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.
Please keep an eye on our website
for more details on upcoming events.

https://community.amstat.org/nevadachapter/home

Contents:

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Elections

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Alicia Chancellor Hansen

The results of the 2022 Chapter Officer Election and Constitutional Amendment Vote are in! A total of 14 ballots were received for the Officer Election and 11 ballots for the Constitutional Amendment vote.

The positions of President, Southern Vice President, Treasurer, and Chapter Representative were up for election this year. There was 1 nominated candidate for each position except Southern Vice President, which had no nominated candidates.

Andrey Sarantsev was unanimously elected as the Chapter President for 2023. His term will be only one year due to the appointment of the current President for the first year of a two-year term beginning in 2022. Charles Davis was elected as the Treasurer for 2023-2024 with 13 votes; Glenn Waddell received one write-in vote. Alicia Hansen was unanimously selected as Chapter Representative for the 2023-2025 term. Hokwon Cho received four write-in votes for Southern Vice President; after some discussion, he agreed to be appointed by the Executive Committee as Southern Vice President for a one-year term in 2023. Andrey's election as President created a vacancy for 2023 in the Northern Vice President position. Deb Stiver agreed to be appointed to fill the remainder of his two-year term

The proposed Constitutional Amendments also passed unanimously. Thank you to everyone who submitted a ballot. Your interest and engagement in NV-ASA are vital!

In late 2023 the positions of President (2 year), Southern Vice President (1 year), Northern Vice President (2 year), and Secretary (2 year) will be open. Please consider running for an office to support our Chapter!

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President's Corner
Glenn Waddell

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I was honored to be the President of the NV-ASA for the last year. The 20th Anniversary of the Nevada Chapter of the ASA is a huge milestone event. Many organizations never reach close to that age, and the fact that our organization has speaks loudly to the passion, commitment, and interest in statistics and statistics education that is present in Nevada. The people in this organization have taught me how generous and welcoming statisticians are, and how curious and thoughtful about the world statisticians and data scientists need to be. I am looking forward to many more years of involvement in the NV-ASA, and hopefully I can successfully recruit more people to be involved in my small sphere of influence.

Congratulations NV-ASA on making it 20 years, here's to a fruitful and engaging 20 more years to come. Σ

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Incoming President's Message
Andrey Sarantsev
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Thank you for electing me as President of the Nevada Chapter of the American Statistical Association (NV-ASA). I am deeply honored and humbled. I don't consider myself to be experienced enough. However, I am willing to learn from other members of the Executive Committee. Today the Statistics & Applied Mathematics community in Nevada faces multiple challenges: (a) pay cuts for public employees, adjusting for inflation, which is particularly true for Nevada, with state budget heavily dependent on entertainment industry; (b) troubled job market for statisticians in industry, disrupted by COVID, Big IT difficulties, and unfortunate world events; (c) students having trouble adjusting back to in-person learning after COVID restrictions; (d) communications between academic statisticians/mathematicians and industry experts. Together with members of NV-ASA Executive Committee, I cannot hope to solve these problems, but we will at least try to move in the right directions. %

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2022 Fall Symposium
Then and Now: A Celebration
of 20 Years of NV-ASA
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Our Fall Symposium took place Saturday, October 15 at UNLV, with both in-person and remote participation. The main theme was a celebration of the 20th birthday of NV-ASA. This event was jointly sponsored by the UNLV Dept of Math Sciences (Zhijian Wu, Chairman) and the national ASA.

The morning session featured the Keynote Address by Dr Dionne Price, president-elect of the national ASA. See more about her presentation later in this Newsletter.

That was followed by a presentation by Deb Stiver on the Constitutional Amendments and then our Annual Meeting, during which election results were announced.

After lunch there was a panel discussion of the founding and history of NV-ASA, moderated by Deb Stiver. Sandra Catlin, first President, and Suzanne Perumen-Chaney, first Northern Vice-President told us about the founding and early days of the Chapter. Others participating in the panel included Hokwon Cho, Chad Cross, Charles Davis, and Deb Stiver. Those wishing to learn more of the history of NV-ASA are encouraged to review past Newsletters, available on our website.

