CELEBRATE the Significance of Mathematics and Statistics

Mathematics and Statistics Awareness Month

ALSO:
BEA’s Innovation Spurs Projects for Richer Economic Statistics

Why Be an Independent Consultant?
Everything you need to plan your class.

Mean (~71.88) and median (73) are about the same
Mean (~66.32) is greater than the median (62)
Mean (~83.50) is less than the median (89)

Measures of Spread

Example 1
Ten batteries from brands A, B, and C were tested to determine their lifetimes. Here are the lifetimes plotted as comparison dotplots in Minitab:

Brand A: 41 289 214 102 38 94 28
Brand B: 39 65 22 64 41 35 30
Brand C: 24 95 135 122 41 360

Also noted in each picture are the modes (circled) and location of the fulcrum point, which is the mean, as the fulcrum point, or center of gravity, is balanced by the same weight, in this instance, of the modes.
features

3 President’s Corner
5 Recognizing the ASA’s Longtime Members
11 JASA Editors Offer Advice to Authors
12 ASA Leaders Reminisce: Barbara Bailar
14 Guidance for Service on Federal Advisory Boards and Committees
15 2017 Data Challenge Sees 16 Contestants
15 New AMS Blog Covers Under-Represented Groups in Mathematics
16 BEA’s Innovation Spurs Projects for Richer Economic Statistics
18 Meet Hubert Hamer: NASS Administrator
19 Census Bureau Releases Public Data
20 Celebrate the Significance of Mathematics and Statistics
22 Master’s Programs in Data Science and Analytics

columns

28 CONSULTANT’S CORNER
Why Be an Independent Consultant?
This column is written for anyone engaged in or interested in statistical consulting. It includes articles ranging from what starting a consulting business would entail to what can be taught in a consulting course. If you have ideas for articles, contact the ASA’s Section on Statistical Consulting publications officer, Mary Kwasny, at m-kwasny@northwestern.edu.

29 PASTIMES OF STATISTICIANS
What Does Susan Hilsenbeck Do When She Is Not Being a Statistician?
This column focuses on what statisticians do when they are not being statisticians. If you would like to share your pastime with readers, please email Megan Murphy, Amstat News managing editor, at megan@amstat.org.

30 STATtr@k
Career Success in the Federal Government
STATtr@k is a column in Amstat News and a website geared toward people who are in a statistics program, recently graduated from a statistics program, or recently entered the job world. To read more articles like this one, visit the website at http://stattrak.amstat.org. If you have suggestions for future articles, or would like to submit an article, please email Megan Murphy, Amstat News managing editor, at megan@amstat.org.
April is **Mathematics and Statistics Awareness Month**, and we have included a special poster for you in the centerfold of this issue.

“If the **best thing** about being a **statistician** is that you get to play in everyone’s backyard.”

~ John Tukey

If you would like a printed copy mailed to you, email the ASA’s communication manager, Megan Murphy, at megan@amstat.org.

---

**departments**

32 **education**  
Popular Resource for Teachers Now Online

34 **meetings**  
CSP 2017 Brings Statisticians Face to Face

---

**member news**

36 People News

37 Section • Chapter • Committee News

40 Calendar of Events

44 Professional Opportunities

---

Follow us on Twitter  
www.twitter.com/AmstatNews

Join the ASA Community  
http://community.amstat.org

Like us on Facebook  
www.facebook.com/AmstatNews

Follow us on Instagram  
www.instagram.com/AmstatNews

---

Analytics Have Taken Over Baseball. What’s Next?

It’s April and baseball season is beginning. More than one author has asserted that if poet Alfred Lord Tennyson had known American habits, his famous line would have been changed to, “It is spring and a young man’s fancy turns to baseball.”

But, I won’t comment on poetry or love. That leaves me with baseball. Baseball is where I first learned about data, and now Big Data. The transformation of baseball (and football) to analytic strategies is the story of Big Data. It includes many of the thought processes and successes, but mostly seems to portray the possible promise of more concrete results sometime later.

So, lots of data is great. Well, maybe.

Think about its use in baseball. I grew up a baseball fan. My Cub Scout pack took us to both the Brooklyn Dodgers at minuscule Ebbets Field and the New York Yankees in the majestic stadium. My parents, both born in Germany, had no idea why one would concentrate on a sport when the announcer would simply summarize each half inning as “no runs, no hits, no errors.”

Ah, but when something happens, the stadium fans erupt. Youngsters like me would learn batting averages and earned run averages. After a while, I came to reason that perhaps they invented baseball just for those who loved to analyze numbers. That was before I even knew what a statistician was. Was this what Abner Doubleday had in mind?

Baseball has even been used as a vehicle for teaching elementary statistics. I think the most common example is Jim Albert’s 2003 text, Teaching Statistics Using Baseball.

But today, the statisticians have indeed taken over baseball … at least to an extent. Let’s look at what Big Data did for baseball. Of course, the oft-cited breakthrough occurred with the Oakland A’s, as documented in the 2003 book Moneyball by Michael Lewis. (I own an autographed copy!) For those of you who are not baseball fans, the basic premise had to do with how a low-budget team like the A’s could do so much better than free spenders such as the Yankees.

The answer was found in data analysis. What did the A’s, with their talented assistant general manager, Paul DePodesta, figure out? They learned that on-base percentage and slugging percentage were much better indicators of baseball success (in terms of winning games) than hits, doubles, triples, stolen bases, and home runs.

And, when I say DePodesta was talented, it was in statistical analysis. He never came close to playing professional baseball. The concepts really took off when Moneyball was made into a movie. Probably every statistician wanted to be Jonah Hill, who played the consummate data analyst. Interestingly, after a few baseball front office positions, DePodesta is now applying his analytic talents for the Cleveland Browns football team.

And where is baseball analytics today? In February, I was fortunate enough to attend a sports analysis discussion, sponsored by the ASA’s Washington DC Chapter, the Washington Statistical Society. The baseball half of the program featured Kevin Tennenbaum of the Baltimore Orioles. Kevin discussed evaluating player talent. He captivated the audience for about an hour just talking about the defensive rating of an outfielder.

The field is divided into about 100 segments and the outfielder is judged on every fielding opportunity. This includes figuring out in each segment if the fielder could have, should have, might have, or actually did catch the ball. Then you add up all possibilities and can rate one fielder against another. And this is just for defense, not even considering the player’s hitting talent. Further, this was just the “publicly available information.” Kevin didn’t discuss the propriety analyses the Orioles do.
But how do such advanced analyses get integrated into baseball operations? Kevin used my favorite word “communications” as the key to explaining all this, or a segment of it, to make a useful decision. Exactly the concern I expressed in my column last month.

I find this so analogous to the Big Data situation facing statisticians. A few pearls are found initially, such as the on-base percentage. Then mountains of data form a deluge that may or may not lead to a substantive improvement in the situation. But analysis proceeds to search for the next pearl.

By the way, many of the criticisms of Big Data, such as the origin and validity of data, as well as the sampling techniques, don’t even enter here. This isn’t sampling. All the data are real, accurate, and readily available. The basic question of what to do with all that data indeed remains.

The other half of the sports analysis discussion featured Daniel Stern presenting an equally fascinating analysis of football. Daniel is employed by the Baltimore Ravens football team. In contrast to Kevin, whose work concentrates on player evaluation in baseball, Daniel’s work involves the actual plays in football. Yup, what to do at second down and seven yards to go. As you can imagine, many variables go into this analysis. But it may not be what you think. I would have thought they would look for plays that would either get a first down or, perhaps, a touchdown. Well, that’s important, but the actual measure they use is expected points, and in a most sophisticated way.

In fact, consider the team contemplating a field goal from a certain yard line. If the kicker has probability $p$ of making the field goal, I would have guessed that the expected value of the “go for the field goal” decision would be $3p$. Well, that is so 20th century. Apparently, they look one step further. Since the opposition gets the ball either way after a field goal attempt, you deduct a certain expected value of the opposition’s potential score on the next series of downs.

Perhaps even more intriguing is that the teams are not allowed to use computers in the stadium. And the coach has 20 seconds to call the next play. So, what do you do with all this information? I guess you summarize it somehow, and then, as Kevin would say, it comes back to communication. Daniel clearly was not permitted to divulge proprietary Ravens’ strategies.

So, is more technology coming to the rescue, or merely adding to the melee? Just before the Super Bowl, Matthew Futterman of the Wall Street Journal reported the following:

Each player in Sunday’s Super Bowl will have a computer chip attached to his shoulder pad that tracks his every movement, part of a two-year-old program that opens the league and its fans to a whole new world of statistical possibility.

An even bigger mystery for league officials, coaches, and dataheads is what to do with this new trove of information. The idea was that, by tracking the speed, location, and movement of players, teams and fans could create metrics that would reveal who moved fastest in key situations, covered the most ground on defense, or found the open areas in a zone defense most often.

I have this vision that, much like the person who sneezes at an auction and ends up with an expensive Monet he never wanted, some football player on defense will twitch and a Super Bowl will be lost. Those of you who follow me on twitter (@StatisticsBarry) saw my tweet that this situation was lots of data seeking a useful statistic.

Now, what about other sports? I am quite sure basketball has analytic programs to replace all those white boards coaches use for describing plays. I guess things have become more sophisticated since the 1994 NBA draft, which included Jason Kidd being drafted from the University of California to the Dallas Mavericks. Answering reporters about fitting into his new team, Kidd announced, “We’re going to turn this team around 360 degrees.” Hmmm. I would guess he was not put in charge of advanced analytics.

Sports is a great test field for Big Data, but we can go too far. I think the statistics world can learn and teach a great deal about the uses, abuses, and absurdities of too much data. But hope springs eternal, and the next breakthrough may be just around the corner.

Significantly forward,
Barry
Recognizing the ASA’s
Longtime Members

The American Statistical Association would like to thank its longtime members by continuing its tradition of honoring those who joined the association 35 or more years ago. This year, we recognize the following members for their distinguished and faithful membership.

If you are a longtime member and will be attending JSM 2017 in Baltimore, Maryland, please join us for a reception in your honor. If your name is not below and you believe it should be, contact Amy Farris at amy@amstat.org to correct your record.

50+ Years

Abdelmonem A. Afifi
Khazan C. Agrawal
Dennis J. Aigner
Jack Alanen
Philip J. Ambrosini
Carol H. Ammons
Sigmund J. Amster
Gary M. Andrew
Charles E. Antle
Barry C. Arnold
Orley Ashenfelter
50+ Years

Douglas M. Dunn
George T. Duncan
Satya D. Dubey
Norman R. Draper
Thomas E. Doerfler
Dennis O. Dixon
Timothy A. DeRouen
Frank T. Denton
Arthur P. Dempster
John J. Deely
Dayton Chauncey Mitchell
Miles Davis
Chauncey Mitchell

Blackwelder

Colin R. Blyth
Thomas J. Boardman
Donald L. Bentley
Rudolf J. Beran
Alan P. Berens
Mark L. Berenson
Robert H. Berk
Donald A. Berry
Peter J. Bickel
Christopher Bingham
William C. Blackwelder
Colin R. Blyth
Thomas J. Boardman
Donald L. Bentley
Alan Bostrom
Kimiko O. Bowman
Gary L. Brager
David R. Brillinger
Lyle D. Broemeling
Donna J. Borgan
Mark Brown
Maurice C. Bryson
Charles R. Buncher
Kenneth P. Burnham
Norman Bush
John M. Chambers
Edwin H. Chen
Herman Chernoff
Janet E. Cherry
Domenic V. Cicchetti
Robert P. Clinker
Jerry L. Coffey
Arthur Cohen
Ayala Cohen
Stanley H. Cohen
Theodore Colton
William Jay Conover
R. Dennis Cook
David Cox
Bradford R. Crain
J. R. Crespo
Jonathan D. Cryer
Ralph B. D’Agostino
James M. Davenport
Martin H. David
Herbert T. Davis
Miles Davis
Chauncey Mitchell
Dayton
John J. Deely
Arthur P. Dempster
Frank T. Denton
Timothy A. DeRouen
Dennis O. Dixon
Thomas E. Doerfler
Norman R. Draper
Satyta D. Dubey
George T. Duncan
Douglas M. Dunn
Francois A. Dupuis
Benjamin S. Duran
Arthur M. Dutton
Danny Dyer
Robert G. Easterling
Morris L. Eaton
Bradley Efron
Jonas H. Ellenberg
Robert C. Elston
William B. Fairley
William B. Fairley
Paul I. Feder
Charles Federspiel
Arlin M. Feyerherm
David John Finney
Jarius D. Flora
Richard L. Forstall
Alan B. Fossythe
Martin R. Frankel
Ralph F. Frankowski
Donald A. S. Fraser
Edward L. Frome
Carol Holly E. Fuchs
Wayne A. Fuller
A. Ronald Gallant
Joseph L. Gastwirth
John A. Gaudiosi
Douglas O. Gause
Donald P. Gaver
David W. Gaylor
Jane F. Gentleman
Jean D. Gibbons
Rudy A. Gideon
Dennis C. Gilliland
Phil D. Gilliland
Leon J. Glezer
Judith D. Goldberg
Charles H. Goldsmith
Arnold F. Goodman
Leo A. Goodman
Donald Guthrie
Irwin Gutman
Gerald J. Hahn
Silas Halperin
Martin A. Hamilton
J. Wayne Hamman
Chien-Pai Han
Roy Dean Hardy
William L. Harkness
David A. Harville
Kenneth Harwood
Ronald W. Helms
William G. Henderson
Neil W. Henry
Jay Herson
Milton C. Heuston
John E. Hewett
William J. Hill
Bruce Hoadley
Vincent Hodgson
Paul W. Holland
Myles Hollander
J. Stuart Hunter
Hiroshi Ikeda
Arthur G. Itkin
Gudmund R. Iversen
John A. Gaudiosi
Robert A. Lew
Thomas M. Lawson
James M. Lucas
Stanley E. Lunde
Edward MacNeal
Brian D. Macpherson
Albert Madansky
Marvin J. Kasenbaum
Shrinivas K. Katti
Gordon M. Kaufman
Thomas Keefe
Kathleen M. Keenan
William J. Kennedy
Jon R. Kettnering
Elizabeth S. King-Sloan
Benjamin F. King
John J. Kinney
Melvina R. Klauber
Michael H. Klein
Gary G. Koch
Uwe Koehn
Stephen L. Koziarich
Richard J. Kryscio
Lawrence L. Kupper
Thomas E. Kurtz
Michael H. Kutner
Ronald E. Kutschke
Peter A. Lachenbruch
John C. Lambert
Kenneth C. Land
Kinley Larrnitz
Eugene M. Laska
William J. Latzko
Jerald F. Lawless
Eun S. Lee
David Levine
Eugene Levine
Eugene Levine
Eugene Levine
Eun S. Lee
David Levine
Eugene Levine
Eugene Levine
Eugene Levine
Robert A. Lew
Thomas M. Lawson
James M. Lucas
Stanley E. Lunde
Edward MacNeal
Brian D. Macpherson
Albert Madansky
Richard Maisel
Henrick J. Malik
Colin L. Mallows
Charles R. Mann
Nancy R. Mann
Helen Marcus-Roberts
Jack A. Marshall
Harry F. Martz
John I. McCool
Lyman L. McDonald
Robert L. McKnight
Robert A. McLean
Curtis Meinert
Edward L. Melnick
Peter F. Merenda
Paul W. Mielke
G. Arthur Mihram
Billy J. Moore
Jerry L. Moreno
Carl N. Morris
Donald F. Morrison
John W. Morse
Thomas D. Murphy
Janet M. Myhre
Patricia L. Nahas
Charles B. Nam
Joseph I. Naus
Wayne B. Nelson
Marc Nerlove
John Neter
Anna B. Nevius
W. Michael O’Fallon
Robert L. Obenchain
Jerry L. Oglesby
Anthony R. Olsen
Richard A. Olsen
J. Keith Ornd
Anthony M. Orlando
Bernard Ostle
Vernon E. Palmour
Louis A. Panek
Takis Papaioannou
Darrel W. Parke
Robert P. Parker
James L. Pate
Russ K.N Patell
Ganapati P. Patil
Edward B. Perrin
Roger C. Pfaffenberger
Eswar G. Phadga
S. R. S. Rao Poduri
Ralph D. Pollard
Richard F. Potthoff
John W. Pratt
S. James Press
Bertram Price
Charles H. Proctor

