

# BCASA NEWSLETTER

Boston Chapter of the American Statistical Association  
Serving Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont

---

Volume 28, No. 3, March 2010

---

Homepage: <http://www.amstat.org/chapters/boston>

Newsletter: [BCASANews@verizon.net](mailto:BCASANews@verizon.net)

---

---

## Upcoming Events

---

---

### BCASA

---

---

<b>April 1</b>	<b>Simmons College</b>	<b>Joseph Blitzstein:</b>
<b>6:30 pm</b>		<b>Mistakes in Probability</b>
<b>April 16</b>	<b>Harvard School of</b>	<b>Tony Cai: High Dimensional</b>
<b>1:00 pm</b>	<b>Public Health</b>	<b>Data</b>
<b>April 20</b>	<b>Genzyme Corporation</b>	<b>Steve Gilbert: Clinical Trials</b>
<b>3:00 pm</b>		<b>Designs</b>
<b>May 4</b>	<b>Suffolk Law School</b>	<b>Til Stürmer: Statistical</b>
<b>7:00 pm</b>		<b>Issues in Epidemiology</b>
<b>June 10</b>	<b>UMass Medical School</b>	<b>Nicholas Horton: Missing</b>
<b>12:00 pm</b>		<b>Data</b>

---

---

### OTHER

---

---

<b>April 16-17</b>	<b>Harvard University</b>	<b>24<sup>th</sup> Annual New England</b>
<b>8:30 am</b>		<b>Statistics Symposium</b>

---

---

## EVENTS

### **24<sup>th</sup> Annual New England Statistics Symposium**

note: The theme of this year's symposium is *Statistics in the Sciences*. There will be four concurrent short courses on Friday, April 16 and two keynote addresses plus five sequential thematic sessions on Saturday, April 17. The two sets of activities are listed separately here.

#### **Short Courses**

**Date** Friday, April 16, 2010

**Time** 8:30 am to 5:00 pm

**Location** Science Center, Harvard University, Cambridge, MA 02138.

**For More Information** <http://www.stat.harvard.edu/NESS10/index.htm>

*Quantitative Financial Modeling in the Post-Lehman Landscape*

Stephen Blyth, Harvard University and Harvard Management Company

*Statistical Methods and Software for Genomic and Clinical Data Analysis*

Curtis Huttenhower, Harvard University  
Florian Markowetz, Cancer Research Institute UK and University of Cambridge

*Statistical Elements of Complex Networks*

Edo Airoldi and Joseph Blitzstein, Harvard University

*Research Cultivation an Culmination: How to Get Your Paper Published (Eventually)*

Joseph Blitzstein and Xiao-Li Meng, Harvard University

## **Statistics in the Sciences**

**Date** Saturday, April 17  
**Time** 8:30 am to 5:00 pm  
**Location** Science Center, Harvard University, Cambridge, MA 02138.  
**For More Information** <http://www.stat.harvard.edu/NESS10/index.htm>

*Keynote Addresses* Iain Johnstone, Stanford University  
Jennifer Chayes, Microsoft Research New England

### *Thematic Sessions*

- Statistics in the Biological Sciences
- Statistics in the Physical Sciences
- Statistics in Health Care
- Statistics in Economics
- Statistics in Educational Assessment and Evaluation

## SHORT COURSE

### High Dimensional Data

Tony Cai

Wharton School, University of Pennsylvania

<b>Date</b>	Friday, April 16, 2010
<b>Time</b>	1:00 pm to 5:00 pm
<b>Cost</b>	Free for affiliates of the Harvard School of Public Health; \$25 BCASA members; \$40 others.
<b>Location</b>	Harvard School of Public Health
<b>Directions/Registration</b>	<a href="http://tonyc.ai.eventbrite.com">http://tonyc.ai.eventbrite.com</a>

