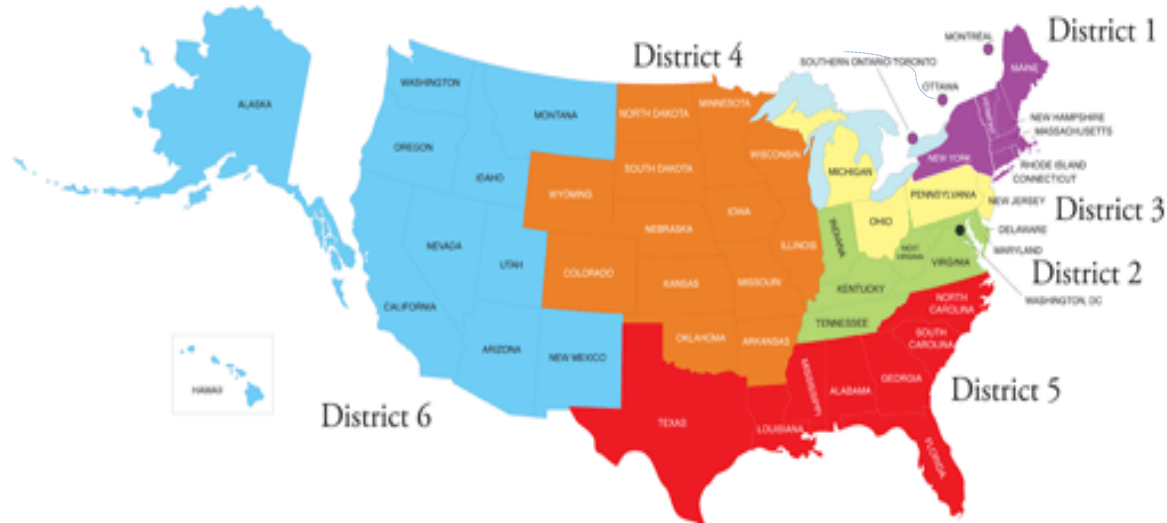# *CHAPTER CHATTER*

Summer 2017, Volume 7, Number 1

John D. Keighley, Editor

A publication of the American Statistical Association

Council of Chapters Governing Board (COCGB)

http://www.amstat.org/chapters/coc.cfm

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(*With* *hyperlinks*)

A BRIEF INTRODUCTION

Welcome to the summer 2017 issue of *Chapter Chatter*, the newsletter for and about ASA Chapters. The Council of Chapter Governing Board(COCGB) established this publication to foster improved communications i) between the COCGB and Chapters, and ii) among Chapters by providing a forum for spreading news throughout the statistics community about ASA Chapter initiatives and activities.

Let the Council of Chapters know if you have any suggestions about this newsletter (its content, format, distribution, etc.) We are interested in suggestions on how to more effectively facilitate communication between chapters and enable you to use the COCGB as a resource.

In this issue of *Chapter Chatter*, contributors are informing us of events and resources available to all chapters. There is an update on the new program that is being offered from ASA to the ASA chapters. This program titled "Chapter Stimulus Funding" is meant to increase chapter enthusiasm and grow in membership. A short comment on the program which I have included from the initial announcement is included again in this issue, which includes a link to the program

details on the ASA website. Please read the details and start your planning for this remainder of this year asap. Again, this funding is being provided by ASA to help your chapter fund events, etc to make your chapter "better". There are many different measures of better. Increases in membership, bringing in a speaker that you might not have been able to bring otherwise, etc.

JSM 2017 is next week and it will be followed by the rush of preparing for the fall semester. I would like to publish one more chapter chatter this year. If you haven't planned an event using stimulus money than that needs to be started soon. Have a wonderful end of summer and fall of 2017.

This newsletter has asked for articles to follow a format, length, size of pictures, etc. I have followed the formatting of my predecessors but in this edition there are some pictures that don't fit that format. So I didn't force some of the articles to fit the standard format for this issue.

John Keighley
Editor

ASA CHAPTER STIMULUS FUNDING PROGRAM

From Council of Chapters Governing Board

A new national ASA program, called "Chapter Stimulus Funding," has begun that allocates funding to chapters designed to elevate chapter enthusiasm and growth in the membership. A key component to the program is that the funds can only be spent on chapter activities that have the potential for a broad impa--ct across the chapter and for the chapter membership. Complete details on how the program works can be found at http://community.amstat.org/coc/chapterresources/chapterstimulus

The ASA and the COCGB hopes this new program will spur excitement and growth in chapter memberships and chapter activities. The program will be reviewed at year-end 2017 to measure its effectiveness. Chapters are encouraged to take advantage of the great opportunity to inject fun and usefulness into their events.

This is a reprint of the announcement from last fall.

MESSAGE FROM YOUR COC BOARD

By Marianne Messina

Dear Chapter Representatives and Presidents,

As you know this year's JSM will be held in Baltimore Maryland and your Council of Chapters have been very busy in preparation for this annual event!

Your Chapter Representative is encouraged to attend both Council of Chapter (CoC) Meetings to be held on **Tuesday August 1st**:

- **7:00 - 10:00AM   CoC Business Meeting and Breakfast**
- **4:00 - 6:00 PM   Coc Officer Appreciation Reception and Workshop**,

 hosted by our CoC Chair - Elect, Alexandra Hanlon.

They will both be held at the Hilton in Key Ballroom 1; food & refreshments will be provided.

These meetings will allow chapters the opportunity to share information among one another. *How often do you get to chat with your neighbor chapter face-to-face?* In particular, the late afternoon workshop will be a discussion of how our ASA Chapter Stimulus program has been used to increase engagement and membership.

More importantly both sessions are opportunities to speak about your needs and learn from other chapters how they are dealing with similar issues. Therefore it is very important that if your chapter representative cannot attend to please send another chapter officer in their place.