Dana Quade
J. N. K. Rao
Joan S. Reisch
Gladys H. Reynolds
Robert H. Riffenburgh
Larry J. Ringer
Naomi B. Robbins
Bruce E. Rodda
Charles A. Rohde
Joan R. Rosenblatt
Donald C. Ross
Paul F. Ross
Richard S. Ross
Robert A. Rutledge
Harold B. Sackrowitz
David S. Salsburg
Charles B. Sampson
Innis G. Sande
Patricia D. Saunders
Eberhard G. Schach
Richard L. Scheaffer
Robert R. Scheer
David Schenker
J. Richard Schmid
Stanley Schor
William R. Schucany
Stanley L. Slove
Donald T. Sears
Daniel G. Seigel
Robert J. Serfling
Norman C. Severo
Babubhai V. Shah
Nagambal D. Shah
Gary M. Shapiro
William F. Shaw
Jon J. Shuster
Moshe Sicon
Monroe G. Sirken
Betty J. Skipper
Armand V. Smith
William Boyce Smith
Ronald D. Snee
Mitchell Snyder
Daniel L. Solomon
Edward J. Spar
F. Michael Speed
Douglas E. Splistone
Stephen M. Stigler
Jerrell T. Stracener
George P. H. Stylian
D. Denk Swain
Paul Switzer
Douglas B. Tang
Elliot A. Tanis
Judith M. Tanur
Aaron Tenenbein
James R. Thompson
Leo J. Tick
Lowell H. Tomlinson
James Tonascia
J. Richard Trout
Bruce E. Trumbo
Chris P. Tsokos
N. Scott Utterham
Constance van Eeden
Willem R. Van Zwet
James R. Veale
Harvey M. Wagner
Ray A. Walker
James A. Walsh
William G. Warren
Bruce S. Weir
Herbert I. Weissberg
Raymond L. Wilder
John Williams
William H. Williams
Othmar W. Winkler
Robert L. Winkler
John J. Winkowski
John E. Witcher
Janet Wittes
Douglas A. Wolfe
John Harmon Wolfe
Goooloo S. Wunderlich
Morty Yalovsky
Donald F. Young
Calvin Zippin

Longtime members

Judith Abrams
Lee R. Abramson
C. J. Adcock
Frances J. Adox
Robert A. Agnew
Alan Agresti
Per A. T. Akersten
Arthur E. Albert
Mir Masoom Ali
Mukhtar M. Ali
Francis B. Alt
Stan Altman
Alfred Jerry Anderson
Dallas W. Anderson
Robert L. Andrews
W. Tad Archambault
Jesse C. Arnold
Irsen Aresean
James N. Arvesen
Taka Ashikaga
Conwil L. Atwood
Abdolrahman Azari
William A. Barnett
John L. Barone
Charles K. Bayne
Richard A. Becker
Laurel A. Beckett
Richard J. Beckman
Mary S. Beersman
Timothy M. Bergquist
Kenneth N. Berk
U. Narayan Bhat
Wayne F. Biaia
Lynne Billard
David S. Birkes
Brent A. Blumenstein
Lennart Bodin
Gordon J. Brackstone

Edwin L. Bradley
William M. Breiford
Robert L. Burdick
Ellen F. Brewer
Dwight B. Brock
Richard K. Brown
John A. Burkart
Patricia L. Busk
William L. Carlson
Margaret D. Carroll
Raymond J. Carroll
Helen R. Carter
J. S. Chikahara
Joseph J. Chmiel
Lee-Jay Cho
William S. Cleveland
Kimon J.E. Constas
Lewis Coopersmith
Robert J. Costello
Giles L. Crane
John R. Crigler
David S. Crosby
Larry H. Crow
Gary R. Cutter
Gerard E. Dallal
Robert L. Davis
Enrique de Alba
David L. DeMets
Susan J. DeVin
Thomas F. Devlin
Jay L. Devore
Paula H. Diehr
W. Erwin Dievert
Darryl J. Downing
Dennis A. Dubose
Joseph W. Duncan
Brenda Kay Edwards
Janet D. Elashoff
Eugene P. Ericksen
James W. Evans
Milton C. Evans
Thomas B. Farver
Robert E. Fay
Walter Fehes
Alan H. Feiveson
Martin Feuerman
Alan C. Fisher
Andrew J. Flett
Nancy Flounroy
Sandra Forman
Mary A. Foulkes
James W. Frane
Martin D. Fraser
David H. Freeman
David Froma
Mark C. Fulcomer
Mitchell H. Gail
Edward J. Gainer
Daniel J. Gans
Fernando L. Garagory
Turkan K. Gardener
Alan E. Gelfand
Stephen L. George
Gauri L. Ghat
Prabhakar D.
Ghanagur
Edward J. Gilroy
Phyllis A. Gimmity
Howard Seth Gitlow
John R. Gleason
Prem K. Goel
Robert N. Goldman
J. Douglas Gordon
Louis Gordon
Bernard S. Gorman
David M. Grether
William E. Griffiths
Joseph A. Guarnier
Shelby J. Haberman
Hermann Habermann
Timothy O. Haifley
Robert E. Hale
R. Choudary
Hanumara
Lynne B. Hare
Larry D. Haugh
Robert M. Hauser
Douglas M. Hawkins
Richard M. Heiberger
William F. Heiland
Karl W. Heiner
Agnes M. Herzberg
Eugene R. Heyman
James J. Higgins
Klaus Hinkelmann
David C. Hoaglin
Theodore R. Holford
David W. Hosmer
David C. Howell
Paul B. Huber
Mark Hudes
William F. Hunt
Huynh Huynh
Dar-Shong Huang
Ronald L. Iman
Peter B. Imsey
Allen E. Izu
F. E. James
Sreenivas Rao
Jammalamadaka
Clifford L. Johnson
Dallas E. Johnson
Paul K. Jones
Henry D. Kahn
John D. Kabbeilisch
John H. Kalbfleisch
William D. Kalsbeek
Howard S. Kaplan
Joseph D. Kasile
Robert M. Katz
Myron J. Katzoff
James L. Kenkel
James D. Kibb
Roger E. Kirk
David C. Kors
Neal Ross
Helena C. Kraemer
S. David Kinska
Robert Kuslher
John M. Lachin
Lynn Roy LaMotte
James M. Landwehr
William D. Lawing
Anthony James
Lawrance
Kenneth D. Lawrence
Russell V. Lenth
Donald Lewin
Paul D. Lewman
Donald L. Libby
Robert G. Lovel
Lars Lyberg
George W. Lynch
Bruce E. Mackey
Dennis R. Mane
Robert L. Mason
Frances J. Mather
Clement J. Maurath
George P. McCabe
James B. McDonald
John D. McKenzie
Glen D. Meeden
Jeff B. Meeker
James I. Mellon
Gayle T. Meltesen
Mary-Jane Mietlowski
William L. Mietlois
George A. Milliken
Satish Chandra Misra
Robert Mondseis
Douglas C.
Montgomery
Roderick Montgomery
David S. Moore
John K. Moore
David R. Morganstein
Effat A. Moussa
Robb J. Murhead
Henry D. Muse
Wayne L. Myers
Subhash C. Narula
Elliot Nebenzahl
Glenn L. Nelson
S. Edward Neuvis
David S. Newman
H. Joseph Newton
Earl Nordbrock
Julia A. Norton
Marjia J. Norusis
Peter C. O’Brien
Morris Olitsky
Leonard
Oppenheimer
Albert C. Ovedovitz
Maurice E. B. Owens
William J. Padgett
Leonard J. Parsons
Jon K. Peck
Raymond C. Peck
Arthur V. Peterson
Longtime members

Dennis Aaron
Robert D. Abbott
Sandra C. Abbott
John M. Abovd
Boras Abraham
James H. Albert
Robert W. Aldred
Rich Allen
Wendy L. Alvey
Keven M. Anderson
Robert J. Anderson
Sharon Anderson
Clifford W. Angstman
Lawrence Annable
Vincent C. Arena
Steve Ascher
Arlene S. Ash
Anthony C. Atkinson
Agustin F. Ayuso
Steven P. Bailey
Stephen P. Baker
Saad T. Bakir
James A. Baldwin
Vincent P. Barbaba
Michael P. Battaglia
Eileen J. Beachell
Jay H. Beder
Robert B. Bendel
James O. Berger
Roger L. Berger
James S. Bergum
Catherine S. Berkey
Jose Miguel Bernardo
Ernst R. Berndt
David J. Bernklau
Bibhu B.
Bhattacharyya
Benjamin Reiser
Louise C. Reimer
Kenneth J. Reiser
Jeffrey A. Robinson
James L. Rosenberger
Bernard Rosner
Donald B. Rubin
Barbara J. Rutledge
Thomas P. Ryan
Julia Sabella
Susan T. Sacks
Francisco J. Samaniego
Douglas A. Samuelsen
Thomas J. Santner
James J. Schlesselman
Joyce A. Schleter
Josef Schmee
James Schmeider
Eugene F. Schuster
Neil C. Schwertman
Alistair John Scott
Stuart Scott
Nell Sedransk
Subrata K. Sen
Jolayne W. Service
Jayaram Sethuraman
Glenn R. Shafer
Juliet Popper Shaffer
Paul Shamar
Iris M. Shimizu
Albert P. Shulte
Robert H. Shumway
Jagbir Singh
Nozer D. Singpurwalla
Walter Sloboda
Robert D. Small
Dennis E. Smith
Marty R. Smith
William A. Sollecito
Randall K. Spoerri
M. K. Srirama
Allan Stewart-Oaten
Robert L. Stout
William E. Strawderman
Naraki Sugiura
Moon W. Suh
Richard A. Sundheim
Michael Sutherland
Ajit C. Tamhane
Ronald A. Thisted
John M. Thomas
Carol B. Thompson
Steven F. Thomson
Robert D. Tortora
Ram C. Tripathi
Bruce W. Turnbull
Neil R. Ullman
Gerald van Belse
Joseph G. Van Matre
Lonnie C. Vance
Keirstin Vannan
Niels H. Veldhuijzen
Wayne F. Velicer
Paul F. Veleman
Krishikesh D. Vinod
R. Lakshmi Vishnuvajjala
Kenneth W. Wachter
Joseph J. Walker
Sylvan Wallenstein
Stephen D. Walter
Larry D. Freese
Stephen F. Glaz
Auni Goeksel
Richard F. Goldstein
Joe Fred Gonzalez
James H. Goodnight
Robert D. Gordon
Barry I. Graubard
Stephanie J. Green
Timothy A. Green
Joseph A. Gruber
Leslie S. Grunes
Vctor M. Guerrero
Berton H. Gunter
Perry D. Haaland
David B. Hall
James L. Hall
Nancy R. Hall
William A. Halteman
Larry D. Hamilton
Chao Wang
George H. Wang
James F. Ward
William E. Wecker
Edward J. Wegman
William W. Wei
Lynn Weidman
Sanford Wesbega
K. Laurence Weldon
James P. Whipple
Owen Whitby
David G. Whistmore
Howard L. Wiener
George W. Williams
William J. Wilson
Robert F. Woolson
Ann Graham Zauber
Eric R. Ziegel
Stuart O. Zimmerman

40–44 years

William T. Bielby
Paul P. Biemer
Robert H. Bigelow
Thomas E. Billings
Richard A. Bilincik
Jeffrey B. Birch
Herbert L. Bishop
Richard M. Bittman
Jan F. Bjornstad
Mark M. Blanchard
Peter Bloomfield
Harvey Blumberg
Dan C. Boger
Robert J. Boik
James A. Bolognese
Dennis Boos
John E. Boyer
Norman M. Bradburn
Mary-Lynn Brecht
J. Michael Brick
David R. Brillst
Ron Brookmeyer
Dean S. Bross
Edward C. Bryant
Thomas J. Bzik
Lawrence S. Cahoon
Patrick J. Cantwell
Grant D. Cappas
Arthur Carpenter
Daniel B. Carr
Frank C. Castronova
Aki N. Cazzati
Armut M. Champarani
John P. Chandler
Judith-Anne
W. Chapman
Yogendra P. Chaubey
Richard A. Chechele
Gina G. Chen
James J. Chen
William W. Chen
Michael R. Chernick
Nanjamma Chinnappa
Joan Sander Chmiel
Jai Won Choi
Peter D. Christenson
B. Christine Clark
Cynthia Z.F. Clark
George W. Cobb
Timothy C. Coburn
Michael L. Cohen
Michael P. Cohen
Steven B. Cohen
James J. Colaianne
John R. Collins
Salvator V. Colucci
Bruce K. Cool
Kennon R. Copeland
Margaret D.
Copenhaver
Charles D. Cowan
Brenda G. Cox
John R. Cramer
Keith N. Cranek
David F. Cruess
Andrew Joseph
Cucchiara
William G. Cumberland
L. Adrienne Culples
Robert D. Curley
Andrew I. Dale
Prithwis Dasgupta
Charles S. Davis
Thomas M. Davis
Roberta W. Day
Virginia A. de-Wolf
Michael L. Deaton
Pierre C. Delfinar
Lorraine Denby
Wayne S. Desarbo
David A. Dickey
E. Aquilina Dietz
Ralph Digaetano
David P. Doane
Allan P. Donner
Joseph R. Donovan
Janice L. Dubien
Ronnie P. Dumas
William D. Dupont
L. Marly Ein
Marlene J. Egger
Kathleen Louise Emery
Wil B. Emmert
Curtis S. Engerdahl
Thomas W. Epps
Samuel M. Epstein
Sylvia R. Esterby
Michael J. Evans
Alan Fisk
John P. Fazio
Ronald S. Fesco
Christopher A. Field
David F. Findley
Carl Thomas Finkbeiner
Nicholas I. Fisher
Allen I. Fleishman
Hans-Theo Forst
Peter E. Fortini
Janet F. Fowler
John D. Fox
Leroy A. Franklin
Larry D. Freeman
Joseph A. Freitas
Barbara A. Gabianelli
Paul Gallo
Stephen J. Ganocy
Edward E. Gbur
Robert T. Geiger
Cynthia D. Gentillon
Malay Ghosh
David E. Giles
John A. Gillespie
Dennis R. Givens
Beth C. Gladen
Marcia A. Glaubermann
Joseph Glaz
Auni Goeksel
Richard F. Goldstein
Joe Fred Gonzalez
James H. Goodnight
Robert D. Gordon
Barry I. Graubard
Stephanie J. Green
Timothy A. Green
Joseph A. Gruber
Leslie S. Grunes
Vctor M. Guerrero
Berton H. Gunter
Perry D. Haaland
David B. Hall
James L. Hall
Nancy R. Hall
William A. Halteman
Larry D. Hamilton
Chao Wang
George H. Wang
James F. Ward
William E. Wecker
Edward J. Wegman
William W. Wei
Lynn Weidman
Sanford Wesbega
K. Laurence Weldon
James P. Whipple
Owen Whitby
David G. Whistmore
Howard L. Wiener
George W. Williams
William J. Wilson
Robert F. Woolson
Ann Graham Zauber
Eric R. Ziegel
Stuart O. Zimmerman