#### Abstract

The analysis of high-dimensional data now commonly arising in scientific investigations poses many statistical challenges not present in smaller scale studies. In these lectures I will discuss high-dimensional linear regression with large  $p$  and small  $n$ . This problem has attracted much recent interest in a number of fields including applied mathematics, electrical engineering, and statistics. To provide a proper background and foundation for the main topics, we shall begin with discussions on the high-dimensional Gaussian sequence model. We then consider the linear regression  $y = X\beta + z$ , where the dimension of the signal  $\beta$  is much larger than the number of observations. It is now well understood that  $L_1$  minimization methods provide effective ways for high dimensional sparse regression. I will present an elementary and unified analysis of the  $L_1$  minimization methods including Lasso and the Dantzig Selector in three settings: noiseless, bounded error and Gaussian noise. Time permitting, I will also discuss  $L_1$  minimization approaches to sparse covariance matrix estimation.

## TALKS

### Common Mistakes in Probability, and How Not to Avoid Them

Joseph Blitzstein  
Harvard University

<b>Date</b>	Thursday, April 1, 2010
<b>Time</b>	Dinner: 6:30 pm. Lecture: 7:00 pm
<b>Cost</b>	Dinner: \$9 members; \$12 others. Lecture is free.
<b>Location</b>	Kotzen Room, Simmons College, 300 The Fenway, Boston, MA
<b>Directions</b>	The Kotzen Room is in the basement of the Library Tower (near the Avenue Louis Pasteur entrance to the Library). Visitors should enter the garage from the Avenue Louis Pasteur driveway. Take and hold on to your ticket to enter the garage. At the event, Bob Goldman will provide everybody with a ticket, which will enable you to exit the garage.
<b>Registration</b>	<a href="http://blitzstein.eventbrite.com">http://blitzstein.eventbrite.com</a>
<b>Abstract</b>	

Probability blends together intuitive and counterintuitive results so seamlessly that blunders are extremely common. We will discuss and categorize mistakes that have been ensnaring people for centuries, from Newton to the beginning student. Among others, we will discuss notational inflexibility, destroying information, not distinguishing distinguishability and indistinguishability, and "sympathetic magic". Of course, it is not enough just to point out these mistakes, but neither is it enough just to try to avoid these mistakes! Fully coming to terms with them (both why they are mistakes and why they are common), rather than ignoring them or rationalizing them away with formalisms, often points the way toward deeper insights into probability and statistics.

## **Bayesian Adaptive Clinical Trial Designs: What is a Highly Regulated Frequentist to Do?**

**Steve Gilbert**  
Rho Inc.

**Date** Tuesday, April 20, 2010

**Time** Lecture 3:00 pm. Reception 4:00 pm,

**Cost** Reception: \$5 members; \$7 others. Lecture is free.

**Location** Genzyme Corporation, 500 Kendall Street, Cambridge, MA 02142. Room: GC,01103, Roscoe Brady Lecture Hall (located on the 1<sup>st</sup> floor).

**Directions/Registration** <http://gilbert.eventbrite.com>

### **Abstract**

Bayesian adaptive designs for clinical trials have received increasingly more attention in recent years. Despite a growing body of literature they are however, still relatively rare outside of certain academic centers and present many interesting challenges when used in practice. This talk provides an introduction to some designs used in pharmaceutical research and focuses on their implementation in the non-academic world. We also ask if they are truly Bayesian and if they offer any advantages over frequentist adaptive designs.

## Statistical Issues in Epidemiology

Til Stürmer

University of North Carolina, Chapel Hill

<b>Date</b>	Tuesday, May 4, 2010
<b>Time</b>	Dinner 6:30 pm. Lecture 7:00 pm.
<b>Cost</b>	Dinner: \$9 members; \$12 others. Lecture is free.
<b>Location</b>	Faculty Dining Room, Suffolk Law School, 4 <sup>th</sup> floor, Sargent Hall, 120 Tremont Street, Boston, MA.
<b>Directions</b>	Diagonally across from Park Street MBTA station. Best parking is in the Boston Common Garage. Enter garage through Charles Street.
<b>Registration</b>	<a href="http://sturmer.eventbrite.com">http://sturmer.eventbrite.com</a>

### Abstract

The presentation will start with basic concepts of confounding in non-experimental research, including collapsibility and exchangeability. It will then introduce the propensity score as an efficient method to achieve exchangeability. Propensity scores have additional advantages for non-experimental comparative effectiveness research and pharmacoepidemiology. These include the ability to estimate causal parameters in the presence of heterogeneous treatment effects. Heterogeneity of treatment effects can also be an indication of unmeasured confounding, however. Sensitivity analyses excluding various proportions of those treated contrary to prediction can help to detect and reduce unmeasured confounding in such settings. The presentation will be based on concepts, results from simulation studies, and empirical examples.

