

Parameters

SPRING | 2020

IN THIS NEWSLETTER...

INTRIGUING ONLINE SESSIONS...

NISS/MERCK - BAYESIAN APPROACHES



NISS/ASA - COVID19 DISEASE MODELING



UPCOMING CAREER FAIRS...

GOVERNMENT - 5/22



INDUSTRY - 6/3



NISS/COPSS - COVID19 DATA



MEET NISS SENIOR FELLOW



FIRST ACADEMIC CAREER FAIR



NISS IS GETTING READY FOR WRITING WORKSHOP! VIRTUAL THIS TIME!



Welcome to the Spring 2020 edition of the NISS Parameters Newsletter



Three weeks after our last Newsletter in mid February, the NISS staff began working from home, as did most of the country. At that time, I said although the coronavirus was 50 times as lethal as the common flu (influenza), the risk is low if the epidemic can be contained. Well, since then the epidemic has become a pandemic, and the US now leads the world with over 90K deaths in the US alone and more than 1.5M infected-- largely because in the initial weeks containment measures were not implemented quickly enough in the US. NISS along with other organizations quickly organized several virtual informative events to provide reliable information about the initial spread of the infections from statistics and epidemiology experts. See the articles in the Newsletter and the links to the video recordings and presentations slides on our website under www.niss.org/news/

The NISS Board of Trustees meeting in April was moved from Washington, DC to Zoom. This was the final meeting for three excellent board members, who have each served tirelessly for two terms, Christy Chuang-Stein (formerly Pfizer), Tim Hesterberg (Google) and Tommy Wright (Census Bureau). The newly elected incoming board members are Karen Bandeen-Roach (Biostatistics JHU), Michael Brundage (Google), and Dan Jeske (UC Riverside), who are featured in the article below.

Actions from the Board. The board asked for the creation of an *ad hoc* strategic planning committee, the Future of NISS, to update the Mission Statement of NISS and plan a strategy for the next five years. The original NISS mission, promoting cross-disciplinary cross-sector collaborative research, has largely been fulfilled. However, extracting reliable information and from ever larger data sources provides increasing challenges for the statistical community to address, and can NISS expand to fill this need in the data science community.

Affiliate Program. The NISS affiliate program organized or sponsored a variety of events and workshops. Although this spring many regional in-person events were cancelled or postponed due to the coronavirus, we hosted several very successful webinars. The NISS/Merck Meet-up described the advantages of Bayesian statistics in drug development and the regulatory issues raised. We organized a joint NISS/ASA Webinar on the role of modeling to forecast the spread of the COVID-19 pandemic. And joint with the Committee of Presidents of Statistical Societies (COPSS) we hosted a webinar with Xihong Lin (Harvard) reviewing the lessons learned from the data from China, Europe and the US on the isolation strategies to contain the spread of the virus.

The NISS academic subcommittee has organized a series of **virtual career fairs** open to NISS affiliate members to attend live, and the recordings and visuals are made available to the public the following month on the NISS website under [News / Meet-up Recordings](#). These have been aimed at all three sectors: academia, industry, and government, with the 3rd government fair this week, and the 4th industry fair in June.

The NISS affiliate program has a strong tradition of bringing experts together to address needs of the profession, many on a regional basis. See the www.niss.org/events for the up-to-date schedule. If you are organizing a local or regional conference or workshop, please let us know if you would like NISS to co-sponsor it and advertise it on our platform and through our network and affiliates.

NISS at JSM: Since JSM has become a virtual 'gathering' NISS plans to hold its annual Writing Workshop during the weeks following JSM from Aug 7, through August 14,. Please refer new researchers to our website to register.

NISS academic affiliation signifies a commitment to outreach with other academic institutions and across government and industry sectors. See the list of upcoming events in this Newsletter and at www.niss.org/events. To find more information about our affiliate program, please see our [affiliate information page](#) on our website or contact me.

Jim Rosenberger
Director, NISS

ABOUT NISS

The National Institute of Statistical Sciences (NISS) is a national institute that delivers high-impact research in science and in public policy by leveraging the rich expertise of its staff with that of its base of affiliated organizations in academia, industry, and government. NISS works on issues where information and quantitative analysis are keys to solutions and decisions. NISS functions in three ways: as an expert advisor, as a basic researcher, and as a collaborator.

OUR MISSION

The National Institute of Statistical Sciences (NISS) is an independent research organization that serves as a neutral, objective expert in delivering research in science and public policy to its affiliates in academia, industry and government. NISS identifies, catalyzes and fosters high-impact cross-disciplinary and cross-sector research involving the statistical and data sciences.

WHAT IS THE FORMULA FOR A GREAT EVENT? WHAT ARE THE CRITICAL INGREDIENTS?

Well, first, you need some good speakers. They must have experience and knowledge that others can learn from and they must be willing to share. Second, you need to focus on a topic that is of professional interest to others in the field. It is one thing to talk about the latest and greatest, but it is more important to provide practical perspectives that are valued and can be used to improve solutions. Third, a good moderator is always a plus, someone who might not be in the thick of that specific research but clearly understands what the experts have to share, also knows the audience, and can work the technology to field questions that bubble up.

If you have all of these things lined up, ... then what happens is exactly what happened at this latest NISS/Merck Meet-up! The hour and a half went by in a flash! And, there were over 500 attendees who logged in to listen to **Frank Harrell**, Professor of Biostatistics at Vanderbilt University's School of Medicine, **Amy Xia**, Vice President of the Biostatistics, Design & Innovation division at Amgen and **Telba Irony**, Deputy Directory of Biostatistics and Epidemiology at the FDA's Center for Biologics Evaluation and Research. The focus of the session was on the use of Bayesian statistics in the drug development process. And, as evidenced by the number and variety of questions that were asked by the audience their remarks were thought provoking!