April 2017 Amstat News 7
Longtime members

Michael A. Adena
Joseph Adwere-Boahah
Dorothee P. Aeppli
Sung K. Ahn
Mohammad Ahsanullah
Christian M. Alacouze
Adelin I. Albert
Jeanne M. Aldred
Melvin T. Alexander
Paul D. Allison
W. Gregory Alvarado
Yasuo Amemiya
John Angle
John E. Angus
Thomas Arbutiski
J. Brian Gray
Miguel A. Gomez
Alfred D. Godfrey
A. Blanton Godfrey
William J. Glynn
Michael E. Ginevan
Subir Ghosh
Joseph C. Gfroerer
Constantine Gatsonis
Joan B. Garfield
Arthur Fries
Anne E. Freeny
T. A. Foster
Eric Jeffrey Feuer
Michael B. Feil
Dean H. Fearn
Frederick W. Faltin
Paul J. Elson
Thomas Barry Edwards
Don Edwards
Thomas Barry Edwards
Bruce P. Ekholm
Paul J. Elson
Ronald K. Elswick
Brian John English
Patricia A. English
Eugene A. Enneking
Neil E. Ericsson
Kent M. Eskridge
Mark A. Espeland
David Fairley
Frederick W. Faltin
Dean H. Fearn
Michael B. Feil
Luisa T. Fernholz
G. Donald Ferree
Eric Jeffrey Feuer
Dianne M. Finkelstein
Patrick E. Flanagan
Dean A. Follmann
Gosta Forsman
T. A. Foster
Anne E. Freery
Arthur Fries
Shayne C. Gad
Joan B. Garfield
Michael A. Gates
Constantine Gatsonis
Jeffrey J. Gaynor
Philip M. Gbur
Joseph C. Grofezer
Subir Ghosh
Michael E. Ginevan
William J. Glynn
Al. Blanton Godfrey
Alfred D. Godfrey
Miguel A. Gomez
Villegas
Nancy M. Gordon
Janis G. Grechko
Edwin J. Green
John W. Green
Daniel A. Greer
Yves Gire
David J. Groggel
Miriam S. Grosos
Shulamith T. Gross
Pusha P. Gupta
Ramesh C. Gupta
Yesy Gustasp
Sam Guterman
Josue Guzman
Michael Haber
Alula Hadgu
Michael D. Hale
Marc Hallin
Katherine T. Halvorsen
Michael S. Hamada
Herbert Hamilton
John B. Hannon
J. Michael Hardin
Rachel M. Harter
Nancy C. Hassett
Trevor J. Hastie
William D. Heavlin
Nathaniel Alan Heckert
Charles E. Heckler
Daniel F. Heitjan
Wolf-Dieter Heller
Victoria Black Henc
David H. Henry
Cynthia C. Hewitt
Susan G. Hilsenbeck
Joseph G. Hirschberg
Edward H. Chirschland
Douglas A. Hlavacek
Myon Hlyinka
Lorrie L. Hoffman
Howard R. Hogan
David B. Holiday
Paul S. Horn
Carol C. House
Wei-Min Huang
Norma Faris Hubele
Esther Sid Hudes
Berleyer Adams Huet
Arthur L. Hughes
Edward Hughes
Allen C. Humbolt
Luis H. Hurtado
Shelley Hurwitz
Deborah D. Ingram
Henry F. Inman
Patricia A. Jacobs
Debra J. Jacobson
Denis George Janku
Imke Janssen
Guillermina Jasso
Dwight E. Jennings
Christopher Jennison
Daniel R. Jeske
Karl-Heinz Jockel
B. Alan Johnson
Gary R. Johnson
LuAnn K. Johnson
Robert E. Johnson
Wesley Orin Johnson
Albyn C. Jones
Bradley A. Jones
Karen C. Jones
Michael P. Jones
Shelton M. Jones
Leslie A. Kalish
Tzu-Cheg Kao
Roxanne Kapikian
John M. Karon
Richard L. Kasul
Charles R. Katholi
Barry P. Katz
Darryl Katz
Sallie Keller
Elizabeth J. Kelly
Joan Kemptthorne-Rawson
Arthur J. Kendall
Harry J. Khamis
KyungMann Kim
John E. Kimmel
Robin Laurence Kirby
Genshirito Kigawa
John C. Klenin
George J. Knafl
John Miller Koester
Henrika K. Kormansk
David P. Kopcso
Samuel Koslowsky
Kallappa M. Koti
Ken G. Kowalski
Lawrence Krasnoff
Jeffrey P. Krischer
Gregory A. Kruger
Bertram Krumm
Katherine B. Krystinik
Richard A. Kulka
Lynn Kuo
Jurate M. Landwehr
Linda B. Lannom
Michael L. Latus
Mervyn G. Marsangining
James C. March
David A. Marker
Paul J. Marovich
Adam T. Martinsek
Joesiucoa
Carl A. Mauro
Charles Maynard
Kenneth F. McCue
Peter McCullagh
Allen A. McIntosh
Raymond E. McIntyre
Gregory C. McLaughlin
Kenneth B. McRae
Shailendra S. Menjoge
R. Daniel Meyer
H. Andrew Michener
Rosemarie Mick
Ruth M. Mickey
Steven P. Millard
Eva R. Miller
Michael F. Miller
Renousse
Margaret A. Minkwitz
David H. Moen
Leyla K. Mohadjer
Donna L. Mohr
Robert J. Mokken

April 2017 Amstat News 9
Longtime members

Brian C. Monsell
Leslie M. Moore
Jorge G. Morel
Walter T. Morgan
Stephan
Morgenthaler
Elizabeth A.
Morgenthalen
Christopher H.
Morell
David T. Morse
Michael J. Morton
Linda L. C. Moss
Ronald P. Mowers
Daniel H. Mowrey
Robert A. Muenchen
Nitis Mukhopadhyay
Keith E. Muller
Alvaro Munoz
Jay Munson
Bengt Muthen
Haikady N. Nagaraja
Daniel Najjar
Jayalakshmi Natarajan
William Navidi
Barry L. Nelson
Larry Alan Nelson
Dean V. Neubauer
Tie-Hua Ng
Truc Truong Nguyen
Joyce C. Niland
Michael A. Noote
Philipp N. Norton
William I. Notz
Douglas W. Nychka
Thomas W. O’Gorman
William P. O’Hare
Yoshimichi Ochi
Akinori Ohashi
Noboru Ohsumi
Thomas H. Oliphant
Frank Olken
George Ostrouchov
Soo Peter Ouyang
Art B. Owen
Albert Palachek
Alberto Palloni
Franz Christian Palm
J. Lynn Palmer
Sastry G. Pantula
Corette Breeden
Parker
Mary R. Parker
Robert A. Parker
Jeffrey R. Parno
Lee Parsons
Antonio Pascual-Acosta
Robert J. Pavor
Roxy L. Peck
Jane F. Pendergast
Kimberly T. Perry
John D. Pesek
Joseph D. Petruccelli
Gerald L. Phillips
Walter P. Piegrorsch
Gregory F. Piepel
David Pollard
Chester H.
 ponkowski
Dudley L. Poston
Paul N. Powell
J. Michael Price
Louis H. Primavera
Jamie K. Pugh
William M. Pugh
James O. Ramsay
Dabeeru C. Rao
Richard F. Raubertas
Howard L. Rauch
Nancy Reid
William K. Rice
Wasima N. Rida
William J. Riley
James S. Roberts
David M. Rocke
Richard A. Rode
Jack Rodgers
Ward Rodriguez
Nestor Rohovsky
Javier Rojo
Jorge Luis Romeu
Elvezio Ronchetti
Robin L. Rose
Mitchell J. Rosen
Gary L. Rosner
Peter E. Rossi
Peter J. Rousseeuw
Keith F. Rust
Roland T. Rust
Steven W. Rust
Jim Rutherford
Pedro J. Saavedra
William H. Sachs
Jerome Sacks
Mehemt Sahinoglu
Ulderico Santarelli
Michael J. Santulli
Sanat K. Sarkar
Miles M. Sato
Stephen M. Scariano
Daniel W. Schafer
Nathanial Schenker
Mark J. Schervish
Mark F. Schilling
Brian R. Schlain
Mark D. Schluchter
David C. Schmittlein
Paul R. Schneeman
John R. Schoenfielder
Loren T. Schoof
John D. Schoolfield
Donald E. Schreiner
Linda Kay Schultz
Lonni R. Schultz
Phyllis A.
Schumacher
Lawrence A.
Schwartz
Sidney H. Schwartz
Michael
Schwarzchild
James R. Schwenke
David W. Scott
Marlyn M. Seastrom
Gil H. U. Seeber
Joanne B. Severne
Joseph Severs
Bakman Shafi
Ramalingam
Shanmugam
Steven J. Shapiro
Simone J. Sheather
Mack C. Shelley
John T. Shelton
Mark R. Shenkman
Malcolm J. Shermam
Weichung J. Shih
Lucy Shneyer
Gary L. Shoop
Holly B. Shulman
Arthur R. Silverberg
Stephen D. Simon
Douglas R. Sizemore
Christopher John
Skinner
Joan H. Skurnick
Richard A. Smiley
Charles Eugene
Smith
Elizabeth C. Smith
Richard J. Smith
Richard L. Smith
Robert A. Smith
Stephen J. Smith
Steven M. Snapinn
Tom A.B. Smithers
Karen L.
Snowdon-Way
Ying C. So
Jose Francisco Soares
Joong Kweon Sohn
Eric R. Sowey
Reifk Soyer
Floyd W. Spencer
John J. Spinelli
Gene D. Sprechini
Kadaka P. Srinath
Paul G. Stanek
Joel H. Steckel
Leonard A. Stefanski
David M. Steinberg
Mert S. Steinberg
Kamal C. Steinm
Barbara Stevens
James H. Stock
David S. Stoffer
Maura E. Stokes
Mark C. Strong
Mark Lionel Suda
Shumei Sun
James J. Swain
Winson Taam
Yoshio Takei
Roy Noniki Tamura
Deborah L. Tasky
Greg C. Taylor
George R. Terrell
Jeffrey D. Tew
Brian J. Theilen
David M. Thissens
Neal Thomas
David J. Thornton
Peter James
Thoson
Luke-Jon Tierney
Naitee Ting
Ruey-Shiong Tsay
Siu-Keung Tse
Clyde Tucker
Thomas P Turiel
David M. Umbach
Thomas J. Uryniak
Leslie A. Van Alstine
Mark J. VanRadens
Robert L. Vogel
Stanley Von Hagen
Mark Von Tress
Edward F. Vonesh
William Dennis Wacker
Paul G. Wakim
Ann E. Watkinson
Carol Weideman
David L. Weimer
Clarice R. Weinberg
William J. Welch
Stefan Wellek
Alan H. Welsh
James G.
Wendelberger
Joanne R.
Wendelberger
Glenn D. White
David A. Whitney
Dexter C. Whittinghill
Priya J. Wickramaratne
John L. Wieting
William E. Wilkinson
Thomas R. Willemain
Christopher J. Williams
Jeffrey R. Wilson
William E. Winkler
Jeffrey A. Witmer
Marty J. Witt
Luke G. Wolfe
F. Lennie Wong
John R. Woods
Emmanuel Yashchin
K. F. Yee
Linda J. Young
Elizabeth R. Zell
Dale L. Zimmerman
JASA Editors Offer Advice to Authors

David Ruppert and Nick Jewell are co-editors of the *Journal of the American Statistical Association* Theory and Methods section. We asked them to offer advice for prospective authors and to discuss their thoughts about *JASA* and journal publishing in general.

Tell us a little bit about the process, from submission to decision.

The entire review is conducted using the ScholarOne journal management system. Submitted papers first go to the editorial coordinator, Jamie Hutchens, to be checked for correct formatting and blinding. After Jamie has verified that a paper is ready for review, it goes into a “folder” of papers that need to be assigned to an editor. Each of us can either take a paper ourselves or assign to the other.

The paper then gets an editor screening review. About one-fourth of papers are rejected at this point. The most frequent reason for rejection is that a paper is narrowly focused and better suited to a more specialized journal.

Papers that pass the screening review are assigned to an associate editor. Selecting the best associate editor might be the most important job for an editor. Associate editors will sometimes reject a paper, themselves, often because the paper seems too incremental and sometimes because it is poorly written and difficult to read. Papers that are not rejected by the associate editor go to two, or sometimes more, referees.

Once the referees’ reports are in, the associate editor writes a report to the editor and sometimes to the authors making a recommendation. Frequently, the reviewers are in agreement and the editor’s job is easy. Occasionally, the editor needs to evaluate conflicting opinions very carefully before reaching a final decision.

Do you have any advice for prospective authors?

Authors should be realistic and not expect all, or even most, of their papers to appear in top journals. We urge authors to submit only their best work to *JASA*. Also, many papers are submitted prematurely, before the ideas are fully developed and clearly explained.

Before submitting a paper, authors should think carefully about the most appropriate journal. Perhaps our biggest surprise has been the poor quality of some papers whose authors believe they are suitable for a journal with the stature of *JASA*.

What are your top three pet peeves when it comes to submissions?

1) Researchers who agree to referee a paper, but never submit a report or even respond to emails from the editor or associate editor
2) Excessively long papers and unsolicited revisions
3) Authors exploiting the reviewing process to improve their work, rather than making sufficient effort up front

Certainly, the reviewing process is intended to improve papers and does that admirably, but a review should start with the best paper the authors can produce on their own.

During your time as *JASA* co-editors, can you point to any articles or issues you are especially proud of?

*JASA*-Theory and Methods receives 760 new submissions each year. It’s been difficult to get to know many of the articles well. We are pleased with the discussion papers that have been appearing regularly, including the invited paper presented at JSM each year.

What are the biggest challenges you face in your role as Theory and Methods editor?

Dealing with the very high submission rate has been a major challenge. Each of us was editing an average of one new submission a day.

What are your personal visions for *JASA*?

We think *JASA* should publish only papers that focus on broad statistical issues and provide innovative methodology motivated by a real application. We have striven to take *JASA* to new ground where possible and not simply mine old topics.

Find out what they think needs to change in journal publishing. Visit the ASA’s publication website at https://goo.gl/SCEt65 to read what the editors think needs to change in journal publishing.
ASA LEADERS REMINISCE

Barbara Bailar

In the 21st installment of the Amstat News series of interviews with ASA presidents and executive directors, we feature a discussion with 1987 ASA President Barbara Bailar.

Barbara Bailar enjoyed working at the U.S. Census Bureau. Starting as a GS-7, she worked her way up to Associate Director for Statistical Standards and Methodology. When she left the bureau, she became the executive director of the American Statistical Association. She then served as ASA president in 1987, becoming the only person to serve as both president and executive director of the association.

Upon leaving the ASA, Bailar became the Senior Vice President for Survey Research at the National Opinion Research Center in Chicago. When she retired in 2001, she and her husband, John, returned to Washington, DC.

Q You worked at the Census Bureau for almost 30 years. During your time there, what major statistical innovations did the bureau make?
A The Census Bureau has been a leader in the development of sample surveys and censuses. A very distinguished staff of statisticians had developed sampling for use in both. Instead of trying to get all the information from everyone in the census—on income, education, etc.—the census statisticians used a sample and collected only a few items from everyone. During the late 1950s, Morris Hansen, William Hurwitz, and William Madow wrote a two-volume work [Sample Survey Methods and Theory] on sampling and illustrated different sampling methods for different populations.

Following the continued development of sampling, the bureau undertook work for other federal agencies. The staff knew how to select samples, the work force to collect the data was there, and the statisticians knew how to process the data and present it clearly to folks in other agencies.

A major innovation in the 1960 census was the move from personal enumeration, in which census field persons knocked on each door and interviewed the residents, to a mail out-mail back census. Several experiments were run showing the effect of enumerators on census data was decreased when people answered for themselves.

Of course, the introduction of computers changed everything. The huge ENIAC was first used in processing some of the 1950 census data. It was used on the economic censuses and all sample surveys. Most statisticians had to code their own inquiries. By the time I left the bureau, personal computers were on almost every desk.

Statisticians at the bureau began branching out when studying the census undercount, and hypotheses were introduced and tested. A sampling scheme was used to measure the undercount, as well as a method of demographic analysis. Statisticians also looked at question wording and derived tests to detect which wording was most effective.

It was an exciting time at the bureau.

Q How do you believe recent and emerging technologies will change the way the U.S. decennial census is executed?
A Following the examples of the past, the bureau will continue to develop new methodologies. Basically, in the United States, it is the belief that the best information comes from the persons themselves. However, information is available from other records that people have filled out. Perhaps the bureau could use some records to fill in missing items, instead of spending the time and money to follow up with nonrespondents several times. I also believe the bureau will find ways to use computers to do even more. Having seen censuses go from punch cards to sensing devices, I think there will continue to be improvements in data capture.

The bureau has made changes to every aspect of census-taking. The design of the questionnaire changes with every census. Its delivery has changed from having enumerators contact everyone to the U.S. Postal Service delivering most questionnaires. People fill out the questionnaire—by pencil, pen, and computer. Undoubtedly, computers will be used more in future censuses. The processing of the census will be subject to more advances. The use of record systems will help. Allowing people to respond by way of electronic means would also be helpful and is being tested.
Could you please explain the controversy that arose in the late 1980s over the use of post-enumeration surveys to adjust census results?

The bureau has known for years that there is an undercount in the census and that it is concentrated in young men of color. The bureau published its results and asked advisory groups to discuss the problem. Cities thought they were losing money because there were more of the uncounted within their boundaries. Many asked why the census was not corrected and made fairer to the cities if the bureau knew there was an undercount and how big it was. One problem was that the undercount was measured at the national level, and not in fine detail. An adjustment demanded data on a very local level so people could be added to the right blocks, counties, and states. The Post-Enumeration Survey was designed to get estimates of the undercount at lower levels.

The bureau decided in the late 1980s that it would try to adjust the census if the Post-Enumeration Survey data were valid. This caused a big uproar not because of statistical considerations, but because of political considerations. The undercounted young men of color resided primarily in cities, which would benefit from this adjustment. City dwellers tend to vote for the Democratic party, and the Republicans—who were in power—said there would be no adjustment.

