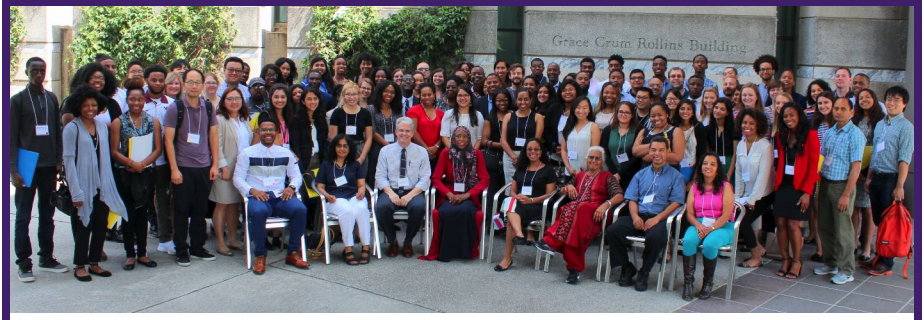
AMERICAN STATISTICAL ASSOCIATION
Promoting the Practice and Profession of Statistics®

StatFest 2018



A One-Day Conference for Undergraduate Students

September 22, 2018

Amherst College

Welcome!

Dear Student:

It is our pleasure to welcome you to the StatFest 2018 conference. We have an outstanding day planned for you. Leaders from academia, government, and the private sector have all come to share their insights and experiences with a goal of helping you understand the tremendous opportunities available in the statistical sciences.

This day is all about you! Take full advantage of this unique opportunity. Ask questions. Introduce yourself to speakers. Take the time to meet other students. If each of you leaves here having learned something that will direct your career path and having made personal contacts that will support you in the future, then this will, indeed, be a great day.

Thank you for your presence today. If there is anything we can do for you while you're here, please don't hesitate to ask.

Enjoy YOUR Day!

Sincerely,

StatFest 2018 Organizing Committee

Amherst College

Amherst College prepares students to use ideas to make a difference in the world. Since its 1821 founding in Western Massachusetts, Amherst has demonstrated steadfast confidence in the value of the liberal arts and the importance of critical thinking. Today, its financial aid program is among the most substantial in the nation, and its student body is among the most diverse. Small classes, an open curriculum and a singular focus on undergraduate education ensure that leading scholars engage daily with talented, curious students, equipping them for leadership in an increasingly global and complex world.

Overview

StatFest is a one-day conference aimed at encouraging students from under-represented groups to consider careers and graduate studies in the statistical sciences. The conference is an ongoing initiative of the American Statistical Association's (ASA) Committee on Minorities in Statistics.

The first StatFest was held in 2001 at Spelman College in Atlanta, GA. This "Mini StatFest", as it was then called, exposed students from Spelman and the Atlanta University Center to dynamic role models and information on careers in statistics. Since then, StatFest has grown into a one-day regional conference and has been held at several institutions around the country.

Past Venues

2017	Emory University
2016	Howard University
2015	University of Chicago
2014	North Carolina State University
2013	Rice University
2012	San Francisco State University
2010	Spelman College
2009	University of Iowa (part of Iowa Field of Dreams Conference)
2008	Lamar University
2007	Eli Lilly and Company
2006	University of Texas, El Paso
2005	Florida A&M University
2005	University of Hawaii, West O'ahu
2003	North Carolina State University
2002	Meharry Medical College
2002	Hampton University
2001	Spelman College

Conduct Policy

As an activity sponsored by the American Statistical Association (ASA), StatFest is committed to providing an atmosphere that encourages the free expression and exchange of ideas. Consistent with this commitment, it is the policy of the ASA that all participants in ASA activities, including StatFest, will find a welcoming and respectful environment free from unlawful discrimination, harassment, and retaliation. All aspects of StatFest are subject to the ASA's conduct policy, including but not limited to event attendees, statisticians, students, guests, staff, contractors, exhibitors, and participants in scientific sessions, tours, and other social events.

All individuals must behave responsibly in ASA activities in which they participate. Threatening physical or verbal actions and disorderly or disruptive conduct will not be tolerated. Harassment, including verbal comments relating to gender, sexual orientation, disability, race, ethnicity, religion, age, national origin, gender identity or expression, veteran status or other protected status, or sexual images in public spaces, deliberate intimidation, stalking, unauthorized or inappropriate photography or recording, inappropriate physical contact, and unwelcome sexual attention, will not be tolerated. All individuals participating in ASA activities must comply with these standards of behavior.

Violations should be reported to the organizer of the activity. In the ASA's sole discretion, unacceptable behavior may result in removal or denial of access to meeting facilities or activities and other penalties, without refund of any applicable registration fees or costs. In addition, violations may be reported to the individual's employer. Repeat offenders may be banned from future ASA activities.

StatFest 2018 Agenda

8:30 - 9:30 am **Continental Breakfast, Registration, and Exhibition Hall**

9:30 - 9:50 am **Welcome and Opening Remarks**
Reneé Moore, *ASA CMS and StatFest Committee Chair*
Biddy Martin, *Amherst College President*
Barry Nussbaum, *ASA Past President*

9:50 - 10:30 am **Keynote Address 1**
Scarlett Bellamy, *Drexel University and ENAR*

10:30 - 10:40 am **Recognition of Sponsors**
Reneé Moore, *Emory University*
Christine Pfeil and Jennifer Halbleib, *MassMutual*

10:40 - 10:50 am **Networking Initiative Instructions**
Adrian Coles (Facilitator), *Duke Clinical Research Institute*

10:50 - 11:15 am **Break/Snack**

11:15 am - Noon **Opportunities in Statistics and Data Science: *Nonprofit***
Felicia Simpson (Moderator), *Winston Salem State University*
Sean Simpson, *Wake Forest School of Medicine*
Alisa Stephens-Shields, *University of Pennsylvania*
Therri Usher, *Food and Drug Administration*

Noon - 12:10 pm **Group photo**

12:10 - 1:00 pm **Lunch, Exhibition Hall, and Networking**

1:00 - 1:40 pm **Keynote Address 2**
Fernando Pérez, *University of California, Berkeley Institute for Data Science*

1:40 - 2:25 pm **Opportunities in Statistics and Data Science: *Industry***
Adrian Coles (Moderator), *DCRI*
Dionne Swift, *Proctor & Gamble*
Jason Bernard, *Major League Baseball*
Portia Exum, *SAS*

