

## SILVER STATE-ISTICS



**NEVADA Chapter of American Statistical Association** 

Nevada Chapter News Letter

Vol. 6 No. 1

### Dear Nevada ASA Members and Friends,

Read on for information on what our Chapter has been up to and what we are planning for the future. Please keep an eye on our website <a href="http://www.nevada.edu/~nvasa/">http://www.nevada.edu/~nvasa/</a> for more details on all upcoming events.

We wish you the best!

### \* \* \*

### **Contents:**

Coming Events	J
President's Message	1
Career Day in Reno	1
NV Annual Meeting	2
Election	2
International Science and Engineering	2
Fair 2009	
2008 K-12 Poster Competition	3
Nevada SAS User Group	3
From the Bayesian Songbook	3
Book Review	3
Joining NV-ASA	4
The NV-ASA Mission	4
NV-Chanter Current Officers	5

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### COMING EVENTS

Be on the lookout for announcements of future NV-ASA events:

- Career Day in Reno, aimed at college and high school AP students Nov. 12, 2009
- Annual Meeting in Reno Nov. 13, 2009
- Nevada K-12 Poster Competition 2010.
- And ..... Elections!

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Charles B Davis

Once again, thanks are due to all the volunteers who have continued bringing NV-ASA and its activities to us all; their names are listed at the end of this Newsletter. And, of course, we welcome the new people who will be joining the organization and stepping into leadership roles.

It has been an honor to serve as your President for the past four years. We've had numerous interesting events, heard a variety of interesting talks, and sponsored some highly interesting events in Reno, Carson City, and Las Vegas. Some of more memorable times include meeting faculty in various departments at UNLV, UNR, CSN, and NSC, hearing talks on topics ranging from developing geostatistical software to run on primitive PCs under MS-DOS to reversed sequential probability ratio tests (where the speaker was unable to explain just why one would want to use such a model because the application was most likely classified), to judging our annual K-12 Poster Competition and the ISEE. And of course there was Brad Carlin's Bayesian Statistics and Data Analysis short course, during which an impromptu rendition of "Bayesians in the Night" erupted (see below).

I challenge you all to continue and improve on this tradition under your new leadership.

### \*

## Career Day in Reno

A Career Day will be held Friday, Nov. 13 in Reno. This event is aimed at high school AP Statistics students as well as undergraduate students in higher education in the Reno / Carson City area. Speakers will start with an overview of careers in statistics, describe a few important application areas, and then discuss what it's like to "do statistics" for a living. Lunch will be provided. ❖

# NV-ASA Annual Meeting

The Chapter's Annual Meeting will also take place Friday, Nov. 13 at Austin's Restaurant in Reno, beginning at 5:30. There will be opportunity for socializing and networking, followed by dinner and a business meeting. The keynote address will be delivered by Alicia Chancellor Hansen; her topic will be "How DO You Spell Chief Biostatistician?"



**T** his year three positions are up for elections: President, Northern Vice President, and Secretary. All are two-year positions, with terms beginning Jan. 1, 2010 and ending Dec. 31, 2011. Persons elected must be Chapter members; the President and Secretary must also be members of the national American Statistical Association.

Ballots have been sent to all current members by email. If you do not receive a ballot, but believe that you are a current member, please notify us (Kaushik.Ghosh@unlv.edu or charles.davis@envirostatnv.com) immediately. Results will be announced at the Annual Meeting.

## International Science and Engineering Fair 2009 in Reno

**T** he International Science and Engineering Fair (ISEF) took place at the Reno Sparks Convention Center May 12-13, 2009. This is the grand-daddy of science fairs, organized by the Society for Science and the Public, with major sponsorship from Intel. Intel, Agilent, Shell, and the National Institutes of Health all present Grand Awards. Special Awards are given by some 67 organizations. You can read more about the ISEF at <a href="https://www.societyforscience.org/ISEF/">www.societyforscience.org/ISEF/</a>.

The NV-ASA was assigned the challenge of selecting three projects from the 1225 entries to receive Special Awards of the national American Statistical Association. Thanks are due to the ten Nevada judges who volunteered their time and expertise. They report that they found the scientific and statistical sophistication of many entries to be very impressive and that judging the ISEF was itself very eye-opening. First Place of the ASA Special Awards went to a team of three students from different high schools in Texas who had met at a math camp. Their title: "Survival Analysis of Gene

Expression Data Using a Hybrid Dimension Reduction Technique". Some of our judging team were doubtful that this esoteric multivariate statistical work could actually have been done by high school students until interviewing the students during the final selection process the second day.