What was the most challenging issue you faced during your term as ASA executive director? How did the ASA overcome this challenge?

There had been very little change in the ASA bureaucracy for many years. Any new executive director was going to want to make changes and face the words, “We’ve always done it this way.” Sure enough. So, there were some minor issues that arose because of this.

The issue that was most challenging was the ASA’s relationship with the IRS. Within a few months of my arrival, I was called by an IRS agent, who said we were not reporting income and expenses correctly for our publications and owed a big sum of money. We were visited by an IRS team, who came daily to review our operations. It turned out that many other associations were also being investigated for the same problem. Every day, a bus load of IRS employees arrived in Alexandria to visit the many associations that reside there. After a few months, with some changes on the ASA’s part and some relaxing demands by the IRS, we came to an agreement and did not owe any money. What a relief!

You have the rare distinction of having served the ASA both as president and as executive director. What are the differences in the challenges faced by the holders of these offices? What are the differences in the opportunities enjoyed by the holders of these two offices?

I enjoyed both positions very much. The president is chosen by the members and chairs the board of directors. Every president has some ideas he/she thinks would make the ASA stronger and attract new members. One of the things I did was to establish the position of an office of public affairs. This was not very controversial and just had to work its way through the board. Other challenges surrounded the issues of hiring new staff and setting up new publications. All of these were successfully managed.

The executive director is selected by the board and reports to the president and board of directors. This means that every year, as there is a new president, the executive director has a new boss. Almost all the interactions are harmonious and there is good agreement. However, when the two do not agree, difficulties can arise.

The executive director represents the ASA in many associations around Washington and meets a lot of interesting people and sees the way in which statistics can be used to help others. The executive director also works with government employees and learns about some of their basic problems. One of the things I most enjoyed about being executive director was getting to know committee and section members much better and work with them at solving problems. Also, the ASA staff was always a pleasure to work with.
Guidance for Service on Federal Advisory Boards and Committees

Amy Nussbaum, ASA Science Policy Fellow

The mission and motto of the American Statistical Association is to “promote the practice and profession of statistics.” To raise the profile of statisticians within the federal government, the ASA’s science policy department staff have been nominating members to various advisory committees and boards in different government agencies. In addition, they have been working to strengthen the nominating process and become more aware of different opportunities.

Knowledge of statistical issues concerning collection and analysis of data is vital for the success of scientific advisory committees. Statisticians bring expertise in the analysis of and study of design and data collection to help ensure collected data can be used for their intended purpose. Collaborative deliberations would benefit from statisticians’ expertise and experience in working as part of multidisciplinary teams.

Statistics also includes the study of quantifying uncertainty (essential for understanding risk and measurements with clear implications for the decision making process). It is easy to see that including statisticians would help these committees meet their scientific objectives. Here are some of the examples of recent nominations:

- Advisory Committee to the Director, Centers for Disease Control and Prevention—Health Disparities Subcommittee (HDS) (https://goo.gl/oQuvA8)

  The goal of the HDS is to provide subject-matter expertise to reduce health disparities. The ASA wanted to nominate a statistician who could ensure these disparities, as well as the results of different programs and interventions, were appropriately measured. To find qualified members, ASA science policy department staff worked with leadership of the ASA’s Health Policy Statistics Section.

  - Food Advisory Committee, Food and Drug Administration (https://goo.gl/UP1k?ke)

    This committee evaluates emerging food safety, nutrition, and other food- or cosmetic-related health issues. Evaluating available data is specifically mentioned in the committee’s duties. The ASA called on past appointees for service on this committee.

  - Nominations for Peer Reviewers for the Environmental Protection Agency (https://goo.gl/UL7LkD)

    The EPA invited the public to nominate scientific experts to be considered as peer reviewers for contract-managed peer review related to documents intended to support the Safe Drinking Water Act assessment of lead in drinking water. A report, Proposed Modeling Approaches for a Health-Based Benchmark for Lead in Drinking Water, will also be peer-reviewed. The Statistics and the Environment Section was consulted to find qualified members, and for the first time, section officers made a call for volunteers in the section.

    Several ASA members who have served on these types of committees shared some of their experience and advice. Common themes included having a good grasp of relevant subject matter and committee context. One member (who prefers to be quoted anonymously due to institutional policies) writes, “A statistician who can comment not only on statistical aspects of the review material, but subject matter aspects as well, makes the statistician a valued (and potentially THE most valuable) member of the review panel.”

    Ted, another ASA member, recommended, “For being a constructive member, do your homework. Learn about panel history, precedents, and common discussion points. If possible, attend one or more meetings of the panel prior to taking an active role.”

    Communication is another important aspect of committee
2017 DATA CHALLENGE Sees 16 Contestants

The ASA’s Statistical Computing, Government Statistics (GSS), and Statistical Graphics sections are sponsoring the 2017 Data Challenge, which will take place at the Joint Statistical Meetings in Baltimore.

The goal of the contest, which began earlier this year with analyses of the Bureau of Labor Statistics’ Consumer Expenditure Survey, is to challenge participants to analyze a government data set using statistical and visualization tools and methods. Of the college students and professionals who submitted an analysis, 16 were chosen to present their results in a speed poster session at JSM. All JSM attendees are encouraged to view the presentations.

There will be two award categories: professional (one level) and student (three levels). These awards will be announced at the GSS general membership meeting.

The sections are also moving forward with a special issue of *Computational Statistics*, which will feature refereed articles from contestants in the 2016 Data Challenge. The data set for the 2016 challenge came from the Department of Transportation’s General Estimates Systems. For the 2017 challenge, the plan is to publish selected refereed articles in a special issue of the *Monthly Labor Review*.

New AMS Blog Covers Under-Represented Groups in Mathematics

A new American Mathematical Society (AMS) blog—called “inclusion/exclusion”—debuted recently at http://blogs.ams.org/inclusionexclusion. The blog will cover issues pertaining to marginalized and under-represented groups in mathematics.

The editor-in-chief, Adriana Salerno of Bates College, and editors Edray Goins of Purdue University, Brian P. Katz of Augustana College, Luis Leyva of Vanderbilt University, and Piper Harron of the University of Hawaii at Manoa, hope the blog will help develop a more inclusive, supportive, and diverse community of mathematicians.

The first posts are titled “Inclusion/Exclusion Principle,” “Hidden Figures: How and Why We Brought It to the 2017 JMM,” and “Hands Off My Confidence.” Future topics may include conferences targeted to under-represented groups; inclusive teaching strategies; summaries of current educational research; profiles of inspiring and successful under-represented mathematicians; and advice for students, faculty, and researchers at all levels.

The AMS invites readers to subscribe to the blog to receive notifications of new posts by email. Also, join the conversations by posting comments.
BEA’s Innovation Spurs Projects for Richer Economic Statistics

Brian Moyer, Director of the Bureau of Economic Analysis

To continue capturing a full and detailed picture of a dynamic, $18 trillion-plus economy, the people of the Bureau of Economic Analysis (BEA) have to be economic data pioneers. They are committed to innovating and exploring, whether the bureau is enhancing existing statistics or creating new ways to measure the U.S. economy. That mind-set is crucial to delivering on BEA’s mission: producing the timeliest, relevant, and accurate economic statistics for the American public in an objective and cost-effective manner.

Here is a snapshot of a few of the data projects BEA economists are working on.

The Digital Economy. We are moving forward on a three-pronged plan to better measure fast-changing technologies and their effect on the U.S. economy. One focus is refining price measurements to better capture innovations in high-tech goods and services such as software, cellphones, personal computers, computer servers, cloud computing, and medical imaging equipment.

To tackle improvements in quality-adjusted price measures for such products, BEA is doing the following:

• Conducting an in-house review of GDP and its components to identify areas in which existing quality-adjusted prices could be improved or new indexes could be introduced
• Partnering with source data agencies, including the Federal Reserve Board and Bureau of Labor Statistics, to improve software and medical equipment price measurement
• Engaging experts for specialized research such as building new price indexes for cloud computing

In addition, BEA economists are developing a roadmap to define and measure the digital economy. BEA is researching how to more accurately measure the impact of information technology on the overall U.S. economy and how to improve the measurement of digitally enabled commerce.

Third, BEA is researching the economic impact of “free” entertainment such as Facebook apps and internet games, which are largely supported by advertising revenue. And BEA is committed to better understanding the impact of technology-enabled, peer-to-peer access to goods and services—typically referred to as the “sharing economy.”

Health Care. Created in 2015, our new set of health care statistics break out spending by the treatment of disease, such as circulatory diseases or cancers, rather than by the place of service, such as a hospital or doctor’s office. Each year, BEA plans to release a fresh batch of health care statistics, building a longer time series. Data are currently available for 2000 through 2013. Figures for 2014 will be released later this year.

These data offer new insights into health care, which accounts for about 18 percent of the U.S. economy. After years of research, BEA created a “blended account,” which combines data from multiple public and private sources, including large claims databases covering millions of enrollees and billions of claims.

In its next steps, BEA plans to research linking changes in the costs of treating diseases to improvements in the quality of treatments, including advances that lead to better health outcomes. That’s one of the biggest challenges in precisely measuring medical spending and prices—not unlike what BEA is confronting in the high-tech sector.

BEA also plans to build a detailed input-output framework for health care spending, giving users a way to better analyze the production of goods and services by health care industries. BEA will incorporate prices that reflect the costs of treating diseases into the input-output framework.

There’s More. We have other innovative data projects in the wings, including laying the groundwork for a new set of statistics—a small business satellite account. It would measure, for the first time, the size and health of a sector that’s often at the leading edge of risk-taking, entrepreneurship, and economic growth in the United States.
BEA is also exploring the feasibility of measuring economic growth in the nation’s 3,000-plus counties. These first-of-their-kind BEA statistics would help businesses identify local markets for their products, assist local governments seeking to attract investment, and give a fuller picture of the U.S. economic landscape.

On the global front, BEA is working to expand statistics to provide a more detailed look at how businesses buy and sell services around the world. Quarterly statistics on U.S. trade in services will be expanded to cover 90 countries and country groups (from the current 38.) Details will be published about some of the most dynamic sectors, including research and development, intellectual property, and medical services.

Data Tools. We are also creating new ways to access our data. The newest offering makes data available through the bea.R Library, an open-source data tool for users of the statistical programming language “R.” This gives users a quick way to access our economic statistics, requiring only a few lines of code to do so. BEA’s data also is available through its application programming interface (API), interactive data tables, and other data tools at bea.gov.
Meet Hubert Hamer: NASS Administrator

Amstat News invited Hubert Hamer—administrator of the National Agricultural Statistics Service—to respond to the following questions so readers could learn more about him and the agency he leads.

What about this position appealed to you?

It has always been a goal of mine to provide leadership for the organization I grew up in. I’ve always loved and understood the importance of our mission to provide timely, accurate, and useful statistics in service to agriculture. I think it is rare that one has the opportunity to build a career in something meaningful that one really cares about. I feel very fortunate that I have been able to do just that by combining agriculture and statistics. By working my way up through the ranks at NASS in the Washington, DC, headquarters and in offices around the country, I’ve learned from my colleagues, supervisors, and mentors in NASS and USDA. I’m honored to be able to apply that knowledge and experience to lead this agency.

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

Service and our commitment to U.S. agriculture are what drive us at NASS. To that end, I have three areas of focus:

- Relationships with survey respondents
- NASS employees
- Advancing our use of technology to ensure data quality and usability

In my first months as administrator, I have made it a priority to get out and meet with staff, stakeholders, and respondents across the country. My purpose for these meetings is to strengthen the dialog and relationships to remain relevant and provide the outstanding products and services the agriculture community and others expect from us.

In turning to our staff, my goal is to have an environment in which our outstanding employees can do their best work. This includes a safe and inclusive workplace with diversity of people and ideas; where vigorous, respectful debate is encouraged; and where employees can continue to harness their talent and work ethic to fulfill both their career goals and our agency mission. My expectation is that everyone who interacts with NASS staff finds us to be helpful, pleasant, and professional.

In the area of technology, we have amazing tools to help us that I couldn’t imagine using even just a few years ago. I think George Washington, one of the earliest compilers of agricultural data, and those who later produced the first census of agriculture in 1840 would be astounded. Like other statistical organizations, we are working hard to efficiently and effectively harness geospatial tools, a wide range of available data, the internet, the cloud, data visualization, and many other constantly evolving assets to enhance data collection, analysis, and dissemination. To me, technology is our future.

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

Probably the three greatest challenges for us today are reflected in my priorities. I believe our greatest challenges are keeping up with expanding data needs, reversing the trend of declining response rates that many survey-based organizations are experiencing, and bringing along a next generation of statisticians.
Starting with the topic of meeting data needs … with interests as varied as research and education, community-based planning, farm-related marketing, commodity markets, and the Farm Bill, we are constantly looking forward. For example, in the past few years, we’ve expanded our portfolio of publicly available data to include topics as diverse as grain crushing, flour milling, local foods, organic production, and the cost of pollination. We’ve also created a host of new types of data products. On obtaining sufficient response to surveys, I see this as a real challenge and an opportunity. We are reinvigorating our relationships with farm organizations to see if they can help us reach out to the farmers and ranchers from whom we request information. This has been a very positive effort on many levels.

Finally, one of the great things about NASS is our sense of family. Like me, many come out of college and stay here for their whole career. We have a large number of people who have been in the agency for decades and are starting to retire. We have a renewed focus on recruiting young people, training them, and keeping them so we maintain our knowledge and top-notch skill base.

Prior to your tenure, what do you see as the biggest recent accomplishment of the agency?
This may sound routine, but maintaining our schedule of releasing some 450 reports a year on time and without errors. It is truly a testament to our staff’s commitment, especially while keeping up with new technologies and learning to collect data on new topics from farmers, ranchers, and agricultural businesses they may never have worked with before.

And along those lines, of course, it is a major achievement to conduct a successful Census of Agriculture every five years and create a portfolio of new customer-centric data products. We’ve been working since the release of the 2012 Census of Agriculture to get ready for the 2017 data collection, which will begin late November with a mail out to 3.1 million farmers and ranchers. We are really excited about a new online survey data-collection tool that we expect to use the first time for the census. We are testing it now and have great hopes that respondents will find it to be a convenient and flexible way to fill out the Census of Agriculture.

Census Bureau Releases Public Data

The U.S. Census Bureau has released the initial version of public data from the reengineered Survey of Income and Program Participation (SIPP). This dataset contains variables from Wave 1 of the 2014 SIPP panel. The SIPP is the Census Bureau’s premier survey for measuring the dynamics of income, employment, health insurance, and participation in government transfer programs. The survey provides detailed, monthly information about the family, social, and economic contexts of individuals and households. SIPP is a longitudinal survey, following the same set of respondents over a four-year period, allowing researchers to understand how these contexts change over time.

Accompanying the data release are a number of supporting materials, including research briefs, metadata, a Users’ Guide, release notes, and user notes. The supporting materials are all available on the SIPP website (www.census.gov/sipp), as is other information about the survey and a link to download the data. Additional announcements, including notifications of version updates, will be made as necessary through the SIPP website and the SIPP listserv. For questions or additional information, please see the SIPP website or email census.sipp@census.gov.
April is Mathematics and Statistics Awareness Month

April marks a time to increase the understanding and appreciation of mathematics and statistics. Why? Because both subjects play a significant role in addressing many real-world problems—climate change, disease, sustainability, the data deluge, internet security, and much more. Research in these and other areas is ongoing, revealing new results and applications every day in fields such as medicine, manufacturing, energy, biotechnology, and business. Mathematics and statistics are important drivers of innovation in our technological world, in which new systems and methodologies continue to become more complex.

“Because of the massive increase in the amount of data available, and because of the important contributions of statistics to making sense of the data, statisticians are in hot demand,” said Ron Wasserstein, the ASA’s executive director. “Jobs in statistics command good pay, have great working
conditions, and allow individuals to solve problems that make a difference to the world.”

In the age of Big Data, statistics underlies almost every decision made today, whether it’s the effectiveness of a new drug or treatment or the debut of a mobile device. Statistics is how analysts convert raw data into useful information, from studies of proteins to surveys of galaxies.

Research in statistics and the mathematical sciences is important for its applications and because it trains one in critical thinking and problem solving. From magic squares and Möbius bands to magical card tricks and illusions, mysterious phenomena with elegant “Aha!” explanations have been part of both subjects for centuries.

This month, let’s celebrate mathematics and statistics and the diverse researchers and students in these fields who are contributing so much to furthering discoveries, solving problems, and finding beauty in our world.