I would also encourage you to attend the two **Invited Sessions**, co-sponsored by your Council of Chapters:

| 7 * ! | Sun, 7/30/2017, 2:00 PM - 3:50 PM | CC-317 |

New Developments in Predictive Modeling of High-Dimensional Data — Invited Papers

Council of Chapters , Section on Statistical Learning and Data Science , Statistics in Business Schools Interest Group

Organizer(s): Anthony J Babinec, AB Analytics

Chair(s): Anthony J Babinec, AB Analytics

2:05 PM   ROS Regression: Integrating Regularization with Optimal Scaling for Predictive Modeling of High-Dimensional Data — **Jacqueline J Meulman, Leiden University**

2:30 PM   Comparing Correlated Component Regression with Lasso for Variable Selection in Logistic Regression with High-Dimensional Data — **Jay Magidson, Statistical innovations**

2:55 PM   New Problem Settings for Predictive Modeling of High-Dimensional Data — **Vladimir Cherkassky, University of Minnesota**

3:20 PM   **Discussant:** Yunzhang Zhu, Ohio State University

3:45 PM   **Floor Discussion**

| 318 | Tue, 8/1/2017, 10:30 AM - 12:20 PM | CC-341 |

Analyzing Government Data with Missing Item Values: a WSS Invited Session — Invited Papers

Host Chapter , Survey Research Methods Section

Organizer(s): Phillip Kott, RTI

Chair(s): Phillip Kott, RTI

10:35 AM   Measuring Cross-Country Differences in Misallocation — **Kirk White, U.S. Census Bureau** ; Mitsukuni Nishida, Johns Hopkins Carey Business School ; Martin Rotemberg, New York University ; Amil Petrin, University of Minnesota-Twin Cities and NBER

11:00 AM   Analyzing the Multiply Imputed Accelerometer Data in the 2003-2004 National Health and Nutrition Examination Survey — **Benmei Liu, National Cancer Institute** ; Mandi Yu, National Cancer Institute ; Barry I. Graubard, National Cancer Institute ; Richard Troiano, National Cancer Institute ; Nathaniel Schenker, Retired

11:25 AM   Recommended Methods for Handling Missing Item Values in Regression Analyzes of the National Survey on Drug Use and Health — **Peter Frechtel, RTI International** ; Phillip Kott, RTI ; Rachel Harter, RTI International ; Susan Edwards, RTI International ; Jeff Laufenberg, RTI International ; Stephen Tueller, RTI International ; Jiantong Wang, RTI International ; Sarra Hedden, Substance Abuse and Mental Health Services Administration ; Jonaki Bose, Substance Abuse and Mental Health Services Administration ; Rebecca Ahrnsbrak, Substance Abuse and Mental Health Services Administration ; Rachel Lipari, Substance Abuse and Mental Health Services Administration ; Matthew Williams, Substance Abuse and Mental Health Services Administration

11:50 AM   Regression Power Analysis When Regressors Are Matrix-Sampled — **Stanislav Kolenikov, Abt Associates** ; Heather Hammer, Abt Associates

12:15 PM   **Floor Discussion**

If you have any questions please don't hesitate to ask!

Very warm regards,

Marianne Messina

Council of Chapters Chair (2017)

COUNCIL OF CHAPTERS UPDATE ON TRAVELING COURSES

By Mimi Kim

Last winter, 17 chapters applied for the 2017 ASA Council of Chapter's Traveling Course program, and each one was given the opportunity to host one of the four short courses that were offered in the program this year. While some chapters are still scheduling their Traveling Course, others have begun corresponding with the course instructor regarding local arrangements. If you are in the area, we hope that you will consider supporting the local chapter by attending the Traveling Course. Please contact the chapter executive committee to obtain additional information regarding the cost of the course (prices will vary by chapter). Additional information will be provided as the remaining chapters find an agreeable schedule with the instructor and chapter members.

March:
- March 31: Oklahoma (Quantile Regression : Yonggang Yao)

April
- April 28: Central Arkansas (Incomplete Data Analysis: Ofer Harel)

June:
- June 2: Snake River (Incomplete Data Analysis: Ofer Harel)

September:
- September 9: Cleveland (Longitudinal Data Analysis: Garrett Fitzmaurice)

- September 15: Philadelphia (Incomplete Data Analysis: Ofer Harel)
- September 28: San Antonio (Quantile Regression: Yonggang Yao)
- September TBD: San Diego (Adaptive Designs: Christopher Coffey)

October
- October 5: Washington DC (Adaptive Designs: Christopher Coffey)
- October 13: Boston (Longitudinal Data Analysis: Garrett Fitzmaurice)
- October 20: Ann Arbor (Incomplete Data Analysis: Ofer Harel)
- October 20: Southern California (Quantile Regression : Yonggang Yao)
- October 21: Orange County/Long Beach (Quantile Regression : Yonggang Yao)

November
- November 5: Wisconsin (Quantile Regression : Yonggang Yao)
- November 7: Hawaii (Longitudinal Data Analysis: Garrett Fitzmaurice)

Fall/Winter (Exact Date TBD)
- Princeton/Trenton: (Adaptive Designs: Christopher Coffey)
- Connecticut (Incomplete Data Analysis: Ofer Harel)
- Ottawa (Quantile Regression : Yonggang Yao)

ALABAMA CHAPTER HOSTS MINI-CONFERENCE

By Bob Oster, PhD
Alabama Chapter Treasurer

The Alabama chapter hosted a mini-conference on November 11 at the University of Alabama at Birmingham (UAB). Approximately 50 current and prospective chapter members attended. These participants came from Alabama and Mississippi, and were primarily affiliated with UAB, the University of Alabama (Tuscaloosa), Mississippi State University, and the University of Mississippi.

The keynote speaker was Dr. Barry Nussbaum, ASA President-Elect. The title of his talk was "It's Not

What We Say, It's Not What They Heard, It's What They Say They Heard." His primary premise was that even when we as statisticians carefully present our results and conclusions to decision makers, the message the recipients (decision makers) receive may not be what we thought we delivered or what we thought that they heard. He illustrated what one should do and what one should not do through examples used in court cases, executive documents, and material presented for the President of the United States.

Dr. Nussbaum gave his presentation with just the right mix of seriousness and humor, and his talk was well received.

Conference student presenters and their topics included the following: Sheida Raihi of Mississippi State University presented on "Measuring and Testing Central Symmetry in Bivariate Settings"; Yuliang Liu of UAB presented on "Comparison of Single Event, Competing Risk and Frailty-Based Models for Competing Risks Data"; Curry Hilton of the University of Alabama presented on "Statistical Process Measurement (spm) R Package"; and Yan Li of UAB presented on "Sample Size Re-estimation for Confirmatory Multi-Arm Trials with Normal Outcomes".

The chapter also held a very productive business meeting. Topics of discussion included the governing structure of the chapter, and in particular, writing an up-to-date chapter constitution, proposed activities for 2017 (including another mini-conference), and various ways to promote the chapter and participation in chapter activities.

