SILVER STATE-ISTICS

Nevada Chapter of American Statistical Association

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
for more details on upcoming events.

www.amstat.org/chapters/

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✍ Coming Events ✍

Aaron Luttmann will share thoughts that he and colleague Marylesa Howard have on "Statistical Polytheism: A Pragmatist's Approach to Tackling Real Problems in Nuclear Security". This will take place **Thursday evening, April 19**, on the UNLV campus.

Our annual **K-12 Poster Competition** is completed; judging took place March 10. Look for pix of the winners in our next Newsletter and on our website.

Our **Annual Meeting** will take place in the South this coming Fall; stay tuned for announcements of this and other events.

UNLV News

Petros Hadjicostas is a new Assistant Professor in the Department of Mathematical Sciences. He is from Cyprus, and earned his PhD in Statistics from Carnegie Mellon University in 1995. He has taught Stats at the University of Cyprus, SUNY Brockport, Texas Tech University, and Victoria University of Wellington. His research interests have included Statistics (Bayesian statistics, logistic regression, Simpson's paradox, nonparametric correlation, symmetric stable distributions), mathematics (special functions, combinatorics, compositions of integers, analysis of sorting algorithms), and operations research (data envelopment analysis).

Chad Cross has moved to UNLV, where he is now with the Department of Oncology of the School of Medicine as well as the Epidemiology and Biostatistics program and Department of Environmental and Occupational Health of the School of Community Health Sciences.

Hokwon Cho has received the UNLV Graduate College's Outstanding Graduate Faculty Leadership Award, recognizing leadership in many aspects of graduate education, including student mentoring and program and curriculum development.   Ψ

From the President's Desk

Alicia Chancellor Hansen

Greetings Chapter Members and Interested Others!

I am delighted to be writing my first newsletter article as the 2018-2019 NV-ASA President. Please join me in welcoming our two first-time officers, Glenn Waddell, Northern Vice President, and Mihye Ahn, Secretary. We'd also like to thank Chad Cross for stepping into the Chapter Representative role mid-term. Read on to learn more about these dedicated statistics professionals who have volunteered to donate some of their valuable time to support our Chapter.

We are looking forward to many inspiring activities over the next two years. The Executive Committee and some

other long-time members held a dynamic brainstorming session in January to discuss Chapter goals and activities. We will be focusing on encouraging participation in Chapter activities and increasing membership, as well as updating our Chapter website. Plans are underway for our Fall Annual Meeting, to be held in Las Vegas this year. We are also looking at hosting a Career Day in the North, along with other events. We hope you will join us at these events and support statistics in Nevada. If you have ideas for events or would like to assist with planning or promoting an event, please do not hesitate to reach out to any of the Chapter Officers.

Thank you so much for your interest and support of the Nevada Chapter! Please feel free to share this newsletter with colleagues and friends who might find it of interest. ❖

UNR News

The Department of Mathematics & Statistics has two new faculty. **Yinghan Chen** received her BS in Statistics from the University of Science and Technology of China in 2008 and her PhD in Statistics from the University of Illinois at Urbana-Champaign in 2017. Her research interests include Monte Carlo methods, statistical computing, Bayesian analysis, latent class models, item response theory, and longitudinal analysis. She is currently working on developing sampling algorithms to conduct statistical inference in educational assessments and networks.

Alfred "Grant" Schissler received his BS in Applied Mathematics from the Georgia Institute of Technology in 2005, his MS in Applied Statistics from Kennesaw State University in 2011, and his PhD in Statistics from the University of Arizona in 2017. His research interests are driven by interdisciplinary problems, often in the biomedical domain. Recently he helped build statistical informatics tools that allow clinical researchers to interpret molecular data on the scale of individual patients (aiming to conduct precision medicine). Common themes in the course of these projects include large-scale hypothesis testing, high dimensionality, massively-parallel computing, knowledgebase integration, multivariate statistics, Bayesian analysis, and clustering.