## Accounting for Missing Data: Challenges for the Analysis of Observational and Randomized Studies

**Nicholas Horton**  
Smith College

**Date** Tuesday, June 10, 2010

**Time** Lunch: 12:00 pm. Workshop 12:30 pm.

**Cost** Lunch: \$9 members; \$12 others. Workshop is free.

**Location** 7<sup>th</sup> floor conference room, Access Building,  
Department of Quantitative Health Sciences,  
University of Massachusetts Medical School, 55  
Lake Avenue, Worcester, MA.

**Directions/Registration** <http://horton.eventbrite.com>

### **Abstract**

Missing data arise in almost all real-world situations, and can cause bias or lead to inefficient analyses. The development of statistical methods to address missingness has been actively pursued in recent years. In this talk, I will (1) address complications in observational studies when there are many patterns of missing values for categorical and continuous predictors as well as (2) discuss issues in implementing analyses that are consistent with the intention to treat principle in randomized trials and (3) demonstrate how these methods can be implemented through detailed discussion of examples.

## ANNOUNCEMENTS

### Mu Sigma Rho

**Liam O'Brien**  
Colby College

The nomination cycle for Mu Sigma Rho (national honor society) members is almost complete. We currently have 49 nominees (a new record!): 2 from Harvard, 4 from UMass/Amherst, 5 from Mount Holyoke, 9 from Smith College, 9 from Colby, and 20 from Boston University. Students have been informed of their nominations and been asked if they would like to pursue induction. As in past years, inductees receive a free membership in the ASA as well as the BCASA, plus a subscription to *Chance*. For more information, see: <http://www.math.smith.edu/~nhorton/msr.html>

### Mosteller Statistician of the Year

**Scott Evans**  
Harvard School of Public Health

On February 26, 2010, the chapter was honored to present the *Mosteller Statistician of the Year award* posthumously to Professor Stephen Lagakos, in a moving commemoration at the Harvard School of Public Health. The event was chaired by Professor Marvin Zelen and attended by more than one hundred of Steve's family, friends, and colleagues (<http://www.hsph.harvard.edu/biostats/lagakos>).

The award was presented to Steve's family by BCASA President Dominique Haughton and Past President Scott Evans. Here are Scott's remarks:

On behalf of the BCASA, let me first thank Professor Zelen for the opportunity to be a part of the celebration of the life of Steve Lagakos. Each year the Boston Chapter of the American Statistical Association selects a special statistician that has made extraordinary contributions to our profession, naming them as the statistician of the year. This award is named after Professor Fred Mosteller, the first recipient of the award in 1990.

The award was also modeled after Professor Mosteller whose contributions came in the form of:

- excellence in teaching and mentorship
- significant applied and methodologic research, and

- dedicated service to the profession.

As so many of you know, Steve filled the room with these same contributions.

Perhaps not surprisingly, early in his career Steve worked with Fred Mosteller. A few years ago, after Fred Mosteller passed away, there was a celebration of his life across the river in Cambridge. I recall Steve speaking there. Steve told a story about how he and Fred were writing a paper. Steve would work very hard in creating a draft that he was sure was in very good shape and give it to Fred. Fred would review the paper and provide comments. His comments always began positively with several works of encouragement, stating what he liked about the paper. BUT THEN FRED WOULD THEN CONTINUE WITH "HOWEVER I HAVE SEVERAL COMMENTS AND SUGGESTIONS THAT I THINK WOULD IMPROVE THE PAPER", and he would encourage Steve to work on revisions to address these comments. Steve would then work very hard to address these issues until Steve thought that the paper was air-tight. Fred would then review it and again begin by providing several positive and encouraging words HOWEVER HE HAD SEVERAL COMMENTS AND SUGGESTIONS THAT HE THOUGHT WOULD IMPROVE THE PAPER, and would again encourage Steve to work on these new issues. Many iterations of this cycle would ensure, exhausting Steve in the process.