2:25 - 2:40 pm **Summer Opportunities**
Sherri Rose, *Harvard Medical School*

2:40 - 3:00 pm **Break/Snack**

3:00 - 4:00 pm **Parallel Sessions**
A. Students: The Graduate Student Experience
Brittney Bailey (Moderator), *Amherst College*
Jemar Bather, *Harvard University (1st-yr PhD)*
Ixavier Higgins, *Emory University (6th-yr PhD)*
Gabrielle Saint Vil, *University of Connecticut (2nd-yr MS)*

B. Professionals: Attracting and Retaining Students - Promoting Diversity
DeJuran Richardson, *Lake Forest College and Rush University*

4:00 - 4:30 pm **Conference Wrap-Up and Closing Remarks**
Networking Results: Adrian Coles
Closing Remarks:
Brittney Bailey and Nicholas Horton, *Local Co-Chairs*
Reneé Moore, *StatFest 2018 Chair*

4:30 - 5:30 pm **Poster Session, Exhibition Hall, and Ice Cream Reception**

Poster Abstracts

The Antikythera Mechanism's Mechanical Anomalies, Its Epoch and Eclipse Predictor
Presenter: Ryan Acker Lewis
University of Arkansas at Pine Bluff

Our universe is a mechanical one. We've discovered a system of physical laws that are proved, handled mathematically, and used to explain the most amazing phenomena. Recent investigations of a Greek artifact, known as the Antikythera Mechanism, reveals the idea of mechanical design to represent the "heavens" was implemented 2nd century BCE. The device, a complex series of gears and pointers, predicts future eclipses and intricately models the universe in antiquity. It's commonly known the ancient world obtained extensive astrological data via recorded visual observations. Modern astronomy uses predictive calculations that are trigonometric in nature, and scientist have only recently come close to matching capabilities this artifact achieved in its day. Previous studies revealed the mechanism follows an arithmetic model better than a trigonometric one, and has a possible epoch date of May 12th, 205 B.C. Currently, these models are very reliable in predicting eclipses and moon phases. Here we provide a conjectural explanation of the errors within the prediction function of the mechanism and show how its structure indeed reveals the epoch date. Modern methods used to analyze ancient findings are essential in understanding the development of mathematics.

Multiple Imputation for Missing Data
Presenter: Prince Allotey
University of Connecticut

Incomplete data are a common problem in statistical analysis. However, many researchers still ignore this complication. Multiple imputation is a simulation based approach to deal with incomplete data. Multiple Imputation allows for additional uncertainty due to the fact we are missing information due to the missing data. Here, we evaluate the performance of two commonly used multiple imputation methods (fully conditionally specification and multivariate normal distribution) and compare these results to the complete case analysis method for handling missing data. We then further discuss issues that could arise when these methods are being used. To illustrate this, we use data consisting of 944 healthy regularly menstruating premenopausal women from the BioCycle study and compare parameter estimates between these different methods. The goal is to examine if each of the two outcome variables, birth-weight and spontaneous abortion, in the data set are associated with mothers' smoking status during pregnancy, adjusting for baseline covariates in the model. Results indicate that multiple imputation were better suited for handling incomplete data and led to a significant improvement in our parameter estimates.

Cancer disease Survival Analysis: The parameter of survival time and the risk factors associated with Hodgkin's Lymphoma Cancer in patients.

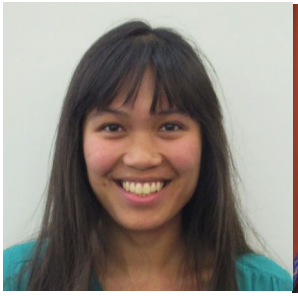
Presenter: Cinthia Yazmin Calvo Martinez
Collaborators: Dr. Demba Fofana
University of Texas Rio Grande Valley, Edinburg

In this study, we analyze the information of a type of disease of blood cancer cells in patients that develop in the lymphatic system which is called Lymphoma. The data is from the "Seer Research DataRecord Description" submitted in November 2017. The study analyzes cases diagnosed from 1973 to 2015. By using the Epidemiological data, we analyze the risk factors related with the demographic characteristics associated with the disease in the survival for patients with Hodgkin's Lymphoma (HL). Furthermore, we conduct a statistical investigation to examine the parameter of survival time of HL patients from diagnosis time to a specific time. To perform the survival analysis, we use the linear regression procedure to model the relationship between a scalar responses with one or more explanatory variables. The second objective is to compare the survival time for different race category: Hispanic, black, other and having white race as a control group. To perform the comparison, we use Log rank test to test the hypothesis between the survival times according to the race category and to compare the survival distribution of two groups. Understanding the impact of predictor variables benefit patients for future prevention and treatment perspective in HL disease Additional details are added to get a better understanding for higher quality of knowledge on the purpose of the study.

Gene Regulatory Networks and Sex Differences Among Lung Adenocarcinoma Patients

Presenter: Katherine Cyr
Amherst College

Despite having a lower incidence of lung cancer, studies have shown that males are more likely to die from lung cancer compared to females. Prior research suggests that differences in gene regulation could explain the outcome disparity between sexes. We used RNA-sequencing data, protein-protein interaction data and transcription factor motif data to estimate individual gene regulatory networks for 577 patients with lung adenocarcinoma. Using the indegree network statistics in each individual network, we compared gene indegree between males and females to identify deferentially targeted genes. Then, we used Gene Set Enrichment Analysis to identify pathways that are deferentially targeted between the sexes, such as the cell-to-cell signaling pathway. Further, using multivariate Cox regression, we found that low-targeting of the cell-to-cell signaling pathway is associated with a higher probability of survival among Stage IV lung adenocarcinoma patients. This research supports the notion that structural differences in gene regulatory networks could explain the outcome disparity between males and females with lung adenocarcinoma, but replications of this study in larger and more diverse data sets is required.



Investigating suPAR as a Biomarker for Chronic Kidney Disease Stage Progression and the Survival Outcomes of Patients

Presenters: Angelica Estrada[1], Miriam Hu[2]
Smith College[1], Indiana University Bloomington[2]

Chronic Kidney Disease (CKD) is the gradual decline in kidney function consisting of five stages leading to kidney failure. The Centers for Disease Control and Prevention reported that about 15% of US adults (~30 million) have CKD with diabetes and hypertension as primary risk factors, and those with CKD are at risk for cardiovascular disease. There is also evidence suggesting an association between higher levels of soluble urokinase-type plasminogen activator receptor (suPAR) and incident CKD. This project examines the relationship between suPAR levels and CKD stage progression, and the survival outcomes of U.S. adult patients. A subset of the data from the Emory Cardiovascular Biobank (n = 366) was used to: (1) study whether suPAR levels are associated with CKD stage progression by using multiple logistic regression, (2) compare survival between those with and without CKD and risk factors for CKD by examining Kaplan-Meier survival curves, and (3) determine the risk for experiencing a major adverse cardiovascular event (MACE) for those with CKD through Cox proportional hazards regression analysis. Comparison of models built based on different variable selection methods (clinical versus automated) will be discussed. This work is joint with Sarika Aggarwal, Ashlyn Anderson, Dane Anderson, and Ariel Polani as part of the Summer Institute for Training in Biostatistics at Emory University, under the supervision of Dr. Yi-An Ko, Dr. Reneé Moore, and graduate mentors.