The School of Community Health Sciences (Biostatistics) has a new assistant professor, **Yan Liu**. He received his BS in Mathematics from the Sun Yat-sen University in 2009, his MS in Applied Mathematics from the University of Chinese Academy of Science in 2012, and his PhD in Mathematical Science from Clemson University in 2017. His research interests include latent variable modeling, Bayesian spatial and spatio-temporal

analysis, Bayesian parametric and nonparametric regression models, statistical computing, advanced Markov chain Monte Carlo methods, infectious disease modeling/forecasting, group testing data analysis, pooled biomarker modeling, and biostatistical and epidemiological applications.   Σ
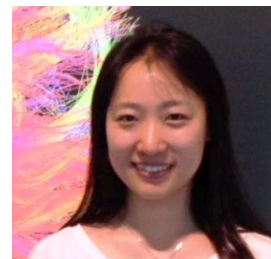
Elections

Debra Stiver

NV-ASA is pleased to announce the officer election results, as reported at the October 2017 NV-ASA Annual Meeting and Symposium, held on the University of Nevada, Reno (UNR) campus. All three newly elected officers will serve a two-year from January 1, 2018, through December 31, 2019.

Our new President is Alicia Chancellor Hansen, who has been an active member of NV-ASA since the chapter was established in 2003. She has served several terms in various positions including President, Secretary, and Northern Vice President. She has a passion for data analysis, visualization, and reporting, primarily in public health and health care, and is currently employed as a Management Consultant with Public Knowledge, LLC.

We have happy to have two relatively new members elected to the board. Dr. Mihye Ahn is our new Chapter Secretary. She is an Assistant Professor in the Department of Mathematics and Statistics at UNR, joining the department in 2014. She earned her BS and MS degrees at Inha University in South Korea and her PhD in Statistics from North Carolina State University. Her research interests include functional neuroimaging data, longitudinal data analysis, variable selection, and imaging genetics.

Glenn Waddell Jr. is now our Northern Vice President. He is a Master Teacher in the NevadaTeach program at UNR, which is a joint program between the College of Education and the College of Science to recruit and develop future mathematics and science teachers. Glenn

earned his BA at Knox College in Galesburg, IL, a MA in Philosophy at the University of Iowa, and is now pursuing a Ph.D. in the STEM Education program at UNR. He joined UNR in 2015 after teaching at the high school level for 9 years. His research interests include the intersection of critical theory and classroom pedagogy, as well as mixed methods research of social media usage by educators.

The NV-ASA Chapter extends its heartfelt thanks and gratitude to those officers completing their terms December 31, 2017. Gayle Allenback from Las Vegas did an outstanding job as Chapter Secretary. Alejandra Livingston, from Reno, was appointed to complete the remaining one-year term as Northern Vice President. Both of these members put in many hours to help ensure the success of our Chapter!

Two NV-ASA executive committee positions will be up for election in the fall of 2018: Treasurer and Southern Vice President. Debra Stiver, Past President, serves as nominating committee chair. She is happy to provide information on officer positions and elections and can be reached at stiver@unr.edu. Look for announcements as we move closer to the Annual Meeting.   ∞

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Fall Symposium 2017
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Charles Davis

Our Fall Symposium with Annual Meeting took place Saturday, October 14 on the UNR campus, co-sponsored by the UNR Department of Economics of the College of Business, with funding provided by the National ASA as well.

Morning Session

The morning session featured **Ming Li** speaking on "Big Data and Data Science in Tech and Traditional Companies". Dr. Li is Chair of the Quality and Productivity Section of the ASA and a Senior Data Scientist at Amazon. He is also an adjunct faculty member of the Texas A&M University. His career has taken him from his graduate studies at Iowa State to research positions at GE and SAS and data scientist activities for Walmart and now Amazon.

A major part of his talk discussed Big Data and Cloud Computing. He started with a demonstration of the Databricks Big Data Platform, using as an example the well-known Fisher Iris data. His presentation (soon to be found on our website) includes links to instruction and tutorials. He then gave introductory comments and a demonstration on Structured Query Language (SQL), pointing out that this is very often used to obtain the data that we analyze, so it is advantageous for statisticians to

be on at least speaking terms with the SQL experts. Again, his presentation includes links for obtaining further information.