Frank Harrell provided an overview of the advantages of Bayesian approaches in the drug development process. He began by comparing both frequentist approaches and Bayesian and in doing so asked the following question as part of the understanding the challenges involved in drug development and whether results become actionable. "Would you rather know the chance of making an assertion of efficacy when the treatment has no effect, or the chance the treatment is effective?" Throughout his in-depth review of both approaches he demonstrated how Bayesian methods aligned with the research questions asked within the drug development process but also pointed out that, "You can't compute a current probability without having a starting probability." In response, Harrell provided an example that demonstrated how possibilities exist for fully continuous trials with unlimited looks. In summary, while the computations might be a bit more complicated, the interpretation is much clearer.

"Approaches for pediatric drug development need to be efficient and flexible while maintaining valid and persuasive evidentiary standards." This was one of the final comments of the second speaker of the session, **Amy Xia**. Her remarks involved a fascinating, in-depth example of her work extending information from studies in adult populations to pediatric populations for the purpose of minimizing exposure of children to clinical trials and increase the efficiency of pediatric drug development programs. Specifically, Xia's presentation provided a detailed walk-through of a study of



Moderator: Dan Holder (Merck) Speakers: (left to right) Frank Harrell (Vanderbilt University), Amy Xia (Amgen) and Telba Irony (FDA).

cinacalcet, a treatment of secondary hyperparathyroidism (HPT) in adult patients with chronic kidney disease. Her example highlighted the use of a 3-level Bayesian hierarchical model which allowed for understanding how data from one population could be used to inform implications for other population subgroups. In summary, Xia remarked that, "While the use of statistical extrapolation to support pediatric trials is an emerging tool, a Bayesian extrapolation approach helps with sample size limitations and missing control arms in pediatric settings."

The final speaker of the session was **Telba Irony**. She provided an overview of Bayesian approaches that have found use within regulatory settings and the value they bring to the drug development process. She expertly reviewed the role of the prior distribution, Bayesian adaptive designs, simulations and predictive probabilities - important points to be considered in each. She then quickly moved to the lessons that were learned for what works in which clinical settings and where opportunities exist for further work using these Bayesian approaches. In conclusion Irony listed six areas that show great promise including implementing the likelihood principle in flexible clinical trial designs, using decision analysis to develop rational / transparent decision rules, and rationally determining the required strength of evidence by medical need, patient tolerance for risk and perspective on benefit, and/or severity and chronicity of the disease.

Throughout the session attendees posted questions for the speakers to address. Not only did the questions quickly get to the heart of the issues being discussed, the responses and back and forth between the speakers demonstrated the excitement and potential that Bayesian approaches bring to drug development, clinical trials and other epidemiological research areas. Review the session recording below to see what points the speakers were intent on making!

As with all of the NISS/Merck Meet-Up events, **Dan Holder** (Merck) served as general organizer and was moderator of the session.

[Session Recording for NISS Affiliates](#)

Check the [NISS Events webpage](#) for up to date event info!

NISS/ASA CO-HOST COVID19 WEBINAR THAT FOCUSES ON THE ROLE OF MODELING

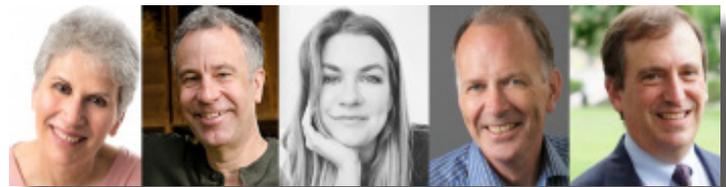
NISS

The American Statistical Association (ASA) and the National Institute of Statistical Sciences teamed up to provide an informational webinar that served to shed light on role that modeling is playing in ascertaining how this disease is spreading, predicting how much critical resources will be needed and where, estimating mortality rate, identifying risk factors, and designing trials that will be conducted to evaluate potential treatments and assess the preventive effect of potential vaccines. Over 600 attendees logged in for this inaugural webinar series.

The webinar was opened up by **James Rosenberger**, Director of NISS and **Wendy Martinez**, ASA President. The four speakers for this webinar brought with them a wealth of experience and insight: **Britta Jewell**, (MRC Centre for Global Infectious Disease Analysis at the Imperial College, London) and **Nick Jewell**, (UC Berkeley and the London School of Hygiene and Tropical Medicine), **Dean Follmann**, (NIH/NIAID) and **Marc Lipsitch**, (Harvard University).

Nick Jewell was the first speaker. After providing a quick overview of the COVID19 pandemic and dispelling a few myths he turned the slides over to his daughter **Britta Jewell**, an accomplished research fellow in infectious disease epidemiology. Among her comments she reviewed the Susceptible-Exposed-Infectious-Recovered or SEIR Mathematical Model and also discussed the importance of the timing of mitigation. Nick continued the review of other models including the Institute for Health Metrics and Evaluation (IHME) model. In summary, they included a helpful list of the current statistical issues that are challenging the medical profession at the same time making it clear that gaps exist in our capacity to prepare for, predict, detect, and respond. Nick and Britta concluded their remarks noting that, "The role of mathematical models and statistical analysis of emerging data have crucial roles to play, but caution is needed in interpretation."

The second speaker of the session was **Dean Follmann**, Chief of the Biostatistics Research Branch at the National Institute of Allergy and Infectious Diseases (NIAID). After a brief overview of the role of NIAID he organized his remarks around the functions that his office engages in, i.e, how infectious diseases are fought. He outlined his remarks via the methods his research group engages in. 1) Identification - diagnostic tests to determine if or have you been infected. 2) Description - time from infection to symptoms (incubation), who has been infected (sero-prevalence) and within household transmission. 3) Treatment - adaptive treatment trials. 4) Prevention - vaccines and antibodies. Within each of these areas he included examples of the work that is currently being undertaken.



