages. The court also requested that the parties argue as to whether the class action meets traditional requirements of numerosity, commonality, typicality, and adequacy of representation. If the case is allowed to proceed as a class action, it will be one of the largest—if not the largest—civil rights class-action suits in U.S. history, encompassing some 1.6 million women who work or have worked for Wal-Mart.

A decision from the court is expected in June. CNN coverage of the case stated that a ruling by the justices against Wal-Mart could eventually affect nearly every private employer, large and small.

Meeting Within a Meeting (MWM)

Statistics Workshop for K-12 Mathematics and Science Teachers

(*www.amstat.org/education/mwm*)

Sponsored by the American Statistical Association (ASA)
2011 Joint Statistical Meetings (JSM)*

★ ★ ★

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

Dates: Tuesday, August 2, and Wednesday, August 3, 2011, 8:00 a.m. to 3:30 p.m.

Places: Miami Beach Convention Center, 1901 Convention Center Drive, Miami Beach, FL 33139-1820, and neighboring hotels (workshop meeting room location to be announced)

Audience: K–12 mathematics and science teachers. Multiple mathematics/science teachers from the same school are especially encouraged to attend. Note: Experienced AP Statistics teachers should register for the Beyond AP Statistics (BAPS) workshop. See *www.amstat.org/education/baps* for more information.

Objectives: Enhance understanding and teaching of statistics within the mathematics/science curriculum through conceptual understanding, active learning, real-world data applications, and appropriate technology

Content: Teachers will explore problems that require them to formulate questions; collect, organize, analyze, and draw conclusions from data; and apply basic concepts of probability. The MWM program will include examining what students can be expected to do at the most basic level of understanding and what can be expected of them as their skills develop and their experience broadens. Content is consistent with Common Core standards, GAISE recommendations, and *NCTM Principles and Standards for School Mathematics*.

Presenters: GAISE report authors and prominent statistics educators

Format: Tuesday: Grades K–4 and 9–12 sessions
Wednesday: Grades 5–8 session
One-day pass to attend activities at JSM (statistics education sessions, poster sessions, exhibit hall)
Activity-based sessions, including lesson plan development

Provided: Refreshments
Complimentary one-day pass to attend the Joint Statistical Meetings
Lodging reimbursement (up to a specified amount) for teachers from outside the Miami area
Handouts
Certificate of participation from the ASA certifying professional development hours
Optional graduate credit

Cost: The course fee for the two days is $50. Note: Course attendees do not need to register for the Joint Statistical Meetings to participate in this workshop.

Follow up: Follow-up activities and webinars (*www.amstat.org/education/k12webinars*)
Network with statisticians and teachers to organize learning communities

Registration: Online registration available at *www.amstat.org/education/mwm*. Space is limited. If interested in attending, please register as soon as possible.

Contact: Rebecca Nichols, *rebecca@amstat.org*; (703) 684-1221, Ext. 1877

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

Writing Workshop for Junior Researchers to Take Place at JSM

Keith Crank, ASA Research and Graduate Education Manager

The National Institute of Statistical Science (NISS) and the American Statistical Association (ASA) will hold a writing workshop for junior researchers. The goal of the workshop is to provide instruction about how to write journal articles and grant proposals. Participants will be required to provide a recent sample of their writing, which will be reviewed by a senior mentor. The sample can be a current draft of an article to be submitted for publication or an early version of a grant proposal. (Submission of the manuscript will be required as part of the registration process. Prior experience suggests that the best results come from submitting an early draft of something that is written solely or primarily by the participant.)

Mentors will be former journal editors and program officers, who will critique (a portion of) the submitted material. Individual feedback will be provided as part of the opening session, and participants will be expected to prepare a revision in response. The workshop will open with a one-day session of general instruction on effective writing techniques and will close with discussion and debriefing at a follow-up lunch.

The full-day session is scheduled for July 31 in Miami Beach, Florida. At the close of the formal activities, mentors will meet individually with participants to go over the writing samples they submitted. Each participant will then prepare a revision of a critiqued portion of the paper and return it to the mentor by the evening of August 2. Mentors and participants will meet again in conjunction with a lunch on August 3 to discuss the success of the revisions. The lunch program also will include general feedback to participants, mentors, and organizers.

Attendance is limited and will depend on the number of mentors available. An online application form is available at *www.amstat.org/meetings/wwjr/registration*. Applications are due by June 1, and successful applicants will be notified by June 30. Applications received after June 1 will be considered if space is available. There is no fee for participation. Participants will receive lunch on July 31 and August 3. Participants must agree to attend both sessions. We anticipate funding for partial travel support.

This workshop is designed for researchers with a recent PhD in either statistics or biostatistics. Top priority will go to those who have held the PhD for 0–3 years. The limited funding will be used to support attendance by researchers from U.S. institutions. Current PhD students who are completing their degree before the end of the summer and who will be at U.S. institutions in the fall also will be considered. If space is available, researchers at institutions outside the United States will be admitted, but not provided with travel support.

For more information, contact Keith Crank, ASA research and graduate education manager, at *keith@amstat.org*. ■

Register online for the Joint Statistical Meetings at *www.amstat.org/jsmregistration*

Don't miss your chance to participate in the largest gathering of statisticians held in North America.

Meet Susan Boehmer, New IRS Statistics of Income Director

Amstat News invited new Statistics of Income Director Susan Boehmer to respond to the following questions so readers could learn more about her and the agency she directs. Look for future new statistical agency head interviews in forthcoming issues.

M. Susan Boehmer joined SOI in July 2010. Prior to that, she served as director of the IRS Wage and Investment Division's Planning, Research, and Analysis. Boehmer also served as the first chief of Wage and Investment's Business Systems Security Office, which included the IRS Identity Theft Program Office; director of strategic operations for the Earned Income Tax Credit program; and deputy assistant regional inspector (internal audit) in Atlanta, Georgia. Boehmer is a graduate of Northern Kentucky University and a certified internal auditor.

SOI Fast Facts

Part of the IRS Research, Analysis, and Statistics Organization

Website: *www.irs.gov/taxstats*

Fiscal Year 2010 budget: $43 million

Staff size: 180

What about this position appealed to you?

The organization's vital mission; rich history; and its professional, dedicated staff made my decision to join the Statistics of Income (SOI) Division an easy one. SOI is a principal federal statistical agency whose mission is to collect, analyze, and disseminate information about federal taxation for the Treasury Department's Office of Tax Analysis, congressional committees, the Internal Revenue Service in its administration of the tax laws, other organizations engaged in economic and financial analysis, and the general public.

SOI has been in the business of producing and disseminating tax data for a long time. The Revenue Act of 1916 mandated the annual publication of statistics related to the "operations of the internal revenue laws," and SOI was created to meet that requirement. Ultimately, our nation's leaders use SOI data to shape economic and tax policy, and, in that way, SOI plays an important role in achieving good government.

Describe the top 2–3 priorities you have for the IRS Statistics of Income (SOI) Division.

My goal is for SOI to maintain its status as a premier federal statistical agency. To accomplish this, I plan to focus on three key priorities. First, SOI's statistical products and services must continue to evolve with customers' needs and exceed expectations. Historically, SOI has met this challenge. For example, as customers' use of the web grew, we responded. In addition to investing in our own website (*www.irs.gov/taxstats*), SOI is an active participant in the open government initiative, Data.gov.

Second, SOI must continue to invest in its most outstanding resource: its human capital. We must provide challenging, innovative, and rewarding work to our dedicated staff.

Finally, SOI must continue to play a vital role in the federal statistical community. Working collaboratively with others in the community will allow SOI to contribute to, and benefit from, agencies' 'best practices.' By achieving these three priorities, SOI will thrive as a leading statistical organization.

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

Over the years, SOI has done an outstanding job of pioneering new processes and harnessing new technology. For example, SOI adopted computer technology, entered the Internet age, built systems for creating digital images of paper documents, and developed techniques for using electronically filed return data. However, we cannot be complacent and rest on our previous accomplishments—we must continue to grow as an organization. Like all statistical agencies, we are challenged to provide more data and provide it faster. We're also challenged to meet the opportunities that arise from electronic data, all in an environment of shrinking budgets. However, with input from—

and the creativity of—SOI staff, as well as input from our peers in the statistical community, customers, and oversight groups, I know SOI will continue to thrive, providing its customers with innovative and high-quality statistical products and services.

How can the statistical community help you?

A member of the Interagency Council on Statistical Policy, SOI actively participates in, and benefits from, the federal statistical community. SOI staff support and participate in the Federal Committee on Statistical Methodology (FCSM), the interagency committee dedicated to improving the quality of federal statistics. In recent years, SOI has worked with other FCSM agencies to create interagency innovation workgroups to share ideas and develop 'best practices.' Workgroups have addressed balancing print and web-based dissemination of statistical products, and data review, editing, and imputation for administrative records and surveys. This type of collaborative work will allow SOI to gain valuable knowledge from the statistical community.

While SOI's statistical products and services, and the vehicle for many of those products and services, SOI's Tax Stats website, are well known and regarded among our primary customers and others, we continually seek new ways to reach new users. We certainly look to the statistical community for help in further promoting our products and services to potential users.

We certainly look to the statistical community for help in further promoting our products and services to potential users.

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

Again, in its efforts to produce the best possible tax data, SOI has always identified process improvements and adopted new technology. Because of this, SOI has recently experienced significant reductions in the time required to complete its major programs. Let me give one example in the area of corporate tax data.

In 2004, the IRS introduced the modernized electronic filing (MeF) system, which allowed certain corporate taxpayers to file their tax returns electronically. MeF has expanded, and the IRS now requires all firms with more than $10 million in assets and at least 250 annual filings to file electronically. Talented IT and other staff within SOI developed an XML relational database (XRDB) to store electronically filed corporate (and other) tax data. This required creating "shred scripts" to parse XML data into database columns and tables. Since its original design, staff [members] have introduced improvements to XRDB that have dramatically reduced the time required to complete the annual corporate program. The time savings are impressive. Use of XRDB for SOI's corporate tax program reduced cycle time by 3,000 hours, or 17%.

Do you envision any major changes to SOI's projects, products, or services?

Of course, in coming years, SOI will continue to provide projects, products, and services that meet customer needs, and SOI staff will work closely with our primary customers and others to ensure our deliverables evolve as customers' needs change. For example, in response to customer requests and to make SOI data accessible to a broader audience, we have steadily introduced more metadata to the pages of SOI's Tax Stats website. SOI also has developed a single page snapshot that presents simple statistical information on various topics for access by customers who are less familiar with tax data. We also continue to explore ways to encourage collaborative research on tax issues, while respecting the confidentiality required when sharing tax data.

In meeting the needs of our customers, as well as meeting our original mandate to annually publish statistics related to the operations of the internal revenue laws, SOI is ever mindful that our data—and high-quality data produced throughout the federal statistical community—play a critical role in achieving good government. That's a great responsibility and one that SOI takes very seriously. ■

Peace Through Statistics

Jürgen Symanzik, Utah State University, and
Natascha Vukasinovic

The list of recent Nobel Peace Prize laureates goes as follows:

- 2009—Barack H. Obama, president of the United States of America
- 2010—Liu Xiaobo, Chinese dissident
- 2011—Miodrag Lovrić (Serbia), Jasmin Komić (Bosnia and Herzegovina), and Ksenija Dumičić (Croatia), statisticians

That's a joke, isn't it? Actually, no, but a possible (perhaps not very likely) outcome for the 2011 Nobel Peace Prize award. Lovrić, Komić, and Dumičić were among the 241 nominations (188 individuals and 53 organizations) entered by the February 1, 2011, deadline for the 2011 Nobel Peace Prize. What led to the nomination of a group of three statisticians for such a prestigious award?

Flashback to the 1990s: The Yugoslav Wars and Split of Former Yugoslavia

The fall of communism in eastern European states resulted in mostly peaceful splits of former communist countries such as the Union of Soviet Socialist Republics (USSR) and Czechoslovakia in the early 1990s. However, this wasn't the case for Yugoslavia. Due to tensions between different ethnicities (e.g., Serbs, Albanians, Bosniaks, Croats, Macedonians, Montenegrins, Slovenes), religions (e.g., orthodox Christian Serbs, Catholic Croats, Muslim Bosniaks), and economic pressures, a series of multiple wars broke out in Yugoslavia throughout the 1990s. As a result of these wars, Yugoslavia broke into seven