### 

**T**he 2009 K–12 Poster Competition took place in late Winter. A record 340 posters were entered by 461 students from 21 Nevada schools. First, second, and third place prizes were awarded in each grade category (K-3, 4-6, 7-9, and 10-12), along with two Honorable Mentions. All recognized posters were sent on to the national ASA competition.



Two of Nevada's posters earned recognition at the national competition. "Red, Yellow, Green...What Colors are our Jellybeans?" by Julie Bernt's first-grade class from Eileen Conners Elementary School received an honorable mention in the K-3 category. "Global Warning" by Saju Varghese from Advanced Technologies Academy received an honorable mention in the 10-12 category.



These national winners are shown here. All winning posters can be viewed on our website www.nevada.edu/~nvasa/.

Entries for the 2010 Poster Competition must be received by February 26, 2010. The revised rules may be found on the website. ♥

## Nevada SAS Users Group

**T**he Nevada SAS Users Group will hold its second annual conference Friday, Nov. 13, 1:30-5:00. The meeting will take place in Room 16 of the Pennington Building on the UNR campus, with video feeds to CBC B-117 on the UNLV campus and Room 303 of the NV State Health Division.

Tentative speakers are Chris Hemedinger of the SAS Institute ("What's New in SAS Enterprise Guide 4.2: Point and Click SAS Application" and David Cassell of Design Pathways ("Introduction to Survey Sampling and Analysis: A Must for all Survey Researchers"). Go to <a href="https://www.crda.unr.edu/crda/nvsug.htm">www.crda.unr.edu/crda/nvsug.htm</a> for further information and a link to the free registration. ◆

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From the Bayesian Songbook

### "Bayesians in the Night"

Words by B. Natvig and M. DeGroot, sung to the tune of "Strangers in the Night"

Bayesians in the night with exchangeable glances Assessing in the night the prior chances We'd be sharing risks before the night was through.

Something in your prior was so exciting Something in your data was so inviting Something in my model told me I must have you.

Bayesians in the night, two statisticians We were Bayesians in the night Then came the moment when we walked down to the sea Under a fault tree Our likelihoods were close together and Sir Ronald lost his final feather

And ever since that night we've been adherents Leaders of the fight to have coherence It turned out all right for Bayesians in the night.

For more, go to <a href="http://www.biostat.umn.edu/~brad/cabaret.html">http://www.biostat.umn.edu/~brad/cabaret.html</a>



Charles Davis

**Doubt Is Their Product: How Industry's Assault on Science Threatens Your Health** (by David Michaels, Oxford University Press, 2008);

This is an alarming book. It sets its sights squarely on scientists, particularly statisticians, who work for industry, along the way taking shots at political and regulatory establishments and processes in the U.S.

The author, David Michaels, is an epidemiologist. He served as Assistant Secretary of Energy for Environment, Safety, and Health during the Clinton administration. In 2006 he received the American Association for the Advancement of Science's Scientific Freedom and Responsibility Award. He was until recently director of the Project on Scientific Knowledge and Public Policy at The George Washington University School of Public Health and Health Services, and was selected in July 2009 to head the Occupational Safety and Health Administration (OSHA).

His story is about the remarkable "success" that industry-employed and industry-funded scientists (particularly statisticians) have had in manipulating data to confuse public discussion of health and safety issues. The Introduction sets the tone: "Sound Science' or 'Sounds Like Science'"? Numerous industrial sectors are discussed, including tobacco, medicine, asbestos, oil and gas refining, chemicals, nuclear energy and nuclear weapons, and drinking water. OSHA and Environmental Protection Agency (EPA) efforts are evaluated and criticized; the debate over global warming is not ignored.

Michaels writes with an inside-the-Beltway familiarity with political and regulatory processes. For example, Chapter 6 is titled "Tricks of the Trade: How Mercenary Scientists Mislead You". It includes knowledgeable discussions of aspects of model building experimental design, especially related to epidemiological studies, and how one can represent and mis-represent models and conclusions. His concluding Chapter 18, though, offers "A Dozen Ways to Improve Our Regulatory System". Presumably this is his current agenda, having accepted the nomination to head OSHA.