Social Network Analysis of LGBTQ+ Community in a College Network: What is the difference between Popularity, Social Interaction and Social Influence of college students based on their Sexual Orientation?

Presenter: Grace Irungu
Smith College

Over the years, the visible population of the people in the LGBTQ+ community in the United States has been increasing as seen with the increase of same-sex marriages in the country (Simmons,. et al 2003). With this comes and increase in both explicit and implicit stigma and prejudice against people within the LGBTQ+ Community. From our analysis we found that people who receive financial aid tend to be less popular compared to people who did not receive financial aid. We also found that people who identify as Gay/Lesbian/Bisexual tend to on average have a high anxiety and depression score compared to heterosexuals and that local popularity differs by sexual orientation in first year college students. With this comes a greater need for more intervention and support groups for the involved groups.

Quantifying Any Potential Association Between In-shoe Heel Sensors and Ground Reaction Force

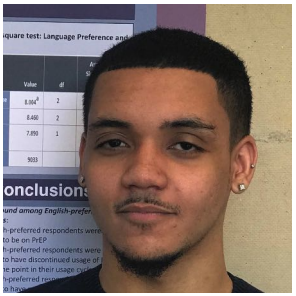
Presenter: Vincent Jones
University of Pennsylvania

When a person runs, the ground exerts a force on the bottom of the foot, called the ground reaction force (GRF). Different characteristics of the vertical ground reaction force (VGRF) during running are associated with knee joint health. The current method used to measure GRF involves a force-sensing treadmill, an expensive device restricted to a laboratory setting that requires extensive human expertise to manage. Recently, a cheaper, more efficient way of measuring GRF has been developed, using nanocomposite piezo-responsive foam (NCPF) sensors implanted within the heel, toe, arch, and foot of a running shoe. The shoes collect data over the impact transient period–the short time interval when a subject's heel first strikes the floor. This study investigates the possibility of replacing the force-sensing treadmill with NCPF sensors by exploring any associations between key features of their data within the impact transient period.

Factors Associated with STI Prevalence among Gay and Bisexual Men in the United States

Presenter: Hector Moran
Collaborators: Jonathan Lopez Matos, MA; Demetria Cain, PhD; H. Jonathon Rendina, PhD
Center for HIV/AIDS Educational Training & Studies (CHEST), Hunter College of the City University of New York (CUNY)

Sexually transmitted infections (STIs) are known to disproportionately impact gay, bisexual, and other men who have sex with men (GBMSM) and are an associated risk factor for HIV seroconversion. The purpose of this study was to understand the predictors of STI prevalence among a United States-based sample of GBMSM. A total of 14,489 GBM aged 18-80 (M=29) completed an online survey containing questions about sociodemographics, STI diagnoses within the last year, gay-related stigma, and risk-related behavior. Logistic regression indicated that STI prevalence was significantly higher among men from the western region of the U.S, those who identified as Black, who reported being HIV-positive, those with higher experiences of stigma within the gay community, those with a higher number of casual sex partners, and those who reported using drugs within the last 6 months. These results support literature that demonstrate the relationship between STI prevalence and HIV status, substance use, and sex-related risk factors.



Health Disparities among Latino Men Who Have Sex with Men: Differences by Language Preference
Presenter: Marco Paulino
Hunter College

This research explores the role of language preference between Spanish and English speaking Latino men who have sex with men (LMSM) and access to health insurance to assess whether it relates to pre-exposure prophylactic (PrEP) uptake. A sample of 10,427 HIV-negative LMSM completed an online survey. Results show that LMSM who prefer Spanish were less likely to have health insurance and were less likely to be currently using PrEP. These findings highlight that LMSM who prefer Spanish appear to experience additional obstacles such as being uninsured and less awareness of prevention practices.

Assessing comparative effectiveness of cancer treatments in the SEER-Medicare linked database
Presenter: Lucia Petito
Harvard University T.H. Chan School of Public Health

Researchers are often interested in evaluating the comparative effectiveness of cancer therapies. Most commonly, these questions are addressed by conducting randomized trials, where the treatment assignment is randomized. However, large randomized trials can be prohibitively expensive or logistically infeasible, so researchers have turned to observational data sources to generate evidence to answer these questions. Unfortunately, naïve analyses of observational data easily lend themselves to misleading and biased results. Here, we discuss best practices when applying the target trial framework developed by Hernán & Robins (2016) in the SEER-Medicare linked database to emulate randomized trials. We emulate two trials: 1) the addition of a drug to a standard chemotherapy regimen to treat metastatic pancreatic cancer, and 2) adjuvant chemotherapy versus observation after tumor resection in individuals with stage II colon cancer.

Predictive Policing
Presenters: Daniel Rodriguez[1], Alexander Asemota[2]
[1]University of Central Florida, [2]Howard University

Predictive policing is the use of mathematical, statistical, and computational methods to analyze data in an attempt to predict future crime. Our research used models such as Poisson regression, random forest, and Epidemic-Type Aftershock Sequence (ETAS) to analyze crime reports in the city of Philadelphia. Our results found the benefits of the different models, and that counts of crime reports can be fairly accurately predicted with simple models.

Evaluating Probabilistic Forecasts Using PIT
Presenter: Rebecca Silva
Amherst College

The Probability Integral Transform (PIT) is a useful metric to assess the behavior and validity of a predicted distribution. This summer the PIT method was used to evaluate five ensemble forecast models for seasonal influenza in the United States. Although none of the models could be validated by PIT, the visual assessment of each model, as a whole and separated by specific targets, give insight into where observations tend to fall within their respective probabilistic distributions. A common trend throughout the histograms of a right skew indicates that fewer observations fall in the right tail of their respective distributions than expected. From a public health standpoint, it could be beneficial for these forecast models to hedge against large outbreaks of influenza by placing more weight on observed values that fall above the median of each distribution.