I remember that these words somehow gave me some hope and comfort. If Steve Lagakos could experience such struggles then similar struggles in my career did not seem so bad.

You've heard stories today of Steve's teaching and mentorship to students and young faculty. I also recall his work on the important Woburn study, a very important case of environmental health. Steve also made extraordinary contributions as an editor in the medical and statistical literature such as the *NEJM* and *JASA*. I particularly found Steve's "educational" articles in the *NEJM* in response to particularly difficult or controversial issue that arose during the published studies, very helpful. He could somehow turn complex issues into something simple and an opportunity for learning.

Steve was the Founder and director of the Center for Biostatistics in AIDS Research (CBAR). CBAR is a leading group in biostatistical science in HIV. But on a more personal level CBAR provides a great opportunity for so many of us. We get to work in one of the best schools in the world, in a world class biostatistics department, with leading HIV researchers, making contributions to both HIV medicine and biostatistics. Steve was the one that created this opportunity for me and so many of my colleagues.

When I first arrived at Harvard, I had to write a report describing the results of a complicated study. Standard operating procedures mandate that such reports are then reviewed by other senior statisticians. Steve volunteered to review my report. I was not enthusiastic about this and I thought "Oh great, my first report is being reviewed by the department chair". A few days later Steve sent his comments:

*Dear Scott,*

*This is an excellent report. The creative graphic on page 27 was very informative and was a very nice summary of the primary results of the study. I also was impressed with the discussion and interpretation of the results. This will be very helpful to clinicians trying to understanding the results of this complicated study. HOWEVER, I HAVE SEVERAL COMMENTS AND SUGGESTIONS THAT I THINK WOULD IMPROVE THE REPORT. I LOOK FORWARD TO SEEING A 2ND VERSION.*

On behalf of the Boston Chapter, it is our honor to present this plaque to the Lagakos family, naming Professor Steve Lagakos as the Mosteller Statistician of the Year.

## **Planning Committee Invitation**

**Dominique Haughton**  
BCASA President

Please contact me at [dhaughton@bentley.edu](mailto:dhaughton@bentley.edu) if you would like to join the BCASA Planning Committee. We meet about once every six weeks (next meeting is at 6:30pm on April 28<sup>th</sup>), and the chapter provides (good) dinners during our meetings. Come and have an impact on the choice of events proposed by the chapter! And most of all, thank you for being part of the BCASA community!

## **Chapter Elections**

**Scott Evans**  
Past President, BCASA

The Boston Chapter of the ASA has elections in the spring for terms of office that begin the following January. Candidates for office are generally selected from active and contributing members of the Chapter Planning Committee. Officers are elected in a staggered manner. While terms generally run for two years, the Council of Chapter Representative to the ASA has a three-year term. This year elections for President, Program Chair, and Webmaster will take place at the May event. Nominations from chapter members should be sent to me before the May event: [evans@sdac.harvard.edu](mailto:evans@sdac.harvard.edu)

## **Judges Needed for ASA Project Competition**

The Joint Committee on Curriculum in Statistics and Probability of the ASA and the National Council of Teachers of Mathematics needs judges for the ASA project competition. Judging takes place via email during the summer and requires about four hours. If interested, email Megan Mocko at [mmeece@stat.ufl.edu](mailto:mmeece@stat.ufl.edu) or call (352) 273-2975.

## **BCASA Consultants**

Yorghos Tripodis of the BU School of Public Health has accepted the position of moderator of the *BCASA Consultants* Yahoo newsgroup. Anyone looking for a statistical consultant can post email to the site, which also accepts more general postings of interest to statisticians in the region. Statisticians wishing to provide consulting services are also welcome to join the list:

<http://tech.groups.yahoo.com/group/BCASA-Consultants>

## **REPORTS**

### **Merger with Rhode Island Chapter**

**Nicholas Horton**  
**Council of Chapters Governing Board**

The Boston Chapter now includes former members of the Rhode Island Chapter of the ASA, which recently voted to merge with the BCASA. We're happy to have these new members and to broaden our mission to include Rhode Island. We look forward to seeing members from Rhode Island at future BCASA meetings and events.

