# BCASA NEWSLETTER

# **Boston Chapter of the American Statistical Association**

Serving

Maine, Massachusetts, New Hampshire, and Vermont

Volume 25, No. 1, September 2006

Homepage: http://www.amstat.org/chapters/boston Newsletter: bcasa\_news@yahoo.com

SCHEDULED EVENTS			
September 20	BCASA Afternoon Lecture	Northampton, MA	
September 30	Sample Size Short Course	Providence, RI	
October 9	BCASA Evening Lecture	Cambridge, MA	
November 14	BCASA Evening Lecture	Cambridge, MA	
December 2	BCASA Time to Event Data Short Course	Natick, MA	

Event schedule at the chapter website: <a href="http://www.amstat.org/chapters/boston/schedule.html">http://www.amstat.org/chapters/boston/schedule.html</a>

Detailed announcements appear later in this newsletter. All events are announced in advance to members on our email list. We are currently planning events for the coming year. If you have suggestions please contact Program Chair Tom Lane.

# AFTERNOON LECTURE

The Full Monte Carlo: A Live Performance

**Dr. Xiao-Li Meng** Harvard University

Date: September 20, 2006

**Time**: 3:45pm Refreshments, 4:00pm Lecture

Location: Smith College, McConnell Hall room 103, Northampton, MA

Abstract: Markov chain Monte Carlo (MCMC) methods, originating in computational physics about half a century ago, have

seen an enormous range of applications in quantitative scientific investigations. This is mainly due to their ability to simulate from very complex distributions such as the ones needed in realistic statistical models. This talk provides an introductory tutorial of the two most frequently used MCMC algorithms: the Gibbs sampler and the Metropolis-Hastings algorithm. Using simple yet non-trivial examples, we demonstrate, via live performance, the good, bad, and

ugly implementations. Along the way, we also reveal the secret behind the greatest statistical magic.

Directions/Map: McConnell Hall room 103 is located in the Smith College Clark Science Center (see map at

http://www.smith.edu/map). Northampton is approximately 100 miles west of Boston, off of Interstate 91 exit 18.

**Cost:** The lecture and refreshments are free and open to the public.

Registration: For more information and to RSVP please contact Nicholas Horton at <a href="mailto:nhorton@email.smith.edu">nhorton@email.smith.edu</a> or view the website

http://www.math.smith.edu/~nhorton/lecture.html. Nick can also be contacted at 413-585-3688.

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# SHORT COURSE

# Sample Size Analysis for Study Planning

#### Ralph O'Brien

Department of Quantitative Health Sciences And the Lerner College of Medicine Cleveland Clinic Foundation

**Date:** Saturday, September 30, 2006

**Time:** 8:30 am - 4:00 pm

**Location:** University of Rhode Island's Alan Shawn Feinstein College of Continuing Education

Shepard Building, Room 223 80 Washington Street

Providence, Rhode Island, 02903

Description: A sample-size analysis is often a cornerstone of an effective study planning phase because the research team

(including the statistician) must delineate, critique, and tighten the specific aims, research questions, design, measurement, and analysis plans. This highly-interactive course uses realistic case studies to cover the scientific and statistical principles and general consulting pragmatics associated with such work. Highlights of the statistical issues are stressed rather than the mathematical and computational underpinnings. Although all analyses covered are frequentist, we show how a simple Bayesian notion (as applied in the "The March of Science") can help to clarify and shape the planning process. All examples employ SAS9 procedures and freeware, but the participants will be shown

how the same calculations are performed using PASS and nQuery Advisor.

Biography: Ralph O'Brien, an ASA Fellow, is currently a professor in the Department of Quantitative Health Sciences and the

Lerner College of Medicine at the Cleveland Clinic Foundation. His career in statistics is broad, beginning in behavioral statistics (Psychology Dept., University of Virginia, 1975-82), then to mathematics (Statistics Department, University of Tennessee, 1982-89), and then to biomedicine (Division of Biostatistics, Department of Statistics, University of Florida, 1989-94), where Dr. O'Brien was Director of Biostatistics. He is the creator of "O'Brien's test" for variance differences, performed by both SAS® (PROC GLM) and JMP® (Fit Y by X). But his main contributions have been in promoting more effective sample-size analyses for a study's planning phase. His freeware module, UnifyPow.SAS is used all over the world, and he now consults intensively with SAS personnel who are developing PROCs POWER and GLMPOWER and other such tools. He has given over 20 sample size workshops to almost 2000 people, and his short courses at annual Joint Statistical Meetings earned him an "Excellence-in-CE" award from

the American Statistical Association.