Using Factor Analysis to Help Educators Evaluate Psychosocial Interventions
Presenter: Letisha Smith
New York University

In the 21st century, the positive psychology movement has led educators to consider the impact of socio-emotional intelligence on academic achievement. However, quantifying the impact of factors like self-regulation, mindset, and school attachment on academic outcomes can be challenging for primary schools operating in districts that place a premium on standardized assessment. Schools have the dual challenge of identifying best practices in measuring latent domains and linking these skills to student outcomes. Fortunately, factor analysis and structural equation models excel at identifying the relationship between nebulous concepts that can be measured by varying criteria. This poster outlines challenges that come when survey scales fail to measure latent domains that educators aim to target and how exploratory & confirmatory factor analysis can be used to still elucidate meaningful relationships.

Disney Bracketology!
Presenter: Jaimie Stone
Johnson & Wales University

In March 2018, a NCAA March Madness style Disney/Pixar movie bracket was created for people to fill out. As brackets were filled and posted across social media platforms, many of them became viral memes because of (A) critically panned movies being selected as winners and (B) the randomness of the initial bracket positions. I showed a few of them to my Statistics classes and what followed was an amazing discussion of topics that we had covered over the first weeks of the course and even topics that we hadn't yet covered. For the remainder of the term, these classes took it upon themselves to help create what they felt was a better bracket, and run some correlation & hypothesis tests in the process! I present our research design, class discussion topics, and yes, even the bracket itself!

Smith College Learning Space Assessment
Presenters: Stella Chen Li, Chris Xiaoyue Tan
Collaborators: Sherry Zhenyao Cai, Hening Zheng, Starry Yujia Zhou, Dr. R. Jordan Crouser
Smith College Human Computation and Visualization Lab

In 2017-2018, Smith College contracted Sasaki Associates, Inc. to conduct a survey of Smith College study space analysis. During the summer of 2018, five undergraduate student researchers in the Human Computation and Visualization Laboratory conducted additional analysis of the collected data under the supervision of Prof. R. Jordan Crouser. This reanalysis of Smith Space Usage focused on evaluating utilization rates, technology deployment, campus geography and the physical condition of classroom spaces. The goal of this study is to identify potential methods to support faculty with their diverse pedagogy and enhance student learning experiences.

Multivariate Time Series Clustering with Applications in Wind Energy
Presenter: Laura L. Tupper
Williams College Department of Mathematics and Statistics

We explore the unsupervised classification of spatio-temporal data, with an application in wind power generation. Clustering can be used as a data-driven way to characterize the behavior of a dataset, revealing patterns and allowing the selection of representatives to characterize the space, but it relies on the selection of a useful measure of similarity between observations. Previous work has used the band distance, a depth-based distance metric for high-dimensional vector data, to cluster time series of wind speeds. We extend the depth-based approach to multivariate time series, allowing the simultaneous analysis of multiple days and locations, and compare a range of different dimension-reduction and transformation methods.


Analyzing Trends in Exploitation Patterns
Presenters: Michael Wieck-Sosa, Imani Carson, Shiva Darshan
Carnegie Mellon University

Human trafficking is a $150 billion industry, with an estimated 40.3 million victims worldwide. We are working with human trafficking data to see if there are any significant exploitation patterns. We find that there are significant relationships in predicting how the individual is exploited based on the U.S. State Department's Human Trafficking Tiers of the country in which a person is exploited, organized crime rates in a person's home country and country of exploitation, and migration patterns of a person's home country and country of exploitation.

Health and Transportation
Presenters: Shukry Zablah, Bonnie Lin
Collaborators: Margaret Chien, Grace Seungin Yoo
Amherst College

The lack of transportation options is the third most commonly cited barrier to access health services for the elderly. In this project we created a web application that expands on the efforts of a pilot study done in Springfield, MA. Our aim is to begin to visualize the underlying problem connecting transportation and healthcare in the Pioneer Valley. By incorporating public transportation data, our project begins to unmask the potential of investing into developing a set of tools that help policy makers, hospitals, and patients make better decisions surrounding transportation options related to health services.

Is Marijuana Use Related to Popularity? A Social Network Analysis of College Students
Presenter: Crystal Zang
Smith College

Marijuana use among college students was found to associate with the use of the substance by friends, but no investigation of marijuana use and popularity among college students using social network analysis have been conducted. Using a peer network of 1257 college students, a network autocorrelation model was used to examine the association between marijuana use and popularity, measured by the number of nominations each student received. 48.7% (N=612) of students used marijuana and 26% (N=326) used marijuana at least twice in the past thirty days, identified as recent marijuana users. Recent marijuana use had a positive association with popularity after controlling for covariates. Moreover, the association differed by binge drinking and smoking behaviors. Multiple substance users received fewer nominations compared to students who only used marijuana. This analysis provides quantitative evidence of peer influence as an effect of social contact on drug use.

Speakers, Participants, and Key Personnel

KEYNOTE SPEAKERS

Scarlett Bellamy, Sc.D., is the Past-President of ENAR (Eastern North American Region) of the International Biometrics Society and a Fellow of the ASA. After 15 years at the University of Pennsylvania, she is now a Professor of Biostatistics and the Director of the Graduate Studies in Biostatistics in the Department of Epidemiology and Biostatistics, Drexel University Dornsife School of Public Health. A graduate of Hampton and Harvard Universities, her research interests include evaluating intervention efficacy of longitudinal behavioral modification trails, including cluster- and group-randomized trials. She is particularly interested in applying this methodology to trials addressing health disparities for a variety of clinical and behavioral outcomes. Currently, her collaborative projects include behavioral and clinical studies in HIV/AIDS, incentive-based behavioral modification interventions to improve cardiovascular health and outcomes to increase health-promoting behaviors. She is co-PI of the Data Coordinating Center for the Prematurity and Respiratory Outcomes Program (PROP) whose long-term goal is to improve respiratory outcomes during the first year of life after preterm birth in a cohort of extremely pre-term infants and is the PI of an NIGMS-funded workshop grant entitled "Fostering Diversity in Biostatistics" at ENAR. Dr. Bellamy serves as a statistical collaborator for the Philadelphia Veteran Affairs Medical Center's, Center for Health Equity Research and Promotion.