Mathematics and Statistics Awareness Month is a program of the Joint Policy Board for Mathematics (JPBM)—a collaborative effort of the American Mathematical Society, the American Statistical Association, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics.

In celebration of Mathematics and Statistics Awareness Month, we asked our followers on social media to tell us how they fell in love with statistics and how they chose statistics as a profession. Here are some of their answers.

Sibylle • @Sibyllestats
It is definitely Kathie Wallman Former US #ChiefStatistician WHO influenced my way to be active with @UNstats

Lindsey Leininger • @lindsleininger
Applied statistics chose me! I fell in w/data while completing a senior thesis in college. Have been hooked ever since.

Becky McNil • @BiostatBecky
Chance? Bombed GRE b/c dorm room above mine threw all-nighter. Epidemiology program rejected me, stats accepted!

Sally C. Morton • @sallycmorton
No doubt about it! #lovestats!

Chad Pickering
I didn’t choose statistics. Statistics chose me.

Robbie Emmet
A combination of a great probability class and a seminar on capture-recapture sampling.

MORE ONLINE
Be sure to check the ASA’s website throughout April for upcoming contests and activities! www.amstat.org/ASA/We-are-Statistics.aspx

Share your story with us. Follow @AmstatNews on Twitter and use #MathStatMonth, or share your story on the ASA’s Facebook page at www.facebook.com/AmstatNews.
Master’s Programs in Data Science and Analytics

More universities are starting master’s programs in data science and analytics due to the wide interest from students and employers. Amstat News reached out to the statistical community involved in such programs. Given their interdisciplinary nature, we identified those that involved faculty with expertise in different disciplines to jointly reply to our questions. In 2015, for example, the ASA issued a statement about the role of statistics in data science, saying statistics is one of three foundational disciplines of data science. While the ASA has not issued a statement about the role of statistics in analytics, we assume statistics to also be foundational there. For this reason, we highlight the programs that are cross-disciplinary and engage statisticians. We will publish responses over a few issues of Amstat News.

- Steve Pierson, ASA Director of Science Policy

University of Tennessee

Robert Mee is the William and Sara Clark Professor of Business, Department of Business Analytics and Statistics, Haslam College of Business, University of Tennessee. He is an ASA fellow who earned his PhD in statistics from Iowa State University.

Master’s in Business Analytics

Website: http://bas.utk.edu/academic-programs/masters/business-analytics/default.asp

Year in which first students graduated: 2011

Number of students currently enrolled: 38 full time, 6 part time. In the fall semester, approximately 80 (first- and second-year combined)

How do you view the relationship between statistics and data science?
Statistics informs both data collection and analysis. Other disciplines are involved with acquiring, managing, and analyzing data, but statistics gives particular attention to potential biases in both collection of data and in estimates of models. Statistics has the tools for quantifying uncertainty, understanding sources of variation, and confirming or contradicting hypotheses. Data science is centered on data and algorithms, as opposed to statistics, which begins with a problem to be addressed.

Describe the basic elements of your data science curriculum and how it was developed.
The core MSBA curriculum combines statistics, data mining/machine learning, optimization, database, and other computing skills, as well as giving the students a foundational understanding of the problems businesses address with analytics. Our students can choose electives in statistics, customer analytics, supply chain analytics, machine learning, or computer science to prepare them for their intended career direction.

We include a business perspective in our curriculum by maintaining close relationships with members of our Business Analytics Forum. In addition, many MSBA faculty members have extensive consulting and executive MBA teaching experience.

What was your primary motivation(s) for developing a master’s data science program?
What’s been the reaction from students so far?
In 2009, our visionary department head brought an IBM white paper on the future of analytics to the attention of faculty. The paper emphasized applied statistics, business intelligence, and process optimization. At that time, we had two parallel
master’s programs, one in statistics and the other in management science. We decided to combine these programs, creating a business analytics MS that now includes applied statistics, data mining, optimization, and Big Data tools.

**What types of jobs are you preparing your graduates for?**
Data scientist, analytics consultant, data analyst for supply chain or marketing. The title business analyst is not quite suitable, since this is often the title intended for less-quantitative MBA graduates.

**What advice do you have for students considering a data science degree?**
Take engineering calculus and learn some programming language. Pursue business analytics if you want to solve quantitatively-oriented problems and enjoy working with vast amounts of data to produce actionable insights that affect a business’s bottom line.

The letter “T” is sometimes used to characterize the business analytics masters, with the top of the T reflecting the breadth of this interdisciplinary degree and the vertical part indicating depth in one technical area. A statistics or computer science MS typically would have greater depth, but would lack the breadth of an MSBA.

**Describe the employer demand for your graduates/students.**
Last December, we graduated our 6th class of MSBA students. Through 2015, we have had 100% placement within three months of graduation. Companies making three or more hires include Amazon, The Boeing Company, Eastman Chemical Company, Hanesbrands Inc., Home Depot, and Regal Entertainment Group. We have also had many graduates work for consulting companies, including Accenture, Deloitte, EY, McKinsey & Company, KPMG, PWC, and several smaller firms.

**Do you have any advice for institutions considering the establishment of such a degree?**
Know your competitors. Consider the target incoming students, as this determines the length of the program. Consider your strategic advantages, especially ties with industry.

---

**George Mason University**

Robert Osgood is the director of the data analytics engineering program. He has expertise in developing and applying analytics to law enforcement in digital forensics, enterprise case management, cyber crime, counterintelligence, information security/technology, team leadership, and critical infrastructure protection.

Daniel Carr is professor of statistics and director of the statistics concentration in the data analytics engineering program. His driving interest is to create statistical graphic designs and software to address constraints posed by human cognition and challenges posed by new kinds of data and large data sets.

**Master’s in Data Analytics Engineering**

**Website:** [http://dataanalytics.gmu.edu](http://dataanalytics.gmu.edu)

**Year in which first students expected to graduate:** 2014

**Number of students currently enrolled:** 290

**Partnering departments:** Volgenau School of Engineering (Lead): Statistics, Systems Engineering and Operations Research, Information Sciences and Technology, Computer Science

**Program format:** The MS Data Analytics Engineering (DAEN) program is an in-person program, although some courses are offered online. Our student body is a mix of full-time and part-time, both domestic and international. We are actively involved with our corporate partners and career services unit to offer internships for students.
Please describe the basic elements of your data science/analytics curriculum and how the curriculum was developed.

The MS DAEN program is interdisciplinary. It revolves around a 15-credit core component with a 15-credit concentration component for a total of 30 credits. Concentrations include applied analytics, business analytics, data mining, digital forensics, health care analytics, predictive analytics, and statistics. The core component consists of four courses, each taught in different departments, and a capstone.

Our admission criteria vary by concentration, but a minimum of one semester each of calculus, programming, and statistics is required. For the statistics concentration, three semesters of calculus, linear algebra, and probability are required.

What was your primary motivation(s) for developing a master's data science/analytics program? What's been the reaction from students so far?

The Volgenau School of Engineering at Mason, through working with its corporate partners and its advisory board, identified the need for data analytics education. Our investigation showed there was a growing demand for individuals with data analytics skills. Northern Virginia is a particularly appropriate area for employment in data analytics.

Student reaction has been extremely positive. Our spring 2017 enrollment of 290 students shows a definite demand for data analytics knowledge.

How do you view the relationship between statistics and data science/analytics?

There are two main components to data analytics: computing technology and statistics. Statistical analysis is what drives meaning from the massive data sets deposited with computing technology (hardware and software). The statistical component also includes visualization and data reduction.

What types of jobs are you preparing your graduates for?

Students are obtaining positions in a varied array of industries: cyber security, finance, government, information and knowledge management, software development, and e-commerce. Wherever data are collected, the need for analysis and statistical techniques is present.

What advice do you have for students considering a data science/analytics degree?

All departments (disciplines) look at the world from a certain point of view. Data analytics is not just computer science, or statistics, or business processes. It’s all of the above. So students looking for a more interdisciplinary view must seriously consider data analytics versus one of the traditional degrees.

It needs to be pointed out that data analytics requires more than just novice knowledge of computer science and statistics. For example, students need a solid statistical foundation normally found in a typical undergraduate statistics class. Also, knowledge of probability is also quite helpful. A minimum of one semester of calculus is also critical. Students need programming expertise. Any language will work, but Python is a particularly valuable language. Knowledge of database design and interaction is also desirable. Development of communication skills is essential in dealing with interdisciplinary stakeholders.

With these core components in place, a student can leverage his/her data analytics learning experience at Mason to the fullest extent.

Describe the employer demand for your graduates/students.

Our interaction with our corporate partners and exit survey data show a significant demand for Mason graduates. The finance, government, and technical sectors have employed our data analytics graduates.

Do you have any advice for institutions considering the establishment of such a degree?

The program must be interdisciplinary. No one owns data analytics, but everyone uses data analytics, so everyone needs to be a stakeholder. At Mason, the department of statistics is housed in the engineering school, along with the department of computer science, department of information sciences and technology (IT management), and department of systems engineering and operations research (predictive analytics). While each department created its own concentration with its own set of prerequisites, a common set of core courses was developed with minimal prerequisites, and each department contributed a course to that core.
Cavan Reilly earned his PhD in statistics at Columbia University in 2000, after which he joined the faculty in biostatistics at the University of Minnesota, where he has remained. Over the last several years, he has transitioned to working on more applied problems with an emphasis on clinical research on infectious diseases. (www.biostat.umn.edu/~cavanr)

Dan Boley is professor of computer science and director of the graduate studies for master’s of science in data science program at the University of Minnesota. His research interests include computational methods in linear algebra, scalable data mining algorithms, algebraic models in systems and evolutionary biology, and biochemical metabolic networks. (www-users.cs.umn.edu/~boley)

### Master’s in Data Science

**Website:** [www.datascience.umn.edu](http://www.datascience.umn.edu)

**Year in which first students expected to graduate:** 2017

**Number of students currently enrolled:** 34

**Partnering departments:** Computer Science and Engineering (Lead), Statistics, Public Health (Division of Biostatistics), Electrical and Computer Engineering

**Program format:** Combination/ (distance learning option available)/typically traditional full-time, but a part-time option is available. Assistantships are available, but not guaranteed. Thirty-one credit hours required; six credit hours over two semesters are for a cumulative research project.

**Please describe the basic elements of your data science/analytics curriculum and how the curriculum was developed.**

Our data science curriculum is intended to fill the spaces between algorithmics, statistical analysis, and modern computing infrastructure (these are the three core areas of our program). Finding the appropriate balance between these components and not simply duplicating and re-labeling existing opportunities for students was our guiding principle.

The curriculum was developed jointly by faculty from computer science and engineering, the school of statistics, electrical engineering and computer science, and the division of biostatistics in the school of public health. Through a series of meetings open to anyone interested, a consensus emerged that our program would focus on providing students with rigorous training in statistical methodology combined with a practical focus on computational feasibility in the age of Big Data, informed by a contemporary understanding of the possibilities engendered by the latest developments in hardware.

To distinguish our degree from the more business-oriented degree more commonly offered by many institutions around the country (including ours), we opted for a rigorous degree demanding a solid background in computing (3–4 semesters) and math/stat (3–4 semesters) at the undergraduate level as a minimum requirement. The other essential ingredient in our degree is a research component consisting of a two-semester capstone project.

**What was your primary motivation(s) for developing a master’s data science/analytics program?**

What’s been the reaction from students so far?

This degree was created to meet the demand from companies for practitioners with solid training in scalable computing methods combined with a solid understanding of statistical issues and methods. Individual programs already had solid curricula in place to address various components of data science, but it was hard for students to package a program with the necessary elements without a cross-disciplinary degree. Many students in all contributing programs were already trying to assemble plans of study that would provide them with the necessary expertise one would expect from a degree in data science; this program has formalized that training. The response from students thus far has been very positive.

**How do you view the relationship between statistics and data science/analytics?**

We see statistics as but one component of a well-balanced program in data science. Some classical statistical techniques that served science well in the 20th century are simply not up to the task of dealing with data sets from the 21st century. This has led to extensive cross-fertilization between topics traditionally viewed as more within the realm of computer science and electrical engineering than statistics and ideas of great interest to statisticians (e.g., machine learning and causal inference). While such developments
are positively affecting the practice of statistics and computer science, there are still opportunities to advance science that require perspectives and skills beyond what is possible in the context of a statistics curriculum or a computer science curriculum. As such, we see the relationship as complementary.

What types of jobs are you preparing your graduates for?
This is a new program, but our students have found internships at various companies employing sophisticated technology in the area, including health insurance, retail, and major social media companies on the coasts.

What advice do you have for students considering a data science/analytics degree?
Such students should strive for a balance between the three core areas identified above during their undergraduate education. Less balance is appropriate for a student specializing in computer science or statistics. The usual calculus sequence and linear algebra are still essential. A year of probability and statistics and a year of data structures and algorithms are becoming prerequisites. An internship is always helpful.

If a student is interested in graduate-level training in a field involving machine learning, data analytics, artificial intelligence, or data mining, having a solid computing background will be essential to implement anything novel. However, a solid statistics background will be essential to ensure that whatever is implemented gives statistically reliable predictions. Many employers have realized that a computing background alone is not sufficient for their next level of data systems development.

Do you have any advice for institutions considering the establishment of such a degree?
Ensure there is no obvious path for students to accomplish the same Stat/CS curriculum through an existing degree (unless you are prepared to simply re-label the existing degree). Make a choice between a regular graduate program with a choice of courses from a short list of requirements on the one hand and a cohort program where all students take the same courses together in sync.

Bentley University

Mingfei Li is an associate professor at Bentley University, where she has been a faculty member since 2008. She is currently serving as the MSBA program director and coordinator of the business analytics certificate and concentration programs. Her research interests include health analytics and sequential predictions.

Master of Science in Business Analytics

Website: www.bentley.edu/graduate/ms-programs/masters-in-business-analytics

Year in which first students graduated: 2016

Number of students currently enrolled: 142 for the MSBA degree, 95 for a business analytics certificate or concentration within other degrees

Partnering departments: Mathematical sciences

Program format: Bentley University is a private business university broken down into a school of business and a school of arts and sciences. The master of science in business analytics (MSBA) is the only graduate degree offered by a department (mathematical sciences) not in the school of business. The department of mathematical sciences provides the quantitative curriculum for the MSBA degree, as well as all the other analytic courses offered at Bentley in statistics, mathematics, quantitative finance, data mining, Big Data, and operations research. Consequently, the department of mathematical sciences is, by necessity, interdisciplinary.

Currently, our program is an in-person program, but has synchronous hybrid classes for some of the courses. The MSBA degree requires 30 credits, and many courses require student projects. We have both full-time and part-time students. Bentley also provides scholarship and assistantship for some outstanding students.

Please describe the basic elements of your data science/analytics curriculum and how the curriculum was developed.
Our program has introductory statistics as a program prerequisite. Students are not required to have coding/programming skills upon entry because we offer programming classes from our curriculum: SQL, data science for R programming, reporting and data visualization, Java programming, HTML, Hadoop, MapReduce introduction, etc.
The MSBA has six required classes: SQL, operations research, and four business-oriented applied statistics classes. Students can choose four elective classes from a list, which includes classes from disciplines representing areas of business applications such as computer science, marketing, finance, economics, management, and informational process management. We collaborate with other departments on these elective classes.

For topics like database development and management, we use courses offered by our computer science colleagues. For business context, we use courses offered by departments of the school of business such as finance, marketing, management, economics, and information management. So while the MSBA program is highly interdisciplinary across both schools in our university, the core focus on analytics led to the decision that the MSBA be managed in the mathematical sciences department.

Beyond the existing curriculum, we continue to develop additional analytical courses to enrich the program curriculum such as machine learning (using R and Python) and design of experiments for business.

What was your primary motivation(s) for developing a master's data science/analytics program?

What's been the reaction from students so far?

Bentley began to offer analytic courses in the 1990s. In 2006, we began to offer a certificate program in business analytics in response to a strong demand for graduates with comprehensive skills centered on statistics and including computer sciences skills, business knowledge, and communications skills. With strong demand from both students and employers, we launched the MSBA degree program in 2013.

Our enrollment rapidly increased from our first class of 40 to the current 162 students. Applications have increased in a similar manner.

How do you view the relationship between statistics and data science/analytics?

Applied statistics is the core of both data science and analytics. Understanding data and knowing how to analyze data are essential in most of applications. Computer science knowledge and programming skills are necessary to facilitate most analyses. Understanding the business questions and stakeholders’ interests provide the guide to statistical thinking and planning for analysis. Therefore, in our program, we require that students develop competency and skills in all three areas: analytics (statistics and operations research), computer science (related to data management and computing), and business (context for application).