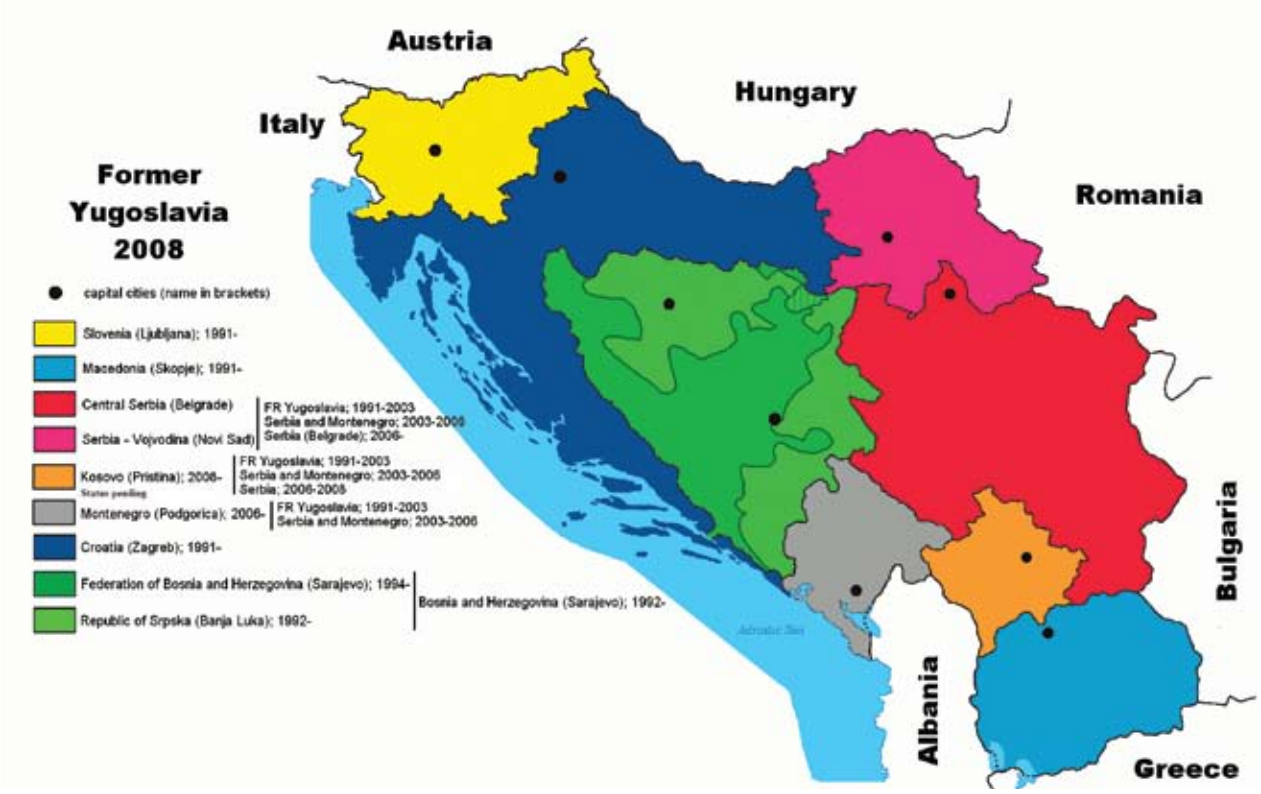
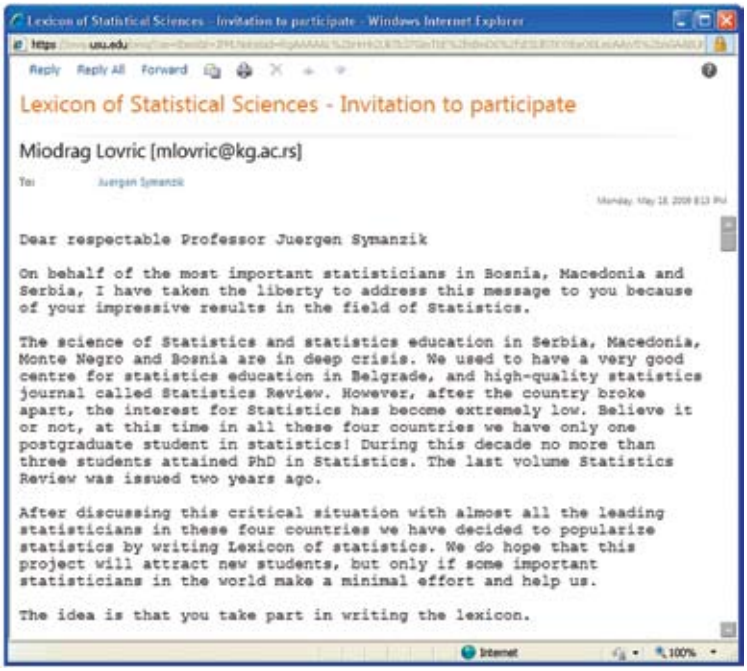


Figure 1. Countries and subregions resulting from the split of former Yugoslavia, as of 2008

Map obtained from *http://upload.wikimedia.org/wikipedia/commons/8/89/Former_Yugoslavia_2008.PNG* on March 10, 2011



Lexicon of Statistical Sciences - Invitation to participate - Windows Internet Explorer

Reply Reply All Forward

Lexicon of Statistical Sciences - Invitation to participate

Miodrag Lovric [mlovric@kg.ac.rs]

Dear respectable Professor Juergen Symanzik

On behalf of the most important statisticians in Bosnia, Macedonia and Serbia, I have taken the liberty to address this message to you because of your impressive results in the field of Statistics.

The science of Statistics and statistics education in Serbia, Macedonia, Monte Negro and Bosnia are in deep crisis. We used to have a very good centre for statistics education in Belgrade, and high-quality statistics journal called Statistics Review. However, after the country broke apart, the interest for Statistics has become extremely low. Believe it or not, at this time in all these four countries we have only one postgraduate student in statistics! During this decade no more than three students attained PhD in Statistics. The last volume Statistics Review was issued two years ago.

After discussing this critical situation with almost all the leading statisticians in these four countries we have decided to popularize statistics by writing Lexicon of statistics. We do hope that this project will attract new students, but only if some important statisticians in the world make a minimal effort and help us.

The idea is that you take part in writing the lexicon.

Figure 2. First few paragraphs of an invitation from May 2009 to contribute to the lexicon. This invitation resulted in an article titled "Interactive and Dynamic Statistical Graphics."

independent states: Bosnia and Herzegovina (with three political entities, the Republika Srpska - RS, the Federation of Bosnia and Herzegovina, and the Brčko District), Croatia, Kosovo, Macedonia, Montenegro, Serbia, and Slovenia, as shown in 2008 in Figure 1.

Recent History: Did Science Lose?

Since the 1990s, the quality of education at many universities in Yugoslavia has deteriorated due to lack of funding and political instability. Many universities have become a place of political opposition, rather than a place to study and conduct research. Similar to other natural sciences and mathematics, the field of statistics suffered tremendously in all countries that originated from former Yugoslavia. As an example, only one student earned a PhD in statistics since 2002 from the University of Belgrade.

The *International Encyclopedia of Statistical Sciences*

To help mediate the lack of statistical education and statistical expertise in the spin-off countries of former Yugoslavia, Lovrić formed an organizational committee in late 2007, with one member each from Bosnia and Herzegovina (Komić, committee

Figure 3. Map showing 104 countries representing a total of 619 authors who contributed to the *IESS*. Two hundred fourteen (roughly 35%) of the authors reside in the United States. Some sources counted Hong Kong as an independent 105th country.

president), Croatia (Dumičić), Macedonia (Kalina Trenevska Blagoeva), Serbia (Milan Merkle), and Slovenia (Jože Rovan). Initially, the idea was to write and promote a dictionary of statistics with only statisticians from former Yugoslavia as contributors. Later, the name of this project was changed to lexicon of statistics. Deciding on a language for this dictionary/lexicon was difficult as many related, but different, languages are spoken in these countries. Eventually, the decision was made to publish all entries in English.

Lovrić and Vladislav Milošević (who passed away in 2009) were the original co-editors of the dictionary/lexicon. They came up with the idea from long discussions between Lovrić and Komić while working on their textbook, *Statistička Analiza – Metode i Primjena* (*Statistical Analysis – Methods and Applications*), that was published in 2006 in Banja Luka, Bosnia and Herzegovina. Lovrić said, "I sent the first invitation to Sir David Cox on May 23, 2008." Contributions followed from such eminent statisticians as Peter Hall, Bradley Efron, James Hamilton, Robert Tibshirani, David Moore, Ronald Iman, Peter Diggle, and E.L. Lehmann. Short articles also came in from Thomas Hettmansperger, Peter Kennedy, Geert Molenberghs, Hirotogu Akaike, and Alan Agresti.

Over time, members of the organizational committee realized statistics and statistics education was not only in decline in spin-off countries of former Yugoslavia, but in many developing countries, as well. A main focus of the project became to "help revive statistics education in developing countries." Therefore, statistical experts from around the world, including many from developing countries, were invited to write an article. Figure 2 shows the first few paragraphs of an email invitation from May 2009 that further described the motivation for the lexicon. The name of the project changed once more to its final name, the *International Encyclopedia of Statistical Sciences* (*IESS)* (*www.springer.com/statistics/book/978-3-642-04897-5*).

In an email, Lovrić stated: "It was a kind of destiny that the current president of the Republic of Srpska, Milorad Dodik, had a visionary view and helped me substantially." The initial contact between Lovrić and Dodik was established through Komić.

The preface of the *IESS* says, "This goal [to help revive statistics education] has attracted and united many leading world statisticians, four Nobel Laureates, many eminent mathematicians, psychologists, philosophers, econometricians, economists, academicians, presidents and founders of statistical societies, and editors and associate editors of many reputed international journals." Eventually, 619 authors from 104 countries (see Figure 3 for a geographic breakdown) contributed 636 entries to the *IESS*. With respect to the number of countries involved, this

Lovrić, Komić, and Dumičić "provided an outstanding contribution to world peace and science, making the largest international scientific project ever implemented in history"

From left: Miodrag Lovrić, Ksenija Dumičić, and Jasmin Komić

is one of the largest international scientific projects and bypasses the number of participating countries of most, if not all, previous statistical lexica and encyclopedias. The list of contributors has been reposted at *www.amstat.org/news/pdfs/contributors_iess.pdf.*

While Lovrić (due to Milošević's health) had to do almost all the editorial work, he gives credit to the contributors: "Finally, it is very important to stress out the help of many statisticians worldwide (starting with Sir David Cox). Many of them suggested new names for contributors and topics, also many took the role of referees. Therefore, I regard *IESS* as a joint world effort."

The three-volume hardcover edition of the *IESS* currently retails for $1,100, but there exist freely accessible versions of the articles at *http://statprob.com*, where many of the contributing authors of the *IESS* have been invited to upload their entries.

The Nobel Peace Prize Nomination

In late January 2011, numerous newspapers and TV channels in some of the spin-off countries of former Yugoslavia reported that Lovrić, Komić, and Dumičić were nominated for the Nobel Peace Prize. While the Nobel Peace Prize Committee in Oslo, Norway, restricts disclosure of the nominations, the qualified nominators have the right to reveal whom they have nominated.

Lovrić, Komić, and Dumičić were initially proposed by the Academy of Sciences and Arts (and its president) of the Republika Srpska. Later, the RS Ministry of Science and Technology joined the proposal. The government also joined and authorized the minister of education, minister of finance, minister of science and technology, minister of economic and regional relationships, and minister of justice to sign the proposal and formally nominate Lovrić, Komić, and Dumičić. The justification for the nomination was that Lovrić, Komić, and Dumičić "provided an outstanding contribution to world peace and science, making the largest international scientific project ever implemented in history (the number of countries involved)—the *International Encyclopedia of Statistical Sciences*—which is the work of 619 eminent experts from 105 countries from six continents." Moreover, one of the justifications stated, "No one in history has ever managed to unite, like brothers, the nations on this planet under one pacifistic and scientific idea, as it succeeded Miodrag Lovrić, Jasmin Komić, and Ksenija Dumičić due to the fact that they and their many years of outstanding efforts could unite scientists from countries that account for 90% of the world's population." In an email, Lovrić indicated their nomination was supported by two additional qualified nominators from Serbia and Spain.

The online *SUTRA* magazine from Bosnia and Herzegovina concluded, "These candidates belong to three different countries, three religions in the area that was affected by conflicts, and if they were awarded it would be a paradigm, a model, and a signal for all new generations in the region that the political solution can only be reached on the basis of joint work and concessions, rather than war and violence." ■

STATISTICS IN BIOPHARMACEUTICAL RESEARCH

May Issue of *SBR*: A Festschrift for Gary Koch

Steven Snapinn, *Statistics in Biopharmaceutical Research* Editor

Gary Grove Koch

I'd like to highlight a special issue of *Statistics in Biopharmaceutical Research (SBR)* that will appear in May 2011. This issue will be dedicated to the festschrift celebration of the career and life of Gary Grove Koch, which took place on October 12–13, 2009, in Chapel Hill, North Carolina.

Koch is professor of biostatistics and director of the Biometric Consulting Laboratory in the Gillings School of Global Public Health at The University of North Carolina (UNC). He earned a BS in mathematics and MS in industrial engineering from The Ohio State University and a PhD in statistics from UNC. In December 1967, he was appointed to the faculty of the department of biostatistics at UNC, where he teaches and conducts research to this day.

Koch's principal research interest is the development of statistical methodology for the analysis of categorical data and its corresponding application to a wide range of settings in the health sciences. He is a Fellow of the American Statistical Association and has received the Spiegelman Award from the American Public Health Association and the John E. Larsh Jr. Award for Mentorship from UNC in recognition of his impact as a mentor.

This special issue was initiated by previous *SBR* editor, Joseph Heyse, and is guest edited by John Preisser, research professor in the department of biostatistics at UNC. Two highlights are a biography of Koch by Preisser and Dennis Gillings, chair and CEO of Quintiles Transnational Corporation and a former UNC biostatistics professor, and a conversation with Koch conducted by Lisa LaVange of the department of biostatistics at UNC. There also will be approximately 20 scientific articles by a distinguished set of authors, including former students, touching on the many topics Koch has contributed to during his career.

This special issue of *SBR* also will be the topic of an invited paper session at the Joint Statistical Meetings in Miami Beach, Florida, scheduled for August 3. It will be chaired by LaVange and include presentations by Sue-Jane Wang of the U.S. Food and Drug Administration, George Chi of Johnson & Johnson, and J. Richard Landis of The University of Pennsylvania. A discussion will be led by Koch. ■

JOURNAL OF THE AMERICAN STATISTICAL ASSOCIATION

March *JASA* Features ASA President's Invited Address

Hal Stern, *JASA* Applications and Case Studies Editor

Sastry Pantula, 2010 ASA president, talked about the critically important role for statistics in an increasingly data-rich world during the presidential address at the Joint Statistical Meetings in Vancouver, British Columbia, Canada, last August, and his remarks appear in the March 2011 issue of the *Journal of the American Statistical Association*. Pantula gives many examples of how statisticians are rising to the challenge in various fields, including biology, meteorology, marketing, and manufacturing. For example, statisticians are playing critical roles in the analysis of genomic data in studies of disease and in the study of large-scale climate models and databases. Pantula notes that collaboration is critical to the study of such large data sets and encourages statisticians to partner with scientists in other fields. He also notes the important role statisticians play in ensuring the role of uncertainty and variation is well understood. The remainder of the March issue provides numerous articles that illustrate many of the topics Pantula talks about.