ANN ARBOR AND DETROIT ASA CHAPTERS

JUDGE 2017 MICHIGAN SCIENCE AND ENGINEERING FAIR

By Karry Roberts, Detroit Chapter Secretary

*Photos Courtesy of Anamaria Kazanis, District 3 Vice Chair and
Tim Fino, Michigan Science and Engineering Fair Director*

Upgrading our long-standing annual tradition, the Ann Arbor and Detroit Chapters of the ASA went to the state level of competition this year as a Special Awards judging committee recognizing statistical content in the science posters at the Michigan Science and Engineering Fair (MSEF).   The fair was held at Kettering University in Flint, Michigan on Saturday, April 1.   The MSEF displays the best high school level posters from all the regional science fairs. The students are present to explain their projects. Winners in various science categories at this fair go on to the Intel International Science and Engineering Fair (ISEF) in Los Angeles. This year, the MSEF had a total of 48 posters.   It was an all-day event, with an award ceremony at the conclusion. We announced our Statistics usage awards as part of this ceremony and invited the students to come up onto the stage.
This year our team of seven statistics judges included Anamaria Kazanis, District 3 Vice Chair, Karry

Roberts, Lance Heilbrun, and David Corliss from the Detroit Chapter, and Mary Ann Ritter, Changying

(Angela) Liu, and MacKenzie Fankell from the Ann Arbor Chapter.

As a Special Awards team, we were specifically looking to "promote the practice and profession of statistics". We reviewed all posters and discussed applications of statistics with the students who were present at the fair with their posters. We selected those posters with good statistical content for recognition certificates and decided as a group which posters had the most effective use of statistics for our scholarship awards. Thanks to an anonymous donor from the Ann Arbor Chapter, funds from the two chapters, and support from the ASA Chapter Stimulus Fund we were able to give the following awards:

$500 Award of Excellence

- "Determining Light Source Location Using Machine Learning and Solar Cells", by Malini Mukherji from Notre Dame Preparatory School, Pontiac

$250 Award of Merit

- "Investigating Tuned Magneto-Rheological Reservoirs, Compression Systems", by Clara Wagner from Saginaw Arts & Sciences Academy, Saginaw

$100 Awards of Merit

- "Bayesian Probability Technique to Estimate Schizophrenia Genes", by Aarushi Ganguly from Greenhills School, Ann Arbor
- "Mat Innovation for Mounting Ceramic Substrates", by Rohit Mital from Indus Center For Academic Excellence, Lathrup Village
- "Wind Noise Reduction Device for the Hearing Impaired", by Tina Pakko from Dearborn Center for Mathematics, Science, and Technology, Dearborn

- "Measuring Expression for Novel Variations in Enhancers Using STARR", by Collin Wang from Detroit Country Day School, Beverly Hills
- "An Integrated Approach to Novel TSP-Based Clustering Algorithms", by Hongxiang Zhao from Detroit Country Day School, Beverly Hills

Additionally, we gave 14 Recognition Certificates with copies of Significance magazine.

Five of our special awards students will be attending the ISEF as recipients of the Grand Awards from the state or regional level of the science fair. Clara Wagner was a State Grand Award winner, Malini Mukherji was a Regional Grand Award winner, and three of our recognition students were also selected as Regional Grand Award winners.

This event was an extension of special awards judging that we have done for several years jointly with the Detroit and Ann Arbor Chapters when the smaller Southeast Michigan Science Fair was held for a subset of the counties in Southeast Michigan. This year, that fair did not occur and those counties were included in the much larger regional science fair at Cobo Hall in Detroit. Instead of having our small team take on the very large regional Cobo Hall event it was suggested that we consider the MSEF. We appreciated meeting the enthusiastic students and finding many applications of statistics used with the scientific method in the projects. We really enjoy holding this joint chapter Statistics judging event every year and it was inspiring to move up a level to the MSEF.

BOSTON CHAPTER

By Stan Morse and Miriam Chernoff

Statistics in the U.S. started right here is Boston. The ASA's first president, indeed, was a professor of economics at MIT. With this storied history and the incredible number of both academic institutions and pharmaceutical companies still located in Boston, it is not surprising that The Boston Chapter of the American Statistical Association (BCASA)—it really should be called the New England chapter because it covers all of New England, from Rhode Island in the south to the mountains and forests of Vermont and Maine in the far north it remains, as it should be, one of the association's largest and most active chapters.

We're proud of this, we can't help being potential empire builders. However, we are statisticians; not contractors or politicians. So to expand our membership and encourage wider involvement we finally undertook a long delayed, systematic survey of actual and potential members. Of 1162 ASA members 558 were BCASA members. We sent the survey to all. The response rate was about 27% with 313 responses, 62% of whom were BCASA members. About 2/3 of the respondents answered at least some of the identifying questions we asked (e.g., age and sex) while about 50 gave us their names and addresses and expressed an interest in engaging with the Chapter. We're still analyzing the results and looking forward to recruiting more active BCASA members from our disparate constituencies.
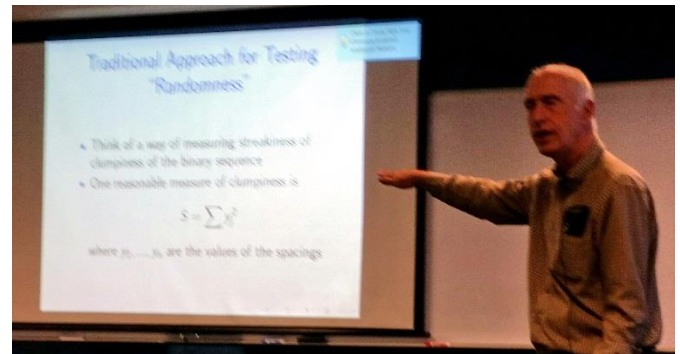
This year a new leadership group took over the BCASA. Our current president is Greta Lung and vice president is Miriam Chernoff. Adding to this international cast of characters is a new program chair, Fotios Kokkotos.

But enough bureaucracy. People who unfortunately don't live in our area, even if they might support the Red Sox, missed a wide range of exciting programs. These ranged from sessions on R and R Studio (September), on analysis of spatio-temporal data (April), to confidence levels (October), through gun violence (May), and several sessions of the more prosaic and traditional topic of clinical trials (also in May). There's much more to come this year! Our next highlighted event is the New England Symposium on Statistics in Sports (NESSIS) at Harvard University on Sep 23, 2017.

CINCINNATI CHAPTER

*By Emeritus Professor Martin Levy,
President of the Cincinnati Chapter of the ASA*

On October 4, 2016, at an officers' luncheon, the current officers of our Cincinnati Chapter of the American Statistical Association inaugurated Annette Christianson as secretary/treasurer and bade farewell to the outgoing president, Steve Bertke.