What types of jobs are you preparing your graduates for?

Our graduates are hired by companies across different sectors, both private and nonprofit. Because of the wide applicability of business analytics, graduates have a variety of job titles such as business system analyst, data scientist, analytics consultant, data analytics adviser, research analyst, senior modeling analyst, business analyst officer, and business analyst. Employers of our students include CVS, National Grid, Toys R Us, Accenture, Deloitte, Ernst and Young, EMC, and Boston Children’s Hospital.

What advice do you have for students considering a data science/analytics degree?

Compared to a computer science degree or a traditional statistics degree, Bentley's MSBA is a degree that integrates applied statistics with computer science, operations research, and business knowledge. Through this degree, students get interdisciplinary analytic knowledge with a practical understanding of business. Graduates can work with both business and technical teams to be a problem solver and innovator, providing decision support and business insights.

Describe the employer demand for your graduates/students.

There is a strong demand from employers for our MSBA students. From a survey of our first MSBA graduating class (88% response rate), 94% of graduates got full-time jobs within 90 days of graduation. The average annual salary for these graduates was $78,000, and the median salary was $80,000.

Do you have any advice for institutions considering the establishment of such a degree?

Being an interdisciplinary program, the MSBA needs support from multiple academic and administrative departments. Communication is crucial for the coordination and management of the program, as well as for curriculum development. A designated program director has been critical to coordinate all aspects of the program—from admissions to advising to placement—and to work directly with faculty colleagues, administrators, and students.

Students enrolling in the MSBA program have varied backgrounds, interests, and future goals. It is challenging to accommodate this degree of student variation in the curriculum, academic advising, and career services. The program director interacts with students personally throughout their enrollment in the program to understand their individual background and interests and advise their course selections and career preparation to help students achieve their personal goals.
CONSULTANT’S CORNER

Why Be an Independent Consultant?

Stephen Simon, P. Mean Consulting

So, you want to be an independent statistical consultant? Hang out your shingle and start helping people who come your way? Give up all the security that comes with consulting within a larger organization?

Are you crazy?

Inside a large organization, you have a support network. You have a human resources department that can help you update your insurance coverage when you get married. You probably have access to an administrative assistant who can help you prepare expense reports. That large organization will support your professional development, paying your way to the continuing education course at the Joint Statistical Meetings.

I like to write books and articles, and I haven’t figured out yet how to bill any of this work to a particular client. That’s true in some large organizations as well, but many places do offer time and support for professional activities that are not directly tied to a particular client.

In a large organization, if you don’t know how to run a mediation analysis, you can walk down the hall to a colleague’s office to ask a few questions. You also don’t have to go out and find customers, because your customers are down the hallway from you, as well.

At a larger organization, you will have a boss and, for all we like to gripe about bosses, they can often be a great benefit to your career. They review your work and make suggestions on how to do better. They pick the work assignments they think will help you grow and become more valuable to your organization. They counsel you when you have problems.

Most importantly, if you’re part of a larger organization, your paycheck and working hours stay constant during busy and quiet times. In contrast, it’s feast or famine in the world of independent consulting.

As an independent consultant, you end up doing a lot that isn’t really statistical in nature and may take you outside your comfort zone. I work with an accountant, but I’ve had to learn a lot more about accounting than I expected to. I’m the sort of person who, if the amount in your checkbook register is within a hundred dollars of what the bank says you have, thinks the difference must be sampling error.

It’s not just accounting. I pay someone to do my taxes, but when I became an independent consultant, the amount of paperwork I had to pull together for him by April 15 tripled.

You can get legal advice on the best type of business entity to set up, but this is your business, so you will still need to understand the fundamental differences between a sole proprietorship, limited liability corporation, S corporation, and C corporation. Even if your lawyer reviews your contracts, you will end up reading them in detail before you sign off.

Most importantly, you don’t have an organization that finds work for you. So, if you don’t market yourself properly, you won’t have any clients, you won’t make any money, and you will starve to death.

And yet, if you’re the right person, you’d be crazy not to consider a career as an independent consultant. When you are your own business, you have a level of control that is liberating. You don’t like a particular client? You have the option of just walking away. It’s a loss of income, for sure, but some clients are not worth any amount of income. If you try to walk away from a client at a larger organization, your boss needs to okay it first. Nine times out of 10, you will get so much grief about not being a “team player” that it won’t be worth it.

Independent consulting is indeed spread irregularly, but even during busy times, you still have a lot of control over when and where you do your work. That was one of the biggest attractions for me. I have the option of going on field trips with my son and attending all of his track meets. I can be home with him when he’s sick and take him to all his doctor’s appointments. And when he sleeps until 2 p.m. on weekends, that’s when I get much of my work done.

As an independent consultant, you do have to pay for your own continuing education, but the nice thing (beyond it being a tax deduction) is that you don’t have to justify to anyone other than yourself that it’s about time you learned how to run all these new Bayesian models.

That support network in a larger organization? It’s not always there, to be quite honest, and you can build your own support network as an independent consultant. I volunteered to step in as president of the Kansas City R Users Group, and beyond the exposure and the number of new clients it has brought me, the other members of this group have been invaluable resources for things like version control software, data mining, and text analytics.

Independent consulting is not a job for the timid. But if you like being in control, it’s the best job in the world.
Who are you, and what is your statistics position?

My name is Susan Hilsenbeck, and I am a professor of medicine and the leader of the Biostatistics and Informatics Shared Resource in the Dan L. Duncan Comprehensive Cancer Center at Baylor College of Medicine in Houston, Texas. I spend most of my time working collaboratively with investigators on cancer research.

Tell us about what you like to do for fun when you are not being a statistician.

When I am not working as a biostatistician, I like to scuba dive and I like to fish, but most of all I like to quilt.

What drew you to this hobby, and what keeps you interested?

I've been quilting on and off since 1982, which means I started shortly after the 'quilt renaissance' of the 1970s. I got started because I watched a program on PBS and I wanted to make a present for a friend having a baby. Even for my first quilt, I aimed for something original, although I am a strong believer in mastering good technique and then branching out to make it your own.

I work pretty slowly and savor every aspect of the process. I've made very few bed-sized quilts and focus instead on baby-sized and wall art quilts.

One of the things I love about quilts is how the gift of a quilt expresses love and regard. The experience of making a group quilt is especially fun and can help build bonds of friendship. Over the last 17 years, since joining Baylor, my co-workers and I have made more than 30 lap/crib-sized group quilts to celebrate life events like babies, marriages, retirements, etc. The group quilts are usually more whimsical in style, while my solo quilts are more on the experimental and art side (or at least I like to think so).

The thing I like best about quilting—as a mode of expression—is the blend of analysis/engineering to figure how to put something together; the physical skill needed to execute the design; and the freer, artistic side of design, composition, color, etc. It seems like the perfect mix for all sides of my brain. There is also something incredibly relaxing and centering about spending a couple of hours focused on stitching. I keep at it because there is always more to learn and the possibilities are endless.

Susan Hilsenbeck included a DNA molecule applique in this quilt she designed.
STATtrak

Career Success in the Federal Government

Dionne Price

Throughout my education, I forged ahead with the intent of becoming a professor. However, as graduation from my doctoral program neared, I listened to the advice of many who recommended I consider all options before making a final decision regarding where I would begin my career as a biostatistician. Thus, I set out on a number of interviews across all sectors, including the federal government.

I vividly remember meeting representatives from the U.S. Food and Drug Administration (FDA) at the Spring Meeting of the Eastern North American Region (ENAR) of the International Biometric Society. While talking to FDA representatives, I quickly realized I had not been fully aware of the vital role of statisticians at the FDA. I was subsequently invited for an onsite interview, where I learned more about the FDA mission and talked to statisticians at various stages of their careers about their day-to-day responsibilities.

The opportunity to directly affect public health daily left an undeniable impression on me. Although I had not anticipated employment in the federal sector, the job of an FDA statistical reviewer within the Center for Drug Evaluation and Research appeared to be a great fit for me. The position allowed me to apply my training and skills in a collaborative environment while also providing me opportunities to teach and conduct research. I happily accepted the job offer, and I have never looked back.

I have remained at the FDA throughout my career. Why, you ask? The answer is rather simple. I enjoy my job and feel a sense of pride knowing the work makes a difference in the lives of countless people.

Although agencies have been proactive in promoting the meaningful, yet challenging, work of federal statisticians, there still remains less familiarity with the wealth of opportunities for statisticians within the federal workforce. I am most familiar with the FDA, but there are a number of agencies that employ statisticians, including the National Institutes of Health, Centers for Disease Control and Prevention, Environmental Protection Agency, Bureau of Labor Statistics, and Census Bureau, just to name a few. Statisticians at these agencies support a clearly defined mission, influence decisions, and collaborate with multidisciplinary teams regularly. I frequently field questions about attaining a job within the federal government and strategies for a successful federal career. Below, I offer a few comments on these areas.

Federal agencies are often hiring and advertise vacancies in Amstat News. Thus, a good starting point for a job search is to pursue the employment opportunities here. If the employment announcement includes an email address to send questions to, do not hesitate to make direct contact to learn more about the position. I also recommend using the placement services at professional meetings such as the ENAR Spring Meeting and Joint Statistical Meetings.

Federal jobs are unique in that many potential employees will peruse USAJOBS.gov. This is a great resource and often a required tool for applying for a federal job, but I always recommend networking and making a personal contact prior to applying.

A frequently asked question pertains to the ability of federal government agencies to hire non-citizens. A few agencies have the ability to hire non-citizens. If in doubt about hiring practices within an agency, inquire.

Another frequently asked question is the needed educational qualifications for a federal position. The answer will vary by agency. Currently, the FDA employs statisticians with MS and PhD degrees.

Once you enter the federal workforce, you undoubtedly will want to be successful. For the 2016 Women in Statistics and Data Science Conference, I presented a roadmap to success in the federal government. The key components of the roadmap are as follows:

Recognize the Mission

Initially, familiarize yourself with the mission of the agency. As an example, the mission of the FDA is to protect and promote the health of the American public through the regulation of various products. Moreover, the mission of the Office of Biostatistics within the Center for Drug Evaluation and Research is to provide internal and external stakeholders with statistical leadership, expertise, and advice to foster the expeditious development of safe and effective drugs and therapeutic biologics for the American people. The Office of Biostatistics protects the public health by applying statistical approaches for monitoring the effectiveness and safety of marketed drugs and therapeutic biologic products. My colleagues and I truly believe in the mission, and for many, this belief is what motivates us to do our jobs with excellence, to go the extra mile, and to continue to develop our skills for the greater good.

Dionne Price is the director of the Division of Biometrics IV, Office of Biostatistics, Office of Translational Sciences, Center for Drug Evaluation and Research, U.S. Food and Drug Administration. She holds an MS in biostatistics from The University of North Carolina at Chapel Hill and a PhD in biostatistics from Emory University.
Understand the Job
When I accepted the job as a statistical reviewer at the FDA, I relied on my conversations during my onsite interview to inform me of what the job would entail. However, once I was an employee, I set out to truly understand the expectations of the position. For example, as a statistical reviewer, some of my responsibilities included reviewing the statistical aspects of the drug development process and drug applications, providing the statistical perspective on FDA policies and guidance documents, and conducting research on statistical topics pertinent to the mission.

Identify a Mentor or Mentors
Students undoubtedly are informed about the value of mentors when in school. However, mentors actually serve as valuable “guides” throughout your career. A mentor can provide advice about navigating a federal agency, the do’s and don’ts of the job, and tips to ensure your professional development. Some agencies offer formal mentorship programs. Remember, there have been others who have chartered a course to a successful government career, and their wisdom may prove invaluable.

Understand Expectations and Your Performance Evaluation
Within the federal government, performance is formally evaluated yearly. The evaluation process should serve as a mechanism to understand expectations of the position and a conduit to goal setting, performance feedback, and performance measurement.

Recognize Pathways for Development and Growth
Career development is a lifelong process. Federal agencies provide resources to assist in enhancing and expanding skills. These resources may come in the form of training classes, mentorship programs, invited speakers, or opportunities to attend and present at professional conferences. Agencies provide the resources, but employees should have a level of self-motivation to take advantage of and seek opportunities that will provide career development and advancement.

Be Open to Modifying Your Goals
In pharmaceutical drug development, there is often mention of adaptive designs. These are designs that prospectively plan to adapt some aspect of a clinical trial. Careers are like adaptive designs; there are times when it may be beneficial to adapt or modify your goals. As you develop and grow in your career, you may find that your interests change or you may be exposed to an opportunity that was not originally among your goals. Modifications of your goals can often lead to an even more rewarding career than originally planned.

Take Advantage of Opportunities
Although I can only vaguely recollect the movie “Dead Poet’s Society,” there is one line that has remained with me: “Carpe Diem” or “Seize the Day.” My personal translation of this has been to seize opportunities as they come along. Opportunities will often abound within federal agencies and come in various forms. Some will be exciting and others not, but, most often, there is value in the opportunity.

Network
Most sectors recognize the value of networking, and the federal government is no different. According to the Harvard Business Review (May 2016, pages 104–107), research has shown that professional networks lead to more opportunities, broader and deeper knowledge, and improved capacity to innovate. Your network will often begin while in school and expand as you go throughout your career.

I have found that becoming involved in professional organizations can serve as an enjoyable mechanism to grow your network. You may wonder how federal statisticians use networks. As an example, the FDA occasionally convenes a panel of external experts to provide advice on challenging or novel drug applications. We often use our professional network to identify statisticians to serve on these committees.

Develop and Appreciate Work/Life Balance
Federal agencies recognize that employees who have a balance between work and personal life tend to be happy and, consequently, better employees. Hence, having a balance is encouraged, and there are various programs to assist employees with achieving balance. Of course, balance is certainly desirable among many federal employees who work and reside in the Washington metropolitan area, an area rich in museums, national landmarks, noteworthy dining, sports franchises, and the list goes on.

For me, a career in the federal government has been a rewarding experience. Statisticians answer important, often life-altering, questions that affect the public. Answers to the questions may be derived from some of your favorite courses, or you may have to develop an innovative approach to move science forward. Contrary to the belief of some, statisticians within federal agencies are not simply number crunchers. They analyze and interpret complex data using state-of-the-art methodologies. If you are looking for an exciting, rewarding, impacting career, consider all your options, including the federal government. The roadmap to career success begins with you (… in the federal workforce).
“Does anyone have the databank for the STATLAB textbook on floppy disk for a micro-computer?”

This was a question posed in the September 1982 issue of the Statistics Teacher Network newsletter. A lot has changed since then, including—with the newest issue—the name and format. What remains the same is the emphasis on supporting statistics teachers.

“STN began as a paper newsletter mailed out, and then transformed into an electronic newsletter as a PDF,” said longtime STN editor Angela Walmsley. “Now, we are really moving forward in this new dynamic web presence, which combines the content of STN and STEW lessons into one place to find all usable resources for statistics teaching.”

This new web presence is called Statistics Teacher (ST), and Walmsley will serve as co-editor. The online magazine will bring together resources from the American Statistical Association and National Council of Teachers of Mathematics (NCTM), with ASA K–12 Statistical Ambassador Christine Franklin serving as managing editor. The ASA/NCTM Joint Committee on Curriculum in Statistics and Probability will continue to provide leadership for the publication.

“We felt this new look and name was more relevant to our audience,” said Walmsley. “I love the fact that a teacher of any grade level who is teaching statistics can come to this site for resources. It’s kind of like a ‘one-stop shop’ for statistics teachers of levels K–12 plus.”

ST will continue to provide articles about successful classroom practice and announcements
about professional development opportunities. It will also continue to help connect K–12 educators across the country.

New features will include columns about technology and assessment and access to ASA/NCTM publications such as *Bridging the Gap* and *Making Sense of Statistical Studies*.

*Statistics Teacher* will also better incorporate the peer-reviewed S*T*atistics Education Web (STEW) lesson plans and make it easier for educators to search for content by topic, grade level, or activity.

“Through combining several publication outlets into one central place, we will be able to make excellent articles and lesson plans accessible to a much wider audience,” says Walmsley’s counterpart, *ST* co-editor Hollylynne Lee. “I am proud to be part of the launch of this important contribution.”

*Statistics Teacher* will follow *STN*’s fall, winter, and spring publication calendar. Prospective authors are encouraged to contact the editorial team at st@amstat.org with questions or ideas for articles.