He closed by discussing the different but complementary roles of statisticians and data scientists in business projects, along with how both roles can be expected to evolve in the new "Big Data" world. This discussion included a machine learning component. One critical factor is ensuring that all involved in a project take care to use common language and terms, to ensure that communication actually takes place. (A quick example from my experience: use the term "dataset" rather than "sample" when $n > 1$ and you're talking with a chemist.) A cartoon illustrating these communication difficulties is at the end of this Newsletter. You may also enjoy the video "The Expert", which can be found on UTube at https://youtu.be/BKorP55Aqvg .

Afternoon Session

There were three presentations from NV-ASA members in the afternoon. The first of these was given by **Chris Tong**, our Treasurer, entitled "Statistical Inference Enables Bad Science. Statistical Thinking Enables Good Science". Chris provides this synopsis of his discussion.

"Statistical inference is typically invalid due to the potential for over-fitting when the data are used to make decisions on statistical model building, model criticism, and model selection, all illustrating unquantifiable uncertainty about the model itself. Technical solutions offered by statisticians, and their deficiencies, were discussed. The distinction between exploratory and confirmatory research was made; statistical inference can only be valid in confirmatory studies, when the experimental protocol and statistical analysis plan are completely pre-specified and adhered to. This distinction is fully realized only in human clinical trials. The remainder of scientific research is largely exploratory, and should not be strait-jacketed by the high bar needed to guarantee valid statistical inference. Most of the great discoveries in the history of science did not need statistical inference. Rather, David Freedman's 'shoe leather' approach and Andrew Ehrenberg's 'many sets of data' provide better avenues for doing science.

Statistics has much to offer science in experimental design and execution, enlightened data display, and disciplined data exploration, and should abandon its focus on the misleading attempt to confer judgments about statistical significance."

This was followed by a talk by **Alejandra Livingston** entitled ""Do Drug and Property Offenders Drive up Recidivism in Nevada?" The Second Chance Act of 2007 established a grant funding program to assist localities in developing programs to reduce recidivism (return to prison after release). This study aims to set up a model which will assist in identifying types of offenders at greatest risk of recidivism, along with other explanatory variables such as age, gender, type of release (parole or discharge), and their interactions. The goal is to aid in selecting participants for the Second Chance funded rehabilitation programs. Conclusions she presented include finding that property offenders are most likely to be repeat offenders, followed by drug offenders (of the categories eligible for community rehabilitation programs). Alejandra presented suggestions for further study as well.

The final talk of the afternoon was given by our new President **Alicia Chancellor Hansen**: "Exploring Business Intelligence Tools". Alicia started by defining BI as "the strategies and technologies used by enterprises for the data analysis of business information", providing "historical, current and predictive views of business operations. Common functions of business intelligence technologies include reporting, online analytical processing, analytics, data mining, process mining, complex event processing, business performance management, benchmarking, text mining, predictive analytics and prescriptive analytics." She directed us toward sources for BI tools, particularly freeware and open-source tools, gave suggestions for selecting among the possibilities, and gave demonstrations of a few: Zoho, Tableau, and Qlik.

In addition, there were two poster presentations. Amy Robards presented "An Exploration Into the Efficiency of Count Summary Data" and Jace Gilbert and Paul Hurtado presented "Leveraging Bifurcations in Parameter Estimation". We thank all of the presenters for sharing their insights and experiences.

The Fall Symposium was followed by our brief annual business meeting. €

Joining NV-ASA!