Moderator: Wendy Martinez (ASA) Speakers: (left to right) Dean Follman (NIH/NIAID), Britta Jewell (Centre for Global Infectious Disease Analysis), Nick Jewell (Imperial College) and Marc Lipsitch (Harvard).

The final speaker of the session was **Marc Lipsitch**, Professor of Epidemiology and Director of the Center for Communicable Disease Dynamics at Harvard University. Perhaps the more technical of the four speakers, Marc thanked the other speakers for providing a thorough review of much of the background and proceeded to jump right in to some of the details of the following topics: the challenges associated with estimating seasonality of betacoronaviruses, projecting disease outbreaks with and without interventions such as social distancing, the design of seroprotection studies, i.e., does past infection protect against future infection?, as well as a plug for a simple Bayesian statistical approach for serosurveys.

There was plenty of time for questions and James Rosenberger and Wendy Martinez were kept busy evaluating the range of questions that were submitted by the over 600 attendees in order to bring the more pressing issues to the attention of the panelists.

For those of you that were not able to attend this session you can review a recording of the session below as well as review the slides that were used by the speakers. More importantly, keep your eyes open for the next webinar in this series that will be hosted by both NISS and the ASA that focuses on a different aspect of the COVID19 crisis that we are certain will be of interest to statisticians and data scientists. Statisticians have much to contribute to the fight against COVID-19. Statisticians need to join together and share knowledge we individually possess. This is a fight that all of us have a stake in.

NISS CONTINUES TO WORK TO IDENTIFY TOPICS OF INTEREST TO STATISTICIANS FROM ALL DIFFERENT SECTORS AND THEN GATHER EXPERTS TO CONTRIBUTE TO A CONVERSATION THAT HELPS TO NOT ONLY INFORM AND BUT ALSO PROVOKE FURTHER THINKING ON THESE TOPICS. KEEP YOUR EYE ON THE NISS WEBSITE FOR FUTURE EVENTS.

Hey there! Stay connected with us on Twitter for the latest events information!



@NISS_DataSci

LinkedIn

Do you know that NISS is also active on LinkedIn?

NISS | National Institute of Statistical Sciences

Xihong Lin, Professor and former Chair of the Department of Biostatistics at Harvard University, provided a talk that was sponsored by both the Committee of the Presidents of Statistical Societies (COPSS) and NISS to over 600 attendees. The focus of her comments was on the data surrounding public health interventions that were put into place in Wuhan, China which she then compared to interventions implemented in the United States and in various countries in Europe. **Bhramar Mukherjee**, John D. Kalbfleisch Collegiate Professor and Chair, Department of Biostatistics, University of Michigan, and current Chair of COPSS, introduced Xihong and served as moderator of the session.

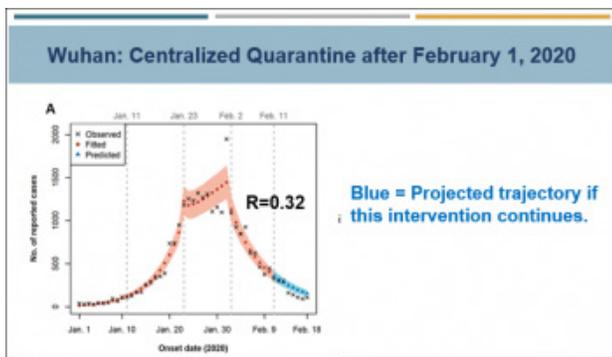


Xihong began her remarks by providing a review of the COVID-19 outbreak in general and the organizations and institutions both involved in research and those providing advice to public officials. This led to a walk-through of a much more detail review of the outbreak as it occurred in Wuhan, China and the surrounding areas, the interventions that were put into place and the results of these interventions. She showed how the data demonstrated that this disease is very infectious, however, the data also shows that it can be controlled by social distancing, centralized isolation and quarantine.

Throughout her presentation Xihong emphasized important points by providing nine "Take Home" messages. These messages serve to provide an outline of her talk. The messages included:

1. Social distancing greatly helped to flattening the curve but it was not enough.
2. Adding centralized isolation and quarantine to social distancing bent the curve and stopped the epidemic.
3. Protection of health care workers with comprehensive PPEs, training and PPE supplies is essential.
4. Protect the five vulnerable groups: healthcare workers, elderly, family members, essential workers, low-income families.
5. Early diagnosis and early medical care is essential.
6. A multi-pronged approach is needed to control the epidemic.
7. Give testing priority to the five vulnerable groups including asymptomatic and pre-symptomatic cases.
8. Wide contact tracing is critical and can be empowered by integrating humanity and technology.
9. It is important to effectively educate and communicate with the general public.

Following Xihong's talk moderator Bhramar Mukherjee was very busy assimilating and relaying to Xihong a wide variety of thoughtful and probing questions from the audience! The question session lasted for about 20 minutes before the session came to an end.



[Session Recording for NISS Affiliates](#)

Check the [NISS Events webpage](#) for up to date event info!

On Thursday, April 23rd three distinguished professors of statistics shared their experiences and provided advice about what life is like as a statistician at different academic institutions.