We held our fall meeting on November 8, 2016. About 45 members attended including several members of the BearStats Club, the University of Cincinnati Student Chapter of the ASA. Martin Levy, current president of the chapter and advisor to the BearStats reviewed events for the last 6 months including a summary of the activities of the BearStats Club. He mentioned that a panel discussion on September 23, 2016 consisted of seven volunteers from the statistical community engaging in a discussion/Q&A session to talk to the BearStats about and answer questions about graduate coursework they found helpful or wish they had in their position doing statistical work. Over 50 students attended that session and the reviews were excellent. After this, Prof. Levy introduced the featured speaker, Prof. Jim Albert from Bowling Green State University who spoke on "**A Multilevel Bayesian Approach for Modeling the Time-to-Serve in Professional Tennis".** Earlier in the day, at the University of Cincinnati Prof. Albert addressed a meeting of the BearStats and statistics faculty on a baseball topic, Detecting Streakiness Using a Bayes Factor. Money from the ASA stimulus fund helped defray transportation and lodging costs associated with Prof. Albert's visit to Cincinnati

On March 11, our chapter sponsored prizes at the Cincinnati Science and Engineering Exposition held at the University of Cincinnati. Special judges were Eileen King, our chapter representative to the ASA, and her husband Dennis King. The aim of the awards was to recognize science projects that demonstrated excellence in using statistical principles as part of their enterprise. We awarded $50 prizes to each of the winners in the elementary, middle, and high school levels. We sponsor such prizes each year.

Jeremy Christman, our vice president, spoke to two courses each at Lakota East and Lakota West high schools about careers in statistics. Outreach to local K-12 teachers has been a topic of interest to the officers of our chapter for the last couple of years and it is our hope to engage in more of this type of activity in the future.

At our last officers meeting, held July 12, 2017, we hosted Jessica Kohlschmidt from The Ohio State University who is endeavoring to resurrect the defunct Columbus ASA chapter. She will meet with one or more of our officers at the upcoming JSM to discuss issues involved in running a successful chapter.

We are planning our next business meeting in the first part of September. As is our custom, we will also have a statistical speaker, this time from the government sector. Our colleague and member of the local chapter, Karl Sieber from NIOSH has agreed to speak on his work in transportation. He has worked on a large (national) survey of health and working environment of long-haul truck drivers. His presentation will show not only the use of statistics in survey planning/analysis, the interplay with epidemiological analysis, but also the interplay between research findings and policy. Karl's presentation should be interesting for our diverse group.

Elections for the new secretary/treasurer and chapter representative will take place in September as well. In addition, a new advisor for the BearStats will have to be recruited.

CONFERENCE ON STATISTICAL PRACTICE

Provided by CSP Steering Committee

CSP2017

The 2017 Conference on Statistical Practice was held Feb 23-25 in Jacksonville, Florida with 450 participants. The conference began with several short courses and an opening mixer, followed by two days of presentations, poster sessions, tutorials, and practical computing demos. Keynote speaker David Banks set the tone of the conference with his presentation "Snakes and Ladders: Challenges in Forging a Career in Statistics."

As a new feature for this year's conference, CSP formed a Face-to-Face Task Group to facilitate networking for conference attendees and allow participants to engage and connect with each other easily. We arranged several topic-oriented dinners:

- "Aspiring and Practicing Statistical Consultants" led by Isabella Ghement,
- "Data for Good" led by David Corliss,
- "Misleading Graphs" led by Naomi Robbins, and
- "Organizational Impact, Analytics Change, and Soft Skills for Success" led by Terri Henderson.

Thirty people joined in the "Legends and Liars" walking tour led by a local historian and storyteller on Friday evening.

As in previous years, we continued the CSP Mentoring Program designed to establish a one-to-one mentoring relationship between junior and senior statistical practitioners and provide an opportunity to enhance personal and professional development goals.

By design, the CSP conference space is centered around one main common area which holds the exhibitor booths, opening mixer, poster sessions, and breakfast and any refreshments. This physical arrangement, along with the small conference size, provides a great opportunity for continuous networking throughout the conference. It is also a wonderful opportunity for participants to enhance their networking skills in a smaller conference environment.

JSM2017

See the best of CSP at JSM at the session "Communication and Collaboration: Greatest Hits from CSP!" (2 pm Sunday). CSP has a unique focus on communication, collaboration, and career development, providing participants with tools for leadership and external communication, with the goal of empowering participants to make a positive impact on their organizations. This session will include some of the most popular talks in this theme:

- "Coming Out of the Casket: Techniques for Becoming a More Effective Speaker" by Eric Stephens,
- "The Face of the Statistical Consultant" by Phil Scinto,
- "Explaining Statistics to Non-Statisticians" by Heather Smith,
- "Using Video to Improve Your Collaboration Skills" by Eric Vance, and
- "Some Lessons I've Learned on Leadership and Influence During My Career" by Nat Schenker.

CSP2018

Plans for CSP2018 are well underway. The program includes 12 short courses and tutorials, with topics covering collaboration essentials, mixed models, introduction to big data analysis, data cleaning in R, among others. The steering committee is in the process of winnowing 97 abstract submissions down to 24 oral presentations. Poster presentation abstracts are being solicited now until Aug 31. See for yourself at CSP2018, Feb 15-17 in Portland, Oregon.

GEORGIA CHAPTER

Provided by Riad Elmor

The Georgia ASA Chapter's goal is to promote statistics for students, faculty, and industry professionals from all across Georgia. We hosted several successful events in 2017 and look forward to presenting new initiatives this year to support our members and statisticians throughout Georgia.

Our chapter hosted its annual ASA meeting on February 10, 2017 at the Department of Biostatistics and Epidemiology at Augusta University. Dr. Arnold Stromberg, Chair of the Department of Statistics at the University of Kentucky, was the keynote speaker. He presented his work on Feasibility Solution Algorithms with an associated Shiny application in R. We thank him for being the keynote speaker at this event.
The Chapter hosted the first ASA GA Chapter Student Poster Competition at the 5th Annual Workshop on Biostatistics and Bioinformatics at Georgia State University in May 2017. Thirty graduate students presented their research and competed in the poster competition. Our congratulations go out to the winners: Scott Bruce (Temple University), Xinyi Li (Iowa State University), Yikai Wang (Emory University), Xue Yu (Georgia State University), and Ruizhi Zhang (Georgia Institute of Technology).
The Southern Regional Council on Statistics 53rd Summer Research Conference was co-sponsored and hosted June 4-7 by Emory University. The event took place at Jekyll Island, GA, with keynote speakers Dr. Marc Genton (King Abdullah University of Science and Technology) and Dr. Marina Vanucci (Rice University).