Only a minority of the people who receive this newsletter are members of the Nevada Chapter of the American Statistical Association (NV-ASA). Dues are nominal. For full-time students at NV institutions, the cost is $10

per year ($2 for student members of the national ASA). Otherwise, it is $20 per year ($10 for members of the national ASA). One can become a Life Member for $100. 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 **www.amstat.org/chapters**. Otherwise, whether a national ASA member or not, you can join through PayPal on our website or by contacting our Treasurer Chris Tong. Any way you do it, please obtain an information form from our website, complete it, and send it to Dr. Tong 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 help 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. ☀

NV-ASA Officers & Others

Voting officers are

President:	Alicia Chancellor Hansen (2018-2019)
Past President:	Debra Stiver (2016-2019)
Northern Vice President:	Glenn Waddell (2018-2019)
Southern Vice President:	Charles Davis (2015-2018)
Secretary:	Mihye Ahn (2018-2019)
Treasurer:	Chris Tong (2017-2018)
Chapter Representative:	Chad Cross (2018-2019)

Also involved are

Webmaster:	Alicia Chancellor Hansen
Newsletter Editor:	Charles Davis

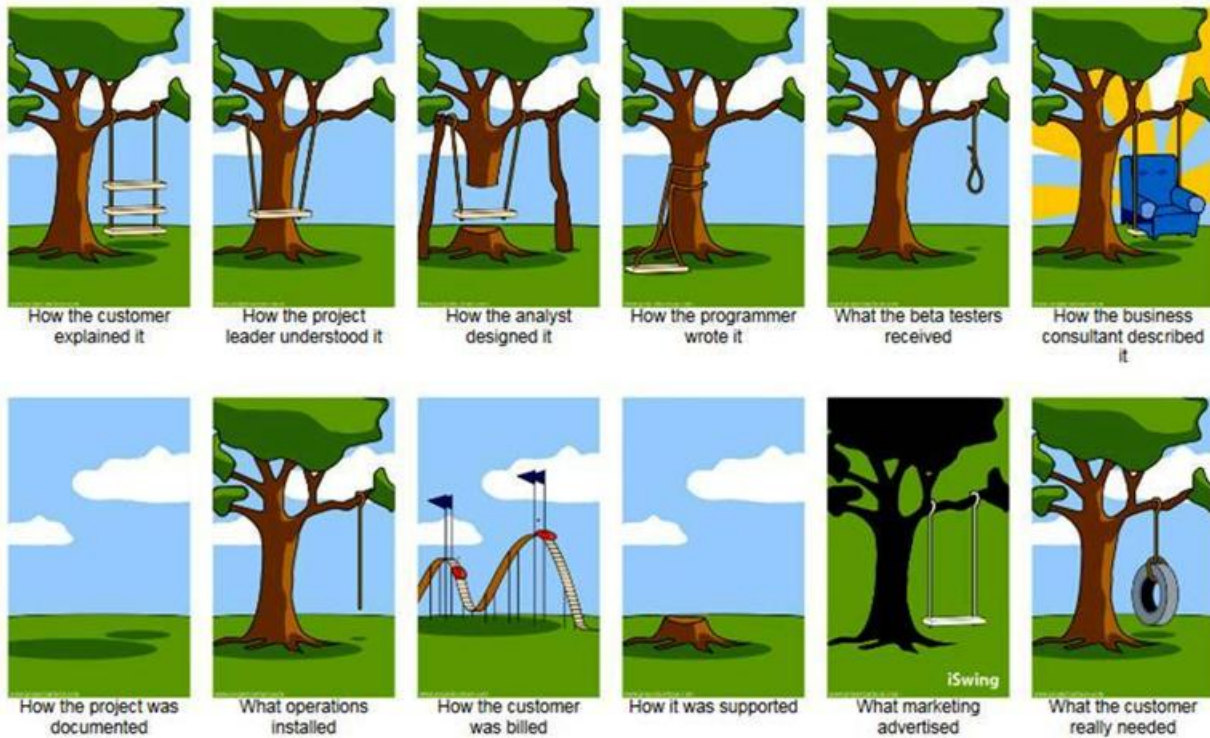For contact information, go to www.amstat.org/chapters/)

Our address for regular mail is

NV-ASA
PO Box 3311
Sparks, NV 89432-3311

How Projects Really Work (version 1.5)

Create your own cartoon at www.projectcartoon.com

At the Annual Meeting October 14, 2017: Alicia Chancellor Hansen, Hokwon Cho, Deb Stiver, and Charles Davis (front); Kaushik Ghosh, Glenn Waddell, Alejandra Livingston, Chris Tong, Gayle Allenbach, and Mihye Ahn (back).