NC ASA CHAPTER BULLETIN

Greetings from NC ASA President Emily Griffith

Happy 2019 to the North Carolina statistical community from your new Executive Board! I'm excited to serve NC ASA as we continue to build upon the momentum of the past few years. We are an active and growing chapter, and I hope you take some time to look through our newsletter and see how you would like to participate this year.

One of my favorite parts of being involved in the North Carolina chapter is getting to know each of you— our members. I enjoy learning about how we can help you meet your professional goals. We host a variety of events throughout the year, and our calendar for 2019 offers an array of options for you. We're kicking off our professional webinar series on Friday, February 22nd. We are continuing to host monthly socials and meet and greets. Our first pun-themed seminar will be in mid-March, and we're planning a social media-based jokes contest at the same time! We are also offering a tips and tricks workshop for LinkedIn as well as a Career Information Fair this spring. I hope to see you at some of our upcoming events!

Emily Griffith

NC ASA Calendar - Upcoming Events

http://community.amstat.org/northcarolina/events/upcomingevents

Meet and Greet with Eric Laber
— Monday, February 25th, 5:30pm, Mattie B's Public House in Durham

Professional Webinar Series launches in 2019!
— First webinar Friday Feb 22nd 12-1pm. (See p. 2)

Uncertain-Tea with Ralph Smith
— Tuesday, March 19th at SAMSI with a social to follow

Career Information Fair:
— Wednesday, April 3rd at the Frontier in RTP

LinkedIn Tips and Tricks:
— May 2019, date and location TBD

Trivia Night Takeover:
— June 2019, date and location TBD

In This Issue

An Uncertain-Tea

Tuesday, March 19th 4-5 pm at SAMSI

http://community.amstat.org/northcarolina/events/upcomingevents

Please join NC ASA for a cup of tea and a seminar by Ralph Smith, Distinguished University Professor in the Department of Math at NCSU. The seminar, titled **The Role of Uncertainty Quantification for Predictive Models** will be given at SAMSI on Tuesday, March 19th at 4pm. It will be followed by a social at Societa's.

Ralph Smith

Abstract: We increasingly rely on mathematical and statistical models to predict phenomena ranging from nuclear power plant design to profits made in financial markets. When assessing the feasibility of these predictions, it is critical to quantify uncertainties associated with the models, inputs to the models, and data used to calibrate the models. The synthesis of statistical and mathematical techniques, which can be used to quantify input and response uncertainties for simulation codes that can take hours to days to run, comprises the evolving field of uncertainty quantification. The use of data, to improve the predictive accuracy of models, is central to uncertainty quantification so we will begin by providing an overview of how Bayesian techniques can be used to construct distributions for model inputs. We will subsequently describe the computational issues associated with propagating these distributions through complex models to construct prediction intervals for statistical quantities of interest such as expected profits or maximal reactor temperatures. Finally, we will describe the use of sensitivity analysis to isolate critical model inputs and surrogate model construction for simulation codes that are too complex for direct statistical analysis. All topics will be motivated by examples arising in engineering, biology, and various sciences.

Biosketch: Ralph C. Smith joined the North Carolina State University faculty in 1998 where he is presently a Distinguished University Professor of Mathematics. He is co-author of the research monograph *Smart Material Structures: Modeling, Estimation and Control* and author of the books *Smart Material Systems: Model Development* and *Uncertainty Quantification: Theory, Implementation, and Applications*. He is on the editorial boards of the *Journal of Intelligent Material Systems and Structures* and the *SIAM/ASA Journal on Uncertainty Quantification*. He is the recipient of the 2016 ASME *Adaptive Structures and Material Systems Prize* and the SPIE 2017 *Smart Structures and Materials Lifetime Achievement,* and he was named a *SIAM Fellow* in 2018. His research areas include mathematical modeling of smart material systems, numerical analysis and methods for physical systems, Bayesian model calibration, sensitivity analysis, control, and uncertainty quantification for physical and biological systems.

IIG Professional Webinar

https://community.amstat.org/northcarolina/events/webinars

What does *Data Science* mean to an Executive?

Friday, Feb 22nd 12-1pm

Presented by Aric LaBarr of the Institute for Advanced Analytics at North Carolina State University.

The data science field is full of practitioners who understand the language of data. However, this language might seem foreign to those on the edges of this field who still need to make important decisions using the results of data science. How then do we get through the hype and onslaught of information around data science, big data, AI, and any other buzz word in this space to realize the important things executives need to know about starting, growing, or managing a new data driven world?

Registration for this webinar is open online at https://tinyurl.com/yc5ayltj. Space is limited and more than 100 people are already registered, so please register soon!

Aric LaBarr

For information on future webinars, please check our website.

2019 NC ASA Chapter Executive Committee
President: Emily Griffith (NCSU)
Vice President: Amy Shi (SAS)
Vice President 2: Susan Simmons (NCSU)
Secretary: Kristen Foley (US EPA)
Treasurer: Brian Gaines (SAS)
Chapter Representative: Ryne Vankrevelen (Elon)
2019 Liaisons to the Executive Board
Outreach and Communications Director: Lakisha Armstrong (Walden)
Industry Interests Group Core Strategic Team Lead: Sujit Ghosh (NCSU)
Ambassador to Small Colleges and Universities: Stephanie Zimmer (RTI)
High School Outreach: Breda Munoz (RTI)
Past President: Elizabeth Mannshardt (US

NC ASA Interest Groups

Industry Interests Group: NC ASA's IIG provides a forum for communication among members. If you are interested in participating in the IIG on behalf of yourself, your company, or your organization, please contact Sujit Ghosh at Sujit.Ghosh@ncsu.edu.