Several statisticians are singled out by name for criticism. I have met only one of them personally, years ago at a conference in Washington. But I did notice that this fellow organized a panel discussion at the 2009 Joint Statistical Meetings on this topic. Here's what the Abstract Book has to say about it (note also the panel participants):

### "Industry sponsored science: Are consultants really biased?

- Michael E. Ginevan, M.E. Ginevan & Associates, Silver Spring, MD
- S. Stanley Young, National Institute of Statistical Sciences, Research Triangle Park, NC
- Allen Heller, Bayer HealthCare Pharmaceuticals, Wayne, NJ
- Peter A. Lachenbruch, Oregon State University, Corvallis, OR (ASA Past President)
- Robert Obenchain, Risk Benefit Statistics LLC, Carmel, IN

**Key Words:** consulting, ethics, multiple comparisons, replication, publication bias

Recent authors have suggested that statisticians and other scientists funded by industry produce findings biased toward industry. As remedy, some have suggested that industry funded scientists be barred from the analysis and publication of research studies (e.g. consultants should not analyze/coauthor clinical trials.) Published literature concerning contentious risks. like those resulting from exposures to industrial chemicals, shows a preponderance of industry funded studies that are favorable to the sponsor, but consultants and industrial statisticians claim integrity, and it is in the long-term interest of industry to "get it right." Are such publications "biased" toward industry? This panel presents three points of view: ground consultant/industry statistician, and industrial consumer. Two discussants explore interactions among facts, consultants, industry."

As one who has spent many years as a consultant working in the environmental regulatory arena, I found the book thought-provoking, challenging, and perhaps a bit biased. It's not that the abuses on the part of industry and the manipulations of the political/regulatory process that Michaels describes do not exist; it's that what I see is not nearly as one-sided as what he writes about. An example that I've been involved with is the fact that the EPA is just now (under court order) setting about establishing sound working definitions for concepts related to "detection limits" for laboratory analyses. One of my Department of Energy colleagues in Washington suggested that Michaels' book was written with a political agenda in mind (recall that OSHA appointment).

I recommend the book, although it may not be an easy or comfortable read for consulting statisticians! ★

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Only a minority of the people who receive this newsletter are members of the Nevada Chapter of the American Statistical Association (MV-ASA). Dues are nominal: at most \$20 per year, \$10 a year for members of the national ASA, and \$0 for student members of the national ASA. There are two ways to join. You can join NV-ASA when you renew your national ASA membership (or join for the first time); this can be done on-line at <a href="https://www.amstat.org">www.amstat.org</a>. Otherwise, whether or not you are a national ASA member, you can join through PayPal on our website <a href="https://www.nevada.edu/~nvasa/">www.nevada.edu/~nvasa/</a> or by contacting our Treasurer Kaushik Ghosh. Any way you do it, please obtain an information form from our website, complete it, and send it to Kaushik at the address listed on the form.

Why should you join? NV-ASA events provide opportunities for networking and contact with other statisticians working in a wide variety of areas in Nevada. But in addition to that, a major reason is that your dues support the outreach activities of the NV-ASA including the K-12 Poster Competition and Career Days. Our financial needs are not great, so long as we all pitch in our modest amounts. **\mathbb{H}** 



From our Constitution:

"The purpose of this Chapter is to be a state and local area leader in promoting all aspects of sound statistical science and practice, including the advancement of statistical education, professional practice, and research."

"The Chapter shall sponsor educational, professional and scientific activities that benefit professional statisticians, students, and users of statistics. The Chapter shall promote effective unified action amongst all groups having an interest in or concern with statistics and probability. The Chapter shall foster communication between the statistical community, other scientific organizations, and the media for the enlightenment of the general public and enhancement of the general welfare. The Chapter shall promote the proper application of statistics in all fields, shall work for the improvement of statistical education at all levels, and shall seek

opportunities to advance the statistics profession and professional work opportunities." ♣



President: Charles B. Davis (~ 2009)
Past President: Charles B. Davis (~ 2011)
Southern Vice President: Andy Chance (~ 2010)
Northern Vice President: Alejandra Livingston (~ 2009)
Secretary: Alicia Chancellor Hansen (~ 2009)
Treasurer: Kaushik Ghosh (~ 2010)

Chapter Representative &

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Silver State-istics welcomes news items and letters from members and friends of the NV-ASA on matters of interest to the Chapter and the profession. Manuscript or items can be sent as a Microsoft Word document, PDF, or within an e-mail.

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#### Check our website:

http://www.nevada.edu/~nvasa/