Theory and Methods

A key Theory and Methods paper addresses fundamental statistical problems that arise in the supposedly simple act of storing the vast amounts of data being generated. Data centers that house multiple servers to handle the increasing flow of data are a critical part of the modern business world and present numerous economic challenges to companies. Data centers generate enormous amounts of heat that must be removed to allow for efficient cooling of the machines residing inside the centers. Indeed, a significant amount of the power consumption in a data center is for heat removal.

To perform heat removal well, it is critical to efficiently learn about the distribution of heat throughout the often irregularly shaped data centers. **Ying Hung**, in "Adaptive Probability-Based Latin Hypercube Designs," describes statistical procedures that can be used to design optimal placement of sensors in data centers to study the thermal distribution. The use of adaptive designs that change as data are collected can introduce bias into conventional estimators. Hung develops several design-unbiased estimators and studies their performance through simulation and in a real application.

Another "large data" problem arises when investigators try to combine data from a multitude of studies that are addressing the same or similar problem. In "Confidence Distributions and a Unifying Framework for Meta-Analysis," **Minge Xie, Kesar Singh,** and **William E. Strawderman** develop novel and robust approaches for meta-analysis based on the emerging methodology of confidence distributions.

A confidence distribution (CD) is a probability distribution function that can provide confidence intervals of all levels for a parameter of interest. The authors note that although most people think of the CD as a purely frequentist concept, the CD in fact links to Bayesian inference concepts and to the fiducial arguments of R. A. Fisher. The authors propose robust CD methods that are not sensitive to a small number of outlying studies and study the robust methods under two complementary asymptotic frameworks.

One asymptotic framework is for the case that the size of each component study increases without bound; the second is for the case

where study-specific information is fixed, but the number of studies increases. For both cases, the authors derive asymptotic efficiency results of the robust procedures. The authors use two meta-analysis studies (one on prophylactic use of lidocaine after a heart attack; the second on a surgical treatment for stomach ulcers) to compare the robust meta-analysis approaches to conventional model-based meta-analysis approaches.

Applications and Case Studies

One can argue that biology has been the science most dramatically revolutionized by the large amounts of data emerging from new technologies. Gene sequence data allows scientists to identify individual nucleotide-level variation associated with disease and gene expression data allow scientists to identify genes whose products may be implicated in a disease pathway. Many recent studies show interesting patterns of correlation among the expression of genes on a chromosome—genes that are not contiguous along the genome may be highly correlated, most likely because of the three-dimensional chromosome folding that occurs to pack our DNA into the cell.

Guanghua Xiao, Xinlei Wang, and **Arkady Khodursky,** in "Modeling Three-Dimensional Chromosome Structures Using Gene Expression Data," develop a hierarchical model that links gene expression to key parameters describing the helical structure of the folded genome. They are able to quantify and infer structure (i.e., they can learn about the way the DNA appears to be organized within the cell) by using data from gene expression microarrays. Simulation studies demonstrate the practicality of the approach. Applications show how genes that are not near each other on the genome can be functionally associated because they are brought into close physical proximity by chromosome folding. This statistical approach helps to further our insight into the relationship of chromosome structure and function.

A final feature article in the March issue concerns methods for sampling difficult populations. In studies of HIV prevalence, it can be difficult to obtain representative samples because the at-risk population is hard to reach for investigators. At the same time, the population is itself highly inter-connected via social networks. This has led to the development of "respondent-driven" sampling, a method whereby an initial sample is selected and then subsequent sample members are selected based on their relationships with earlier sampled units. Of course, when the initial sample is not a probability-based sample, then the subsequent samples are not probability samples either.

Unfortunately, there are few alternatives in such settings. Statistical innovations have focused on ways to improve estimation in such settings. **Krista Gile's** article, "Improved Inference for Respondent-Driven Sampling Data with Application to HIV Prevalence Estimation," continues to develop this important approach. She notes that current popular approaches to obtaining inferences from respondent-driven samples assume each round of sampling is carried out "with replacement" from the population and shows that this can lead to bias in various situations. The article presents an alternative approach that respects the "without replacement" aspect of the sampling process. The method is studied in simulations that vary the size of the hidden population and the prevalence of the characteristic of interest. The approach is illustrated on HIV data collected in two countries with varying characteristics and appears to provide new insight into the data.

Of course, the above articles are just a sample of March's offerings. The full list of articles, with downloadable abstracts, can be obtained from the *JASA* website at *http://pubs.amstat.org/loi/jasa*. ■

Introducing SPM

SALFORD PREDICTIVE MODELING

Salford Systems Predictive Modeling Suite (SPM) is a highly accurate and ultra-fast platform for developing predictive, descriptive, and analytical models from databases of any size, complexity, or organization. Salford SPM automation accelerates the process of model building by conducting substantial portions of the model exploration and refinement process for the analyst. While the analyst is always in full control, we optionally anticipate the analyst's next best steps and package a complete set of results from alternative modeling strategies for easy review. Do in one day what normally requires a week or more using other systems.

Simply Superior

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Since 2000, no other vendor has come close to our record of consistent out-performance.

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CART generates a clear, easy-to-understand classification and regression tree that analyzes large, complex databases, discovering patterns and relationships.

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2010 DMA Analytics Challenge
Make-A-Wish Foundation Targeting Solution, Lapsed Donor Segments

INFORMS 2009
Healthcare Quality Task

2009 KDDCup
CRM task, telecom dataset

2008 DMA Analytics Challenge
Direct Marketing Optimization task

2008 Scientific Computing
Data Mining Readers' Choice Award

2007 DMA Analytics Challenge
Targeted Marketing task

2007 PAKDD
Cross-selling task, financial dataset

2006 PAKDD
Upselling task, telecom dataset

2004 KDDCup
Particle Physics task

2002 Duke/TeraData
Churn Modeling, CRM

2000 KDDCup
Web Analytics

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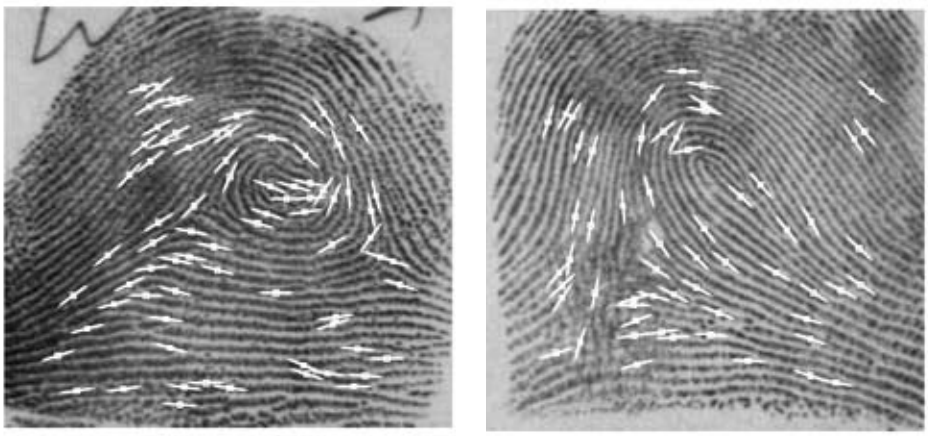
SALFORD SYSTEMS

TECHNOMETRICS

Fingerprint Individuality Assessment Featured in May Issue

Hugh A. Chipman, *Technometrics* Editor



Two fingerprints showing different ridge flow patterns and minutiae clustering characteristics

The fingertip pattern of an individual is unique to that person. This is the central premise of fingerprint-based authentication systems. In practice, various sources of variability can confound this uniqueness information, leading to erroneous decisions. A central problem in fingerprint analysis is to determine the amount of information in a fingerprint and assess the extent of uniqueness. These problems can be addressed by eliciting statistical models that adequately capture the different sources of variability.

In "Assessing Fingerprint Individuality Using EPIC: A Case Study in the Analysis of Spatially Dependent Marked Processes," **Chae Yong Lim** and **Sarat Dass** develop statistical models for fingerprint features called "minutiae" that exhibit certain distributional characteristics, such as clustering tendencies and spatial dependence. Inference methodology is developed for these models and is used for quantifying the extent of uniqueness in a pair of fingerprints.

A salient characteristic of fingerprint images is the smooth flow-like patterns with alternating dark and light lines, termed as ridges and valleys, over the entire fingerprint domain. Occasionally, the ridges abruptly end or bifurcate, and these anomalous terminations and bifurcations are termed as minutiae. Minutiae information consists of the location and orientation of the ridge anomaly. The picture above illustrates different ridge flow patterns and minutiae clustering characteristics for two fingerprints. White squares and lines denote minutiae locations and orientations, respectively. A high number of minutiae matches would provide support for a genuine match.

By viewing the minutiae information as a marked point process in two dimensions (with orientations as the marks), the paper develops novel point process models with spatially dependent mark distributions, using them to assess individuality. Are the two fingerprints shown a genuine match? Check out this featured article (available at *http://pubs.amstat.org/loi/tech*) to find out.

The issue features several novel statistical methods inspired by interesting and challenging applications. For example, motivated by a design and analysis problem relating to the formulation of a new potato crisp, **Lulu Kang, V. Roshan Joseph,** and **William A. Brenneman** develop "Design and Modeling Strategies for Mixture-of-Mixtures Experiments." In mixture-of-mixtures experiments, major components are themselves mixtures of some other components, called minor components. Sometimes, components are divided into different categories where each category is called a major component and the components within a major component become minor components. The special structure of the mixture-of-mixtures experiment makes design and modeling different from a typical mixture experiment. Constraints imposed by both the mixture-

of-mixtures structure and other practical considerations add further complexity. The authors propose a new model called the major-minor model to overcome some of the limitations of the commonly used multiple-Scheffé model. A strategy is developed for designing experiments that are much smaller in size than those based on the existing methods.

In "Seasonal Dynamic Factor Analysis and Bootstrap Inference: Application to Electricity Market Forecasting," **Andrés M. Alonso, Carolina García-Martos, Julio Rodríguez,** and **María Jesús Sánchez** develop a novel model that combines factor analysis and time series to predict Spanish electricity prices. Electricity's special features (nonstorability and instantaneous response to demand) are responsible for largely unpredictable price behavior. Accurate forecasts address a problem of national importance and enable the appropriate scheduling of generation units. The authors propose the seasonal dynamic factor analysis (SeaDFA), accomplishing dimension reduction in vectors of time series so both common and specific components are extracted, accounting for regular dynamics and seasonality.

In studies in which data are generated from multiple locations or sources, anomalous observations are not uncommon. Motivated by the application of establishing a reference value in an inter-laboratory setting with outlying labs, **Garritt Page** and **David Dunson** propose "Bayesian Local Contamination Models for Multivariate Outliers." The local contamination model flexibly accommodates unusual multivariate realizations. The proposed method models the process level of a hierarchical model using a mixture with a parametric component and a possibly nonparametric contamination. Considerable flexibility is achieved by allowing varying random subsets of the elements in the lab-specific mean vectors to be allocated to the contamination component.

Weapons stockpiles are expected to have high reliability over time, but prudence demands regular testing to rule out the possibility of detrimental aging effects. That is, one must keep watch for unexpected degradations to maintain confidence that reliability is high. In "A Random Onset Model for Degradation of High-Reliability Systems," **Scott Vander Wiel, Alyson Wilson, Todd Graves,** and **Shane Reese** present a model for a stockpile in which initially high reliability could begin to decline at any time. Each year presents a small chance that degradation begins and continues at a fixed but uncertain rate. Under these conditions, ongoing testing is imperative to maintain confidence that reliability remains high. The model provides a framework for answering questions about the effects of reduced sampling, providing managers with an assessment of how confidence will be affected if the surveillance rate is decreased to save money.

In "Blocked Designs for Experiments with Non-Normal Response," **David Woods** and **Peter van de Ven** develop efficient blocked designs for nonstandard response models. The paper presents the first general methods for exponential family responses described by a marginal model fitted via generalized estimating equations. This methodology is appropriate when the blocking factor is a nuisance variable, as often occurs in industrial experiments. A D-optimality criterion is developed for finding designs robust to the values of the marginal model parameters and applied using two strategies: unrestricted algorithmic search and blocking of an optimal design for the corresponding generalized linear model. Designs from each strategy are shown to be more efficient than designs that ignore blocking.

In recent years, a great deal of effort has been invested in developing sensors to detect, locate, and identify "energetic" electromagnetic events based on imaging spectrometer data. In "Modeling Spectral-Temporal Data from Point Source Events," **Monica Reising, Max Morris, Stephen Vardeman,** and **Shawn Higbee** discuss model building for spectral-temporal data of this type. It is imperative in military applications to quickly identify particular characteristic patterns of evolution over time. While physical sensor technology is developing rapidly, there is a lag in the development of algorithms that can be used to identify and discriminate between types of energetic events in real time. The models developed in this paper are a first step to narrowing the data-algorithm gap.

The issue closes with an interesting combination of application and methods. **Partha Sarathi Mukherjee** and **Peihua Qiu** develop "3-D Image Denoising by Local Smoothing and Nonparametric Regression," responding to increased availability of 3-D images from magnetic resonance imaging (MRI), functional MRI (fMRI), and other sources Removal of noise from observed 3-D images can substantially improve subsequent image analyses. The complex structure of 3-D images makes direct extensions of 2-D denoising methods inefficient. For instance, edge locations are surfaces in 3-D cases, which are much more challenging to handle. A strength of the method is its ability to preserve edges and major edge structures such as intersections of two edge surfaces, pyramids, and pointed corners. ■

FUNDING OPPORTUNITIES

The Mathematical Sciences in 2025

Keith Crank, ASA Research and Graduate Education Manager

The Board on Mathematical Sciences and Their Applications (BMSA) is part of the National Academy of Sciences. It was recently asked by the Division of Mathematical Sciences (DMS) at the National Science Foundation to study the state of the mathematical sciences and make projections. The BMSA organized a committee to undertake this study, and Scott Weidman is the study director.