Williams College, a liberal arts college, is located in the very northwest corner of Massachusetts. **Dr. Richard De Veaux** began by talking about how he started at Williams College in 1994 as the sole statistician into what was then only a Department of Mathematics. However, over the years the number of statistics professors at Williams has grown and it is now the Department of Mathematics and Statistics. In thinking about beginning as an assistant professor at a place like Williams, Dr. De Veaux reviewed a typical application time line which begins in early November, even October sometimes – so it makes sense to get yourself ready early. His advice was to figure out who you are, “Is your passion in teaching, research and/or consulting? All positions involve all three of these but the emphasis will be different.” What is most important in preparing for a visit? “Know who you are visiting! Do your homework about the institution/ department/faculty you will be visiting! Get experience working with a team and practice your presentation skills – give talks!” Further, he emphasized that desire and passion are perhaps the most important attributes a faculty candidate can demonstrate..

Duke University is a research university therefore **Dr. Jerry Reiter** focused his comments on positions in academic institutions similar to his university where he is Chair of the Department of Statistics. Dr. Reiter described the difference between tenure tracks, teaching tracks and research tracks as types of academic positions. He emphasized that, “It is important to do top-notch research to get tenure at a place like Duke, but even though you might be a top-notch researcher, you cannot be a poor teacher and expect to get tenure at Duke.” The point being that you need to have experience and passion in both of these areas. He encouraged candidates to seek experiences in graduate school that are tailored to the type of position they are interested in. At the same time, he also emphasized that the selection of one position does not mean that you are in that track for life. Making a change after a number of years might bring its own challenges, but it is not impossible to change tracks. He also provided a number of critical tips for those on the job market getting ready to apply. What are the important things a hiring committee looks at? You will definitely want to review his advice!

Dr. Bhramar Mukherjee is Professor of Biostatistics at the University of Michigan. As a biostatistician her remarks during this session focused on the unique differences that come into play because positions in biostatistics are likely housed within a department in a college of medicine or public health. After reviewing the structure and support of her college and department she focused on the attributes that make a good department and the challenges that departments face. Understanding these logistical issues is important when seeking a position as a biostatistician within a large research institution because of the unique mission and strong ties to other research partners. Among her advice to those on the job market,

Dr. Mukherjee highlighted “communication, collaboration and computation” as keys areas of preparation and experience besides reviewing the hiring timeline her department uses as well as the common attributes her department is looking for in candidates.



Moderator: Piaomu Liu (Bentley University) **Speakers:** (left to right) Richard De Veaux (Williams College), Jerry Reiter (Duke University) and Bhramar Mukherjee (University of Michigan).

All three of the panelists spent a good deal of time during the session responding to a wide variety of great questions. Questions from attendees included, “What kind of support is provided for beginning assistant faculty?” (Support differs among institutions...) And, “How does one demonstrate teaching when teaching opportunities might not exist?” (A real issue in some departments, perhaps take advantage of summer opportunities and know the difference between presenting and teaching!) . Additional questions included: “What is it like mentoring undergraduate students? What opportunities exist?” “Should I apply for positions in popular topics/subfields?” “How do you maintain a healthy work/life balance in academia?” “What are the issues related to transitioning from a position in industry to academia?” “What statistical techniques are most desirable?” All three panelists shared insights on these and other questions but it seems that the bottom line advice for someone looking for an academic position was, “Know what you are good at and what you are passionate about!”

Piaomu Liu, (Bentley University) served as the moderator for this session. She introduced the session, the panelists and expertly helped present the wide variety of questions that were posed by NISS Affiliate attendees.

[Session Recording for NISS Affiliates](#)

A recording of this session along with copies of the slides that the speakers used is posted on the NISS website at www.niss.org. The slides not only provide you with the key points that were offered but also include links to additional resources that should not be ignored! (These are made available for NISS Affiliates. They will be made available to the public May 23, 2020.)



NISS WEBINAR HOSTS THIRD WEBINAR ON THE USE OF P-VALUES FOR MAKING DECISIONS

NISS

The discussion continues! Nearly 350 participants attended the third in a series of webinars hosted by NISS on the topic of the use of p-values.

Three distinguished statisticians provided their insights for the use of p-values in their areas of research -- where p-values are used in decision-making and where multiplicity adjustment in the frequentist sense is a core consideration for drawing inference. The speakers for this webinar were **Yoav Benjamini**, the Nathan and Lily Silver Professor of Applied Statistics at the Department of Statistics and Operations Research at Tel Aviv University, **Alicia Laura Carriquiry**, Distinguished Professor of Statistics at Iowa State University, and **Hsien-Ming James Hung**, Director of Division of Biometrics I, Office of Biostatistics, Office of Translational Sciences, Center for Drug Evaluation and Research (CDER), U.S. Food and Drug Administration (FDA).

Setting the stage by reviewing the cry for reproducibility and replicability **Yoav Benjamini** began the webinar in a distinctive fashion by providing evidence that the use of p-values is undergoing a “misguided attack.” He then directed his remarks to answer the question, “Is it the p-values’ fault?” As a next, logical step, Yoav then addressed the problems inherent with selective inference, which in turn led to a discussion of how these issues are being handled in clinical trials and Bayesian methods. He ended his comments by stating that while ignoring the selective inference evidence in the published work is the current status in many branches of science, “Sweeping the p-values under the rug worsens the situation.”

Alicia Carriquiry’s perspective was very different. She demonstrated how forensic scientists need to take a different approach to evaluating the basic hypothesis, “innocent until proven guilty.” In the first part of her talk she focused on the areas of forensic science where p-values should NOT be used. She walked through an example where glass fragments are involved as evidence in a crime, demonstrating the problems that exist when using hypothesis testing and p-values in this legal context. Essentially the hypotheses end up being backwards making the p-value useless. In the second part of her talk, she provided examples of where p-values are useful. One example she provided was a case involving the prediction of whether a person who is released on bail will show up at trial, i.e., the use of classification-type algorithms of risk assessment tools.