## Treasurer's Report

**Huichao Chen**  
**BCASA Treasurer**

### 2009 INCOME

Membership - ASA	\$2,905.50
Membership - Local	27.00
Short courses	6,274.80
<b>TOTAL INCOME</b>	<b>\$9,207.30</b>

### 2009 EXPENSES

Short courses and events	\$9,142.83
Planning Committee	708.27
Other	15.84
<b>TOTAL EXPENSES</b>	<b>\$9,866.94</b>

2009 NET GAIN (LOSS)                   -\$659.64

This reflects accounts as of 16 March, 2010, excluding income/expenses for statistical issues in epidemiology short course in May 2010.

## **JOB ANNOUNCEMENT**

### **Visiting Faculty Position, Babson College**

The Mathematics and Science Division of Babson College invites applicants for a visiting faculty position for the 2010-11 academic year. The ideal candidate will have a Ph.D. in statistics, a strong teaching record, and the ability to deliver elective courses in time series analysis and multivariate statistics to self-selected undergraduate business students. Candidates with a Ph.D. degree (or an ABD) in closely related fields, such as operations research and applied mathematics, will also be considered. The anticipated teaching load is three sections, two sections of a required applied statistics course or a required applied calculus with quantitative methods course, and one section of an undergraduate elective, in each of the fall and spring semesters. A good command of spoken and written English is required. The appointment will be made at a rank commensurate with the individual's record.

Babson College is a highly selective college located 14 miles west of Boston, with approximately 1900 undergraduate students. The undergraduate curriculum integrates core competencies, key business disciplines, and the liberal arts. Babson College is an Affirmative Action/Equal Opportunity employer committed to enhancing diversity across all levels of the College. Interested applicants should send a current CV and a brief statement about their teaching history and philosophy to Prof. Steven E. Eriksen, Chair, Mathematics and Science Division, Babson College, Babson Park, Wellesley, MA 02457-0310 or e-mail these materials to [eriksen@babson.edu](mailto:eriksen@babson.edu).

<b>BCASA OFFICERS</b>	
<i>President</i>	<i>Dominique Haughton Bentley University</i>
<i>Program Chair</i>	<i>Maureen Mayer Raytheon Corporation</i>
<i>Vice-President</i>	<i>Audrey Baer Hendricks Boston University</i>
<i>Secretary</i>	<i>Tzu-Min Yeh Harvard School of Public Health</i>
<i>Treasurer</i>	<i>Yu Zhao Harvard School of Public Health</i>
<i>Chapter Representative</i>	<i>James MacDougall Ironwood Pharmaceuticals</i>
<i>Webmaster</i>	<i>Tom Lane MathWorks</i>
<b>BCASA COMMITTEE CHAIRPERSONS</b>	
<i>Education</i>	<i>Kerstin Allen Rho Inc.</i>
<i>Membership</i>	<i>Maureen Mayer Raytheon Corporation</i>
<i>Publications</i>	<i>Shelley Hurwitz Harvard Medical School</i>
<i>Mu Sigma Rho</i>	<i>Nicholas Horton Smith College</i>
<b>BCASA NEWSLETTER</b>	
<i>Editor</i>	<i>Stan Morse University of Massachusetts Boston</i>
<i>Program Announcements</i>	<i>Tom Lane MathWorks</i>
<i>Circulation Manager</i>	<i>Rui Wang Harvard School of Public Health</i>
<i>Advertising Manager</i>	<i>Scott Evans Harvard School of Public Health</i>

The BCASA Newsletter is published four times during the academic year and is emailed to all chapter members. Please send suggestions and comments to the editor, Stan Morse, at [BCASANews@verizon.net](mailto:BCASANews@verizon.net).