As part of the study, Weidman and members of the committee will hold a forum at JSM (tentatively scheduled for August 2 at 1 p.m.) to get feedback from the statistics community. It is important for the statistical research community to participate. Although I believe statistics and mathematics are separate disciplines (and should be treated separately), they are treated as one at NSF. If statistics is not included in the study report, future DMS division directors could take funding from the statistics program and move it into other mathematics programs.

Additional information and the opportunity to provide feedback online are available at the study's website, *http://sites.nationalacademies.org/DEPS/BMSA/DEPS_059424*. The following information is taken directly from there:

Study Overview In September 2010, the National Academies launched a study on the mathematical sciences in 2025. A National Academies committee will produce a forward-looking assessment of the current state of the mathematical sciences and of emerging trends, assessing both the vitality of research and the impact of research and training.

The study will develop a strategic view useful to the various stakeholders in mathematical sciences, including the mathematics and statistics communities; federal and nonfederal sponsors of mathematical sciences research and education; the broad science and engineering enterprise; and the leadership of business, industry, government laboratories, and federal mission agencies.

This strategic examination will cover three aspects of the mathematical sciences enterprise: discovery, connections, and community. Here, "discover" refers to basic research at the frontiers of knowledge in mathematics and statistics. "Connections" refers to exploiting research opportunities at boundaries of the mathematical sciences to promote the progress of science, to enhance national security, and to strengthen economic competitiveness. "Community" refers to cultivating a community of researchers, students, and professionals of sufficient breadth, depth, and diversity to sustain the nation's mathematical sciences enterprise in the 21st century.

This study is expected to run through 2011, with the committee releasing its final report in the first half of 2012. Midway through the study, after the committee has identified recent research accomplishments as part of its assessment of the vitality of the field, it will produce an interim report about some of those accomplishments. This interim report will be geared toward nonmathematical readers who would like to know more about mathematical research.

Four private, nonprofit, nongovernmental organizations comprise the [National] Academies: the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine, and the National Research Council. Known collectively as the National Academies, the organization produces groundbreaking reports that have helped shape sound policies; inform public opinion; and advance the pursuit of science, engineering, and medicine.

Statement of Task The study will produce a forward-looking assessment of the current state of the mathematical sciences and emerging trends that will affect the discipline and its stakeholders as they look ahead to the quarter century mark. Specifically, the study will assess the following:

> The vitality of research in the mathematical sciences, looking at such aspects as the unity and coherence of research, significance of recent developments, rate of progress at the frontiers, and emerging trends
>
> The impact of research and training in the mathematical sciences on science and engineering, industry and technology, innovation and economic competitiveness, national security, and other areas of national interest

The study will make recommendations to NSF's Division of Mathematical Sciences about how to adjust its portfolio of activities to improve the vitality and impact of the discipline.

The project is sponsored by the National Science Foundation.

To contact me, send an email to *keith@amstat.org*. Questions or comments about this article, as well as suggestions for future articles, are always welcome. ■

MASTER'S NOTEBOOK

Mining the Science Out of Marketing

Jim Fong

My initial foray into statistics and analytics began when I was a senior in high school. I was attending a Boston Celtics and Phoenix Suns game at the Boston Garden in 1983. My best friend somehow got his hands on VIP tickets and we sat in the second row of the upper level, immediately behind where the journalists and statisticians sat with their paper charts (not laptops). One statistician was recording tick marks of where legendary Larry Bird was successful and where he wasn't. He did the same for other stars on the parquet floor that afternoon and shared with me how the game was being managed through data.

I was sold on being a sports statistician, although it took me 15 years and a number of market research and advertising research jobs before I got as close as I would get to a sports career—Penn State University. I didn't get to touch any sports data in that job, but I could feel the sports flavor in the air. I was primarily in charge of a team of researchers measuring market possibilities for the Penn State World Campus, its online degree-offering entity.

In jobs before and after Penn State, I was immersed in how analytics influenced the marketing process. I soon learned there were diverse marketing team members and data were often the unifying factor.

Delivering concise marketing summaries, models, and implications made marketing teams more unified, efficient, and strategic. Debates within marketing teams were less about instinct about what should be done next based on who had the most relevant experience and more about the interpretation of market research findings as to segmenting the market, identifying the strongest attribute to leverage in a marketing campaign, forecasting demand and market share, and assessing the competition.

Marketing managers, vice presidents, database marketers, creative teams, and web designers rallied around marketing strategies and tactics derived from market research. Statistical analyses and market research gave the educational institutions a competitive edge in knowing what degree to launch in an online environment or what message to develop for a specific market segment. Market research became the voice of the customer in complex organizations otherwise paralyzed by data.

What made marketers respect and adopt market research was how an analyst transformed the data into information, and information into meaning, and meaning into action. Many marketing departments within higher education are, themselves, transforming from an "advertising" orientation, which tended to be more of a creative process. True strategic marketing is a pure science—leveraging data, information, and statistics—but adopts a creative process as one of many potential outcomes.

In the late 80s, when I earned my BS in mathematics and MS in statistics from the University of Vermont, statisticians were groomed for biostatistics, census, or the sciences—not marketing. Few knew the world would explode digitally and demand more statistics to "define the target market," "mine data for patterns," or "model what's causing churn (customer loss)."

I evolved from being a data collection director, statistician/analyst, and director of research at a survey research firm to ultimately a marketing consultant in the higher education industry. My job has me spending less time directly mining data and more time working with analysts to interpret data. I still consider myself a marketing researcher and statistician, but with different skill sets, some of which have evolved while others have atrophied. To compensate, I've incorporated new tools into the decisionmaking process such as word clouds, in-depth interviews and focus groups, analyzing geographical information systems (GIS), and observational or experiential research.

The problems asked of me as an educational marketing and research consultant are often "Can I launch this master's degree online?" or "Why are we losing students?" or "We need a new marketing strategy. Can you help determine what the positioning should be?" Just as a cabinet maker would design a plan, I've had to design a research plan that addresses many factors, including budget, reliability needed, time constraints, meeting

The problems asked of me as an educational marketing and research consultant are often "Can I launch this master's degree online?

customer needs, and creating the final product.

A cabinet maker has a tool box and so does the market researcher. Rather than hammers, saws, and screwdrivers, the market researcher has statistical tools such as surveys, sampling, statistical models, and secondary research. The market researcher also has GIS software, demographic and trend data, web analytics, focus groups and qualitative research, advertising tracking studies, observational research, pricing models, and conjoint analysis.

To know whether to launch a particular master's degree online, I would conduct an environmental scan on industries and competitors. To build a good survey, I might conduct an opinion leader survey of eight to 12 experts in the specific field. I would then draw my sample and design my survey. Implementing the survey and data collection follows, and any good analyst knows that "garbage in equals garbage out," so monitoring and pre-testing is critical. Last, but not least, the analyses take place where hypotheses are accepted or not accepted, models are built, and insights and actions are developed.

While one may not see the market research career as socially rewarding like the Peace Corps or engineering sound bridges, it is amazingly rewarding. I am emotionally rewarded when I see the success and implementation of a new and successful marketing campaign or a reversal of declining university enrollments due in part to data-driven actions.

Demand for analysts and market research will only increase in the future. Analysts and market researchers are also more likely to have a place at the strategic planning table. There are many strong signs showing increased future demand and hiring for skilled analysts. For example, digital and data storage companies, corporations, and statistical software companies are placing greater emphasis and investing significant resources on developing stronger data mining tools, software, and processes. Industries are relying more on strong analysts to monitor and improve customer satisfaction, increase revenues from primary target markets, enter new markets with new products, acquire greater market share through stronger messaging, guard against fraud through pattern recognition, and create optimal pricing models for different markets or segments. Northwestern and DePaul recently announced graduate degrees in predictive analytics, which also may signal the demand for greater analytical powers.

For me, market research has been that slam dunk I was looking for as a youth. It was the evolution of tick marks on the page to reaching into the market research tool box for the answer. ■

STAT*tr@k*

What Happens at JSM Should Not Stay at JSM

How to get the most out of the Joint Statistical Meetings

Christopher Bilder, University of Nebraska-Lincoln

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

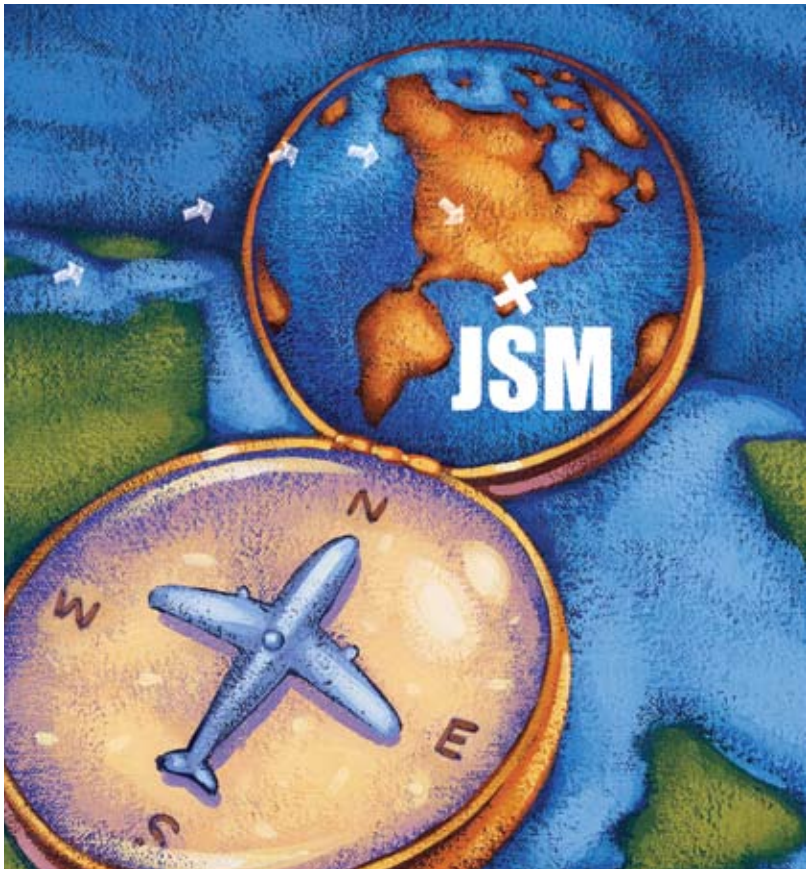
Based on my experience attending the last 11 meetings and the experiences of student groups I have led, I'm going to tell you how to get the most out of JSM. If you would like to share your own recommendations, I encourage you to submit a comment at *http://stattrak.amstat.org/2011/04/11/mostjsm.*

Before JSM

Prepare before you leave. First, you should decide whether you want to give a presentation. For new attendees who choose to present, most give a contributed presentation, which is either an orally presented paper or poster. The deadline to submit a corresponding abstract is usually February 1, and all are accepted. Additional proof of progress (e.g., drafts of a paper) for the presentation must be submitted by mid-May.

A preliminary program listing the presentation schedule is available online (*www.amstat.org/meetings/jsm/2011/onlineprogram*) in April. Because there may be more than 40 concurrent presentations at any time, it is best to arrive at JSM with an idea of which to attend. This can be done by examining the session titles and performing keyword searches in the online program prior to JSM.

Presentations are separated into invited, topic-contributed, and contributed sessions, each lasting 1 hour and 50 minutes. Invited and topic-contributed sessions include groups of related presentations that were submitted together and selected by JSM Program Committee members. Oral presentations each last for 25 or more minutes for invited and 20 minutes for topic-contributed. Contributed paper sessions include groups of 15-minute oral presentations.



Unlike invited and topic-contributed sessions, contributed presentations are submitted individually and then grouped by JSM Program Committee members. Poster presentations (most are within contributed sessions) involve speakers being available for questions next to their displayed poster during the entire session.

Online registration for JSM begins around May 1. For members of a sponsoring statistical society, the cost is $355 in 2011 during the early registration period. The cost increases to $435 if you register at JSM. Registration for student members is only $80 in 2011, and this rate is available at any time. Also starting around May 1, you can reserve a hotel room through the JSM website. A number of hotels near the convention center are designated as official conference hotels, and they discount their

Important Links

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

JSM 2011: *www.amstat.org/meetings/jsm/2011*

Program: *www.amstat.org/meetings/jsm/2011/onlineprogram/index.cfm*

Job seekers: *www.amstat.org/meetings/jsm/2011/index.cfm?fuseaction=applicants*

Continuing education courses and monitors: *www.amstat.org/meetings/jsm/2011/index.cfm?fuseaction=ce*

Student paper competitions: *www.amstat.org/education/awardsandcompetitions.cfm*

STAT*tr@k*: *http://stattrak.amstat.org*

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

Attending JSM can be expensive. Students have several options to reduce the cost burden. First, ask your adviser or department for funding. Many departments offer financial support for students who present their research at JSM. Students also may qualify for funding from the student activities office on their campus. For example, when I was a student, my department's statistics club received funding this way, which paid for most of my first JSM expenses.

In addition to school-based resources, many ASA sections sponsor student paper competitions that provide travel support to award winners. For example, the Biometrics Section of the ASA sponsors the David P. Byar Young Investigators Award (*www.bio.ri.ccf.org/Biometrics/dbyar.html*), with $1,500 awarded to a chosen student. Most competitions require a completed paper to be submitted prior to JSM.

Finally, most meetings have a statistics-themed trivia contest called Stat Bowl. Pre-registration is required for a limited number of openings, and participants receive partial reimbursement for their travel expenses.

At JSM

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

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

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

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

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

Keynote addresses at JSM are usually scheduled for late afternoon on Monday through Wednesday. On Tuesday evening, the ASA presidential address is given, along with a number of awards and introductions of the new ASA fellows. The fellows introduction is especially interesting because approximately 50 ASA members (<0.33% of all members) are recognized for their contributions to the statistics profession.