Fernando Pérez, Ph.D., is an assistant professor in Statistics at UC Berkeley and a Faculty Scientist in the Department of Data Science and Technology at Lawrence Berkeley National Laboratory. After completing a PhD in particle physics at the University of Colorado at Boulder, his postdoctoral research in applied mathematics centered on the development of fast algorithms for the solution of partial differential equations in multiple dimensions. Today, his research focuses on creating tools for modern computational research and data science across domain disciplines, with an emphasis on high-level languages, interactive and literate computing, and reproducible research. He created iPython while a graduate student in 2001 and co-founded its successor, Project Jupyter. The Jupyter team collaborates openly to create the next generation of tools for human-driven computational exploration, data analysis, scientific insight and education. He is a National Academy of Science Kavli Frontiers of Science Fellow and a Senior Fellow and founding co-investigator of the Berkeley Institute for Data Science. He is a co-founder of the NumFOCUS Foundation, and a member of the Python Software Foundation. He is the recipient of the 2012 Award for the Advancement of Free Software from the Free Software Foundation, and of the 2017 ACM Software System Award.

WELCOME AND OPENING REMARKS

Reneé H. Moore, Ph.D., is a Research Associate Professor in the Department of Biostatistics and Bioinformatics, Rollins School of Public Health, and Director of the Biostatistics Collaboration Core at Emory University. She earned a Bachelor of Science in mathematics and completed the secondary mathematics education program at Bennett College and earned her PhD in Biostatistics from Emory University. In her first faculty position at the University of Pennsylvania, Perelman School of Medicine, primary appointment in the Department of Biostatistics and Epidemiology and secondary appointment in the Department of Psychiatry, Dr. Moore was actively involved in designing and implementing clinical trials and was the faculty statistician in the Center for Weight and Eating Disorders. Next Dr. Moore taught up to seven classes per year and continued her obesity research at North Carolina State University, Department of Statistics. In 2015, Dr. Moore returned to Emory University as a Research Associate Professor in the Department of Biostatistics and Bioinformatics and as Director of the Biostatistics Collaboration Core. She spends her time mentoring, teaching, and collaborating with clinical investigators from Penn, Temple, UNC, Emory, and beyond. Dr. Moore is a Fellow of the ASA and is very active in both ENAR and ASA.

Biddy Martin, Ph.D., was elected the 19th president of Amherst College in June 2011. She had served as chancellor of the University of Wisconsin-Madison since 2008 and as Cornell University's provost from 2000 to 2008. Martin was raised outside of Lynchburg, Va., in rural Campbell County. She majored in English Literature at the College of William & Mary in Williamsburg, VA, and earned an M.A. in German literature from Middlebury College's program in Mainz, Germany. She earned her Ph.D. in German literature in 1985 from the University of Wisconsin-Madison. A distinguished scholar of German studies and the author of numerous articles and two books–one on a literary and cultural figure in the Freud circle, Lou Andreas-Salomé, and a second on gender theory–Martin served on the faculty of Cornell University for more than two decades. She began as an assistant professor of German studies and women's studies, earned tenure in 1991, and eventually served as chair of the German studies department, senior associate dean in the College of Arts and Sciences and provost from 2000 to 2008. In the latter position, Martin was the president's first deputy officer and reported to the president as Cornell's chief educational officer and chief operating officer. Martin was Cornell's longest-serving provost, and as chancellor at UW-Madison, Martin led successful initiatives to increase need-based financial aid, improve undergraduate education and enhance research. In October 2012, Martin was inducted into the American Academy of Arts & Sciences.

Barry Nussbaum, Ph.D., was the Chief Statistician for the U.S. Environmental Protection Agency from 2007 until his retirement in March, 2016. He started his EPA career in 1975 in mobile sources and was the branch chief for the team that phased lead out of gasoline. Dr. Nussbaum is the founder of the EPA Statistics Users Group. In recognition of his notable accomplishments he was awarded the Environmental Protection Agency's Distinguished Career Service Award. Dr. Nussbaum has a bachelor's degree from Rensselaer Polytechnic Institute, and both a master's and a doctorate from the George Washington University. In May, 2015, he was elected the 112th president of the American Statistical Association. He has been a fellow of the ASA since 2007. He has taught graduate statistics courses for George Washington University and Virginia Tech and has even survived two terms as the treasurer of the Ravensworth Elementary School PTA.

MASSMUTUAL REPRESENTATIVES

Jennifer Halbleib, B.A., earned her A.A. in Mathematics from Portland Community College as an Oregon Space Grant Consortium NASA Scholar and her B.A. in Statistics from Amherst College as a Transfer Scholar. Her interests include machine learning, massive datasets, TensorFlow, programming languages, and applied statistics. She's conducted research focusing on global census micro and macro data, population demographics, student success in STEM fields, and computer modeling of interrupted Markov Chains. In her free time, she writes fiction, grows plants, reads about finance, and tinkers with old Apple computers.

Christine Pfeil, B.A., M.B.A., heads up the Data Science Development Program at MassMutual. She works to build programs that support talent recruitment, training, and engagement. She engages communities and organizational partners to advance opportunities for careers and education in data science. Christine is interested in group dynamics and organizational psychology, and how environment, wellness, and productivity intersect in the workplace. She holds a B.A. in psychology and a Masters in Business Administration from Georgetown University.

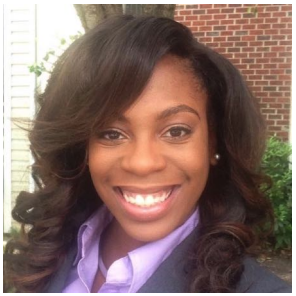
NETWORKING FACILITATOR

Adrian Coles, Ph.D., is a Statistical Research Scientist at Duke Clinical Research Institute. In this role, Dr. Coles collaborates with clinical investigators from multiple therapeutic groups to help design clinical studies. In addition to designing studies, one of his primary roles as a statistical investigator is to lead teams of junior statisticians and programmers through the operational phases of funded studies. Complementing his work as a clinical researcher, Dr. Coles is also an instructor in Duke University's Department of Biostatistics and Bioinformatics where he teaches survival analysis to graduate students. He holds an MS and a PhD in statistics from North Carolina State University, where he was the first African-American male to earn a doctorate from the time-honored program. Dr. Coles participates in multiple initiatives that serve underrepresented groups in his profession, in his community, and in his workplace.