After the birthday cake was served, there were eight student presentations. The speakers and their titles/topics are listed in a subsequent portion of this Newsletter. λ

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Keynote Address
Dr Dionne Price
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Dr Price's title was ***Honor our Past, Celebrate the Present, and Envision the Future***. She opened by stating her *Vision: A world that relies on data and statistical thinking to drive discovery and inform decisions*, and the related *Mission: Promoting the practice and profession of statistics*. She cited "What are the Most Important Statistical Ideas of the Past 50 Years" (Andrew Belman and Aki Vehtari, JASA, v. 116 pp 2087-2097, 2021).

For the present, she listed a large number of ASA Sections and Interest Groups with their founding dates. The earliest is Biometrics (1938); the most recent is Record Linkage (2021). She encouraged all to join pertinent sections and interest groups. She also mentioned some of the numerous conferences, workshops, and publications sponsored by ASA.

For a Strategic Plan, she stated three themes: Increasing the Visibility of our Profession; Enhancing the Diversity and Breadth of our Association; and Ensuring the Future of our Profession. She encouraged us to register for upcoming workshops and to nominate people for various ASA awards. One of the short courses she mentioned was *StatXW: Preparing to be and Expert Witness*, which took place shortly after our Fall Symposium.

On the topic of Envision the Future, she gave us four directions that ASA is pursuing: Engaging (improving the public and media's statistical literacy); Advocating (for statisticians and the proper use of statistics among policymakers); Growing (cultivating future leaders in statistics and data science); and Educating (improving K-12 statistics education). Ω

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Student Presentations
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After a cake break we had four presentations from students in the UNR Dept of Math and Stat. We first heard from Hayden Brown, whose title was *Dollar Cost Averaging Returns Estimation*, dealing with comparing investment strategies: lump-sum investing (total amount

at time zero), dollar-cost averaging (equal amounts at equal times), and general, with the total investment being the same for all strategies. Hayden presented models of the returns and compared the effectiveness of the various strategies.

Then Abraham Atsiwo presented and discussed *A Stock Market Model based on Volatility and Market Size*, in which he described several models of market capitalization applied to different datasets.

Next we heard from Matthew Ohemeng, whose title was *A Triptych on Three Continuous Analogues of Poisson, Binomial, and Negative Binomial Distributions*. His continuous analogues are based on reversing common methods of discretizing continuous distributions. He discussed examples and applications of the process.

Last from UNR, Amos Natido presented *Uniform-Laplace Mixture Distributions: Theoretical Framework, Computational Issues, and Applications*, showing that his mixture distribution can better model long-tailed symmetric distributions than either Gaussian or Laplace distributions.

Then, after a short break, we had four presentations from students in the UNLV Dept of Math Sciences. First came Gang Xu, whose topic was *Statistical Methods for Detecting Time-Varying Genetic Effects in Longitudinal Genetic Studies*. Gang used a logistic mixed-effect model to incorporate time-varying covariates and population structure. He developed a score test for time-varying genetic effect at genome-wide scale, which can aid in developing robust methods for testing time-varying effects, detecting biologically relevant loci, and providing insight into the genetic architecture of hypertension.

Next we heard from Jeong Jun Lee, on *Classification Using Statistical Learning with Multiple Decision Theoretic Perspective*. He noted that dimension reduction has been commonly used to improve classification procedures. His study investigates the benefits of adding a new vector (essentially dimension-increasing) or applying ranking and selection methodology (indifference-zone approach) to that end.

Bowen Liu then presented *Location Parameter Selection for Generalized Pareto Distribution with Accumulation Tests*. Modeling of the distribution of insurance claims is a major topic in the insurance industry. A metric often used is "peaks over threshold" (POT), which can be modeled using extreme value theory, leading to the generalized Pareto distribution. Bowen discussed some of the issues and challenges involved in identifying the threshold for this modeling.