In addition to presentations, the JSM EXPO features more than 50 companies and organizations exhibiting their products and services. Many exhibitors give away free items (e.g., candy, pens, etc.). All of the major statistics textbook publishers and software companies are there. Textbook publishers offer a sizable discount on their books during JSM,

and this discount is usually available for a limited time after JSM. Software companies sometimes give away free trial editions of their programs.

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

Other activities at JSM include the following:

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

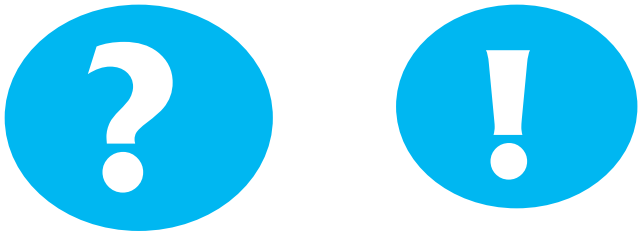
After JSM

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

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

Stat Bowl Hits the Beach at JSM 2011

Mike Anderson, The University of Texas at San Antonio



The ASA Stat Bowl will return to the Joint Statistical Meetings this year in Miami Beach, Florida.

Applications to compete are available at *http://jsmstatbowl.com.* A maximum of 16 players will be allowed into the contest on a first-come, first-in basis. If the field of contestants fills to capacity, each university will be restricted to two players to ensure diversity. A waiting list will be established to fill unexpected vacancies should they occur at game time. Inquiries about the bowl or completed applications should be emailed to Michael Anderson at *Michael.anderson@utsa.edu* with "Stat Bowl" in the subject line.

The Stat Bowl is an individual competition; teams from individual institutions are not needed to play. Team points are kept by university and a team championship is awarded, but having a team is not a requirement.

As in previous years, Stat Bowl contestants will receive up to $500 in travel reimbursement from the ASA, which helps draw statistics students from across the continent to have geeky fun and experience JSM firsthand. The $500 is given to all participants, regardless of their performance in the bowl. Note that this money cannot be used to reimburse Career Placement Service costs. ■

Stat Bowl Questions

Some Stat Bowl questions will test your knowledge to its limits; others are more in fun. Examples include the following:

1. In high school, this famous statistician should have been voted "Most Likely to Succeed."
2. Bartlett's test is the ratio of a weighted geometric mean to a weighted arithmetic mean. What does it test?
3. Prior to its first annual meeting in Boston, the ASA was known as the (unfortunately abbreviated) American Statistical Society. When was that first annual meeting?
4. You can check out any time you like, but you can never leave. If the Hotel California were a state in a Markov chain, what word would describe it?

Answers are at the bottom of this page

Sponsors of the Stat Bowl include the American Statistical Association, ENAR, WNAR, Institute of Mathematical Statistics, Statistical Society of Canada, and Mu Sigma Rho.

Answers to Stat Bowl Questions: **1** *Ronald Fisher, inventor of maximum likelihood estimation;* **2** *homogeneity of variance;* **3** *February, 1840;* **4** *an absorbing state*

JSM 2011 Keynote Speakers

IMS Medallion Lecture I

Qi-Man Shao
Hong Kong University of Science and Technology

"*Stein's Method*"

July 31, 4:00 p.m.

Qi-Man Shao is a chair professor in the department of mathematics at the Hong Kong University of Science and Technology. He earned a bachelor's degree in mathematics and a master's degree in probability/statistics from Hangzhou University and a PhD in probability/statistics from the University of Science and Technology of China under the guidance of Xiru Chen. He is a Fellow of IMS and was an invited speaker at the International Congress of Mathematicians in 2010. His primary research interests include limit theory in probability; large sample theory in statistics; self-normalized large deviation theory; high-dimensional and large-scale statistical analysis; Stein's method for normal and non-normal approximation; Gaussian random fields, random polynomials, and matrices; and Monte Carlo studies. He serves on the editorial boards of *Annals of Applied Probability* and *Annals of Statistics.*

IMS Medallion Lecture II

Jianqing Fan
Princeton University

"A Journey to Ultra-High Dimensional Space"

August 1, 10:30 a.m.

Jianqing Fan is Frederick L. Moore Professor of Finance and director of the Committee of Statistical Studies at Princeton University. After earning his PhD from the University of California at Berkeley, he was appointed assistant, associate, and full professor at The University of North Carolina at Chapel Hill (1989–2003), professor at the University of California at Los Angeles (1997–2000), and professor and chair at the Chinese University of Hong Kong (2000–2003). He is a past president of the Institute of Mathematical Statistics and co-edited *The Annals of Statistics, Probability Theory and Related Fields,* and *Econometrical Journal.* His work earned him the 2000 COPSS Presidents' Award, 2007 Morningside Gold Medal of Applied Mathematics, and Guggenheim Fellow in 2009.

ASA President's Invited Address

Sir David R. Cox
Nuffield College, Oxford, United Kingdom

"*Statistical Analysis: Current Position and Future Prospects*"

August 1, 4:00 p.m.

Sir David Cox studied mathematics at St. John's College, Cambridge and earned his PhD from the University of Leeds in 1949. He was warden of Nuffield College and a member of the department of statistics at Oxford University when he retired in 1994. He has served as president of the Bernoulli Society, Royal Statistical Society, and International Statistical Institute. From 1966 through 1991, he was the editor of *Biometrika* and has written and coauthored numerous books and papers.

IMS Presidential Address

Peter Hall
The University of Melbourne and University of California, Davis

August 1, 8:00 p.m.

Peter Hall was born in Sydney, Australia, and earned his BSc degree from the University of Sydney in 1974. His MSc and DPhil degrees, both earned in 1976, are from the Australian National University and the University of Oxford. He taught at the University of Melbourne before taking a position at the Australian National University in 1978. In November 2006, he moved back to the University of Melbourne. His research interests span several topics in probability and statistics.

IMS Neyman Lecture

Michael I. Jordan
University of California, Berkeley

"Applied Bayesian Nonparametrics"

August 1, 8:30 a.m.

Michael I. Jordan is the Pehong Chen Distinguished Professor in the department of statistics and department of electrical engineering and computer science at the University of California, Berkeley. His research in recent years has focused on Bayesian nonparametric analysis, probabilistic graphical models, and spectral methods and applications to problems in signal processing, computational biology, and natural language processing. Jordan was named to the National Academy of Sciences and the National Academy of Engineering in 2010. He is a Fellow of the American Association for the Advancement of Science, IMS, ACM, IEEE, AAAI, and ASA.

IMS Medallion Lecture III

Sylvia Richardson
Imperial College

"Recent Developments in Bayesian Methods for Discovering Regression Structures: Applications in the Health Sciences"

August 2, 10:30 a.m.

Sylvia Richardson has held the chair of biostatistics in the department of epidemiology and biostatistics at Imperial College London since 2000 and heads the biostatistics group. After a first degree in mathematics, she earned a PhD in probability theory from the University of Nottingham and a Doctorat Es Sciences from the University of Paris XI. She held lectureship positions at Warwick University and the University of Paris V and subsequently became director of research in the French Research Institute for Medical Research. She was awarded the Guy Medal in Silver from the Royal Statistical Society in 2009 and currently holds a Royal Society Wolfson Research Merit Award for her work on Bayesian integrative analysis in epidemiology, systems biology, and genomics.

IMS Wald Lecture Series: Random Walks from Statistical Physics

Gregory F. Lawler
The University of Chicago

"*Random Walks: Simple and Self-Avoiding,*" August 2, 4:00 p.m.

"*Two Dimensions and Conformal Invariance,*" August 3, 2:00 p.m.

"*What Do We Know About the Schramm-Loewner Evolution?*" August 4, 10:30 a.m.

Greg Lawler has been a professor of mathematics and statistics at The University of Chicago since 2006, having previously held positions at Duke and Cornell universities. He earned his PhD in 1979 from Princeton University under the direction of Edward Nelson. His research is in fine properties of random walk and Brownian motion, with an emphasis on problems arising in statistical physics. His books include *Intersections of Random Walks*, *Introduction to Stochastic Processes,* and *Random Walk: A Modern Introduction*. He has served as editor-in-chief of *The Annals of Probability,* is a Fellow of the American Academy of Arts and Sciences and the Institute of Mathematical Statistics, and received the 2006 Pólya Prize from the Society for Industrial and Applied Mathematics.

ASA Deming Lecture

Roger W. Hoerl
GE Global Research

"*The World Is Calling; Should We Answer?*"

August 2, 4:00 p.m.

Roger W. Hoerl is a longtime leader in GE's renowned Six Sigma initiative. As manager of GE research and development's applied statistics lab, he collaborates on research projects with GE businesses ranging from NBC and GE Capital to GE Aircraft Engines and GE Power Systems. He has implemented Six Sigma in a wide range of GE processes, from corporate audit to delinquent credit card tracking. A Fellow of both the American Statistical Association and the American Society for Quality (ASQ), he won ASQ's 2001 Brumbaugh Award for the published paper with the greatest impact on industrial quality control applications. Hoerl has coauthored several books with Ronald Snee, including *Statistical Thinking: Improving Business Performance.*

ASA Presidential Address

Nancy L. Geller
Office of Biostat Research

"*Statistics: An All-Encompassing Discipline*"

August 2, 8:00 p.m.

ASA President Nancy Geller is the director of the Office of Biostatistics Research in the National Heart, Lung, and Blood Institute at the National Institutes of Health. A Fellow of the ASA, Geller is a former chair of the Committee on Women in Statistics and Elizabeth Scott Award Committee. She is a former president of the International Society for Clinical Biostatistics and has authored or coauthored many statistical and medical articles. She spent a year as an American Cancer Society scholar at the Royal Free Hospital School of Medicine and also served as acting head of biostatistics at Memorial Sloan-Kettering Cancer Center.

IMS Medallion Lecture IV

Michael A. Newton
University of Wisconsin–Madison

"Connecting Experimental Data on Genes with Functional Information"

August 3, 8:30 a.m.

Michael Newton is professor in the department of statistics and the department of biostatistics and medical informatics at the University of Wisconsin-Madison, where he has worked since earning his PhD in statistics from the University of Washington in 1991. His work is highly cited, especially that on model-based inference in statistical genomics. He enjoys the process by which organized statistical inference emerges from the chaotic interplay of ideas, data, and contextual issues in experimental science and thus devotes much of his time to interdisciplinary research. He was the founding biological sciences editor at the *Annals of Applied Statistics*. In addition to his research program, he runs a training program in biostatistics.

IMS Medallion Lecture V

Chris Holmes
University of Oxford

"Loss, Actions, Decisions: Bayesian Analysis in High-Throughput Genomics"

August 3, 10:30 a.m.

Chris Holmes is professor of biostatistics in the department of statistics at the University of Oxford, where he also holds joint affiliations with the Wellcome Trust Centre for Human Genetics and the Oxford-Man Institute. He earned his PhD in statistics from the department of mathematics at Imperial College London in 2000 and subsequently held positions in the department as a postdoctoral researcher and lecturer. In 2004, he moved to Oxford. He currently holds a program leader's award in statistical genomics from the Medical Research Council (MRC), United Kingdom, and serves on the MRC Molecular and Cellular Medicine Board. He received the Research Prize from the Royal Statistical Society in 2003 and the Guy Medal in Bronze in 2009. He is an inaugural associate editor for the *Annals of Applied Statistics.*

COPSS Fisher Lecture

Jeff Wu

"*Post-Fisherian Experimentation: From Physical to Virtual*"

August 3, 4:00 p.m.

Jeff Wu's research contributions span the full range of statistics, from theory to application, and touch many applied domains, from sample surveys to nanotechnology. They are notable for their combination of novelty, technical strength, and far-reaching vision. He has made especially significant contributions to experimental design. As one of his supporters wrote, "In view of Professor Wu's contribution to design of experiments, it is particularly fitting for him to deliver a lecture that honors R. A. Fisher, commonly regarded as father of the modern theory of experimental design." To read more about Wu, visit *http://magazine.amstat.org/blog/2011/05/01/fisher-lecture.*

REGISTRATION FORM

2011 FDA/Industry Statistics Workshop

Sponsored by the ASA Biopharmaceutical Section with cooperation from the FDA Statistical Association

September 19–21, 2011 • Marriott Wardman Park—Washington, DC

www.amstat.org/meetings/fdaworkshop

INSTRUCTIONS

1. Print or type all information and retain a copy for your records.
2. Use a separate form for each registrant.
3. Mail form with payment to FDA/Industry Statistics Workshop Registration, 732 N. Washington Street, Alexandria, VA 22314. Fax form (credit card payment only) to (703) 684-2037.
4. Registration form must be received by August 25, 2011, to be processed at the reduced rate.

Forms Received Without Payment Will Not Be Processed.

ATTENDEE INFORMATION

ASA ID # (if known)

Name

Preferred Name for Badge

Organization

Address

City State/Province ZIP/Postal Code

Country (non-U.S.)

Phone

Email

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

Emergency Contact's Name _____

Telephone Number _____

❑ Check here if you would like your ASA customer contact information updated with your meeting contact information.

This meeting is ADA accessible.

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

CANCELLATION POLICY

Cancellations received by August 25, 2011, will be refunded, less a $25 processing fee and less a $10 processing fee for each short course. Cancellations received by September 12, 2011, will be refunded, less a $50 processing fee and less a $15 processing fee for each short course. Requests for refunds received after September 12 will not be honored. All cancellations must be made in writing to *cheryl@amstat.org*, via fax to (703) 684-2037, or mailed to FDA/Industry Statistics Workshop Registration, 732 N. Washington Street, Alexandria, VA 22314.

*Purchase orders will not be accepted. No exceptions. ASA Federal ID #53-0204661

MEAL PREFERENCE

Lunch on Tuesday, September 20, is included with your workshop registration. Please indicate the table number (see back of form) for your 1st, 2nd, and 3rd choices.