SUMMER OPPORTUNITIES

Sherri Rose, Ph.D., is an Associate Professor of Health Care Policy (Biostatistics) at Harvard Medical School with a methodological focus on machine learning for causal inference and prediction. She also co-leads the Health Policy Data Science Lab where she directs projects in computational health economics and clinical informatics. Dr. Rose coauthored the first book on machine learning for causal inference, and her recent honors include an NIH Director's New Innovator Award to develop robust estimators for generalizability. She has served on multiple editorial boards, including as Associate Editor for the Journal of the American Statistical Association, and is the incoming 2019 Co-Editor of Biostatistics. Dr. Rose is the current Secretary/Treasurer and 2019 Chair-Elect of the ASA Biometrics Section. Prior to completing an NSF Mathematical Sciences Postdoctoral Research Fellowship at Johns Hopkins University, she received her Ph.D. in Biostatistics from the University of California, Berkeley and a B.S. in Statistics from The George Washington University. Dr. Rose comes from a low-income background and is committed to increasing diversity in the mathematical sciences. She has been a faculty mentor in the Math Alliance's Facilitated Graduate Applications Program for underrepresented students and Harvard's Summer Program in Biostatistics & Computational Biology for diverse undergraduates.

OPPORTUNITIES PANEL (NONPROFIT)



Felicia R. Simpson, Ph.D., is an Assistant Professor in the Department of Mathematics at Winston-Salem State University. Dr. Simpson received her BA in Mathematics from Albany State University (2010) and her Ph.D. in Biostatistics from Florida State University (2015). Prior to joining Winston-Salem State University, Dr. Simpson worked as a Mathematical Statistician at the Center for Drug Evaluation and Research at FDA, Division of Biometrics IV. Her research interests include design and analysis of clinical trials, aging, survival analysis, latent class analysis, and the study of rare infectious diseases. Dr. Simpson is an active member of the ASA and International Biometric Society. She is passionate about increasing the exposure of statistics and biostatistics among students in underrepresented populations. Dr. Simpson a member of the Committee on Minorities in Statistics from the ASA and currently serves as co-chair the for the ENAR Fostering Diversity in Biostatistics Workshop.

Sean L. Simpson, Ph.D., is an Associate Professor in the Department of Biostatistical Sciences at the Wake Forest School of Medicine (WFSM). His main research focus is on the development of statistical tools for the analysis of whole-brain network data. He is also involved in a number of health disparities related collaborations. In addition to his appointment at WFSM, Dr. Simpson is an adjunct associate professor at UNC - Chapel Hill, core faculty in Biomedical Engineering, affiliate faculty in Neuroscience, a member of the Laboratory for Complex Brain Networks, and an Affiliate of the Maya Angelou Center for Health Equity at WFSM. Dr. Simpson holds a BA in Applied Mathematics from Harvard University and a PhD in Biostatistics from UNC - Chapel Hill.

Alisa J. Stephens-Shields, Ph.D., is an Assistant Professor of Biostatistics at the University of Pennsylvania Perelman School of Medicine, where she was an inaugural recipient of the Department of Biostatistics, Epidemiology, and Informatics Distinguished Faculty Award. Her research focuses on clinical trials, clustered and longitudinal data analysis, and causal inference. Dr. Stephens-Shields collaborates in several clinical areas, including pediatrics, chronic pain, pharmacoepidemiology, and behavioral economics. She is a member of the editorial boards of Pharmacoepidemiology and Drug Safety and Epidemiological Methods and the 2019 Program Chair-Elect for the ASA Section on Statistics in Epidemiology. Dr. Stephens-Shields is a proud native of Teaneck, New Jersey, and holds Ph.D. and A.M. degrees in biostatistics from Harvard University and a B.S. in mathematics with minor in Spanish from the University of Maryland. She is a member of Phi Beta Kappa and Omicron Delta Kappa national honor societies.

Therri Usher, Ph.D., is a Mathematical Statistician in the Center for Drug Evaluation and Research at the U.S. Food and Drug Administration. Dr. Usher provides statistical support to the development and regulation of antiviral drugs. She also provides statistical support for patient-focused drug development in the area of antimicrobial products. Dr. Usher received her BS in Mathematical Sciences at the University of Texas at Dallas and her PhD in Biostatistics from Johns Hopkins University, where she contributed to methodological and collaborative research on how health disparities impacts the aging process. Dr. Usher currently sits on the Regional Advisory Board of ENAR.

OPPORTUNITIES PANEL (INDUSTRY)

Jason Bernard, M.S., is a Baseball Research Analyst at Major League Baseball Advanced Media (MLBAM). He is also an Adjunct Professor for the Preston Robert Tisch Institute for Global Sport at the New York University School of Professional Studies. He received a B.S. degree in Sport Management from St. John's University prior to earning his M.S. degree in Sports Business from New York University in 2015. Jason's work at MLBAM consists of providing statistical analysis to the data provided by the player tracking technology known as StatcastTM. This includes the creation of new stats used throughout the industry, such as Catch Probability, Outs Above Average, and Sprint Speed. His work as a professor at NYU includes teaching advanced analytics and critical baseball thinking to individuals considering a career in baseball operations or analytics.

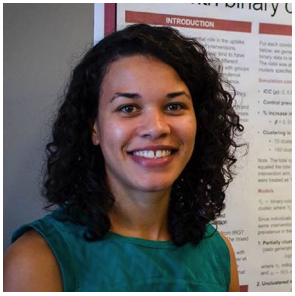
Portia Exum, M.S., is from Newark, NJ. She earned her Master of Statistics degree from North Carolina State University in Raleigh, NC in 2013 after completing her Bachelor of Arts in Mathematics and Statistics at Smith College in Northampton, MA. Her concentration in graduate school was Biostatistics, motivated by her undergraduate research with Dr. Nicholas Horton in missing data methods in survival analysis. As a graduate student she worked as a teaching and graduate assistant under Dr. Renee Moore teaching SAS labs and conducting a clinical trial for children with sleep apnea. Portia also worked as an intern with SAS Institute Inc. and was hired full time as an Analytical Software Tester after graduating from graduate school. Currently, she is a Tech Lead working on testing open source projects, improving numerical validation and automation across the QUEST testing division at SAS. In her spare time, she collaborates with clinicians on sleep and obesity studies.

Dionne Swift, Ph.D., joined Procter and Gamble as a Statistician shortly after receiving her Ph.D. in mathematical statistics from The Ohio State University in 2000. Dionne has worked in conjunction with engineers and scientists in the Corporate Research and Fabric & Home Care and Beauty Care Business Sectors. Currently, Dr. Swift is a Principal Statistician providing essential statistical support and consultation on issues of study design, analysis strategy, and interpretation of analysis results for Global Biotechnology Capability organization and Beauty Care Business Sector. Dr. Swift has extensive background and experience with statistical design, test method development and validations (i.e., GR&R's), statistical modeling and simulation in variety of areas - products development research, consumer research, image analysis and genomics. Her current research interests include experimental design, multivariate analyses, and prediction and classification methods in genomics, proteomics, and metabolomics.