Scholastic Council: NC ASA's Scholastic Council facilitates communication and coordinates activities between the Chapter and North Carolina schools, colleges, and universities. Each institution is invited to have a Faculty Contact and a Student Representative on the council. Contact NC ASA President Emily Griffith for more information at Emily.Griffith@ncsu.edu.

Consulting Connections: This web-based communications platform connects North Carolina's consulting community. This group works in coordination with the Industry Interests Group to host events including socials, webinars, and meet and greets. Contact NC ASA President Emily Griffith for more information at Emily.Griffith@ncsu.edu.

Find us online! All of this information and more is available at our website.

http://community.amstat.org/ northcarolina

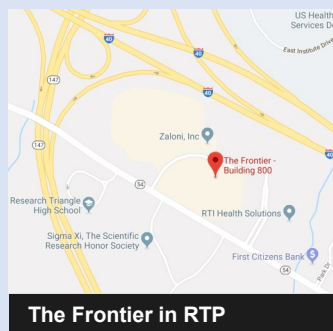**Look for us on social media!**

[f] @NCAmStat

[twitter] @NC_ASA

NC ASA Career Information Fair

Please join NC ASA for our upcoming Career Information Fair. It will be held on April 3rd from 3:00 to 5:00pm in the classroom at the Frontier in RTP (see map below).

The purpose of the Career Information Fair is to showcase the variety of careers available to statisticians and data scientists at different organizations. This is an opportunity for students with analytic skills to connect with companies who use those skills in the work they do.

The Career Information Fair will open with a series of two minute talks by each organization present. After that, attendees will have a chance to visit with the companies and universities present.

Registration will be free. Please check the upcoming events section of our website for more information and registration details as the Career Information Fair gets closer.

The Frontier in RTP

We would like that thank the corporate sponsors of this fair: RhoWorld, RTI, and SAS.

NC ASA would love for your organization to participate in or sponsor this event. For information about either of those options, please contact NC ASA Treasurer Brian Gaines at Brian.Gaines@sas.com.

NC ASA Student Corner

https://community.amstat.org/northcarolina/students

On April 12th, University of North Carolina Chapel Hill's Department of Biostatistics is hosting an NC ASA Career Development presentation and panel discussion on career experiences and the job hunting process for UNC BIOS and STOR students and alumni.

This presentation will incorporate material from NC ASA's fall workshop. Topics to be covered include branding, networking, and salary negotiations. Additional topics, including how to get the most of out conferences and professional associations, will also be discussed. Please keep an eye out for a similar event at North Carolina State University in the fall. If your department is interested in hosting a similar event, please contact NC ASA Past President Elizabeth Mannshardt at Mannshardt@stat.ncsu.edu.

Member Profiles

Member: Francois Dion (Dion Research LLC)

I am the founder (2011) and chief data scientist of Dion Research LLC, creator of VISU.AI, an AI driven Data Quality, Risk Auditing, and Anomaly Detection platform. I also do consulting in analytics, cybersecurity, data science, IoT and visualization. My academic background is in computer science and microelectronics. I founded the Python user group for the Piedmont Triad, holding monthly meetings at Wake Forest University. I have also mentored individuals in an online community for the R language and taught several workshops using the Raspberry Pi computer. I publish open source tools, such as Stemgraphic (stemgraphic.org), and publish some other things like podcasts at artchiv.es.

Outside the world of data science and statistics, my interests are diverse, polymathic, from art to language, 3d printing to history.

New Member: Colleen McKendry (SAS/JMP)

I am a Statistical Writer on the JMP Documentation team at SAS where I work primarily with the Multivariate Methods and Predictive and Specialized Modeling platforms in JMP. My work involves writing documentation and examples, as well as providing some secondary testing for several statistical platforms. I also have the ability to work with colleagues on statistical projects involving JMP, and present these projects at conferences throughout the year.

I started working at JMP as an intern in May 2016 and transitioned to full-time status in May 2018. Prior to joining JMP full-time, I completed the statistics PhD program at North Carolina State University, under the direction of Arnab Maity and Jung-Ying Tzeng. The focus of my dissertation was on Functional Data Analysis, with applications to child growth curves. In my free time, I enjoy working out, cooking, hiking, and traveling. My favorite "local" travel destination is Asheville, NC for it's amazing hikes, food, and culture!

Student Member: Sean McCabe (UNC Chapel Hill)

I am a fifth year PhD student at the University of North Carolina at Chapel Hill (UNC) in the Department of Biostatistics. My dissertation work, under the direction of Dr. Michael Love and Dr. Danyu Lin, is in statistical methodology for multi-omics data and differential splicing. I also work on several statistical genetics projects supervised by Dr. Naim Rashid at the UNC Lineberger Comprehensive Cancer Center. My goal is to work in academia and develop statistical methods for the analysis of cancer related datasets.

I currently serve on the NC ASA Scholastic Council as the UNC Biostatistics Student Representative and as the Liaison to the Industry Interests Group. I completed my Bachelor of Science degree in Mathematics and Statistics with a minor in Computer Science at Purdue University in May 2014 and my Masters of Science degree from the UNC Department of Biostatistics under the direction of Dr. Gary Koch in December 2017.