Finally, Faruk Md Hossain told us about *The Generalized Pivotal Quantity Method*. Pivotal quantities are random variables which are functions of the data and the unknown parameters of interest, but whose distribution does not depend on those parameters (though there may be other nuisance parameters). He defined a generalized pivotal quantity (GPQ) which is a function of the random vector X and an independent copy of it, whose value depends only on the parameter of interest and whose distribution does not involve unknown parameters, and investigated its properties. Φ

Poster Competition 2023

Our annual K-12 Statistics Poster Competition resumed last year under the leadership of Elizabeth (Beth) Harris, math teacher at the Lied STEM Academy. Awardees in our NV competition are forwarded to the national competition. NV entrants have fared quite well in the national competition in the past.

Information about the 2023 Poster Competition will be posted on our website when it becomes available. It will also be sent to teachers/advisors who have been participants in the past. Σ

Chapter Constitution Amendments

The Chapter Governance Committee proposed constitutional amendments which were balloted and passed. These amendments bring our constitution into better agreement with national ASA requirements and current practices. Our five membership categories will now be Annual Chapter, Lifetime, Student/Post-Doc, K-12 Educator, and Honorary, the first four of which will be voting members. All chapter officers must be members of the national ASA except for vice-presidents. Language about e-mail balloting is included. Language regarding required numbers of meetings is modified to accommodate virtual and hybrid meetings. It has been suggested that all members be invited to EC meetings.

The EC (Executive Committee) will create a policy and procedures document to deal with the details of membership, event registrations, and other matters.

Concerning EC terms of office, the goal is for the terms of President, Northern Vice President, and Secretary to be 2 years, beginning in an even year, and terms for Southern Vice President and Treasurer to be 2 years, beginning in an odd year. This way our EC terms overlap, hopefully enhancing the continuity of the EC. The term for Chapter Representative is three years,

coinciding with national ASA Council of Chapter positions. Occasionally there are irregularities for some reason; the EC has the authority to appoint members to fill vacant positions whenever they occur. Φ

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Promotion for Gayle
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Our 2020-2022 Chapter Representative Gayle Allenback is moving to a new role for 2023-2025, as the ASA Council of Chapters District 6 Vice Chair, acting as liaison between the 15+ western chapters and the national ASA. Congratulations on the recognition for her efforts on our behalf over the years! ©

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New Faculty at UNLV
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Dr Nicole DeVille has joined the UNLV Dept of Epidemiology and Biostatistics after completing her postdoc at the Harvard T. H. Chan School of Public Health. She uses spatiotemporal approaches to elucidate impacts of multiple environmental and contextual exposures on health outcomes. Φ

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New Analyst at Touro University
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Dr. Sherli Koshy was recently hired as the Data Analyst in the Office of Institutional Effectiveness at Touro University Nevada. Sherli is trained as a biomedical mathematician, most recently as a postdoctoral scholar at the University of Connecticut. ≥

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NV-ASA is on LinkedIn
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We now have a LinkedIn page for our Chapter. Visit https://www.linkedin.com/company/nvasa. If you are already a LinkedIn member, you will go to our page directly. If not, you will need to join first. One feature is that our NVASA page will allow job postings. To do that, please contact our webmaster at the email address given on our website. Δ

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Joining NV-ASA!
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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 (NV-ASA). Dues are nominal:

for Full-time students at NV institutions - $10 per year
(free for student members of the national ASA);
for Regular members - $20 per year
($10 for members of the national ASA); and
for Life Members - $200
($100 for members of the national ASA).

There are two ways to join NV-ASA:
- at amstat.org, while initiating or renewing your national ASA membership ; or
- at Wild Apricot (https://ncotasa.wildapricot.org/).

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. ✹

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NV-ASA Officers & Others
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Voting officers are

President:	Andrey Sarantsev	(2023)
Past President:	Glenn Waddell	(2023)
Northern Vice President:	Deb Stiver	(2023)
Southern Vice President:	Hokwon Cho	(2023)
Secretary:	Cheryl Vanier	(2022-2023)
Treasurer:	Charles Davis	(2021-2024)
Chapter Representative:	Alicia Chancellor Hansen	(2023-2025)

Also involved are

Webmaster:	Alicia Chancellor Hansen
Poster Competition Lead:	Elizabeth Harris
Newsletter Editor:	Charles Davis

For contact information, go to
https://community.amstat.org/nevadachapter/home
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