The Rollins School of Public Health at Emory University hosted the 2017 Donna J. Brogan Annual Lecture on April 10th. The keynote speaker was acclaimed academic statistician Dr. Marie Davidian (North Carolina State University). The University of Georgia, Department of Statistics hosted its annual Bradley Lecture on April 21st with keynote speaker and COPSS Presidents' Award recipient Dr. David Dunson (Duke University).

Three GA statisticians were elected as 2017 ASA Fellows: Dr. Xiaming Huo (Professor, Georgia Institute of Technology), Dr. Ping Ma (Professor, University of Georgia) and Dr. Renee Moore (Research Associate Professor, Emory University). In addition, the GA ASA Chapter recognizes the following accolades: Dr. Limin Peng (Professor, Emory University) was named recipient of the 2017 Mortimer Spiegelman Award, recognizing her as a premier biostatistician under the age of 40; Dr. Lance Waller (Professor, Emory University) was selected to present the 2017 Lowell Reed Lecture at the American Public Health Association Annual Meeting in November 2017; Dr. Jie Chen (Professor, Augusta University) began serving as Editor-In-Chief of the Journal of Applied Statistics (JAS) in January. We congratulate these faculty for their exemplary achievements and are proud to have them a part of the GA ASA Chapter family.

Supporting student research will be a major pillar of the GA ASA chapter moving forward. We plan on sponsoring a second GA Chapter student poster competition this year at Georgia Statistics Day on

October 9, 2017, to be held at Emory University. Georgia Statistics Day is a celebration of statistics, sponsored by the University of Georgia Department of Statistics, Industrial and Systems Engineering at Georgia Institute of Technology, and the Department of Biostatistics and Bioinformatics at the Rollins School of Public Health at Emory University.

Lastly, the GA ASA Chapter will begin hosting a series of online webinars. This webinar series will be presented by invited speakers on topics in statistical methods, training, career development, and teaching for students, faculty, and statisticians throughout Georgia. We plan on launching the series this fall in tandem with a revamped website release. Both these efforts aim to help increase ASA GA chapter's impact and outreach among statisticians in GA.

Georgia Statistics Day, October 10th 2016

Scott Bruce (Temple University), one of the GA Chapter Student Poster Competition winners at the 5th

Annual Workshop on Biostatistics and Bioinformatics, with poster award committee members (Yichuan Zhao (Chair), Yajun Mei, Ying Guo, Jie Chen)

HARRISBURG CHAPTER

Provided by Kevin S Robinson

York Science Fair Winners

A 9th grader from Central York won the junior division with a project aimed at getting students to reduce the decibel level on their headphones. This student used paired t-tests and confidence intervals to compare the effect of different communication venues highlighting the dangers of playing music too loudly. Treatments included a control (no communication), posters, school announcements, and direct emails to students. Results suggested that direct emails were the most effective means of getting students to tone down the volume. Although treatments were not randomized, the student recognized and discussed how this may have impacted the results, and how it might be addressed in the future.

A 10th grader from Delone Catholic won the senior division with a project on the relationship between scholastic performance and quality of health among school aged children. This student identified and used descriptive statistics to summarize demographic characteristics, scholastic performance, and health metrics, and inferential statistics (chi square tests and Mantel-Haenszel tests) to explore relationships and make conclusions. Results suggested:

- Younger Hispanic students (3rd-5th grade) are more likely to be classified as overweight and are more likely to have poor reading and writing scores than Caucasian students.

- Scholastic performance increases as the likelihood of being classified as unhealthy (weight) decreases

- Poor reading and writing skills for school age children (3rd-5th grade) predicted obesity in upper school grades (10th-12th) for Hispanic students. However, as Hispanic reading and writing skills increased over time, a corresponding movement towards healthier weights was observed. The student hypothesized that as student language skills improved, a better understanding of health risks positively affected health outcomes.

Capitol Area Science Far Winners

There was a lot to choose from at CASEF this year. We were able to choose a junior division winner again – an 8th grader from Silver Academy had a project comparing the brightness and burn time of candles made from nine different kinds of wax. He used box/whisker plots to compare the median and spread of his replicate results for each candle type, and also linear (and quadratic) regression with R^2 to examine the relationship between brightness and burn time and noticed that different classes of wax (paraffin, soy, etc.) performed differently. This little scholar really gave a good explanation of his work! Asked for his one overall conclusion from his work: "Don't use candles in a science fair project."

Our senior division winner was a 12th grader from Derry Township HS. Her project was an Analysis of RNA

Sequencing Data for bladder cancers. She obtained a published dataset of RNA-based gene expression data on two groups of mice with two different kinds of cancer, and looked for the presence of genes (out of nearly 20,000 in the dataset) that were either over- or under-expressed in one group of mice compared with the other group – suggesting that these genes may be in some way linked to the presence of the cancer. Using the R language package "LIMMA" and the cell means model for her analysis, she gave a very good and detailed discussion of the model's use of the 2-sample t-test with pooled variances to compare the expression level of each gene between the mice groups, and used the resulting one-tailed test p-values (adjusted for the use of repeated analyses as "Q" values, to reduce "false positives") to rank the genes and select only those with significant differences in expression, where "Q" <0.10. She ended up with about 200 gene loci that were differently expressed between the two groups of mice.

This year, we also returned to the practice of presenting two "Honorable Mention" certificates in the senior division, as we had two projects that made extensive use of some less common statistical techniques:

An 11th grader from Derry Township HS used multivariate techniques of cluster analysis and factor analysis to sort through volumes of U.S. county-level weather and climate data to characterize drought conditions. He used cluster analysis to group "similar" counties into geographic regions, and select just thirteen counties from the U.S that were representative, data-wise, of their cluster groups. Weather data from these counties were then examined by factor analysis to determine combinations of weather variables that could be used to indicate drought conditions in those areas.

A 12th grader from Wallenpaupack Area HS examined ways to use EEG (brainwave) data as a computer-user interface. He built a head-sensor array and collected EEG data on multiple subjects engaged in one of three activities (rest/contemplation, reading, and manual puzzle play), and then attempted to identify/predict the activity from the EEG data by using two different Bayesian classification methods (a simpler "naïve Bayes", and a more complicated "Bayesian network" model) on the data. He programmed all the needed computations in Python. Unfortunately, he found that his classifications were only about 60% correct for the Naïve Bayes model, and the Bayesian network model took too long to run and had even lower accuracy.