Moderator: James Rosenberger (NISS) Speakers: (left to right) Yoav Benjamini (Tel Aviv University), Alicia Carriquiry (Iowa State University) and Hsien-Ming James Hung (FDA).

James Hung, the final speaker of the day, directed his comments at the role of multiplicity adjustments within regulatory applications. After a quick review of the drug development process, James zeroed in on clinical trials for proving efficacy where relationships among the hypotheses are often complex. His explanation demonstrated how the p-value is often used to assess the strength of statistical evidence against the null hypothesis in individual trials when multiplicity control is applied to screen out the null hypotheses for the purpose of regulatory decision and labeling. He concluded his part of the session by providing an overview of the challenges that remain in this area, posing questions that researchers need to consider.

A variety of thought-provoking questions followed the talks that demonstrated involvement of the attendees. Question topics included: “Are Equivalence Tests for determining no difference in means used in forensic science?”, “What do you think of Holm-Bonferroni procedure?” and “RA Fisher proposed pooling p-values from multiple experiments in his writings. Has that idea been considered by FDA?” Review the recording of this session so that you can see what other questions were asked and how the speakers responded.

The webinar was moderated by James Rosenberger, Professor Emeritus of Statistics at Penn State University, and Director of NISS.

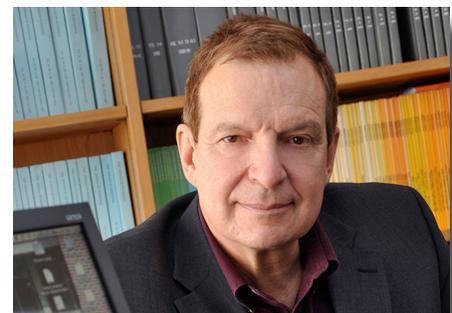
[Session Recording for NISS Affiliates](#)

AFFILIATE NEWS

NISS Notes the Passing of an Esteemed Colleague

With much sadness, we note the passing of our colleague and NISS Senior Fellow, **Clifford Spiegelman**, and an active participant from our Academic Affiliate, TAMU Statistics Department. Cliff had been a good friend of NISS as a Senior Fellow since 2014.

For information, read more on the [Texas A & M website](#). Also, a local tribute can be found on the [Hillier Funeral Home website](#) which includes a [Tribute Wall](#) for leaving a message as well as opportunities for making [charitable donations](#) in his name for those that are able.



A characteristic that defines NISS as an organization is that it is always working to identify individuals with experience and statistical expertise who are eager to become involved in challenges, “where information and quantitative analysis are keys to solutions and decisions.” Peter Meyer, as NISS Senior Fellow, is one of these individuals. While the journey to his current position has included many “twists and turns”, his varied background has uniquely paved a path that has led to Meyer being described as a nationally recognized expert in data confidentiality and security.

“I HOPE WE CAN MAKE A POSITIVE IMPACT ON THE FEDERAL STATISTICAL SYSTEM THAT WILL LAST LONG INTO THE FUTURE.”

A Unique Background

Meyer began his professional career working for ten years as an analyst in the intelligence community. This was back in the 80’s and his training as a Russian linguist involved him in helping to monitor the end of the Cold War. In 1989 he moved to Washington where his attention was shifted to the Columbian Drug Cartel until he decided to go back to graduate school to study economics. His move back to academia eventually led to a faculty position at the Center on Aging at the University of Maryland where he provided statistical analysis on program data generated by Long Term Care Insurance. Meyer’s lasting impact regarding access to data began with his work at the National Center for Health Statistics (NCHS) where he became director of the Research Data Center (RDC) and Deputy Director of the Division of Research Methodology (DRM). His focus was expanding access to Federal health data by the research community, where he served on the Executive Committee for the Federal Statistical Research Data Centers, and was involved in expanding from only four site locations to 33 throughout the United States.

“WORKING AT THE NATIONAL CENTER FOR HEALTH STATISTICS AND THEN MOVING TO THE RESEARCH DATA CENTER WAS PERFECT CULMINATION OF MY VARIED EXPERIENCE.”

As the director of RDC, Meyer implemented programmatic changes that halved the time needed for RDC proposal approvals, streamlining the process and improving the access and use of Federal health data to the research community. He also expanded the number of RDCs from one to four by expanding the Center for Disease Control and Prevention (CDC) network. Based on these improvements and expanding RDC access, Meyer advised other agencies within the Department of Health and Human Services, academia, and other organizations around creating data enclaves and other issues associated with statistical disclosure limitation.

Lasting Contributions to Statistics

By any sense of the definition of the term, Meyer’s impact on providing opportunities for statistical work in terms of access to data has been notable. For his contributions to the statistical community he was awarded the Outstanding Government Service by the APHA Statistics Section in 2012, was recognized with numerous Director’s Awards for his outstanding service at NCHS, earned an award for Excellence in Innovation for leading progress in the analysis of genetic data and was recognized for his service during the U.S. Public Health Service to Hurricane Katrina by CDC and HHS Secretary’s Award for Distinguished Service.

Today, Meyer’s talents and expertise are being tapped by a number of different agencies on policies and methods that will make Federal data more accessible to the research community, policymakers, and the public. He serves as a senior fellow in the Health Care Programs Department at NORC at the University of Chicago. Meyer supports the Office of Management and Budget (OMB) as they develop guidelines for privacy and security of federal data related to the Evidence-Based Policymaking Act of 2018, which is designed to strengthen privacy protections, expand access to secure data, and improve the government’s ability to generate and use evidence in creating policies.