**Registration:** Register by September 10, 2006 to take advantage of the early bird discount. If you have any question please contact

Professor Choudary Hanumara at (401) 874-4388 or rch@cs.uri.edu. Enrollment is limited and seats are reserved upon receipt of payment. We accept cash or checks payable to the Rhode Island Chapter of the American Statistical Association. Sorry, no credit cards. Send payment to R. C. Hanumara, Dept of CS and Statistics, University of Rhode Island, Kingston, RI, 02881. Cancellations received on/before 9/20/06 are fully refundable however cancellations

received after are subject to a \$15 processing fee.

**Cost (with lunch):** By 09/10/06: Regular \$ 50.00, Student \$ 25.00

After 09/10/06: Regular \$ 60.00, Student \$ 30.00

Directions: URI's Providence Campus is located in the historic Shepard Building in the heart of downtown Providence, between

Washington and Westminster Streets. To get there, follow the directions listed below.

Driving North on I-95 take Exit 22A. Proceed to light and bear right onto Francis Street. Take another right onto

West Exchange Street to the Rhode Island Convention Center garage.

Driving South on I-95 Take Exit 22A, proceed forward from light onto Memorial Drive and take first right onto Exchange Street. Take another right onto Exchange Terrace, and then follow Exchange Terrace onto West Exchange Street to the Rhode Island Convention Center garage.

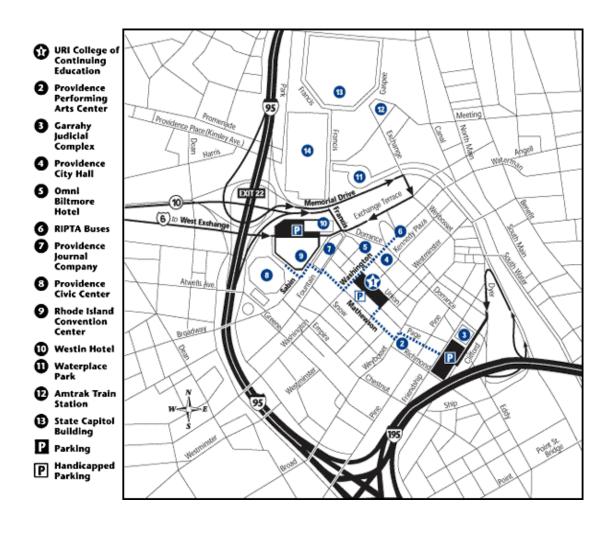
Driving from Route 10 take the downtown exit, then follow the directions listed above.

Driving from Route 6 take the Dean Street exit, bear left off exit ramp, and take immediate first right onto West Exchange Street to the Rhode Island Convention Center garage.

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#### Parking:

Free parking is provided for all registered participants at the Rhode Island Convention Center garage, three blocks from URI. Parking passes will be stamped at the registration desk outside the seminar room. To get from the garage to URI, walk down Mathewson Street, the corridor leading from the Convention Center to the Providence Performing Arts Center. See the map on the next page.



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# **EVENING LECTURE**

# Rich State, Poor State, Red State, Blue State: What's the Matter with Connecticut? A Demonstration of Multilevel Modeling

#### **Andrew Gelman** Columbia University

Date: Monday, October 9, 2006

**Time:** 6:30 - 7:30 PM: Light dinner

7:30 - 8:30 PM: Lecture

**Cost:** Dinner is \$8 for chapter members, \$10 for others. The talk is free.

**Registration:** An RSVP is required by noon on Thursday, October 5, to Sue Perry at <a href="mailto:sperry@rhoworld.com">sperry@rhoworld.com</a>. Please indicate

whether you will attend the dinner or just the talk.