KANSAS WESTERN-MISSOURI CHAPTER

By Jo Wick
Chapter Representative

STAT.KC: The Kansas-Western Missouri Chapter (KWMCH) of the ASA organized the first annual "STAT.KC: A Career Day in Statistics," held November 11th, 2016, at the University of Kansas-Edwards in Overland Park, KS. This networking event, which included a high school poster competition, a panel discussion, and a keynote address — was developed to engage students, educators, and professionals in the Midwest to encourage discussion about educational and career opportunities in statistics and related fields. STAT.KC is a coordinated effort led by the KWMCH, and is co-sponsored by the University of Kansas Medical Center - Department of Biostatistics, the Kansas State University Department of Statistics, and the ASA. The panel discussion with professionals from industry, academia, and government, focused on the different educational paths students may take toward a variety of careers in statistics. Thomas Short, PhD (West Chester University) gave the keynote address, "The World Needs Statisticians: What Path Will You Take?" More than 100 attendees from Kansas and Missouri high schools and universities were present for the half-day event.

Poster Winners

FIRST

Luann Jung, Manhattan High School, Manhattan, KS

"Identification of Natural Selection in SNP Markers from Sequencing Data"
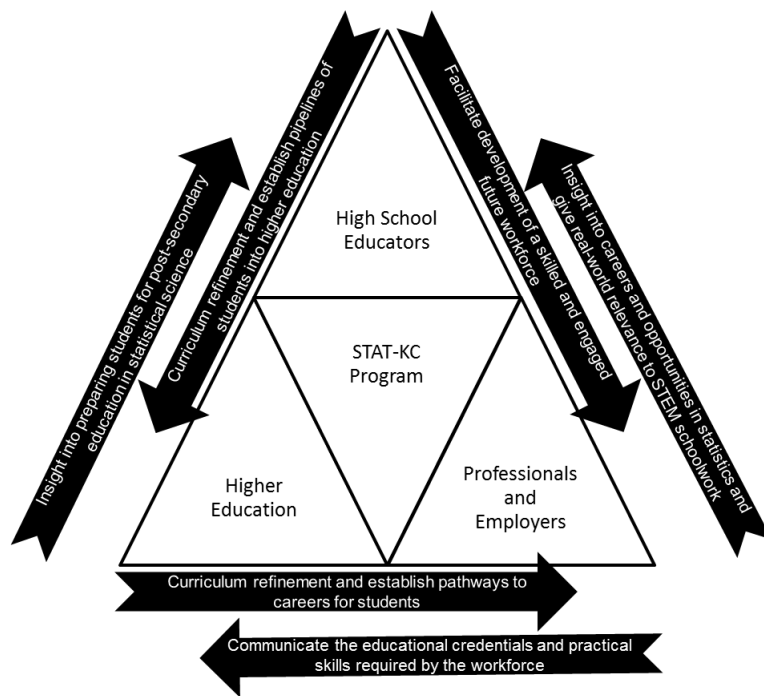
SECOND (tie)

Moira Coffman, Shawnee Mission East High School, Prairie Village, KS

"Disproportionality in the Shawnee Mission School District Gifted Program"

Portia Renee and Guanghao Yu, Shawnee Mission East High School, Prairie Village, KS

"Modern Mozart Effect"

THIRD

Dominic Cordova, Connor Phillips, and Branden Schaff, Rockhurst High School, Kansas City, MO

"Are State Times Getting Faster? Can Rockhurst Compete?"

The afternoon of career day was completed by Andrea Troxel who presented an ASA Traveling Course titled "Pragmatic Clinical Trials". High school students were given free admittance to the course.

Keynote address by Dr Tom Short

Mix of Attendees, high school student, undergraduate, graduate, faculty, and private industry

MID-MISSOURI CHAPTER

By Suhwon Lee

The Mid-Missouri Chapter of the American Statistical Association (ASA) has organized and sponsored several exciting and fun events in Spring 2017.

There was an one-day short course entitled '*Introduction to Statistics for Spatio-Temporal Data'* on Saturday, February 25, 2017 at the Leadership Auditorium, University of Missouri. It was lectured by Dr. Christopher K. Wikle, Curator's Distinguished Professor at the Department of Statistics, University of Missouri and more than 80 audience members enjoyed
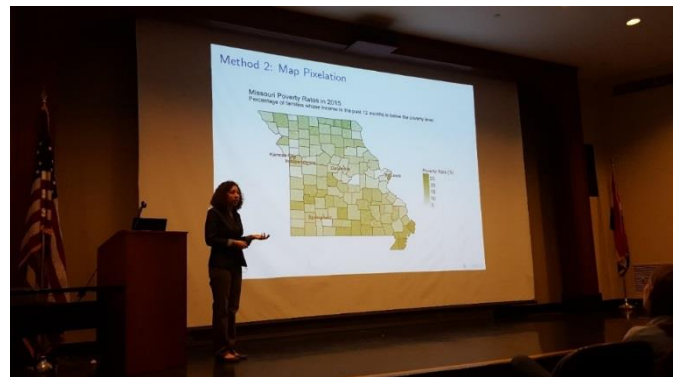

the lecture. It gave a contemporary presentation of spatio-temporal processes and data analysis, bridging classic ideas with modern hierarchical statistical modeling concepts and presented a systematic approach to key quantitative techniques for the statistical analysis of such data that features hierarchical statistical modeling, with an emphasis on dynamical spatio-temporal models.