---

**Check Out the STN Archives**

You can find your favorite *STN* content by clicking on the “Articles Archive” button on the right sidebar of *Statistics Teacher*.

To kick off this new era, we thought it would be fun to share a problem from the archives: *STN* #28 from February 1992.

The problem: “Suppose there are 7 audio tapes, each of which contains 10 songs. A tape player can be set to randomly choose songs from any of the 7 tapes and play through all the songs exactly once. What is the probability that the first 10 randomly selected songs will include at least 1 song from each of the 7 tapes?”

According to the problem statement, this was constructed by a talented high-school student.

In a later issue of STN, four people were identified as having submitted correct solutions—one of which came from ASA Executive Director Ron Wasserstein. Ron is available to explain to students what a tape player is!

Send your solution to st@amstat.org.
The 2017 Conference on Statistical Practice was held February 23–25. Four hundred fifty participants gathered at the Hyatt Regency Jacksonville Riverfront in Jacksonville, Florida.

The conference began with short courses and an opening mixer on Thursday. The following two days were filled with presentations, poster sessions, tutorials, and practical computing demonstrations. Keynote speaker David Banks set the tone of the conference with his presentation “Snakes and Ladders: Challenges in Forging a Career in Statistics.”

Unique to CSP is its theme, “Communication, Collaboration, and Career Development.” This theme provides participants with tools for leadership and external communication, with the goal of empowering participants to bring a positive impact to their organizations.

A new feature this year was a face-to-face task group charged with facilitating networking for conference attendees that allowed them to engage and connect with each other easily. Some of the face-to-face ideas included the following:

**SPEED NETWORKING:** We set up speed networking tables at the poster session Friday evening. Participants were assigned a table for a quick round of speed networking to meet and discuss the conference.

**COMMON AREA GATHERING SIGNS:** Gathering signs were placed in the common area to encourage participants to have meeting points prior to going for coffee, lunch, dinner, and other conference-related events.

Moon Jung Cho, Bureau of Labor Statistics, CSP Program Chair

To learn about CSP 2018, visit [ww2.amstat.org/meetings/csp/2018](http://ww2.amstat.org/meetings/csp/2018).

Photos courtesy of Meg Ruyle/ASA
DINNER FOR CONSULTANTS: There was a dinner for aspiring and practicing statistical consultants. The goal was to make personal and professional connections and get support from colleagues.

THEME DINNERS: Participants signed up for topic-based group dinners on Thursday and Friday evenings. The “Data for Good” theme dinner was led by David Corliss; “Misleading Graphs” by Naomi Robbins; and “Organizational Impact, Analytics Change, and Soft Skills for Success” by Terri Henderson.

EVENING OUTING: Around 30 people participated in a Jacksonville “Legends and Liars” walking tour led by a local historian and storyteller Friday evening.

As in previous years, we continued the CSP Mentoring Program, which was designed to establish a 1:1 mentoring relationship between junior and senior statistical practitioners and provide an opportunity to enhance personal and professional development goals.

By design, the CSP space is centered on a common area that holds the exhibitor booths, opening mixer, poster sessions, and breakfast and any refreshments. This physical arrangement, along with the small conference size, provides a great opportunity for continuous networking throughout the conference.

The CSP 2017 Best Student Poster Award went to Thomas Metzger of Virginia Tech for “Detecting Interaction in Two-Way Unreplicated Experiments via Bayesian Model Selection” and Carl Ganz of UCLA Center for Health Policy Research for “Using Shiny to Efficiently Process Survey Data.”

CSP 2018 will take place in Portland, Oregon. We hope to see you there!
The U.S. Department of Agriculture’s National Agricultural Statistics Service (NASS) recently inducted into its hall of fame Richard D. Allen and Donald M. Bay, two retired agency leaders whose impact continues to resonate today.

The NASS Hall of Fame honors individuals whose work at the agency has had a lasting impact on agricultural statistics and the service NASS provides. Those inducted exemplify integrity, honesty, and commitment to public service.

“These accomplishments are built on a solid foundation formed by earlier NASS employees. We are reminded frequently of their contributions and are honored to have the opportunity to recognize some of them via the NASS Hall of Fame,” said NASS Administrator Hubert Hamer.

Allen was honored for leading with integrity and an unwavering desire to improve the quality and timeliness of agricultural statistics. As NASS historian and a compassionate mentor, his legacy includes the countless statisticians he helped develop into exceptional stewards of agricultural statistics.

Bay was honored for producing significant and lasting changes to NASS’ agricultural statistics program and organizational culture, including the transfer of the Census of Agriculture program from the U.S. Census Bureau to NASS. During a time of technological change, he skillfully maintained morale and implemented many efficiency measures.

To learn more about the NASS Hall of Fame, including how to submit a nomination, visit www.nass.usda.gov/About_NASS/Hall_of_Fame.

The Department of Planning, Development, and Research (DPDR) of the Ministry of Education in Brunei Darussalam organized a workshop on evidence-based decision making and meta-analysis with applications January 23–25, 2017, at the Rizqun International Hotel in Bandar Sri Begawan, Brunei.

Shahjahan Khan, professor of statistics at the University of Southern Queensland, presented the workshop.

The workshop emphasized the importance of being evidence-informed for the decision makers, especially the essence of the levels and quality of evidence including the design of studies. The systematic reviews, as opposed to narrative reviews, must avoid every kind of bias to make the systematic reviews and meta-analyses objective and reproducible.

To read more about the conference, visit “Government of Brunei Sponsors Workshop on Evidence-Based Decision Making, Meta-Analysis” at http://magazine.amstat.org.
Student Chapter Hosts Counting Card Social

Krista Shuckerow, President of the Statistics Club at Florida International University

Every semester, the Statistics Club at Florida International University (FIU) plans for a board member to host an event related to one of their favorite statistical topics. In February, club board member Samuel Mirtil hosted a “counting cards” social, which included an interactive workshop on how to count cards using probability and expected values.

After Mirtil demonstrated how to count cards, everyone put their new skill to the test in games of Blackjack. For their effort, demonstration participants walked away with water bottles and pins with the club logo. All attendees left with a deck of cards so they could continue practicing their card-counting skills.

Approximately 20 people attended, the club gained three new members, and—most importantly—everyone had lots of statistics-related fun.

Chapter members and guests enjoy food before the presentation.

Samuel Mirtil demonstrates an interactive card-counting system.
Biometrics
Edited by Zheyu Wang, Biometrics Section Publications Officer

Want to get more involved in the Biometrics Section? Interested in contributing articles to the Biometrics Section newsletter? Contact the section’s publication officer, Zheyu Wang, at wangzy@jhu.edu.

JSM 2017 Program
The Biometrics Section will sponsor the following continuing education (CE) courses at the 2017 Joint Statistical Meetings in Baltimore:

Longitudinal and Incomplete Data
Instructor(s): Geert Molenberghs and Geert Verbeke

An Introduction to the Joint Modeling of Longitudinal and Survival Data, with Applications in R
Instructor(s): Dimitris Rizopoulos

Bayesian Designs for Phase I-II Clinical Trials
Instructor(s): Peter Thall and Ying Yuan

Regression Modeling Strategies
Instructor(s): Frank Harrell

Precision Medicine Through Optimal Treatment Regimes
Instructor(s): Eric Laber, Marie Davidian, Anastasios (Butch) Tsiatis, and Shannon Holloway

Statistical Analysis with Missing Data
Instructor(s): Roderick Little and Trivellore Raghunathan

Analysis of Categorical Data
Instructor(s): Christopher Bilder and Thomas Loughlin

To read about the 2017 section award winners and other Biometrics Section news, visit http://magazine.amstat.org/blog/2017/03/01/biometrics-section-news-for-march-2.

Physical and Engineering Sciences
Yili Hong, JSM Program Chair-Elect, and Ying Hung, SRC Program Chair

The Physical and Engineering Sciences Section (SPES) is sponsoring the following two P.M. roundtable sessions at JSM 2017 in Baltimore:

Design of Experiment for Big Data Era
Dennis Lin, Pennsylvania State University
Classical design of experiments is mainly for agricultural and industrial problems, which may not be appropriate for the Big Data era of today. We will first discuss what is new for Big Data-type problems and then talk about future directions for design of experiments for the new environment.

Statistical Challenges and Opportunities with Remote Sensing Data
Jon Hobbs, NASA Jet Propulsion Laboratory
Remote sensing instruments can provide high-resolution and high-volume data to inform numerous physical and environmental processes. Typically, the quantities of interest—such as the composition of the Earth’s or other planetary atmosphere—must be inferred from the information in satellite radiance spectra. The inference can often involve complex, nonlinear, computationally expensive physical models, so a variety of tools for uncertainty quantification is used. Understanding the sources of uncertainty can provide additional insight for the scientific applications that benefit from the use of satellite data. This discussion will address the trade-offs between making optimal inference and practical considerations such as data volume for global remote sensing efforts.

If you are interested in attending roundtables at JSM, registration is required.

Spring Research Conference
The 24th IMS/ASA Spring Research Conference (SRC) on Statistics in Industry and Technology will take place May 17–19 at Rutgers University.
The purpose of SRC is to promote research in statistical methods that address problems in industry and technology and to stimulate interactions among statisticians, researchers in the application areas, and industrial practitioners. The conference has a history of more than two decades and has explored many interesting and important topics in research and applications.

Keynote speakers will be Vijay Nair of the University of Michigan and David Madigan of Columbia University. Xiao-Li Meng of Harvard University will speak at the conference banquet.

There are 20 invited sessions and four contributed sessions with topics such as design of experiments, modern computing, uncertainty quantification, computer experiments, recent advances in statistical learning, network sampling, data fusion, time series for business problems, experimental design and causal inference in high-tech companies, and methods on quality improvement and measurement system.

Program details and registration information are available at www.stat.rutgers.edu/src2017.

Survey Research Methods
Despite the reputation of Twitter, it actually can serve as an effective tool for survey statisticians to communicate with each other. Therefore, we are pleased to announce that the Survey Research Methods Section is now alive on Twitter (@SRMSASA or http://twitter.com/srmsasa). Any current section officer is able to send a Twitter update from the section’s official Twitter account.

What’s a Survey?
More than a dozen year ago, Fritz Scheuren led a group of survey experts in publishing the second edition of What Is a Survey? (www.whatisasurvey.info/overview.htm). Stas Kolenikov is looking for volunteers to update this booklet to reflect the fast-evolving survey practice and operation. If you are interested in volunteering for this project, contact Kolenikov or sent a Twitter message to @SRMSASA.
The following events are the latest additions to the ASA’s online calendar of events. Announcements are accepted from education and not-for-profit organizations only. To view the complete list of statistics meetings and workshops, visit www.amstat.org/dateline.

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

» Indicates events posted since the previous issue

**May**

»5–6—Neuro-Statistics: The Interface Between Neuroscience and Statistics, Minneapolis, Minnesota
For more information, visit irsa.stat.umn.edu/session/neuro-statistics-interface-between-neuroscience-and-statistics or contact Snigdhasnu Chatterjee, 313 Ford Hall, Minneapolis, MN 55455; (612) 625-6505; irsa@stat.umn.edu.

5–7—The 5th Workshop on Biostatistics and Bioinformatics, Atlanta, Georgia
For details, visit math.gsu.edu/~yichuan/2017Workshop or contact Yichuan Zhao, 30 Pryor St., Department of Mathematics and Statistics, Atlanta, GA 30303; (404) 413-6446; yichuan@gsu.edu.

15–17—ARS’17 International Workshop, Naples, Italy
For details, visit www.ars17.unisa.it/index or contact Maria Rosaria D’Esposito, Via Giovanni Paolo II, Fisciano (SA), International I-84084, Italy; (+39) 089962206; mdesposi@unisa.it.

22–24—40th Annual Midwest Biopharmaceutical Statistics Workshop (MBSW), Muncie, Indiana
For details, visit www.mbswonline.com or contact Melvin Munsaka, One Takeda Parkway, Deerfield, IL 60015; (224) 554-2846; melvin.munsaka@takeda.com.

29—Workshop on Statistical Perspectives of Uncertainty Quantification, Atlanta, Georgia
For details, visit pwp.gatech.edu/spuq-2017 or contact Roshan Joseph, Industrial and Systems Engineering, Atlanta, GA 30332-0205; (404) 894-0056; roshan@gatech.edu.

**June**

»31–6/2—Statistical Analysis of Neural Data (SAND8), Pittsburgh, Pennsylvania
For details, visit sand.stat.cmu.edu or contact Barbara Dorney, CNBC, Pittsburgh, PA 15122; (412) 268-6557; dorney@cmu.edu.

5–7—14th Graybill Conference on Statistical Genetics and Genomics, Fort Collins, Colorado
For details, visit graybill.wolpe2.natsci.colostate.edu or contact Wen Zhou, 208 Statistical Building, Colorado State University, Fort Collins, CO 80523; (970) 491-1306; niczw@stat.colostate.edu.
7–9—ISBIS 2017 - Statistics in Business Analytics, Yorktown Heights, New York
For more information, visit www.isbis2017.org or contact ISBIS 2017, 1101 Kitchawan Road, Route 134, Yorktown Heights, NY 10598; (914) 945-1793; isbis2017@gmail.com.

9–10—Conference in Celebration of Jeremy Taylor’s 60th Birthday, Ann Arbor, Michigan
For more information, visit sp.humich.edu/biostat/events/jeremy-taylor-event.html or contact Menggang Yu, 600 Highland Ave., Madison, WI 53792; (608) 261-1988; meyu@biostat.wisc.edu.

11–23—Summer Institute in Social-Science Genomics, Santa Barbara, California
For details, visit www.russellsage.org/summer-institute-social-science-genomics or contact Dan Benjamin, 312 Dauterive Hall, Los Angeles, CA 90089; (617) 548-8948; RSF.Genomics.School@gmail.com.

18–7/1—Summer Institute in Computational Social Science, Princeton, New Jersey
For details, visit www.russellsage.org/summer-institute-computational-social-science or contact Matt Salganik, 145 Wallace Hall, Princeton, NJ 08544; (609) 258-8867; rsfcompsosci@gmail.com.

For details, visit aprc2017.org or contact Nalini Ravishanker, AUST 333, 215 Glenbrook Road, Storrs, CT 06269; (860) 486-4760; nalini.ravishanker@uconn.edu.

20–23—The 10th International Conference on Multiple Comparison Procedures, Riverside, California
For more information, visit www.mcp-conference.org or contact Xinping Cui, 1337 Olmsted Hall, University of California at Riverside, Riverside, CA 92521; (951) 827-2563; xinpeng.cui@ucr.edu.

26–30—10th Extreme Value Analysis Conference, Delft, The Netherlands
For more information, visit www.eva2017.nl or contact John Einmahl, P.O. Box 90153, Tilburg, International 5000LE, Netherlands; +31 (0)13 46 8208.

July

2–7—IWSM 2017, Groningen, The Netherlands
For more information, visit iwsm2017.webhosting.rug.nl or contact Marco Grzegorczyk, Nijenborgh 9, Groningen, International 9747 AG, Netherlands; +31 50 36 33 985; m.a.grzegorczyk@rug.nl.

*3–7—ICORS 2017, Wollongong, Australia
For more information, visit niasra.uow.edu.au/icors2017/index.html or contact Anica Damcevski, NIASRA, University of Wollongong, Wollongong, International 2522, Australia; 0061-2-4221-5435; icors2017@uow.edu.au.

3–7—Research on Productivity, Trade, and Growth: Theory and Practice, Amsterdam, The Netherlands
Visit www.tinbergen.nl/tinbergen-institute-summer-school/research-productivity-trade-growth-theory-practice or contact Judith van Kronenburg, Gustav Mahlerplein 117, Amsterdam, International 1087 MS, The Netherlands; +31 (0)10 40 88919; summerschool@tinbergen.nl.
9–13—38th Annual Conference of the International Society for Clinical Biostatistics, Vigo, Spain
For details, visit jacobo.webs.uvigo.es/Flyer_ISCB38.pdf or contact Jacobo de Uña Álvarez, University of Vigo, Department of Statistics and OR, Vigo, International 36310, Spain; 986812492; jacob@uvigo.es.

10–22—Bocconi Summer School in Statistics and Probability: Statistical Causal Learning, Como, Italy
For more information, visit http://spas.lakecomoschool.org or contact Sonia Petrone, Via Roentgen 1, Milano, International 20123, Italy; +39 0258365602; sonia.petrone@unibocconi.it.