**Location:** Institute for Quantitative Social Science

Harvard University 1737 Cambridge Street Cambridge, MA 02138

Map: <a href="http://www.iq.harvard.edu/Facilities/images/iqss\_map2.gif">http://www.iq.harvard.edu/Facilities/images/iqss\_map2.gif</a>

**Abstract:** For decades, the Democrats have been viewed as the party of the poor, with the Republicans representing the rich.

Recent presidential elections, however, have shown a reverse pattern, with Democrats performing well in the richer "blue" states in the northeast and west coast and Republicans dominating the "red" states in the middle of the country. Through multilevel modeling of individual-level survey data and county- and state-level demographic and electoral

data, we reconcile these patterns.

We find that income matters more in "red America" than in "blue America." In poor states, rich people are much more likely than poor people to vote for the Republican presidential candidate, but in rich states (such as Connecticut) income has a very low correlation with vote preference. In addition to finding this pattern and studying its changes over time, we use the concepts of "typicality" and "availability" from cognitive psychology to explain how these patterns can be commonly misunderstood by the layperson. Our results can be viewed either as a debunking of the media image of rich "latte" Democrats and poor "NASCAR" Republicans, or as support for the media image of cultural differences between red and blue states---differences which are not explained by differences in individuals' incomes.

Key methods used in this research are: (1) plots of repeated cross-sectional analyses, (2) varying-intercept, varying-slope multilevel models, and (3) a graph that simultaneously shows within-group and between-group patterns in a multilevel model. These statistical tools help us understand patterns of variation within and between states in a way that is not possible from classical regressions or by looking at tables of coefficient estimates.

If we have time, we will also discuss recent research on voting in Mexico.

### **Program Chair Note:**

The event will be held on Columbus Day at the IQSS (formerly CBRSS or "sea breeze"), where Gary King is now the director. We're fortunate to be able to take advantage of Andrew Gelman's visit to Cambridge that day. The lecture is a bit later than the typical start time, to accommodate Prof. Gelman's schedule and to allow attendees to return from their Columbus Day activities.

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# **EVENING LECTURE**

# **Extending the Empirical Distribution through all Possible Values**

Joe Kahan FM Global

Date: Tuesday, November 14, 2006

**Time:** 6:30 – 7:00 PM: Light dinner

7:00 - 8:00 PM: Lecture

**Cost:** Dinner is \$8 for chapter members, \$10 for others. The talk is free.

**Registration:** An RSVP is required by noon on Tuesday, November 7, to Sue Perry at <a href="mailto:sperry@rhoworld.com">sperry@rhoworld.com</a>. Please indicate

whether you will attend the dinner, or just the talk.

Location: Buckingham Browne & Nichols Upper School

80 Gerry's Landing Road Cambridge, MA 02138

**Directions/map:** <a href="http://www.bbns.org/directions.htm">http://www.bbns.org/directions.htm</a>

**Abstract:** Many tools exist to fit data to probability distributions. Three methods are typically available to select the best-fit

distribution: the Chi-Square, the Kolmogorov-Smirnoff, and the Anderson-Darling. This presenter will discuss a different method of ranking the best-fit distributions. It is based on the tail of the distribution beyond the maximum sample value. It will be shown that the probability between sample values of data, as well as the uncertainty associated with that probability, is distribution-free. This implies that an Empirical Distribution may best represent (sparse) data. This newly-derived Empirical Distribution extends throughout the range of possible sample values, rather than being constrained between the minimum and maximum values as often the convention. The mean value

associated with the Empirical Distribution is calculated.

**Program Chair Note:** 

This lecture will give us a chance to see statistics used in a local company. FM Global is a world-wide property insurer with a substantial research department and a special interest in fire-related losses. Chapter member Joe Kahan, as a senior research specialist, performs actuarial-related studies including the distribution of property losses.