Working with NISS

For two decades NISS has been engaged with research and implementation of methodology for balancing confidentiality with transparency, and privacy with data access. Senior NISS Fellow Peter Meyer is engaged in assisting NCES as these issues now demand new consideration in view of advances in technology and data science.

Federal agencies have both legal and ethical obligations to protect the large amount of confidential data about individuals, businesses and other entities. At the same time, agencies are obligated to make these data available to the maximum extent possible for uses that benefit society. In 1994 the Statistical Policy Working Paper #22 (WP22) was written to provide a primary resource to federal agencies on available mechanisms to simultaneously promote these ends.

Changing technology has brought new data structures, new statistical methodologies, new secure computation tools, new tiered data access schemas, and also new threats to data security. Consequently, the Federal Committee on Statistical Methodology Subcommittee on Updating Statistical Methods for Safeguarding Protected Data has undertaken the review, revision and expansion of WP22. In addition to a document, this task will include the development of an online repository for best practices, tools, templates, schemas and mechanisms as a dynamic resource to assist federal agencies as they disseminate their data both internally and publicly.

“AT NISS I HAVE FOUND VERY SMART, DEDICATED, AND HELPFUL PEOPLE. THERE IS A CLEAR RECOGNITION OF THE IMPORTANCE OF STATISTICS IN SOCIETY AND AN ADVOCACY FOR THE PROPER USE OF THE TOOLS WE HAVE. I FEEL AT HOME.”

NISS Senior Fellow, Peter Meyer, fills the critical role of providing expertise and coordination to the Chair and the Subcommittee for the task of revising WP22 and creating the online repository to be hosted at NCES. NISS is honored to have enlisted Peter Meyer as a Senior Fellow and values his involvement in NISS research work.

AFFILIATE LIAISONS BECOME INVOLVED IN NISS ACTIVITIES/EVENTS

NISS

In the past few years, NISS has hosted a large number of events that were available to both NISS Affiliate institutions and the general public. Starting in September of 2019, NISS has begun to sponsor a series of virtual career fairs that were only available to graduate students, faculty, statisticians and data scientists at NISS Affiliate institutions. NISS is able to put on these activities in large part due to the active participation of NISS liaisons and aspiring young faculty members at NISS Affiliate institutions. NISS is grateful to their participation because their activism has not only made the events relevant, but also fun.

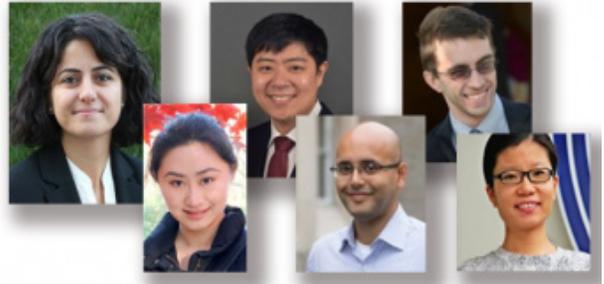
"NISS EVENTS OFFER NISS LIAISONS AND STATISTICIANS AT THE EARLY STAGE OF THEIR CAREER AN OPPORTUNITY TO DEVELOP THEIR ORGANIZATIONAL, PROFESSIONAL AND NETWORKING SKILLS. IN RETURN, THEIR PARTICIPATIONS OFFER NISS A FRESH LOOK INTO THE FUTURE OF THE STATISTICS AND DATA SCIENCE PROFESSION. THIS IS A WIN-WIN PARTNERSHIP FOR BOTH NISS AND THE YOUNG STATISTICIANS."

Christy Chuang-Stein, Chair of the NISS Affiliates Committee

NISS wants to acknowledge the following NISS liaisons. Meanwhile, NISS encourages other liaisons to share their ideas with NISS and volunteer to help plan an NISS event.

Esra Kurum, Assistant Professor at the University of California, Riverside is a member of the NISS Affiliates Academic Affiliate sub-committee. Last year she spoke as a panelist at one of the first virtual career fairs and has also served as the moderator for several events since then. **Piaomi Liu** (Assistant Professor, Bentley University) and **Kevin Lee** (Assistant Professor, Western Michigan University) are also members of the NISS Affiliates Academic Affiliate sub-committee and both have (or will) serve as moderators of virtual events. **Nathan Cruze**, mathematical statistician in the Research and Development Division at USDA's National Agricultural Statistics Service (NASS) is a member of the Affiliates Committee. Nathan has organized the first two government career fairs and served as the moderator for both events. **Samanta Basu**, (Assistant Professor, Cornell University),

and **Ya Su**, (Assistant Professor, University of Kentucky), have served as moderators at recent virtual career fairs as well.



NISS Affiliate Liaisons (left to right) Esra Kurum, Piaomi Liu, Kevin Lee, Samanta Basu, Nathan Cruze and Ya Su.

As Christy stated above, these experiences gave Esra, Piaomi, Kevin, Nathan, Samanta and Ya a chance to meet and interact with distinguished and experienced senior statisticians and put them in the thick of the event's conversation. Their participation helped gather enthusiasm towards NISS events within their own home institutions. In addition, their input helps move NISS in a direction of the future as they are beginning to define it.

"AS NISS HAS EVOLVED INTO A NATIONAL VIRTUAL INSTITUTE, IT'S GREAT TO SEE THE INVOLVEMENT OF JUNIOR FACULTY WHO CONTRIBUTE TO THE PROFESSION THROUGH THEIR INVOLVEMENT IN THE PLANNING OF AFFILIATE WORKSHOPS AND EVENTS THAT FOSTER PROFESSIONAL DEVELOPMENT."

Jim Rosenberger, NISS Director

Want to get involved in important professional service? Want to help make a difference by joining a diverse and committed group working for the good of the statistical community? Contact the NISS Affiliate Liaison at your institution, or contact NISS directly!