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

Select one of the following menu options:

❑ Regular ❑ Vegetarian

REGISTRATION FEES Workshop Fee (required)

	By August 25	August 26–September 12	
❑ Registrant	$270	$295	$_____
❑ Academic (nonstudent)	$230	$255	$_____
❑ Biopharm Section Member	$230	$255	$_____
❑ Government Employee	$130	$155	$_____
❑ Student	$130	$155	$_____

Short Courses—Monday, September 19 *Add-ons to Workshop Fee: $100 each before Aug. 25; $105 each August 26–September 12*

8:30 a.m.–12:00 p.m.

❑ SC1: Statistical Issues in Drug Development—*Stephen Senn* $_____

❑ SC2: Group Sequential and Adaptive Clinical Trial Design—*Scott Emerson* $_____

❑ SC3: Study Design for Biomarker Development and Validation—*Gene Pennello, Sumithra Mandrekar, Juergen von Frese* $_____

1:30 p.m.–5:00 p.m.

❑ SC4: Monte Carlo Simulation for the Pharmaceutical Industry: Concepts, Algorithms, and Case Studies—*Mark Chang, Sandeep Menon* $_____

❑ SC5: Key Multiplicity Problems in Clinical Trials—*Alex Dmitrenko* $_____

❑ SC6: Bayesian Adaptive Methods for Clinical Trials—*Scott Berry, Bradley P. Carlin* $_____

TOTAL FEES: $_____

PAYMENT

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

Credit Card ❑ VISA ❑ MasterCard ❑ American Express

Card Number

Exp. Date CVS# (3-digit number on back of card)

Name of Cardholder

Authorizing Signature

FDA Industry Statistics Workshop Roundtable Luncheon Topics

Tuesday, September 20

Adaptive Design

TL01: "Logistics and Implementation of Adaptive Trial Design" Eva Miller, ICON Clinical Research

TL02: "Adaptive Design - Experiences from Clincial Trials" Min Yao, Covance

TL03: "Adaptive Design's Past, Current, and Future" Xiaoyin (Frank) Fan, Vertex Pharmaceutical

TL04: "Adaptive Design Execution: Being GCP Compliant" Philip Lavin, Aptiv Solutions (formerly Averion Intl Corp)

TL05: "Adaptive Design Trials for Preventive Vaccines" Amelia Horne, FDA

Biomarkers

TL06: "Biomarker Development, Validation Standards, and Reproducible Biomedical Research" Maha Karnoub, Pfizer

Collaboration

TL07: "Cross Pharma Initiatives" Herbert Thijs, Hasselt University - I-Biostat

TL08: "Industry Standards for Analysis and Reporting" Mary Nilsson, Eli Lilly & Company; Wei Wang, Eli Lilly and Company

TL09: "Biostatistics in Academia versus Industry" Christine Blasey, Stanford University, Corcept Therapeutics

TL10: "Statistical Programmer and Statistician - Are These Roles Interchangeable?" Nfii Ndikintum, i3Statprobe

Comparative Effectiveness

TL11: "Head-to-Head Studies: Comparing Risks/Benefits or Risking a Comparison?" CV Damaraju, J&J PRD, LLC

TL12: "Value of Medicine - How Can Industry & Regulators Help in Assessing the Value to a Payer" Amit Bhattacharyya, GlaxoSmithKline

TL13: "How to Meet the Needs for High-Quality Health Outcome (HO) or Patient-Reported Outcome (PRO) Data in Oncology Trials?" Dachuang Cao, Eli Lilly and Company

Devices/Diagnostics

TL14: "Statistical Issues in Companion Diagnostics" Yuying Jin and Rong Tang, U.S. Food and Drug Administration (FDA)

TL15: "Statistical Design and Analysis Challenges for Monitoring Devices" Shanti Gomatam, FDA/CDRH/DBS

TL16: "Improving Communications Between FDA, Sponsor, and Advisory Panel" Gary Kamer, FDA/CDRH/OSB/DBS

TL17: "Evaluation of Diagnostic Tests/Devices with Imperfect Reference Standard" Bipasa Biswas, FDA

TL18: "Analytical Studies in In Vitro Diagnostics" Yuqun Luo, FDA\CBER

TL19: "Sensitivity/Specificity with an Inadequate Truth" Hope Knuckles, Abbott

DSMC/DSMB

TL20: "Safety Monitoring of Events of Interest in Placebo-Controlled Clinical Trials" Elena Polverejan, Johnson & Johnson and Bradley McEvoy, CDER/FDA

TL21: "Practical Issues While Conducting a Clinical Trial DSMB" Mohammad Bsharat, Vertex Pharmaceuticals

TL22: "IRB and DSMC: Who Is Responsible for What?" Charles Anello, Applied Statistical Concepts, LLC

TL23: "Continuous Safety Monitoring for Randomized Controlled Clinical Trials with Blinded Treatment Information" Greg Ball, Astellas

Futility

TL24: "Futility Analysis and Conditional Power: Common Practice in Clinical Trials" Li-an Xu, Bristol-Myers Squibb

TL25: "Sample Size Re-estimation and Futility Analysis Based on Blinded Assessment of Interim Data" Wei Li, Daiichi Sankyo, Inc.; Jie (Jack) Zhou, FDA CDRH

Methodology (Efficacy)

TL26: "Advance Methodologies and Available Software (SAS) in Analyzing Overdispersed Count Data" Santosh Sutradhar, Pfizer Inc.

TL27: "Multiplicity Adjustments for Testing Endpoints in Clinical Trials - A Check-Up on Current Practice" Davis Gates, Merck

TL28: "Super-Superiority Trial with the Consideration of Clinical Significance" Shiling Ruan, FDA/CDRH

TL29: "Methods for Handling Composite Endpoints: Advantages and Disadvantages" Selene Leon Reyes, Cardiovascular Research Foundation; Stuart Pocock, London School of Hygiene and Tropical Medicine

TL30: "How to Define the Minimum Clinically Important Difference for a Clinical Trial" Amy Ko, Merck & Co., Inc.

TL31: "Unique Statistical Considerations in Alzheimer's Disease Studies: Delayed Start, Biomarkers, and More." Hong Liu-Seifert, Eli Lilly and Company

TL32: "MMRM vs. ANCOVA for FDA vs. EMA" Kisook Yoo, Roche

TL33: "Empirical Bayes Methods in Drug Dosage Individualization Based on Linear Models" Francisco Diaz, The University of Kansas Medical Center

TL34: "Repeated-Measures Mixed Model Building" Changsheng Lao, FDA/CDRH

TL35: "Regulatory Impact and Issues of Joint Modeling of Longitudinal and Time-to-Event" Ping Wang, Eli Lilly and Company; Wei Shen, Eli Lilly and Company

TL36: "Multi-Regional Trials: Design, Analysis, and Interpretation" Susan Huyck, Merck Research Laboratories

TL37: "Blinding Assessment in Randomized Clinical Trial" Ying Yang, FDA

TL38: "Decision Analysis in the Development of Medical Products" Bruce Binkowitz, Merck, Sharpe, and Dohme; Caiyan Li, FDA/CDRH/OSB

TL39: "Missing Data: Alternatives to Imputation" William Archambault, Virtu Stat, Ltd.; Bob Abugov, FDA

TL40: "Clinical Experiment and Statistical Challenges to Analyze and Report Composite Endpoints" Tianhui Zhou, Pfizer

TL41: "Beyond RECIST: Enhancing the Clinical Relevance of Progression-Free Survival in Oncology" James Love, Boehringer Ingelheim Pharmaceuticals

TL42: "Bayesian Nonparametrics: Potentially Useful or a Playground for Mathematicians?" Steven Thomson, U.S. Food and Drug Administration

TL43: "Are Global Tests a Practical Option for Regulatory Clinical Trials?" Pablo Bonangelino, FDA/CDRH/OSB/DBS

TL44: "Predictions in Clinical Trials" Gui-shuang Ying, University of Pennsylvania

TL45: "Longitudinal ANCOVA vs. Constrained Longitudinal Data Analysis Model" Xiaoming Li, Merck Research Laboratories; Jiajun Liu, Merck Research Laboratories

TL46: "Working Together to Achieve the Promise of Personalized Medicine" Kathleen Wyrwich, United BioSource Corporation; Donald Stull, United BioSource Corporation

TL47: "Handling Protocol Violations ... Do You Use Gloves?" Daniel Cotton, Boehringer Ingelheim Pharmaceuticals, Inc.

TL48: "Practical Challenges Arising from Study Assumption Deviations" Lori Davis, i3 Statprobe

TL49: "Evidence-Based Medicine: The Issues/Limitations in Determining Standard of Care" Arlene Swern, Celgene Corporation

Noninferiority

TL50: "The Stochastic Curtailment and Its Visualization For Noninferiority Case vs. Superiority Case" Shaoyi Li, ASA Member

TL51: "Margin Selection in Noninferiority Trials" Chul Ahn, FDA

TL52: "Some Practical Issues on Designing Noninferiority Trial" Xia Xu, Merck Research Laboratories

TL53: "Statistical Issues in Designing NonInferiority Studies with an Emphasis on Veterinary Medical Issues" Anna Nevius, FDA/CVM

Safety

TL54: "Safety Evaluation: When, What, How?" Aloka Chakravarty, U.S. FDA

TL55: "Benefit and Risk Assessments in Comparison of Anticoagulants" Susan Wang, Boehringer-Ingelheim Pharmaceuticals, Inc.; James Hung, FDA

TL56: "Program Safety Analysis Plan and Safety Reporting Rules" Wei Wang, Eli Lilly and Company; Mary Nilsson, Eli Lilly and Company

TL57: "Small Event Rates, Big Outcome Studies" Jennifer Hamer-Maansson, AstraZeneca

TL58: "Strategic Issues in Meeting Cardiovascular Risk Assessment Requirements for Diabetes Drug Development" Shailaja Suryawanshi, Merck & Co., Inc.

Study Design

TL59: "Design and Analysis of Non-Interventional/ Observational Clinical Trials" Shankar Srinivasan, Merck

TL60: "High Placebo Response - Recent Trend in Psychiatric Clinical Trials, Design, and Analysis" Yeh-Fong Chen, U.S. Food and Drug Administration; Lu Zhang, Eli Lilly and Company

TL61: "Some Design Issues in Biologic Product Applications" Shiowjen Lee, FDA\CBER\OBE\DB

TL62: "Oncology Phase I Clinical Trial Designs: Can Current Approaches Be Improved to Increase Efficiency and Effectiveness?" Serap Sankoh, Millennium Pharmaceuticals: The Takeda Oncolgy Company

William G. Hunter Award

Nominations for the American Society for Quality's William G. Hunter Award are due July 15. The award will be presented at the 2011 Fall Technical Conference.

William G. Hunter was the first chair of the Statistics Division of the American Society for Quality Control (now American Society for Quality). His leadership as a communicator, consultant, educator, and innovator and his ability to integrate statistical thinking into many disciplines serve as exemplary models for statisticians and researchers everywhere.

The award was established in 1987 to encourage and promote outstanding accomplishments during a career in applied statistics and to recognize an implementer who has achieved results. Any outstanding leader in the field of applied statistics, regardless of ASQ Statistics Division membership status, is qualified. Candidates must have demonstrated a high level of professionalism, provided significant contributions to the field, and built a history of inspirational leadership and application. A person may be nominated many times, but win the award only once.

The nominator must have the permission of the person being nominated and letters from at least two other people supporting the nomination. Claims of accomplishments must be supported with objective evidence (e.g., publication lists and letters from peers).

For award criteria and nomination forms, visit *www.asqstatdiv.org/awards.htm* or contact Daksha Chokshi at (561) 796-8373 or *daksha.chokshi@pwr.utc.com.* ■

Janet Norwood Award

The section on statistical genetics and the department of biostatistics in the school of public health at the University of Alabama at Birmingham request nominations for the tenth annual Janet L. Norwood Award for Outstanding Achievement by a Woman in the Statistical Sciences.

The award recipient will deliver a lecture on September 14 at the UAB award ceremony and receive travel expenses and a $5,000 prize.

Eligible individuals are women who have completed their terminal degree and made extraordinary contributions to the statistical sciences. They also should have an outstanding record of service to the statistical sciences, with an emphasis on both their own scholarship and teaching and leadership of the field in general and of women in particular. If selected, the winner should be willing to deliver a lecture at the award ceremony.

Nominations should include a full curriculum vitae accompanied by a letter of no more than two pages describing the nature of the candidate's contributions. Contributions may be in development and evaluation of statistical methods, teaching of statistics, application of statistics, or any other activity that can arguably be said to have advanced the field of statistical science. Self-nominations are acceptable.

Send nominations by June 24 to David B. Allison, distinguished professor and head of the section on statistical genetics, *dallison@uab.edu.* The winner will be announced July 1.

For details about the award, visit the UAB website at *www.soph.uab.edu/ssg/norwoodaward/aboutaward.* ■

Joseph Glaz, professor and associate head of the department of statistics at the University of Connecticut and Fellow of the ASA, was recently elected to the Connecticut Academy of Arts and Sciences. ■

ASA member **Mike Kutner** was recently awarded the 2011 Charles R. Hatcher Jr. M.D. Award for Excellence in Public Health. The award honors faculty from Emory's Woodruff Health Sciences Center who have demonstrated excellence in public health.

In 2004, Kutner was named Emory's Rollins professor and chair of the department of biostatistics and bioinformatics, where he served until 2009. He is now the biostatistics core director for the Center for AIDS Research. Kutner has been a faculty member at Virginia Tech, Texas A&M University, The College of William and Mary, and Cleveland Clinic Foundation. He is known for coauthoring *Applied Linear Statistical Models* and *Applied Linear Regression Models.* ■

Make sure you visit the Statisticians in the News page online at *www.amstat.org/about/statisticiansinthenews.cfm* to read about your colleagues and friends in the statistical community.