## SHORT COURSE

#### Introduction to Regression Modeling of Time to Event Data

#### David W. Hosmer

University of Massachusetts at Amherst and University of Vermont

Date: Saturday, December 2, 2006

Location: The MathWorks

One Apple Hill Drive

Natick, Massachusetts 01760

**Directions/map**: <a href="http://www.mathworks.com/company/aboutus/directions.html">http://www.mathworks.com/company/aboutus/directions.html</a>

**Details:** To be announced in our next newsletter.

**Abstract:** The objective of this course is to provide participants with an introduction to the use of regression models to analyze

time to event or survival data. Particular emphasis is placed on the use of the proportional hazards model with right censored data. The course emphasizes methods and their application rather than theory. Topics to be covered include: regression model formulation, interpretation of model parameters, model building strategies, testing model

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assumptions, assessing model fit, presenting the results of a fitted model and, if time permits, time-varying covariates.

#### **Course Outline:**

- 0. Introduction to Time to Event Data, Review of Kaplan-Meier Estimator, Estimators of Quantiles and the Log-Rank and Other Tests. (Chapter 1 and 2 of HL\* and pages 1 - 30 of the course booklet to be distributed to class participants).
- Regression Models for Survival Data (Chapter 3 of HL and pages 31 54 of the course booklet) 1.
  - 1.1 Introduction
  - 1.2 Semi-Parametric Regression Models
  - 1.3 Fitting the Proportional Hazards Regression Model
  - 1.4 Estimating the Survivorship Function of the Proportional

#### Hazards Regression Model

- 2. Interpretation of a Fitted Proportional Hazards Regression Model (Chapter 4 of HL and pages 55 - 84 of the course booklet)
  - 2.1 Introduction
  - 2.2 Nominal Scale Covariate
  - 2.3 Continuous Scale Covariate
  - Covariate Adjusted Survivorship Function
- 3. Model Development (Chapter 5 of HL and pages 85 - 120 of the course booklet)
  - 3.1 Introduction
  - 3.2 Purposeful Selection of Covariates
  - 3.3 An example
- 4. Assessment of Model Adequacy (Chapter 6 of HL and pages 121 - 163 of the course booklet)
  - Introduction 4.1
  - 4.2 Residuals
  - 4.3 Methods for Assessing the Proportional Hazards Assumption
  - 4.4 Identification of Influential and Poorly Fit Subjects (If enough time)
  - 4.5 Overall Goodness-of-Fit Tests and Measures
  - Interpretation and Presentation of the Final Model (If enough time) 46
- Extensions of the Proportional Hazards Model (Chapter of HL and pages 164-173 of the course booklet 7) 5.
  - 5.1 Introduction
  - 5.2 Time-Varying Covariates

\* (HL text): Hosmer, D.W. and Lemeshow, S. (1999) Applied Survival Analysis: Regression Modeling of Time to Event Data, John Wiley & Sons Inc., New York.

#### **Learning Outcomes:**

- Discuss the differences between the normal errors linear regression model and a general parametric regression model for time to event data with right censoring.
- Define the PH model and be able to use output from an estimated model containing nominal and continuous covariates to estimated hazard ratios.
- Discuss different model building strategies and build a model using purposeful selection of model covariates.
- Know the importance of having the correct scale for a continuous covariate and be able to use scale selection methods.
- Discuss the importance of verifying model assumptions and fit.
- Discuss the different residuals that have been proposed for assessing a fitted PH model and be able to use them to assess model assumptions and fit.
- Use estimated model parameters to provide relevant estimates of hazard ratios and a covariate adjusted survivorship function.

#### **Program Chair Note:**

In addition to the survival analysis book listed above, David Hosmer is co-author with Stanley Lemeshow of the book Applied Logistic Regression, 2nd Edition (2004), Wiley, ISBN: 0-471-65402-7, E-Book.

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# **ANNOUNCEMENTS**

#### Nominations for Mosteller Statistician of the Year

The BCASA Mosteller Statistician of the Year award is presented each year at a banquet/lecture in February to a distinguished statistician who has made exceptional contributions to the field of statistics and has shown outstanding service to the statistical community and the Boston Chapter. This year the award is especially relevant to BCASA members in consideration of our award namesake and premier award recipient Prof. Mosteller's death this past summer.