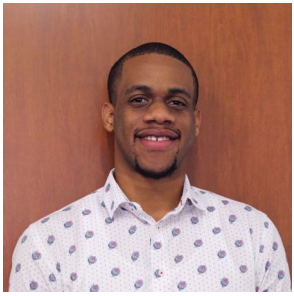
PROFESSIONALS BREAKOUT

DeJuran Richardson, Ph.D., was born and raised in Chicago, IL, and attended Northwestern University, receiving his BA, MS, and PhD in mathematics, with concentrations in statistics. He completed a postdoctoral fellowship in biostatistics at the University of Wisconsin-Madison, working under the direction and mentorship of David L. DeMets. Dr. Richardson currently serves as Professor of Biostatistics and Director of the Section of Biostatistics and Epidemiology, Department of Preventive Medicine, at Rush University Medical Center in Chicago. He is also actively engaged in the education of undergraduates, serving as the Ernest H. Volwiler Professor of Mathematics and Chair, Department of Mathematics & Computer Science, at Lake Forest College in Lake Forest, IL. With more than 25 years of experience, Dr. Richardson is a recognized expert in the conduct of large multi-center clinical trials. His research interests include the design, conduct, and analysis of behavioral clinical trials and issues related to the recruitment and retention of historically underrepresented populations in clinical trials. Dr. Richardson has served as an appointed member to several scientific review committees for The National Academies of Sciences, Engineering, and Medicine, a member of the Data Monitoring Committee of the National Cancer Institute's Eastern Cooperative Oncology Group (ECOG), and as an appointed member to numerous grant review panels for the National Institute of Neurological Disorders and Stroke; the National Cancer Institute; and the National Heart, Lung, and Blood Institute.

GRADUATE EXPERIENCE PANEL



Brittney Bailey, Ph.D., is a Postdoctoral Fellow and Visiting Assistant Professor of Statistics at Amherst College. She received her Ph.D. in the Interdisciplinary Ph.D. Program in Biostatistics and M.S. in Statistics at The Ohio State University and her B.A. in Mathematics with a minor in Statistics from Messiah College. Her research interests include the analysis of clinical trials with nested designs and methods for handling missing data in these designs.



Jemar Bather is a first-year doctoral student at the Harvard T.H. Chan School of Public Health where he will be pursuing a PhD in Biostatistics. He holds an MS in Applied Statistics from NYU and a BS in Statistics from Penn State. Under the guidance of Dr. Melody Goodman, he has built statistical models to identify and address health disparities in breast cancer, obesity, health literacy, and patient decision-making. This experience was just one of a few that led to him becoming a National Institutes of Health (NIH) Training Grant recipient at Harvard, which will allow him to further his research and work to eliminate health disparities.

Zae Higgins is a PhD student (ABD) in the Department of Biostatistics and Bioinformatics at Emory University. Prior to enrollment, he attended Wake Forest University where he received a BS in Mathematical Economics and MA in Mathematics. His research interests include neuroimaging statistics, network analysis, Bayesian statistics, and predictive models.

Gabrielle Saint Vil is a Master's student in biostatistics at the University of Connecticut. She earned her BS in statistics from the Centre de Techniques de Planification et d'Economie Appliquée (CTPEA) in Haiti where she was Assistant Secretary of her class and a Delegate then Treasurer in the Association de la Gent Universitaire Féminine (AGUF), dedicated to assist female students reaching their educational goals. Her research interests include the design and analysis of experiments in epidemiology and the development of statistical methods for the analysis of categorical data in the social sciences. After graduation in May 2019, she would like to pursue a doctorate in biostatistics in order to address the health-related needs among minorities.

CLOSING REMARKS

Nicholas Horton, Sc.D., is a Beitzel Professor of Technology and Society (Statistics and Data Science) at Amherst College, with methodologic research interests in longitudinal regression models, missing data methods, and statistical and data science education. He graduated from the Harvard TH Chan School of Public Health. Nick has received a number of awards including the ASA's Founders Award, the Waller Education Award, the William Warde Mu Sigma Rho Education Award, and the MAA Hogg Award for Excellence in Teaching. He has published more than 170 papers and co-authored a series of four books on statistical computing and data science. Nick is a Fellow of the ASA and the AAAS, served on the ASA Board, chairs the Committee of Presidents of Statistical Societies, chaired the ASA Section on Statistical Education, and serves as a member of National Academy of Sciences Committee on Applied and Theoretical Statistics.

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Nagambal Shah, Ph.D., is Professor Emerita of the Spelman College Mathematics Department where she has served for more than forty years. She received her Bachelor's degree in Mathematics and Masters in Statistics from India and M.S. and Ph.D. from University of Windsor in Ontario Canada. In 2001 she coordinated and hosted at Spelman College the first StatFest. In 2005 she spearheaded the efforts to host and obtain funding for the first Infinite Possibilities Conference. She is an advocate for diversity in graduate education, especially for minorities and women and received the 2001 Martin Luther King Jr. Community service Award for Excellence in Education and Diversity from Emory University. In 2003 she was selected as a SENCER (Science Education for New Civic Engagements and Responsibilities) faculty by AAC&U for her course CHANCE which was selected as one of four featured SENCER Models. She is the 2005 recipient of Spelman College Presidential Award for College Service, the 2006 Vulcan Materials Co. Teaching Excellence Award and 2014 True Blue Award. She is a Fellow of ASA, was a member of the Leadership Support Council and vice chair of the awards committee of ASA (2010-2012) and has also served as the past chair of ASA's Committee on Minorities in Statistics.

Vladimir J. Geneus, Ph.D., is a Research Scientist at Eli Lilly and Company. Vladimir serves as the lead statistician to help design clinical studies and experimental designs both during their early and late phases. Prior to his position at Eli Lilly, Vladimir gained various experience in statistics ranging from biopharmaceutical settings; where he interned at Pfizer Inc., to government positions; working for Florida's Department of Education, and academic settings, serving as a statistician for University of Arkansas' Medical School. His interests include nonparametric statistics, design of experiments, methodology development, and Bayesian adaptive designs. Vladimir graduated from the University of Massachusetts, Amherst with a BS in Mathematics, from Northeastern University with an MS in Applied Mathematics; and from Florida State University with a MS and a PhD in Statistics. Vladimir remains passionate and optimistic as ever for more students, especially minorities, to take interest and be engaged in statistics.