Obituaries

Richard Pierre Claude

Richard Pierre Claude, who died on March 17, was an early advocate of the sound use of statistics in the human rights field, dedicating his career to integrating human rights with the practice of science.

In 1992, he co-edited the book *Human Rights and Statistics: Getting the Record Straight,* which was an expansion of a special issue of *Human Rights Quarterly,* of which he was a founding editor. These two publications are widely credited with having established the field of statistical inference in human rights monitoring. He remained active throughout his life in promoting the use of sound scientific methods in human rights work.

Claude was professor emeritus of government and politics at the University of Maryland, College Park, where he taught political science courses. He was the author of many books, including *Science in the Service of Human Rights.*

A special event to honor Claude was held in 2009 by the AAAS Science and Human Rights Program. On that occasion, Claude identified three themes influencing his career: "First, the efficacy of human rights activism broadly defined; second, the importance of multidisciplinary approaches to human rights problemsolving; and finally, the need for human rights education for all, including students of science, medicine, engineering, and technology."

He was the father of Eric Claude, Christina Claude-Paras, and Gregor Claude and brother of Charles Claude, Rose-Marie Pettit, and Christopher Claude. He also is survived by six grandchildren.

In lieu of flowers, contributions may be made to the Pader Girl's Academy of Northern Uganda, sponsored by the Uganda Fund, at *www.ugandafund.org.* (See the "Donate in honor of Richard Pierre Claude" button.) Alternatively, donations may be made to the Back Packer Health Worker Team, Thai-Burma Border, sponsored by the Global Health Access Program, at *www.ghap.org.* Indicate "Back Pack Help Worker Team" on contributions.

Wallace Oliver

Wallace B. Oliver, 86, a statistician at the Federal Emergency Management Agency, died March 18. He was a statistician for the Bureau of Labor Statistics, the Army Department, and the U.S. Census Bureau.

Oliver is survived by his wife of 62 years, Helene Kause Oliver, and his two daughters.

sectionnews

Biometrics

The Biometrics Section will sponsor two short courses during JSM 2011 in Miami Beach, Florida. The first, Generalized Linear Mixed Models, will be on approaches to modeling, methods of estimation and inference, and available software.

The second short course, Semiparametric Theory and Missing Data, will introduce the theory and methods for semiparametric models assuming there are no missing data. The afternoon session will focus on how to extend ideas developed in the morning to missing data problems and show how this leads to augmented inverse probability–weighted complete-case estimators. To view the JSM 2011 online program or register for these courses, visit *www.amstat.org/jsmregistration.*

The section also needs ideas for JSM 2012 invited sessions, to take place July 28 to August 2 in San Diego, California. Ideas can be emailed to JSM 2011 program chair, Tianxi Cai, at *tcai@hsph.harvard.edu*. Submit ideas for short courses to continuing education chair, Annie Qu, at *anniequ@illinois.edu.*

Invited session ideas also are welcome for the ENAR 2012 meeting, to take place April 1–4 in Washington, DC. Send your ideas to ENAR 2011 program chair, Jason Fine, at *jfine@bios.unc*.

Additionally, Biometrics Section members are invited to write short papers for the Here's to Your Health column in *CHANCE* magazine. If interested, email the column editor, Mark Glickman, at *mg@bu.edu.*

For detailed section news, visit *http://magazine.amstat.org/?cat=17.*

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

Health Policy Statistics

The Health Policy Statistics Section is sponsoring "Evolutionary Personalized Medicine," a symposium that will take place August 3 from 8:30 a.m. to 10:20 a.m. during JSM 2011 in Miami Beach, Florida. The symposium will include a panel, "Personalized Medicine and Convergence: Prospects for Statisticians." This is a follow-up to the February symposium that took place at the American Association for the Advancement of Science meeting in Washington, DC. For more information, visit *http://magazine.amstat.org/?cat=17.*

Quality and Productivity

If you're looking for something to do during JSM 2011 in Miami Beach, Florida, the Quality and Productivity Section invites you to one invited paper session, three topic-contributed panel sessions, and five roundtables.

During the section's invited session, four speakers will share their knowledge and experience with health care in "Quality Issues in Health Care."

The three topic-contributed panel sessions include the "Q&P Student Competition Winning Results—An Application of Statistical Engineering Using WatFactory for Quality Improvement." The students will present their results for optimizing the WatFactory process. The other two topic-contributed panel sessions are "Optimal Design of Experiments for Multiple Objectives" and "In Over Our Heads? Demystifying Complex Problems with Statistical Engineering."

The section roundtables provide an opportunity for discussing relevant statistical topics while enjoying a meal with colleagues. Willis Jensen will lead "Effective Statistical Training in Industry." Alyson Wilson, along with other participants, will discuss practical issues related to Bayesian reliability. Stefan Steiner will guide a discussion about how to add excitement to the necessary task of measurement system assessment. Daksha Chokshi will explore lessons learned from successful manufacturing

and Six Sigma design applications in "Quality Excellence in Design and Manufacturing: A Roadmap to Customer Delight." And Jennifer Van Mullekom will help participants answer the question, "What Is a Statistical Engineer, and Do I Want to Be One?"

For details about section activities during JSM 2011, visit *http://magazine.amstat.org/?cat=17*. To register for JSM 2011 or view the program, visit *www.amstat.org/jsmregistration*.

Statistics and the Environment

The ASA Section on Statistics and the Environment (ENVR) congratulates this year's student paper competition winners. Matthias Katzfuss from The Ohio State University won first place for his paper, "Bayesian Hierarchical Spatio-Temporal Smoothing for Massive Data Sets." Ephraim Hanks from Colorado State University received an honorable mention for his paper, "Velocity-Based Movement Modeling for Individual- and Population-Level Inference."

ENVR also is sponsoring several invited sessions and two roundtables at JSM 2011, to take place July 30 to August 4 in Miami Beach, Florida. Make sure to join the section for its annual open business meeting/mixer, too. For details about the sessions, roundtables, or business meeting and mixer, visit the JSM online program at *http://www.amstat.org/meetings/jsm/2011*.

The section also requests topics for JSM 2012 invited sessions. Submit ideas by email to ENVR program chair, Devin Johnson, at *devin.johnson@noaa.gov*.

For detailed section news, visit *http://magazine.amstat.org/?cat=17*.

Survey Research Methods

The ASA Survey Research Methods Section (SRMS) is sponsoring four P.M. Roundtables at JSM 2011 in Miami Beach, Florida. The roundtables include "The General Social Survey (GSS) and the Methodology for Studying Societal Change," led by Tom W. Smith; "Measurement Error in Survey Paradata," led by Brady T. West; "Survey Quality Indicator Measures: Response Rates and Alternatives," led by Donsig Jang; and "Research at the U.S. Census Bureau," led by Daniel Weinberg. Roundtables are limited to 10 attendees, so register early to reserve a spot.

For details, visit *http://magazine.amstat.org/?cat=17*. To register for JSM 2011 or view the online program, visit *www.amstat.org/jsmregistration*. ■

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

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

June

3–4—Statistical, Computational, and Visualization Methods in Medical Informatics Conference, Dubuque, Iowa

For information, visit *www.clarke.edu/scvmmi* or contact Karin Dorman, Department of Statistics, Ames, IA 50011; *kdorman@iastate.edu*.

***5–8—Southern Regional Council on Statistics Summer Research Conference, McCormick, South Carolina**

For details, visit *www.stat.sc.edu/srcos2011* or contact Don Edwards, Dept. of Statistics, University of South Carolina, Columbia, SC 29208; (803) 777-7800; *edwards@stat.sc.edu*.

***11–15—The 2011 International Workshop on Objective Bayes Methodology, Shanghai, China**

For information, visit *www.sfs.ecnu.edu.cn/obayes2011/index.html* or contact Dongchu Sun, 500 Dongchuan Road, Minhang District, Shanghai, International 200241, China; *sund@missouri.edu*.

20–24—ABS11 - 2011 Applied Bayesian Statistics School Hierarchical Modeling for Environmental Processes, Bolzano/Bozen, Italy

For details, visit *www.mi.imati.cnr.it/conferences/abs11.html* or contact Fabrizio Ruggeri, Via Bassini 15, Milano, International 20133, Italy; +39 0223699532; *fabrizio@mi.imati.cnr.it*.

July

4–5—Patient-Reported Outcomes and Quality of Life, Paris, France

For information, visit *www.lsta.upmc.fr/mesbah/PROQOL* or contact Mounir Mesbah, LSTA, 4, place Jussieu, Paris, International F75005, France; +33144278580; *mounir.mesbah@upmc.fr*.

4–8—Summer School on Social Determinants of Health, London, United Kingdom

For information, visit *www.ucl.ac.uk/iish* or contact Catherine Conroy, Dept. of Epidemiology, 1-19 Torrington Place, London, International WC1E 6BT, United Kingdom; +44 20 76791680, *catherine.conroy@ucl.ac.uk*.

7–15—2011 Industrial Math/Stat Modeling Workshop for Graduate Students, Raleigh, North Carolina

For information, visit *http://tinyurl.com/3mla7md* or contact Jamie Nunnelly, 19 TW Alexander Dr., P.O. Box 14006, RTP, NC 27709; (919) 685-9350; *nunnelly@niss.org*.

13–15—2nd Annual PaSiPHIC - Narrowing the Distribution Between Stochastic Scientists by Bringing Statisticians and Pharmacometricians Together, San Luis Obispo, California

For details, visit *www.pasiphic.calpoly.edu* or contact Brian Smith, 1 Amgen Center Dr., MS 38-3-B, Thousand Oaks, CA 91320; (805) 447-1378; *brismith@amgen.com*.

18–21—8th International Conference on Forensic Inference and Statistics, Seattle, Washington

For information, visit *www.icfis2011.org* or contact Bruce Weir, Campus Box 357232, Seattle, WA 98195-7232; (206) 221-7947; *bsweir@u.washington.edu*.

27–31—Conference on Modeling High-Frequency Data in Finance 3, Hoboken, New Jersey

For information, visit *kolmogorov.math.stevens.edu/conference2011* or contact Ionut Florescu, Castle Point on the Hudson, Hoboken, NJ 07030; (201) 216-5452; *ifloresc@stevens.edu*.

August

29–31—SAMSI 2011–2012 Uncertainty Quantification Program: Climate Modeling Opening Workshop, Pleasanton, California

For details, visit *http://tinyurl.com/6yujwfr* or contact Jamie Nunnelly, 19 TW Alexander Dr., P.O. Box 14006, RTP, NC 27709; (919) 685-9350; *nunnelly@niss.org*.

September

***19–21—2011 FDA/Industry Statistics Workshop, Washington, DC**

For more information, visit *www.amstat.org/meetings/fdaworkshop* or contact Cheryl Behrens, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; *cheryl@amstat.org*.

21–23—SAMSI 2011–2012 Uncertainty Quantification Program: Geosciences Applications Opening Workshop, Research Triangle Park, North Carolina

For details, visit *http://tinyurl.com/3l573yq* or contact Jamie Nunnelly, 19 TW Alexander Dr., P.O. Box 14006, RTP, NC 27709; (919) 685-9350; *nunnelly@niss.org*.

***24—New England Symposium on Statistics in Sports, Cambridge, Massachusetts**

For information, visit *www.amstat.org/chapters/boston/nessis11.html* or contact Mark Glickman, EN Rogers Memorial Hospital, 200 Springs Road (152), Bedford, MA 01730; (781) 687-2875; *mg@bu.edu*. ■

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

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

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

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

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

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

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

Also, look for job ads on the ASA website at *www.amstat.org/jobweb*.

California

■ Experienced research programmer with background in SAS programming and database management. Work closely w/policy research staff in creating complex data files. Must be highly motivated, self-starter, solve data analysis problems independently; BA/BS required; MA/MS preferred; 2–5 years of experience in SAS database and statistical programming; strong analytical and communication skills and exceptional problemsolving abilities; knowledge of LINUX and/or Windows; Apply at *www.rand.org/jobs* (Job ID# 2825). EOE.

Colorado

■ Professor/associate professor and director. Colorado School of Public Health-University of Colorado, Anschutz Medical Campus. The department of biostatistics and informatics and the University of Colorado Clinical and Translational Sciences Institute (CCTSI) invite applications for a senior, tenure-track faculty position to direct the Colorado Biostatistics Consortium (*http://cbc.ucdenver.edu*) in the department at the Anschutz Medical Campus. Learn more and apply at *www.jobsatcu.com* posting # 812974. EOE.

■ Assistant Professor. University of Colorado, Anschutz Medical Campus, Colorado School of Public Health (CSPH). The department of biostatistics and informatics has an opening for a permanent full-time tenure-eligible assistant professor. The position will require original research in biostatistical methodology; teaching in the biostatistics MS, PhD, and/or MPH programs; and collaborative research. Learn more and apply at *www.jobsatcu.com* posting #812973. EOE.

Advertisement in Professional Journal

UNIVERSITY OF PUERTO RICO
RIO PIEDRAS CAMPUS
SCHOOL OF BUSINESS ADMINISTRATION

The Institute of Statistics and Information Systems, part of the College of Business Administration at the University of Puerto Rico, Río Piedras Campus, invites applications for a tenure track position at the Assistant Professor level. A Ph.D. in Computer and Information Sciences and Engineering, Statistics, or a closely related field with substantial coursework in Statistics is required, preferably in Business related areas, including Information Systems. The applicant is expected to be Academically Qualified by AACSB accreditation standards.

Ideal applicants should have demonstrated research abilities, preferably on interdisciplinary research in Business areas including Information Systems. Incumbents are expected to teach undergraduate courses including Introductory Business Statistics as well as elementary Quantitative Methods or Computer Information Systems.

The incumbent will engage in scholarly activities related to advancing statistical knowledge and/or its applications; develop activities related to improving instruction; as well as advising and mentoring undergraduate students, participate in curriculum revision and enhancement, seek funding for the research and teaching programs, supervise undergraduate research and creative work, and engage in professional development activities related to research, teaching and advising.