The current Statistician of the Year is Carl Morris. Previous recipients of the BCASA's Mosteller Statistician of the Year are Fred Mosteller, 1990; Herman Chernoff, 1991; Marvin Zelen, 1992; Ralph D'Agostino, 1993; William DuMouchel, 1994; Don Rubin, 1995; Nan Laird, 1996; David Hoaglin, 1997; Richard Goldstein, 1998; Arlene Ash, 1999; Cyrus Mehta, 2000; Alan Gelfand, 2001; Alan Zaslavsky, 2002; John D. McKenzie, Jr., 2003; Louise Ryan, 2004; and Mei Ling Tee Lee, 2005. Please forward all nominations by October 5, 2006 to Scott Evans. Include a brief description of the candidate's qualifications for the award. Voting will take place at the October Planning Committee meeting.

#### Nominations for Mu Sigma Rho

Mu Sigma Rho is the national honorary society for statistics. Its purpose is to encourage scholarly activity in statistics and to recognize outstanding achievement among students in statistics. At the start of this academic year we issue this reminder to consider nominating qualified students for induction. Nominations for 2007 will be accepted until February 28, 2007. For further information visit the website http://www.math.smith.edu/~nhorton/msr.html.

#### **Undergraduate Statistics Competition**

Currently underway is a 2007 Undergraduate Statistics Project Competition (USPROC) sponsored by The Consortium for the Advancement of Undergraduate Statistics Education (CAUSE). USPROC helps students by encouraging the development of data analysis skills, enhancing presentation skills, and recognizing outstanding work by undergraduate statistics students. This contest provides recognition and monetary awards. The detailed guideline and announcement of this event can be found at http://www.causeweb.org/usproc.php. Please encourage your students to participate in this event.

# **Planning Committee Meetings**

The BCASA Planning Committee is open to all interested members and includes BCASA officers and committee chairs. We meet approximately every six weeks to plan upcoming events of the chapter. This is a good opportunity to provide service to your chapter as well as to discuss statistics with your colleagues. The next meeting is tentatively scheduled for October 12, 2006 when we will vote on the Mosteller Statistician of the Year award recipient. If you have ideas for a specific event or for the chapter in general, or if you would like to join the Planning Committee, please contact any of the chapter officers listed at the end of the last page of this newsletter.

#### **Election Results**

In January 2007, newly elected BCASA officers will begin their two year terms. Dominique M.A. Haughton will start her term as President, replacing Scott Evans, and Matt Tom will start his term as Program Chair replacing Tom Lane. BCASA officers serving in offices up for election next year are Shelley Hurwitz as Vice President, Maureen P. Mayer as Secretary, and Rui Wang as Treasurer. Nicholas Horton continues to serve as our elected Council of Chapters Representative for two more years.

#### Member News

Several awards were presented to local chapter members at the ASA meetings this summer. Mariel Finucane (Smith College '05, BCASA chapter member) is a co-recipient of the 2006 Cox scholarship. The award announcement can be found at http://www.amstat.org/awards/index.cfm?fuseaction=cox-scholarship. She is now a student of Biostatistics at the Harvard School of Public Health. Marvin Zelen was awarded the Samuel S. Wilks Award (http://www.amstat.org/awards/index.cfm?fuseaction=wilks) for his outstanding contributions to statistics. Louise Ryan received the Elizabeth L. Scott award from COPSS for her leadership, as a role model for women; for developing a summer program for recruiting women and minorities into biostatistics; and for mentoring students and junior faculty. Xihong Lin received the Presidents Award from the Committee of Presidents of Statistical Societies (COPPS, http://www.imstat.org/awards/copss.htm) for her contributions to statistics.

## **BCASA Consulting Website**

The chapter has established an email list known as BCASA-Consultants. Anyone looking for a statistical consultant can post an announcement on the list. Statisticians wishing to provide consulting services are welcome to join the list to receive consulting requests. This can be a good resource for headhunters as well. List membership is currently around 100 and the posting rate has been around two per month. Visit www.amstat.org/chapters/boston/consult.html for more information.