A Student Research Symposium was held on Friday, April 14, 2017 at the Jesse Wrench Auditorium at the University of Missouri. The symposium offered an opportunity for both
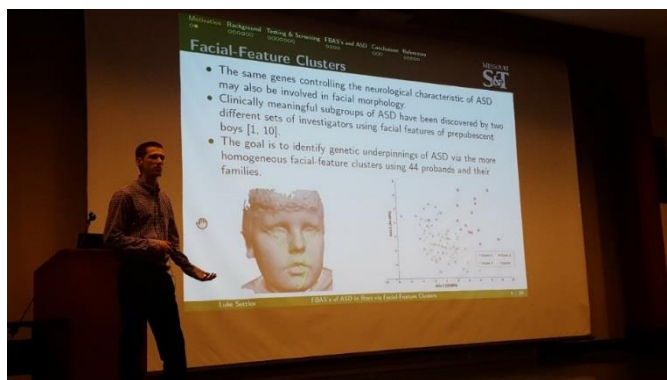
undergraduate and graduate students to present their research and prizes were awarded for excellent presentations to both undergraduate and graduate students. Six students presented their work and over 50 faculty and students came to the event. Listed below are the presenters along with the title of their presentation:

- *Does capital punishment have a deterrent effect?,* J. Monroe Gamble IV, University of Missouri

- *Social network analysis of dolphins and whales in East Tropical Pacific and California Current*, Jie Lou, University of Missouri

- *Visualizing uncertainty in American Community Survey estimates with bivariate choropleth maps and map pixilation*, Lydia Lucchesi, University

of Missouri

- *Family-Based Association Studies of Autism in Boys via Facial-Feature Clusters*, Luke Settles,

Missouri University of Science and Technology

- *Developing a Joint Reference Prior for the Negative Binomial Distribution*, John Snyder, University of Missouri

- *Association between Cancer Risk and Social Variables: A Rare Event Study*, Nianfu Song, University of Missouri

The chapter sponsored ASA DataFest, celebration of data in which teams of undergraduates work to find and share meaning in a large and complex data set, which was organized by the department of Statistics at the University of Missouri during April 21 – 22, 2017.

Information about the Chapter and our activities can be found at

http://community.amstat.org/midmissouri/home

SAN ANTONIO CHAPTER

By David Han

It's been another great, successful and busy year for the ASA San Antonio Chapter. In October 2016, the chapter in collaboration with the ASA Student Chapter at UTSA hosted the ASA Membership Social/Mixer. The event was attended by many students and faculty as well as the officers of both chapters. The attendees learned about a wide variety of the benefits ASA and the chapter memberships offer. They also learned about various opportunities to get involved with and contribute to our statistical communities.

In partnership with the City of San Antonio, the Hispanic Chamber of Commerce organized the CORE4 STEM Expo & Family Day in November 2016. This is the largest STEM education event in San Antonio, attended by more than 10,000 students. The chapter participated in the event and gave multiple presentations titled "*Statistics & Data Science – the Career of the 21st Century.*" The sessions were attended by K-12 students with their families. They learned about the importance of statistics education as well as quantitative and analytical skills demanded in this data-rich era. They also learned about various exciting career opportunities in the fields of statistics and data science.

The chapter promoted statistical literacy and supported the Saint Matthews Catholic School STEM club in December 2016. The STEM club students (grade 6 to 8) along with their parents were paired up with our statistics mentors to review their research project and protocols, and analyze the data. They learned about the fundamental statistical concepts in understanding any scientific phenomenon as well as how to analyze quantitative data using proper statistical methods, and present/interpret the results with statistical significance. The STEM club students competed in the Alamo Science and Engineering Fair and all these bright young scientists won the awards*!!*

In February 2017, the chapter helped judging and selecting the senior division projects that showed excellence in the use of statistical methods at the annual Alamo Science and Engineering Fair. The following awards with cash prizes were presented at the ceremony:

- 1st place to Sandra Moon for her project "*Genetic polymorphism in the PCSK9 gene associated with rapid HIV disease progression among European- and Hispanic- Americans*"
- 2nd place to Adithya Mummidi for his project "*Gene expression profiles of subcutaneous adipose tissue, skeletal muscle tissue, and white blood cells in pre-diabetic and normoglycemic Mexican-American individuals*"
- 3rd place to Isuru Somawardana for his project "*Utilizing cardiac and pulmonary function to power a pacemaker*"

During the Conference of Texas Statisticians in March 2017, the chapter recognized the 2017 Don Owen Award recipient, Dr. Daniel Heitjan at SMU/UTSW. Heitjan is an expert in statistical methods for incomplete data, clinical trials and health economics, and has engaged in substantial collaborative and methods research in oncology,

cardiovascular medicine, and smoking cessation. The chapter thanks Taylor & Francis group for sponsoring this award, and the award judges for their efforts in reviewing this year's nominations.

ASA president, Dr. Barry Nussbaum visited the chapter in April 2017. As part of his visit, he met with the chapter members, officers, UTSA faculty, graduate/undergraduate students and the Student Chapter members. As an invited speaker, Nussbaum delivered an open presentation entitled "*What did you tell the president? – using Statistics to make a difference*" to an audience of about 150 local statisticians, faculty and students. Nussbaum described how statistics can make a difference in influencing decisions and actions in a variety of fields and how to succinctly explain statistical results so that decision makers can correctly integrate analyses into their actions. Nussbaum's visit was very much appreciated by the chapter members and San Antonio community.

SOUTHERN CALIFORNIA CHAPTER

By Harold Dyck

Intel International Science and Engineering Fair

Statisticians from three southern California chapters of the American Statistical Association (Southern California, Orange County/Long Beach, and San Diego) participated in the 2017 Intel International Science and Engineering Fair (ISEF), held May 14–19, 2017 in Los Angeles. Students participating were ninth through twelfth graders who earned the right to compete at the Intel ISEF 2017 by winning a top prize at a local, regional, state or national science fair. Over 40 southern California judges had the difficult job of evaluating 1400+ science projects by students from over 70 countries representing virtually every scientific and engineering discipline, simply because statistics is used in every discipline!

On the first day of reviews, judges screened all 1400+ projects and selected about 170 projects that incorporated detailed statistical analysis. From this group, 26 projects were selected for the final interview round the next day. On Wednesday morning, 18 judges were ready at 7:15 am to conduct interviews with the student finalists. Working in teams of 3, the judges selected the three winners and awarded honorable mention to the next best 13 of the rest.

Olga Korosteleva (President, Southern California Chapter) of California State University, Long Beach, CA and Gajanan Bhat (President, Orange County/Long Beach Chapter) of Spectrum Pharmaceuticals, Inc., Irvine, CA attended the Special Awards ceremony to present ASA certificates to the winners. All winners and honorable mention awardees received one year student memberships to the ASA including one-year subscriptions to *Significance* and *CHANCE*.

Thanks to the ASA for the cash prizes and thanks to CRC Press/Taylor & Francis Group/Chapman & Hall, JMP, O'Reilly Media, and Wiley for the donated books, magazines, software and other items. A special thanks to Google for a grant to cover hotel rooms for judges from outlying areas.