Applicants are requested to send a letter of application, curriculum vitae, graduate transcripts, and three reference letters by June 15, 2011 to the following address:

Dr. Paul R. Latortue
Dean
School of Business Administration
PO Box 23332
San Juan, PR 00931-3332
or to: *acervofae@uprrp.edu; ge.melendez@upr.edu*

Equal Opportunity Employer Rev. 21/03/2011

Florida

■ Tenure-track assistant professor, biostatistics, University of South Florida, epidemiology and biostatistics department. Duties include developing a successful research program, providing research support within USF Health, teaching graduate and undergraduates courses in biostatistics, advising master's and doctoral students. PhD in biostatistics, statistics, or related field required. Competitive salary, excellent benefits. To apply, visit *http://employment.usf.edu.* Access the "Faculty" section and search for position number 15628. University of South Florida is an Affirmative Action/Equal Opportunity/ Equal Access institution.

Massachusetts

■ John Ware Research Group, Inc., leader in health outcomes research, seeks research scientists who will collaborate w/leading teams of international psychometricians on analysis, publications, and presentations. The research scientist will work on current health-related quality-of-life (HRQoL) research projects and take the lead on planning and completing psychometric analyses using software that supports classical and modern psychometric evaluation methods. Send CVs to *molly.admadi@jwrginc.com.* EEO.

■ The department of public health and community medicine of the Tufts University School of Medicine seeks a full-time statistician/ biostatistician. Requirements: PhD in statistics, biostatistics, or equivalent; interest in teaching and collaborative research. Curriculum vitae and cover letter with names and emails of three professional referees may be submitted by mail or electronically to Dr. Janet Forrester, 136 Harrison Ave., Boston, MA 02111; *janet.forrester@tufts.edu.* EOE.

Chief, Surveillance Systems Branch Surveillance Research Program Division of Cancer Control and Population Sciences

The National Cancer Institute, located within the National Institutes of Health (NIH), Department of Health and Human Services (DHHS) is accepting applications for the position of Chief, Surveillance Systems Branch (SSB) to provide leadership for this program that researches and reports public health data. SSB manages the Surveillance, Epidemiology, and End Results (SEER) Program, an authoritative population-based system of cancer data collection and reporting. The Branch conducts research and developmental activities related to the surveillance of cancer patterns in the United States in order to monitor progress against cancer. It also conducts analyses, and provides interpretation of the data. SSB actively consults with other government, private, and public organizations; prepares regular reports, geographical summaries, and journal articles; and responds to many requests for information on national cancer statistics. The Branch includes a Quality Improvement team that conducts studies to evaluate the quality and completeness of registry data, and promotes adherence to national and international standards.

SEER has served as a premier resource for decision-making related to cancer for over 30 years. The challenges of the next decade include changes in infrastructure, resources, and policy. For example, we anticipate expansion of information technology systems for data management and eHealth applications and continued development of a national cancer surveillance enterprise, working through partnerships with both public and private organizations.

The successful candidate must have experience in biostatistics, management of multi-center research studies, and organization of collaborative biomedical research. Of particular interest are the candidate's achievements within professional or other collaborative organizations through participation in and leadership of goal-oriented groups and committees. Experience in epidemiology, operations research, and cancer research is not mandatory but desired. Analytic skills are required, as demonstrated by published articles in peer-reviewed journals. Knowledge of computer systems and software development is desirable, but not required. This position is subject to a background investigation and U.S. citizenship is required. Salary $123,000 - $155,500. Located in Rockville, MD, near Washington, DC. Excellent benefits. DHHS and NIH are equal opportunity employers. Please send a cover letter briefly summarizing your experience and interests along with your CV to Judith Swan at js60y@nih.gov., Surveillance Research Program, National Cancer Institute, 301-435-4958.

http://seer.cancer.gov/

http://surveillance.cancer.gov/

Minnesota

■ Medtronic seeks an experienced principal biostatistician to develop and implement statistical methodology in product surveillance of key medtronic products, to identify safety signals and quality outcomes (*www.medtronic.com/careers*, job requisition #76192). S/he will determine when existing methods can be used and lead the development of new approaches as necessary. Experience should include statistical analysis and signal detection in merged data from disparate sources to monitor safety. EOE.

Oklahoma

■ The Centola Lab is currently seeking a biostatistician/statistical modeler. Responsibilities: advanced multivariate analysis; risk model creation; and writing grants, publications, and patents. Prior supervisory and bootstrapping experience a plus. Requirements: PhD or MS in statistics or related field. Proficiency in R. Send CV, names of three references to: Centola Lab, 755 Research Parkway, Rm. 460, OKC, OK 73104. EOE.

■ The University of Oklahoma, Tulsa Schusterman Center is recruiting for a tenure-track assistant professor. Candidates must have a doctoral degree in biostatistics, statistics, or related field and experience conducting collaborative research. View entire advertisement at *www.publichealthjobs.net/search/detail.cfm?jobID=10918.* Individuals interested in applying should send a letter outlining their qualifications, research interests and teaching experience, current curriculum vitae, and the contact information for three references to *deanna-debus@ouhsc.edu*. EOE.

Wisconsin

■ The department of biostatistics and medical informatics at the University of Wisconsin School of Medicine & Public Health seeks applicants for the position of professor of biostatistics starting Sept. 1, 2011. We are especially interested in building departmental strength in clinical, translational, epidemiologic, and health services research. Application instructions and other information (PVL #66757 or #66785) can be found at *www.biostat.wisc.edu/Overview/employment.htm.* Employment requires criminal background check. AA/EOE.

International

■ The department of computer science and engineering at the American University in Cairo invites applicants for a full time, tenure-track position at

NORC at the University of Chicago
Innovative solutions in research and technology

NORC conducts high quality social science research in the public interest from its headquarters at the University of Chicago and from its offices in Chicago, IL, Washington, DC, Bethesda, MD, and Berkeley, CA.

We conduct research in economics, demographics, education and child development, health, substance abuse, mental health, justice, and survey quality both in the U.S. and internationally. We offer full-service survey design and operations as well as strengths in analysis, information technology, and technical assistance. NORC supports the research needs of government in the U.S. and abroad, international donor agencies, foundations, academic researchers, and private organizations.

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:

http://www.norc.org/careers

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

SCHOOL OF MEDICINE
VANDERBILT UNIVERSITY

Department of Biostatistics

The Department of Biostatistics and the Vanderbilt-Ingram Cancer Center are recruiting a **Division Chief**-level position to head Cancer Biostatistics at Vanderbilt. Ideal candidates for this leadership position will be full professors or senior associate professors with a PhD in Biostatistics and significant experience in cancer research.

The Division of Cancer Biostatistics and the Cancer Biostatistics Center currently have 10 faculty biostatisticians and 6 staff biostatisticians, 3 bioinformaticians, and a strong administrative and IT staff, each with 5 members. External funding covers 27 FTEs, and the unit provides biostatistics core support for the Cancer Center's NCI Cancer Center Support Grant, three SPOREs, and numerous other multi-investigator grants (e.g. U01s, U54s, PPGs). More information is available online at www.vicc.org/biostatistics.

The Vanderbilt-Ingram Cancer Center, an NCI comprehensive cancer center, has a long-standing track record of true excellence in research by world-class investigators. It is a top five matrix cancer center in National Cancer Institute funding, with yearly research funding exceeding $170M. The Center has seven highly competitive research programs including three basic science, three clinical, and one population-based. There is ever-increasing demand for cutting edge biostatistical methodology for trial design and analysis of high dimensional data sets that results from genomic and proteomic approaches. The advent of next generation sequencing is producing large genomic and RNA-based data sets from clinical and bench-based investigation that require innovative analysis methods. The Center is also conducting large-scale epidemiologic investigations with well-defined cohorts and extensive biospecimen repositories providing opportunities for collaborative applied biostatistical research.

This is a unique opportunity for a biostatistician seeking a very significant leadership position in an environment known for its collaborative spirit and high impact science.

For information contact:
Frank Harrell, Chair
f.harrell@vanderbilt.edu
http://biostat.mc.vanderbilt.edu

Vanderbilt University

Vanderbilt University is an equal opportunity employer.

the assistant or associate professor rank beginning September 2011. The department is seeking individuals specializing in Natural Language Processing or digital media with an established record in university-level teaching of a wide variety of courses in computing. Apply at *http://Click2Apply.net/zyxxzt2*. EOE.

■ The department of computer science and engineering at the American University in Cairo invites applicants for a full time, tenure-track position at the assistant or associate professor rank beginning fall 2011. The department is seeking individuals specializing in high-performance computer architecture, embedded systems, microprocessors, and related areas with an established record in university-level teaching. Apply at *www.Click2Apply.net/qbw7swq*. EOE. ■

University of Connecticut Health Center

Assistant Director of the Biostatistics Center

The Connecticut Institute for Clinical and Translational Science (CICATS) at the University of Connecticut Health Center (UCHC) invites nominations and applications for a full-time position as Assistant Director of the Biostatistics Center.

The Assistant Director will be a full-time faculty member at the School of Medicine in Farmington, CT with the potential for an appointment in the Department of Statistics at the UCONN Storrs Campus. The Assistant Director will assist the Director to develop the CICATS Biostatistics Center that will facilitate and support the proposed growth of Clinical and Translational Science across CICATS, which includes the university's Schools of Medicine and Dentistry, the Storrs campus, and local area hospitals. In addition to original research and research collaborations, the Assistant Director will be responsible for assisting with the operations of the CICATS Research Design, Epidemiology and Biostatistics cores. CICATS investigators will include trainees and both junior and senior faculty members from multiple disciplines. The Biostatistics faculty, in collaboration with a team of epidemiologists and master's level staff, will provide guidance to transdisciplinary teams for the development of clinical and translational research studies. He/she will also be responsible for biostatistics teaching in the new Master of Science in Clinical and Translational Research, with teaching opportunities available in other university health-related degree programs.

The successful candidate must hold a doctorate in biostatistics or a closely related discipline and have demonstrated success with self-initiated research, extramural funding and published scholarship and have the ability to work in collaboration with clinical, translational and/or basic scientists, and to lead a biostatistics academic unit including students, postdoctoral fellows, master-level staff, and other faculty.

Applicants should apply using the Health Center's applicant tracking system at **https://jobs.uchc.edu**, Search No. 2010-1076. A curriculum vitae and a cover letter should be uploaded through this site. Questions regarding this search should be addressed to James Grady DrPH, Director, CICATS Biostatistics Center, at **jgrady@uchc.edu**.

UCHC is an Equal Opportunity Employer M/F/V/PwD

University of Pittsburgh

Graduate School of Public Health
Department of Epidemiology

ASSOCIATE/ASSISTANT PROFESSOR OF EPIDEMIOLOGY
Infectious Diseases

The Department of Epidemiology, Graduate School of Public Health (GSPH), University of Pittsburgh, Infectious Diseases Epidemiology Research Program is recruiting tenure stream faculty at the Associate or Assistant Professor levels with expertise in clinical/global/HIV/epidemiologic research. Opportunities are available for collaboration with the Pitt Center for Global Health, a Pitt clinical research site in Africa, and Center for Vaccine Research. GSPH is ranked third nationally in NIH funding among schools of public health. The Department of Epidemiology has a strong research portfolio, collaborating locally with other institutions across the University, nationally, and internationally. Initial salary support, start-up funds, and, laboratory space (if needed) will be provided. Candidates should have a doctoral degree (MD and/or PhD) and at least 3 years post-doctoral experience with a demonstrated record of recent research accomplishments and sufficient evidence to establish an independent, funded research program. Salary and academic rank will be commensurate with experience. Applications will be accepted until positions are filled. Send letter of intent, curriculum vitae, statement of research interests, and the names of three references by E-mail to: Position #0124922, c/o Lee H. Harrison, M.D., Infectious Diseases Epidemiology Research Unit, University of Pittsburgh, 521 Parran Hall, 130 DeSoto Street, Pittsburgh, PA 15261; E-mail: *lharriso@edc.pitt.edu*. The University of Pittsburgh is an Affirmative Action/Equal Opportunity Employer.

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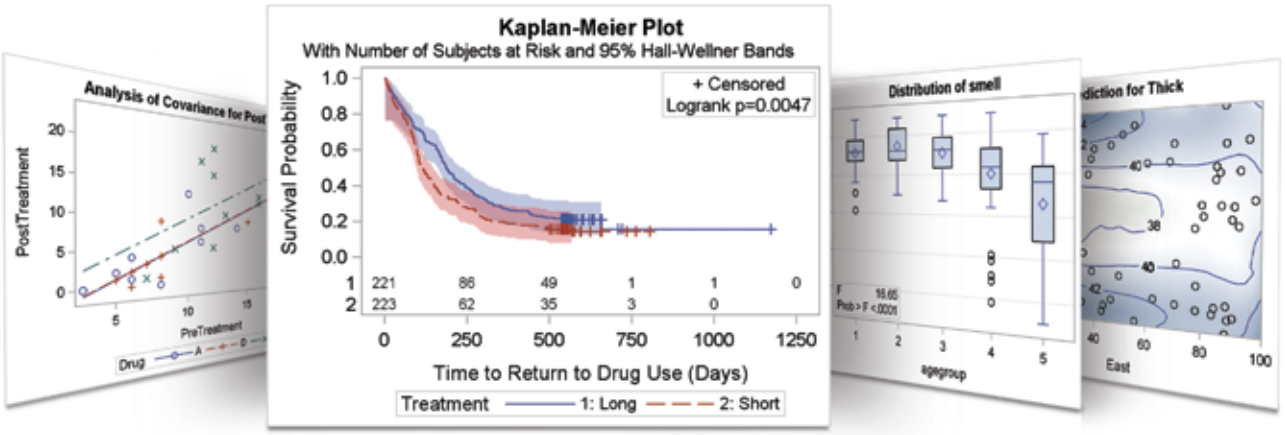

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