Nancy Glenn Griesinger, Ph.D., is a Professor at Texas Southern University in Houston Texas. Her job duties are teaching, research, and service. She teaches both mathematics and statistics at the undergraduate and graduate level. Her research area of expertise is nonparametric statistics. Her service duties include various campus, national, and international committees and editorial boards. In addition to her full-time position as a professor, Dr. Griesinger owns Mobile Math, LLC.–a mathematical tutoring and statistical consulting company (mobilemathlab.com). Mobile Math offers four main services, (1) STEM tutoring from grade school to graduate school (2) STEM degree consulting (3) Master's and Doctoral degree advising and (4) Corporate statistical consulting.

Adriana Pérez, Ph.D., is Professor at the Department of Biostatistics and Data Science, University of Texas Health Science Center at Houston, School of Public Health, Austin campus. Dr Pérez has engaged in a wide range of research projects: theoretical model evaluation accounting for imputation uncertainty, fitting complex data, analysis of cluster randomized community trials, clinical trials and analysis of food intake involving measurement error. Dr Pérez has expertise in conducting and disseminating research findings of population- and clinical-based studies of adolescents and adults, as well as developing new statistical methodologies. She is interested in promoting diversity and fostering recruitment, retention and promotion of minorities in our field. Dr. Pérez is an active member of the International Biometric Society and the ASA. She has held numerous elected positions in professional organizations including co-chairing ENAR's diversity workshop from 2009-2011, member of the ASA Committee on Minorities Statistics, organizer member of the StatFest since 2016.

Michael M. Thomas, M.S., is a Biostatistician working for the Georgia Department of Public Health (DPH). He graduated from Kennesaw State University's Honors Program with a B.S. in Mathematics, minoring in Applied Statistics and Computer Science in 2014. Michael also received an M.S. in Biostatistics from the Drexel University's Dornsife School of Public Health in 2016. During his time at Drexel, he contributed to projects which informed autism policy in Pennsylvania as a statistical programmer at Autism Services, Education, Resources, and Training. He worked as a tutor for high school and college students and volunteered as a mentor in a local high school's internship program. Michael's work at the DPH contributes to a module of Georgia's notifiable disease surveillance system. His primary academic interests are statistical programming languages, disease surveillance, and health of intellectual and developmental disability populations.

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ASA SECTION ON STATISTICS IN EPIDEMIOLOGY

The Section on Statistics in Epidemiology welcomes American Statistical Association interested in statistical methods and applications in epidemiology. The section sponsors Young Investigator Awards, given out annually at ASA's annual meeting, the Joint Statistical Meetings (JSM), which provide recipients with funds to help offset the cost of attending JSM. Each year the Breslow Award is given to the top paper submitted; in addition, several other awards are given to young investigators making valuable methods contributions to statistics and epidemiology. Developing the careers of young investigators working in statistics and epidemiology is a priority of our Section. In recent years, we have supported mentoring both within our section and in the ASA more broadly. We have a mentoring program; if you would like to be as a mentor, a mentee, or a Mentoring Committee member, you can find more information on our website, http://community.amstat.org/sie/home

Each year we sponsor several sessions and activities at JSM. We sponsor invited sessions and topic-contributed sessions selected from the suggestions of Section members. We have an open business meeting each year; all members are invited to learn about the activities of the Section and to suggest new activities or topics for discussion. In addition, we have an awards night and mixer at JSM each year - this fun evening is open to all JSM attendees. We introduce the Breslow Award winner as well as the other Young Investigator Award recipients and celebrate their accomplishments. Every second year, we announce the Mantel Award recipient. The Mantel Award is given every other year to an established researcher for their lifetime contributions to Statistics and Epidemiology. The awards night and mixer is a great way to meet and get to know other members better – please come and meet us!

HEALTH POLICY AND DATA SCIENCE LAB

The Harvard Medical School Department of Health Care Policy's Health Policy Data Science Lab is honored to support StatFest. We are an interdisciplinary group of researchers who develop and use quantitative methods to solve problems in health policy with big data. Lab members have varied statistical viewpoints and areas of interests, and we know that science is stronger when diverse viewpoints and groups of scholars contribute.

Learn more about us at www.healthpolicydatascience.org and @HPDSLab on Twitter.

ASA HEALTH POLICY STATISTICS SECTION

The formation of the Health Policy Statistics Section (HPSS) of the American Statistical Association (ASA) coincided with the substantial growth of health services and outcomes research that was taking place in that time period. The efforts to form the new section were also closely linked with the organizing of the first conference dedicated to statistical issues and methods of health services research studies. The mandate of the HPSS is to focus on strategies for improving the quality and reducing the cost of health care in the US and abroad through systematic use of quantitative statistical methods. Members receive an invitation to the annual business meeting held during the Joint Statistical Meetings. Since 2002, a student paper competition has been held and in recent years this has been contested by up to 70 students. The five winners present their work in a special session at the JSM and receive their awards at the annual business meeting. Please contact Chair of the HPSS, Dr. Kelly Zou (Kelly.Zou@pfizer.com) or Vice Chair, Dr. Ruth Etzioni (REtzioni@fhcrc.org) if there is an interest in being a student member. A list of officers are provided here: http://ww2.amstat.org/sections/officers.cfm?txtComm=SHPSS

ASA STATISTICAL COMPUTING SECTION

You have been at **StatFest 2018**. What's next?!? Do you like working with data, playing around with statistical software, or competing with other students exploring challenging data sets? If so, consider becoming a student member of the **ASA Statistical Computing Section**! In our section, you can:

- participate in our annual **Data Expo** (see here for the 2018 Data Expo: http://community.amstat.org/stat-computing/data-expo/data-expo-2018 -- 2019 coming soon!)
- participate in our **Student Paper Competition** (http://stat-computing.org/awards/student/index.html)
- develop some major statistical software package for the **John M. Chambers Statistical Software Award** (http://stat-computing.org/awards/jmc/index.html)

ASA Student Memberships cost $25.00. Start at https://www.amstat.org/ASA/JoinRenew/JoinMemberType.aspx to join the ASA. Be sure to click on **Select Sections** and then choose our **Statistical Computing Section**. Section membership is free in the first year and only costs $1.00 in each following year.

I hope to welcome you as a new member of our section or see you as a participant in one of our competitions! Jürgen Symanzik, Chair, Statistical Computing Section.

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