WELCOME TO NEW MEMBERS OF THE NISS BOARD OF TRUSTEES

NISS

At the April meeting of the NISS Board of Trustees meeting discussion included a welcome to three new elected members of the NISS Board of Trustees for a three-year term that begins July 1, 2020. NISS looks forward to the active role that these new leaders will play in the coming years as they help define ways to bring together statisticians and data scientists to address current issues in ways that an organization like NISS can make possible. The three new board members are:

Karen Bandeen-Roche,
(Johns Hopkins)



Karen is a biostatistician known for her research on aging and aging-related frailty. She is the Hurley Dorrier Professor of Biostatistics and Chair of the Biostatistics Department at the Johns Hopkins Bloomberg School of Public Health. Bandeen-Roche earned a master's degree and PhD in operations research from Cornell University in 1988 and 1990, respectively. She has worked at Johns Hopkins since 1990, and became the Hurley Dorrier Professor and Chair in 2008. Dr. Bandeen-Roche's primary research area is the development, implementation, and application of models for problems which include underlying or unobservable processes of interest. In recent years, she has primarily been interested the application of underlying variable methods in epidemiologic and psycho-social research. Her other areas of statistical research include the study of classification and variance structure and multivariate survival analysis. Gerontology is the scientific area in which she feels most deeply invested; having participated in population research on aging for more than a decade, was named a Brookdale National Fellow, and co-directed a training program in the Biostatistics and Epidemiology of Aging.

Michael Brundage, (Google)



Michael is a Data Scientist at Google, where he has created machine-learning models to improve engineer productivity and to forecast consumer hardware sales. Previously, Michael was a

Principal Data Scientist at Microsoft where he helped create the Windows Experimentation Platform. Before that, Michael was the Principal Engineer for Amazon Search and the first engineer on Amazon Go. Michael helped create Amazon's data scientist job ladder and hired the first data scientists there. Before switching to data science full time, Michael had a 15-year career as a software engineer at Amazon, Yahoo, Microsoft, and Caltech/JPL.

Dan Jeske, (University of California, Riverside)



Dan received MS and PhD degrees from the Department of Statistics at Iowa State University in 1982 and 1985, respectively. He was a distinguished member of technical staff, and a technical manager at AT&T Bell Laboratories between 1985-2003. Concurrent with those positions, he was a visiting part-time lecturer in the Department of Statistics at Rutgers University. Since 2003, he has been a faculty member in the Department of Statistics at the University of California, Riverside (UCR) serving as Chair of the department 2008-2015. He is currently the Vice Provost of Administrative Resolution at UCR. He is an elected Fellow of the American Statistical Association and an Elected Member of the International Statistical Institute. He has published over 100 peer-reviewed journal articles and is a co-inventor on 10 U.S. Patents. He served a 3-year term on the Board of Directors of ASA in 2013-2015.

At the same time NISS is sad to see the involvement of the three individuals whose active work on the board come to an end. While their terms expire on June 30, 2020 we know that they are only a 'phone call away'! A HUGE thank you to Christy Chuang-Stein, Tim Hesterberg & Tommy Wright for all of the dedication, time and effort they have invested in helping to keep NISS a viable and active community!

AFFILIATES!

SEND YOUR JOB ANNOUNCEMENTS TO NISS!

A link to the Job Announcements page can be found at the bottom of every page of the NISS website! Share your announcement with other organizations associated with NISS or other visitors to our website.

<https://www.niss.org/careers>

NISS IS GETTING READY FOR THE WRITING WORKSHOP! VIRTUAL THIS TIME!

NISS

NISS Writing Workshop for Junior Researchers August, 2020

Once again this very popular short course will be hosted by NISS! If you are a recent graduate of a doctoral program and want to improve your communication skills - then this event is for you!

The goal of the workshop is to provide instruction for writing journal articles and grant proposals. Participants will be required to provide a recent sample of their writing, *which will be reviewed by a senior mentor*. The sample could be a current draft of an article to be submitted for publication or an early version of a grant proposal. Senior mentors will be former journal editors and program officers, who will critique the submitted material and provide individual feedback. Participants will be expected to initiate a revision in response with additional feedback from their mentors.

Deadline for the Writing Workshop application submission is June 15, with notification of acceptances on a rolling basis no

later than June 20.

Comments from previous participants:

"THE WRITING WORKSHOP WAS TREMENDOUSLY HELPFUL! THANK YOU SO MUCH FOR ORGANIZING THIS WORKSHOP AND HELPING US A LOT. THANK YOU SO MUCH FOR SHARING ALL THE SLIDES TOO. I AM VERY GRATEFUL TO TAKE ALL ADVANTAGES FROM NISS WRITING WORKSHOP."

"THANKS FOR YOUR THOROUGH GUIDANCE IN THE NISS WRITING WORKSHOP! I FOUND THAT THE ONE-TO-ONE MENTORING IS VERY HELPFUL FOR US TO GET INSIGHTS INTO OUR SHORTCOMINGS IN ACADEMIC WRITING. I REALLY APPRECIATE YOUR WORK IN ORGANIZING SUCH A WONDERFUL EVENT."

See the [NISS Website](#) for additional information and how to apply. Send in your materials early - this is a valued and very popular workshop!



UPCOMING VIRTUAL EVENTS FOR NISS AFFILIATES REGISTER TODAY!