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#### **Newsletter News**

This is the first issue of the newsletter issue with Maureen Mayer as the Newsletter Managing Editor. Please send all news items, comments, and ideas to Maureen at bcasa\_news@yahoo.com. Once again the BCASA Newsletter Production Committee and Planning Committee would like to express its gratitude to Shelley Hurwitz for serving as Managing Editor for over four years with dedicated service and leadership.

# PROGRAM CHAIR REPORT

The 2005-2006 program year continued our tradition of providing a variety of talks, social events, conferences, and short courses. It began with an event at BB&N in September, when former chapter member Bill DuMouchel spoke about "Empirical Bayes methods for estimation of adverse event rates in clinical trials and active surveillance."

In October, at Smith College, Donald Rubin and Elizabeth A. Stuart presented a course on "Basic concepts of statistical inference for causal effects in experiments and observational studies." In November, as part of the ASA LearnSTAT program, Joe Hilbe presented a short course titled "Negative binomial regression: modeling over-dispersed count data."

In December we held two lectures. ASA President Fritz Scheuren visited WPI for a daytime talk co-sponsored by the chapter on "Sampling in a data-rich world." Caroline Minter Hoxby gave an evening lecture at BB&N on "A revealed preference ranking of U.S. colleges and universities."

Kathy Monti hosted our annual winter party in January. In February, Frontier Science hosted our annual award banquet, where Carl Morris received the Mosteller Statistician of the Year award and spoke about "Seeing statistical structure."

Our March event was a min-conference at Bentley, where Dominique Haughton and several other speakers shared thoughts on distance learning under the title "Distance education, the way of the future?"

In April, Naitee Ting and Jim MacDougall gave a joint talk on "Design and analysis of dose-response clinical trials." We also held the annual election at this event, and inducted new members into the Mu Sigma Rho honorary society.

In May, Lisa Sullivan was the keynote speaker for High School Statistics Day, held at Pine Manor College and organized by Bob Goldman, Joan Weinstein, and Rob Carver. Also that month Greg Cambell presented a daytime lecture at BattelleCRO, speaking about how the FDA views medical device studies, in a talk titled "Statistics in medical devices versus in pharmaceutical drugs: vive la difference."

As a bonus, we continued our events into July with a special series of talks by Darius Baer and Doug Robinson of SAS, at the SAS offices in the Prudential Center, covering the topics of forecasting, genomics, and data mining.

As you can see in this issue of the newsletter, we are starting the new season with a variety of speakers, topics, event locations, and formats (e.g. evening lectures and short courses). If you have ideas for future events, please contact either Tom Lane at <a href="mailto:tlane@alum.mit.edu">tlane@alum.mit.edu</a> or the incoming program chair Matt Tom at <a href="mailto:tomma@emmanuel.edu">tomma@emmanuel.edu</a>. Better yet, consider sharing your ideas by joining the planning committee.

Submitted by Tom Lane

# COUNCIL OF CHAPTERS REPRESENTATIVE'S REPORT

The Boston chapter serves statisticians in Massachusetts, Vermont, New Hampshire, and Maine. As of the end of August 2006 we had 456 members, having nearly 80 new members since January. A total of 29 students have been nominated and inducted into Mu Sigma Rho from eight colleges and universities in our area.

In August, The Council of Chapters convened for its annual gathering at the Joint Statistics Meetings in Seattle. This meeting allows chapter representatives to share their experiences with other chapters. Strategic initiatives were a particular focus this year, particularly as they relate to membership recruitment and outreach to students. Resources available from other chapters and/or the national office include the chapter "get a member" program, the hugely discounted student membership fees, how to become involved with science fairs, project competitions, and poster days.

In addition to the national strategic initiatives fund, which is still accepting proposals, the chapter is soliciting proposals for initiatives that could benefit members or the wider community (such as a connection with a local science fair, outreach to K-12 teachers, or a gathering of isolated industry statisticians).