10–28—2017 UW Biostatistics Summer Institutes, Seattle, Washington
For details, visit www.biostat.washington.edu/suminst or contact Deb Nelson, UW Tower 1ST, Campus Box 359461, Seattle, WA 98195; (206) 685-9323; uwbiost@uw.edu.

12–14—Data Science, Statistics, and Visualisation (DSSV 2017), Lisbon, Portugal
Visit iasc-isi.org/dssv2017 or contact Peter Filzmoser, Vienna University of Technology, Vienna, International 1040, Austria; +43 1 58801 10560; P.Filzmoser@tuwien.ac.at.

17–21—Introduction in Genome-Wide Data Analysis, Amsterdam, The Netherlands
For details, visit www.tinbergen.nl/tinbergen-institute-summer-school/genome-wide-data-analysis or contact Judith van Kronenburg, Gustav Mahlerplein 117, Amsterdam, International 1087 MS, The Netherlands; +31 (0)10 40 88919; summerschool@tinbergen.nl.

17–22—Crash Course in Experimental Economics, Amsterdam, The Netherlands
For more information, visit www.tinbergen.nl/tinbergen-institute-summer-school/experimental-economics or contact Judith van Kronenburg, Gustav Mahlerplein 117, Amsterdam, International 1087 MS, The Netherlands; +31 (0)10 40 88919; summerschool@tinbergen.nl.

*29–8/3—2017 Joint Statistical Meetings, Baltimore, Maryland
For more information, visit www2.amstat.org/meetings/jsm/2017 or contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.

August

22–26—XXVII International Symposium on Statistics, Medellin, Colombia
For more information, visit simposioestadistica.unal.edu.co or contact Carlos Eduardo Alonso Malaver, Calle 44 No. 45-67, Bogotá, International 111321, Colombia; 57-1 3165327; simestadi_tcbog@unal.edu.co.

8–12—XXVII International Symposium on Statistics, Medellin, Colombia
For more information, visit simposioestadistica.unal.edu.co or contact Carlos Eduardo Alonso Malaver, Calle 44 No. 45-67, Bogotá, International 111321, Colombia; 57-1 3165327; simestadi_tcbog@unal.edu.co.

12–14—Data Science, Statistics, and Visualisation (DSSV 2017), Lisbon, Portugal
Visit iasc-isi.org/dssv2017 or contact Peter Filzmoser, Vienna University of Technology, Vienna, International 1040, Austria; +43 1 58801 10560; P.Filzmoser@tuwien.ac.at.

17–21—Introduction in Genome-Wide Data Analysis, Amsterdam, The Netherlands
For details, visit www.tinbergen.nl/tinbergen-institute-summer-school/genome-wide-data-analysis or contact Judith van Kronenburg, Gustav Mahlerplein 117, Amsterdam, International 1087 MS, The Netherlands; +31 (0)10 40 88919; summerschool@tinbergen.nl.

17–22—Crash Course in Experimental Economics, Amsterdam, The Netherlands
For more information, visit www.tinbergen.nl/tinbergen-institute-summer-school/genome-wide-data-analysis or contact Judith van Kronenburg, Gustav Mahlerplein 117, Amsterdam, International 1087 MS, The Netherlands; +31 (0)10 40 88919; summerschool@tinbergen.nl.

*29–8/3—2017 Joint Statistical Meetings, Baltimore, Maryland
For more information, visit www2.amstat.org/meetings/jsm/2017 or contact ASA Meetings, 732 N. Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.
28–9/1—CEN-ISBS Vienna 2017 Joint Conference on Biometrics & Biopharmaceutical Statistics, Vienna, Austria
For details, visit www.cenisbs2017.org or contact Alexandra Seppi, Mariannengasse 32, Vienna, International 1090, Austria; cenisbs2017@aimgroup.eu.

September
21–24—Mountain Village Science Series (MOVIISS 2017), Vorau, Austria
For details, visit www.moviss.eu or contact Peter Filzmoser, Wiedner Hauptstr. 8-10, Vienna, International 1040, Austria; +43 1 58801 10560; P.Filzmoser@tuwien.ac.at.

For more information, visit ww2.amstat.org/meetings/biopharm-workshop/2017 or contact ASA Meetings, 732 North Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.

October

*4–6—Fall Technical Conference, Philadelphia, Pennsylvania
Visit www.falltechnicalconference.org or contact Maria Weese, 800 E. High St., Oxford, OH 45056; (513) 529-0591; weeseml@miamioh.edu

*11–13—ASA Symposium on Statistical Inference, Bethesda, Maryland
For more information, visit www2.amstat.org/meetings/ssi/2017 or contact ASA Meetings, 732 North Washington St., Alexandria, VA 22314; (703) 684-1221; meetings@amstat.org.

*12–14—Design and Analysis of Experiments (DAE 2017) Conference, Los Angeles, California
For more information, visit www.stat.ucla.edu/~hqxu/dae2017 or contact Hongquan Xu, Department of Statistics, Los Angeles, CA 90095-1554; (310)206-0035; hqxu@stat.ucla.edu.

November

December

*3–8—73rd Annual Deming Conference on Applied Statistics, Atlantic City, New Jersey
Visit: www.demingconference.com or contact Walter Young, 16 Harrow Circle, Wayne, PA 19087; (415) 819-8884; demingchair@gmail.com.

*28–29—International Conference 2017, Colombo, Sri Lanka
For details, visit www.iappstat.lk/home/images/IASSL_IC/index.html or contact Sarath Peiris, University of Moratuwa, Moratuwa, International 10400, Sri Lanka; 779895342; sarathp@uom.lk.

40th Annual Midwest Biopharmaceutical Statistics Workshop
May 22–24, 2017
Ball State University Alumni Center, Muncie, Indiana
PLENARY SESSION
Frank Rockhold (Duke University), “Open Access and Data Sharing: Where Are We on the Clinical Data Disclosure and Transparency Journey?”
http://mbswonline.com

The registration fee includes a conference memento, Monday luncheon, Tuesday and Wednesday continental breakfasts and luncheons, Monday evening mixer, and Tuesday evening banquet at the Ball State Alumni Center.

Celebrating 40 years of Sharing Statistical Innovation with the Biopharmaceutical Industry
Michigan

Assistant Professor Business Data Analytics. The marketing department invites applications for a full-time tenure-track position in business data analytics. Candidates need the ability to develop, deliver, and teach curricula for hands-on instruction integrated across multiple platforms. Required: PhD in statistics, applied statistics, or related field. Prior teaching experience or at least 2 years work experience. For a complete posting or to apply: http://employment.ferris.edu. Ferris State University is an AA/EOE.

New York

Assistant Professor. Teach biostatistical, epidemiologic methods in medical, graduate schools. Mentor graduate students, residents, fellows in research projects. Initiate, participate, lead epidemiologic and biostatistical research studies. Liaise between clinical depts and institute. Perform literature search, identify research gap, write grants and manuscripts. PhD in biostatistics. CV to Debora Gomez, Icahn School of Medicine, One Gustave Levy Place, Box 1514, NY, NY 10029. Refer Job 2331024. EOE.

Oklahoma

Department of Biostatistics and Epidemiology, College of Public Health, University of Oklahoma Health Sciences Center seeks two tenure-track assistant professors of biostatistics. PhD in biostatistics or related field and 12 months collaborative research gained during training or employment required. Graduate teaching experience desired. Preferred expertise: health services research, statistical genetics, or big data. Attach letter of interest, CV, names of three references: Daniel Zhao, daniel-zhao@ouhsc.edu). The University of Oklahoma is an Equal Opportunity/Affirmative Action Employer. Women, minorities, individuals with disabilities and protected veterans are encouraged to apply.

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), $478 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.

Biostatistics Faculty Job Description | Department of Preventive Medicine

The Department of Preventive Medicine of the Keck School of Medicine of USC is seeking an experienced biostatistician with an interest in a full-time position in education. The position is within the non-tenure track and will be at a rank appropriate for the experience of the faculty member. The department teaches a broad array of courses in biostatistics at levels ranging from undergraduates to advanced graduate students. Areas of focus for teaching include general biostatistical methods, data analysis with focus on both simple and multivariate models, application of biostatistical methods to complex data sets using a variety of software programs (e.g. SAS, Stata, SPSS, R), and probability and statistical theory. Teaching responsibilities would focus on courses in our graduate program in biostatistics (master’s and Ph.D.), but could also include data-analysis courses within our MPH and undergraduate programs. There are opportunities to develop new classes in areas related to biostatistical methods or applications. While the emphasis is on education, limited time could be available for collaborative research.

Candidates should have a doctoral degree in biostatistics or a related field and teaching experience in one or more academic training programs. Research and consulting experience, particularly involving the application of biostatistical methods to the analysis of data from a health-related field, is desirable.

The University of Southern California (USC), founded in 1880, is located in the heart of downtown L.A. and is the largest private employer in the City of Los Angeles. As an employee of USC, you will be a part of a world-class teaching and research university and a member of the “Trojan Family,” which is comprised of the faculty, students and staff that make the university what it is.

USC is an equal opportunity/affirmative action employer. Women and minorities are strongly encouraged to apply. Please send curriculum vita, a brief summary of teaching and research experience, and names and contact information for three individuals who are familiar with your academic accomplishments to: Jim Gauderman, Ph.D. Professor and Chief, Division of Biostatistics, Department of Preventive Medicine, Keck School of Medicine of USC, 2001 N. Soto St., Room 202-K, Los Angeles, CA 90032, JIMG@usc.edu.
The Department of Statistical Science invites applications for an open rank position in the Professor of the Practice of Statistical Science track to begin in Fall 2017. This is a term renewable position. The appointee will serve as the full-time Master’s Program Administrator (MPA) in the department for the Master’s in Statistical Science (MSS) program. The MSS, launched in 2014 and already successful and visible, is a 2-year degree that provides a modern, comprehensive education in statistical theory, methods and computation, brings students into challenging, real-world research areas, and prepares students for positions in industry, government and other sectors as well as for PhD programs. Roughly half of the graduating MSS students move to R&D in industry, and about half to PhD programs. In concert with the graduate faculty leadership, the Master’s Program Administrator will build on the existing foundation of the program to extend and develop partnerships in industry, government, non-profit, and other sectors, expanding internships and post-graduation job opportunities, as well collaborate with departmental faculty on aspects of the MSS administration and curriculum, and contribute to teaching and mentoring.

Full details of the department and the MSS program can be found at www.stat.duke.edu

Preference will be given to candidates with post-PhD experience in R&D in relevant areas, track records in statistical research and education, and a strong interest in program development and administration with relevant experience in leadership and mentoring. To apply, submit a letter, curriculum vitae, personal statement of research and teaching and names/letters from three references via https://academicjobsonline.org/ajo/jobs/8716.

Enquiries can be emailed to mpa-search@stat.duke.edu. The application pool will remain open until the position is filled; screening will begin on February 1, 2017.

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

Professor of Biostatistics
Harvard T.H. Chan School of Public Health

The Dana-Farber Cancer Institute and the Harvard T.H. Chan School of Public Health are seeking a distinguished scientist to serve as chair of the Department of Biostatistics and Computational Biology at the Dana-Farber Cancer Institute. The successful candidate will also be appointed as a tenured professor in the Department of Biostatistics at the Harvard T.H. Chan School of Public Health and will provide leadership in the cancer training and research program in the department.

The Department of Biostatistics and Computational Biology at the Dana-Farber Cancer Institute is an active department of 21 faculty, 12 doctoral research scientists, 21 masters-level statisticians, and 12 bioinformatics analysts/engineers conducting wide-ranging methodological research in biostatistics and computational biology and collaborative research in cancer. The department is home to the statistical centers for the International Breast Cancer Study Group and the ECOG-ACRIN Cooperative Group, coordinates the Biostatistics Core Facility for the Dana-Farber/ Harvard Cancer Center, and is the principal site of the Centers for Cancer Computational Biology, Functional Cancer Epigenetics, and Center for Cancer Evolution and cBio Center. The department is closely affiliated with the Department of Biostatistics at the Harvard T.H. Chan School of Public Health, where many of the department’s faculty hold primary appointments and participate in the graduate training program.

The successful candidate will be a visionary leader, internationally recognized as a pre-eminent scientist with an established record of scholarship, ideally in the area of cancer research. Candidates should hold a doctoral degree in a relevant field.

Please submit a letter of application, including a statement of current and future research interests, a curriculum vitae, and sample publications, online at http://academicpositions.harvard.edu/postings/7145. It would be helpful if you would also provide the names of senior scholars likely to be most knowledgeable about your field and about your work in particular. Please contact facultyaffairs@hsph.harvard.edu with any questions.

Dana-Farber Cancer Institute and Harvard University seek to find, develop, promote, and retain the world’s best scholars and are Affirmative Action/Equal Opportunity Employers. Applications from women and minority candidates are strongly encouraged.

The Department of Biostatistics and Computational Biology at Dana-Farber Cancer Institute provides a flexible working environment and provides a balance between work and life. Information on resources for career development and work/life balance at the Harvard Chan School can be found at: https://hlc.harvard.edu/hlc-work-life-programs-at-a-glance/.

We are an equal opportunity employer and all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability status, protected veteran status, or any other characteristic protected by law.
Join the 300+ strong and diverse community of Census Bureau mathematical statisticians at the heart of the Statistical quality of our demographic and economic census, surveys, and research.

**Your work as a Mathematical Statistician at the Census Bureau**

- Design sample surveys and analyze the data collected.
- Design and analyze experiments to improve survey questionnaires and interview procedures.
- Improve statistical methods for modeling and adjustment of seasonal time series.
- Perform research on statistical methodology that will improve the quality and value of the data collected.
- Publish research papers and technical documentation of your work.

**Requirements**

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

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

**The U.S. Census Bureau is an Equal Opportunity Employer.**
In celebration of Mathematics and Statistics Awareness Month, we asked our followers to share why they chose statistics. Here are a few of their answers:

**Andrew Byrne** Well, I was insignificant. Just a little p in a pod. I thought I would be more about teaching than research, but after sampling statistics, I began to skew toward quantification. Math had never really had much of an effect size on my life, but I began to notice a correlation between my use of numeric support and academic credibility- and before you can say "Bonferroni pizza" I was in for a correction! Practicing on my own data really increased my confidence level; and I even skipped Thanksgiving to run analyses...imagine that, skipping Turkey for Tukey!! So now whenever I do things with data, there is a high probability that I will be graphing it, predicting its future behavior, even if I have to do it discretely. Sorry I had to include some puns. I can be mean like that.

**Elizabeth Pruitt** A very influential and entertaining epidemiologist teaching my undergrad biostatistics course introduced me to my as of yet undiscovered passion for statistics

**Vanessa Maribel Fernandez** Trying to analyze my own data ..... I discovered a new world!!

**Chrystin Gabryshak** Was a biology major. Aced a genetics quiz. Got called into the professor's office. He politely asked my math background, told him I was taking 300 level math classes for 'fun'. He then told me he had asked me in because I got 100%, even got a problem right that he had wrong...And the class average was a 55%...He ended up being my advisor, and I ended up being a double major. Wanted to go into bioinformatics, but ended up getting MS in Statistics.

**Cliff Claven** Statistics interests me because it was a way to use mathematical techniques to help people, whether it be in social sciences, manufacturing, the military, or any subject matter.
Statistics

The latest release of SAS/STAT® is now available. SAS/STAT 14.2 enriches numerous analyses and adds two more procedures to your portfolio.

**SAS/STAT 14.2 Highlights**

- Propensity score analysis.
- Estimation of causal treatment effects.
- Time-dependent ROC curves for Cox regression.
- Two-stage fully efficient fractional imputation and fractional hot-deck methods for survey data.
- Balanced bootstrap and sequential Poisson methods for selecting random samples.

**Recent SAS/STAT Highlights**

- Generalized additive models by penalized likelihood estimation.
- LASSO method for selecting generalized linear models.
- Classification and regression trees.
- Weighted GEE methods.
- Proportional hazards regression models for interval-censored data.
- Bayesian choice models.

To learn more.
support.sas.com/statnewreleases
Great software in the right hands can change the world.

At Cal Poly, professors prepare tomorrow's engineers for cross-cultural thinking. Engineering a world-wise student.

Read about Cal Poly's success, and find out how JMP can help you change your world:

www.great.jmp

JMP
Statistical Discovery™ From SAS.

SAS and all other SAS Institute Inc. product or service names are registered trademarks or trademarks of SAS Institute Inc. in the USA and other countries.™ indicates USA registration. Other brand and product names are trademarks of their respective companies. Copyright © 2017, SAS Institute Inc. All rights reserved.