NISS

[NISS Virtual 3rd Government Career Fair!](#)

Event Date: Friday, May 22, 2020 12-1 pm (ET)

Event Location: Virtual Meet-up

Government institutions have a unique mission when it comes to the data they collect as well as the importance of the research they engage in - especially when it comes to informing policy issues that surround health issues, disease prevention, and health research. This event is the seventh... ([read more](#))



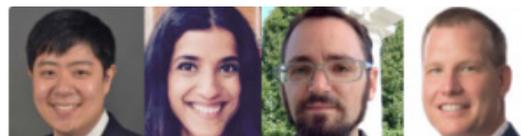
Moderator: Nathan Cruze (NASS) Speakers: (left to right) Dean Follmann (NIH/NIAID), Greg Lawson (EIA) and Jennifer Parker (CDC).

[NISS Virtual 4th Industry Career Fair!](#)

Event Date: Wednesday, June 3, 12-1:00 pm (ET)

Event Location: Virtual Meet-up

Interested in an industry job? In the March issue of the IMS Bulletin in 2014, Terry Speed advised his readers to Give Industry a Chance. Terry articulated the benefits of working in industry and suggested activities that could help graduate students explore career opportunities outside of academia... ([read more](#))



Moderator: Kevin Lee (Western Michigan University) Speakers: (left to right) Rakhi Kiralu (PPD), Jonathan Lisic (Cigna) and Richard Zink (TARGET PharmaSolutions).

RESOURCES PROVIDED THROUGH NISS CAREER FAIR SERIES



Looking for advice for how best to advance a statistics career?

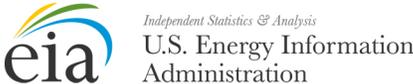
What types of job opportunities exist for statisticians/data scientists/analysts in various organizations?

Over the past several months the National Institute of Statistical Sciences (NISS) has been doing just that - gathering experienced, senior statisticians that represent a variety of research, business, healthcare, government and other sectors and asking them to speak to the questions above and more in a series of virtual career fairs.



NISS is making these recordings available to affiliates to help students consider their career options and advisors guide their students and they also can be used by individuals who are considering a career change different employment sectors.

[View the Career Fair Recordings!](#)



MAY

The Statistical Methods in Imaging Conference 2020

Event Date: May 18-21, 2020

Event Location: Atlanta, Georgia

The Statistical Methods in Imaging (SMI) conference is the annual meeting of the American Statistical Association (ASA) Statistics in Imaging Section. The SMI 2020 conference invites submissions of proposals for invited oral sessions and collaborative case study sessions. Invited Oral Sessions 3... ([read more](#))

Webinar Series: Mathematical Foundations of Data Science

Event Date: Tuesday, May 19th, 3pm EDT

Event Location: Online Webinar

Statistical Inference on Membership Profiles in Large Networks
Speaker: Jianqing Fan, Princeton University
Abstract: Network data is prevalent in many contemporary big data applications in which a common interest is to unveil important latent links between different pairs of nodes. The nodes can be... ([read more](#))

Webinar Series: Data Science in Action in Response to the Outbreak of COVID19

Event Date: May 22, 2020 11 am (ET)

Event Location: Online Webinar

Predictions, role of interventions and implications of a national lockdown on the COVID-19 outbreak in India
Abstract India has taken strong and early public health measures for arresting the spread of the COVID-19 epidemic. With only 536 COVID-19 cases and 11 fatalities, India --- a democracy of 1... ([read more](#))

NISS Virtual 3rd Government Career Fair!

Event Date: Friday, May 22, 2020 12-1 pm (ET)

Event Location: Virtual Meet-up

Government institutions have a unique mission when it comes to the data they collect as well as the importance of the research they engage in - especially when it comes to informing policy issues that surround health issues, disease prevention, and health research. This event is the seventh in a... ([read more](#))

Conference on Statistical Learning and Data Science/ Nonparametric Statistics 2020 (SLDS 2020)

Event Date: May 27-29, 2020

Event Location: Newport Beach, California,

SLDS 202 is a bi-annual gathering of top researchers in Statistical Learning, Data Science, and Nonparametric Statistics, and a forum for presentation and discussion of research. For more information click on the Conference Website & Registration link. Registration is Now Open! Please Note the... ([read more](#))

Webinar Series: Data Science in Action in Response to the Outbreak of COVID19

Event Date: May 29, 2020 11 am (ET)

Event Location: Online Webinar

Can the reported COVID-19 data tell us the truth? Scrutinizing the data from the measurement error models perspective The mystery of the coronavirus disease 2019 (COVID-19) and the lack of effective treatment for COVID-19 have presented a strikingly negative impact on public health. While research... ([read more](#))

JUNE

NISS Virtual 4th Industry Career Fair!

Event Date: Wednesday, June 3, 12-1:00 pm (ET)

Event Location: Virtual Meetup

Interested in an industry job? In the March issue of the IMS Bulletin in 2014, Terry Speed advised his readers to Give Industry a Chance. Terry articulated the benefits of working in industry and suggested activities that could help graduate students explore career opportunities outside of academia... ([read more](#))

2020 Quality and Productivity Research Conference

Event Date: June 8 - June 11, 2020

Event Location: Tallahassee, Florida,

Researchers from academia, industry, and government are invited to participate, exchange ideas, organize sessions, and present their research related to the spirit of Quality and Productivity Research Conference (QPRC). This will be the 37th Annual Quality and Productivity Research Conference.... ([read more](#))

AUGUST

2020 NISS Writing Workshop for Junior Researchers

Event Date: August 2 & 4, 2020

Event Location: This will be an Online Multiple DayEvent!

Once again this very popular short course will be hosted by NISS. If you are a recent graduate of a doctoral program and want to improve your communication skills - then this event is for you! JSM is going virtual and this workshop is too! ([read more](#))

Check the [NISS Events webpage](#)
for up to date event info!

NISS

www.NISS.org

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