Submitted by Nicholas Horton

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# JOB OPPORTUNITIES

BIOSTATISTICIAN/SENIOR BIOSTATISTICIAN: IT&E International (Averion) currently has a Senior Biostatistician opportunity available in our Southborough, MA location. The Senior Biostatistician is responsible for: designing analyses for complex projects, producing reports, charts, and tables, interpreting results; identifying methodological issues in need of customized solutions; participating in design and review of clinical protocols, case report forms (CRFs); data collection guidelines, and logic checks; generating and implementing prospective analysis plans; directing quality review process of statistical deliverables; providing guidance and training to Biometrics staff; writing and reviewing statistical reports; designing and generating randomization schedules; developing department procedures and internal training programs. Required qualifications include a Ph.D. in Biostatistics or related discipline and 2 years of industry experience, or M.S. with minimum of 4 years industry experience. The applicant must also have: advanced computer skills with extensive experience in SAS, StatXact, and nQuery; strong written and oral communication skills; leadership skills; ability to prioritize, meet deadlines and handle multiple projects; ability to work independently and as a team member. Preferred qualifications include a Ph.D. in Biostatistics and 3+ years industry experience including 2 years in a CRO; experience as a mentor, team leader or manager. Please forward resumes to <a href="http://www.recruitingcenter.net/clients/averioninc.com">http://www.recruitingcenter.net/clients/averioninc/publicjobs/controller.cfm?jbaction=JobProfile&Job\_Id=10047&esid=az.</a> EOE

BIOSTATISTICIAN/SENIOR BIOSTATISTICIAN: Rho, Inc., a growing, dynamic CRO, is seeking applications from qualified statisticians for the following two position available in Newton, MA (other positions are available with Rho in Chapel Hill, NC). The Senior Biostatistician at Rho serves as the lead biostatistician on multiple projects in several therapeutic areas. You will collaborate on the design of clinical trials and write relevant statistical sections of protocols; prepare analysis plans and specifications for analysis datasets and data displays (tables & graphs); analyze clinical trial data and interpret the results, either in a statistical report or as part of a clinical trial report; and collaborate with statistical programming on the production of datasets and displays. Communicating statistical issues as they arise both to clients and to Rho team members as well as maintaining a steady, open dialogue with study team members regarding study execution as it relates to timelines, data quality, and interpretation of the results are also key components of this position. You may oversee the activities of team biostatisticians. This position requires a doctoral degree in biostatistics, statistics, or a related field, or a master's degree and at least three years of relevant statistical experience. As a biostatistician at Rho, you will participate in multiple clinical trial project teams. Under the direction of a lead biostatistician, you will prepare analysis plans and specifications for analysis data sets and data displays (tables & graphs); analyze clinical trial data and interpret the results, either in a statistical report or as part of a clinical trial report; and collaborate with statistical programming on the production of datasets and displays. Communicating statistical issues as they arise both to clients and to Rho team members as well as maintaining a steady, open dialogue with study team members regarding study execution as it relates to timelines, data quality, and interpretation of the results are also key components of this position. This position requires a master's degree in biostatistics, statistics, or a related field, or a bachelor's degree and at least one year of relevant statistical experience. Rho's environment is team-oriented. Good communication skills and the ability to work with a team are crucial for success. Rho's high quality standards require careful attention to accuracy and details. Strong SAS programming skills are required. Interested parties should apply at http://www.rhoworld.com/hr/.

The BCASA Newsletter is published four times during the academic year and is emailed to current BCASA members. Send comments or suggestions to any of the individuals listed below.

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President, 2005-06	Scott Evans, Harvard School of Public Health	
Program Chair, 2005-06	Tom Lane, The MathWorks	
Vice-President, 2006-07	Shelley Hurwitz, Harvard Medical School	
Secretary, 2006-07	Maureen P. Mayer, Raytheon Company	
Treasurer, 2006-07	Rui Wang, Harvard School of Public Health	
Council of Chapters Representative, 2006-08	Nicholas Horton, Smith College	
Past President, 2005-06	Robert B. Smith, Cambridge-MIT Institute	

#### BCASA COMMITTEE CHAIRPERSONS

Education	Kerstin Allen
Membership	Maureen Mayer
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