Many of the judges found judging at the Intel ISEF a rewarding experience and a professional highlight. They said they were energized and transformed by the breadth and depth of the research methods and concomitant inferential analysis

applied to address pressing issues in areas as diverse as health care, energy, materials sciences, plant sciences, molecular biology, computational biology, and many others.

The non-parametric and machine learning tools that some students brought to bear on their research problems were especially impressive. Methods like principal components analysis and others, far beyond the scope of K-12 and even some undergraduate statistics coursework, brought a sophisticated and modern perspective to these meaningful science and engineering projects.

ASA DataFest

ASA DataFest is a data "hackathon" for students around the U.S., Canada, and Germany (for now; this country list has grown each year). Students spend a weekend working in small teams, around the clock, to find insight and meaning in a large, messy, and rich data set. For almost all students, it is the most complex data they have encountered, and they push themselves to master new skills, resurrect forgotten knowledge, and bring everything they've got to compete for the honor of being declared the best by a panel of expert judges."

The UCLA site has not been able to keep up with the growing interest and demand in the southern California area. Students from surrounding universities would come to the OCLB/SCASA Careers Day and ask statisticians how they could participate! To meet this enthusiasm, this year, Michael Fahy, Professor of Mathematics and Computer Science and Associate Dean, Schmid College of Science & Technology at Chapman University took on the Herculean task of organizing and hosting the inaugural ASA DataFest at Chapman University. There were 65 students in the 15 teams which resulted in the largest inaugural DataFest in the history of DataFest. Students came from UCSB, CSUN, USC, UCI, CSU Fullerton, CSU San Bernardino, and Chapman. The Orange County/Long Beach Chapter was a co-sponsor with SCASA at Chapman and helped recruit "VIPs" to give advice to teams.

Professor Rob Gould, the "founder" of DataFest, gave advice on goals for the weekend. Then he introduced the data from Expedia, which consisted of nearly 11 million records representing users' online searches for hotels plus an associated file with detailed information about the hotel destinations.

Along with ASA, the Southern California Chapter was a sponsor of the UCLA DataFest. Sixty teams came from UCLA, Pomona College, Cal Poly San Luis Obispo, UC Riverside, University of Southern California, and Cal State Long Beach. Again, locally recruited VIPs roamed the room giving advice. It was an amazing experience and a lot of fun interacting with some very bright, enthusiastic students.

Applied Statistics Workshop

SCASA's 36th Annual Applied Statistics Workshop was held March 25, 2017 at City of Hope in Duarte, CA. Greg Ridgeway, Associate Professor of Criminology and Statistics, Department of Criminology, University of Pennsylvania gave an informative workshop on Statistical Applications in Crime and Justice. He shared data and R code with the audience who got hands-on experience replicating results. SCASA used stimulus funds from ASA to help support this workshop.

Book Club

Finally, SCASA also spent ASA stimulus funds on a microphone for the book club which Dan Jeske of UCR is getting ready to launch in August/September.

SOUTHWEST MICHIGAN CHAPTER

By Kirk Anderson

On November 11, 2016, the Southwest Michigan chapter of the ASA welcomed Jim Albert, Professor of Statistics at Bowling Green State University to give the talk "A Multilevel Bayesian Approach for Modeling the Time-to-Serve in Professional Tennis" on the Grand Rapids campus of Grand Valley State University. He gave an overview of the state of tennis analysis, providing a summary of the major results and the opportunities for future work given the availability of point-by-point datasets for Grand Slam events. He said that tennis analytics needs improvement, judging by the current ranking systems for professional players. There is general interest in the value of pre-performance routines in elite sports, and Dr. Albert used a Bayesian multilevel model to explore the time-to-serve of both ATP and WTA players in professional tennis. His work found a wide variation in the pace of tennis players and how they adapt to game conditions such as the length of the previous point and the importance of the point. Jim's talk went over very well with the audience of 21 chapter members and GVSU students, who asked several questions during and after the talk. Prior to the talk, the Southwest Michigan chapter held a business meeting, during which a new President was elected. Dr. Laura Ring Kapitula of GVSU will serve as President-Elect and take over as President at a time later in 2017. Current President Kirk Anderson will remain active as Chapter Representative at that point. After the talk, Jim and 10 chapter members enjoyed a free dinner at a nearby BBQ restaurant. We are grateful for the ASA Chapter Stimulus Funding Program for making this event possible.

WISCONSIN CHAPTER

By Rodney Sparapani

In April 2014, the Milwaukee and Madison chapters united to serve the entire state of Wisconsin as the Wisconsin Chapter. We are diligently working to knit these communities together. On December 3 2016, we had the first chapter meeting in Madison in many years for which we received ASA stimulus funds for chapter building activities. To date, we have 139 ASA members in our chapter. Now, with a larger contingent of members, we hope to bring national conferences to Wisconsin and the upper Midwest for the benefit of our members.

We want to resurrect the national biostatistics conference which was previously held annually at the University of Texas MD Anderson Cancer Center from 2008-2011. This outstanding event is sorely missed in the biostatistics community. The idea is that each year a different ASA chapter would host this meeting. This year, the Wisconsin Chapter of the ASA, in association with its partners, will be holding the event. It is my hope that other chapters would consider hosting this event in the future with the help of the ASA stimulus fund for chapter building activities which we are applying for as well. The details of this year's event follow:

Biostatistics in the Modern Computing Era: Sep 28-30 in Milwaukee, WI

The Division of Biostatistics at the Medical College of Wisconsin announces a conference entitled "Biostatistics in the Modern Computing Era" co-sponsored by the Division, the ASA Section on Bayesian Statistical Science and the Wisconsin Chapter of the ASA. It will include invited presentations by leading statisticians from both the Bayesian and frequentist perspectives. Presentations will focus on clinical trials, high-dimensional statistics, survival analysis, precision medicine and population health. A grant-writing workshop and a Bayesian additive regression trees short course will also be presented. The conference will be held September 28-30, 2017 at the Medical College of Wisconsin in Milwaukee, WI. Travel awards may be available for PhD students and junior faculty. The autumn weather in Milwaukee is historically very pleasant and enjoyable. Beer-making, bratwurst and Oktoberfest are great German traditions brought to Milwaukee and Wisconsin by waves of immigrants. There will be social events featuring beer, bratwurst and biostatistics hosted at idyllic beer gardens on the "cheese coast". The main event will include an exclusive engagement of polka-palooza with "The Polkaholics" led by Dandy Don Hedeker with a guest appearance by fellow Imposterior Brad Carlin.

For more information please visit
http://www.mcw.edu/biostatmcw

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