NISS

Affiliates Update

WELCOME!

This monthly Affiliates Update highlights upcoming NISS sponsored events and activities.

PLEASE CIRCULATE THIS AFFILIATES UPDATE TO YOUR COLLEAGUES!

NISS sponsored events encourage cross-sector and cross-disciplinary networking. Let us know if you are planning an event and would like NISS to co-sponsor it. NISS affiliates can use their award funds to support these events or receive discounted registration. For more information about the NISS Affiliate program, see: https://www.niss.org/affiliate-program-information.

James Rosenberger
Director NISS

UPCOMING EVENTS: VIRTUAL CAREER FAIRS

Pharmaceutical Companies

Wednesday, April 20, 2022 - 12 noon - 1:30 pm ET

and

Academic Departments

Wednesday, May 11, 2022 - 12 noon - 1:30 pm ET

Interested in pursuing a career as a statistician in the pharmaceutical industry or at an academic institution? Then you won't want to miss the next two career fairs sponsored by NISS that will offer essential information about job opportunities for statisticians/data scientists in these different research environments.

Senior statisicians and data scientists will be on hand to provide attendees with an inside look at the varying aspects involved in the research, teaching and/or service that statisticians in these research contexts and the career opportunities available for you to consider!

Each presenter will have 20 minutes to address the following general topics:

1. What are the preferred qualifications for a position in your institution?
2. What are the potential distinguishing characteristics of candidates for a position in your institution?
3. What advice would you give to job candidates?
4. What advice would you give about how Ph.D. students or postdocs should prepare for the future?

These events are the last NISS Career Fair for the Spring of 2022 so don't forget to register soon! Note to worry, several more career fairs are in the planning phases for the Fall of 2022! Keep your eye on the list of upcoming events on the NISS website or subscribe to the NISS Newsletter for all of the detals.

Register for the Pharmaceutical Companies Career Fair!

Register for the Academic Department Career Fair!

NISS ▶ YouTube

Check out NISS on YouTube!

UPCOMING EVENT: 2ND ANNUAL GRADUATE STUDENT RESEARCH CONFERENCE - NISS GRADUATE STUDENT NETWORK EVENT

May 14-15, 2022 12 - 5 pm ET

The NISS Graduate Student Network is very excited once again to announce a two-day graduate student research conference! The first conference took place in June of 2021 and was a resounding success! This second conference will be a two-day event and take place on May 14 and 15, 2021, from noon - 5 pm ET and will feature graduate student presentations, invited speakers and a social networking hour.

This conference is open to anyone interested.

A special thanks to this year's sponsor Procter and Gamble (P&G), our new NISS Industry Affiliate!

Graduate Student Presentations

Any graduate student can submit their abstracts to present at this conference.

Students can choose to present either an oral presentation or a poster presentation within the following categories:

- Original Research (their own research work),
- Literature Research (presentation of a published paper that is not authored by the presenter), or
- Literature Review (presentation on recent developments in an area -- this would be a chance to present a couple of papers to highlight recent developments in an area of interest.)

Selected oral presentations will involve a 20 minute live presentation including 5 minutes of Q&A

Full Details for this Event on the NISS website!

Submission Deadline: April 15th at 5 pm ET

Presenters will be notified with results of selection of live presentations on or around April 29.

During the conference, a graduate student will be recognized with the best presentation award based on the content and the quality of their presentation. The award this year will be $250 granted to each presentation winner! The awardees will also receive recognition at the NISS Reception at JSM 2022 in Washington, DC!

NISS GRADUATE STUDENT NETWORK PRESENTS

GRADUATE STUDENT RESEARCH CONFERENCE

May 14–15, 2022

Submit abstracts by April 15, 5 PM ET

https://www.niss.org/events/niss-graduate-student-research-conference

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UPCOMING EVENT: NISS WRITING WORKSHOP FOR EARLY RESEARCHERS!

July 29, August 6 and 8, 2022

The National Institute of Statistical Sciences (NISS) has been hosting the Writing Workshop for Early Researchers since 2007!

Each year, in conjunction with JSM, NISS gathers a host of senior authors, editors, grant writers/reviewers—individuals who take valuable time out of their day to share their advice and experiences with a group of junior faculty and early researchers. Evidence of the value of this workshop experience can be judged by:

1) the number of experienced, senior statisticians, authors and editors that have volunteered for years on end to share their wisdom and advice and 2) the number of session contributors that were once actual participants in the workshop!

Workshop Plans are Currently Underway!

It is never too late to think about who might benefit next from this workshop at JSM 2022. Keep your eye on the NISS website or subscribe to our newsletter for all of the latest information about this and other professional development activities!

Virtual or In-Person? NISS is already in the planning stages for this year's Writing Workshop for Early Researchers 2022! You should be planning for it too!

Keep your eye on NISS Events webpage for the latest information!

2021 NISS Writing Workshop for Junior Researchers

NISS Writing Workshop for Junior Researchers (at JSM)

At the start of his talk, Dirk Eddelbuettel (Senior Data Scientist / Engineer, TileDB) shared a bit of his background and included his journey to how he got started on Rcpp. He eventually made the big step to become an author and uploaded one package to CRAN, then a few more followed afterwards. According to Dirk, Rcpp has been the most successful of those, the most impactful, and had the most effort behind it. The publication on Rcpp was a team effort with a number of people, and it hugely benefited from their work as well.

Dirk opened up the tutorial providing an overview on some historical context of Rcpp. During his presentation he focused on why we would use Rcpp and shared some brief notes on the first steps on how to use it. He also shared publications on the evolution of programming with data from 1977 to 2016 explaining that R is really an interface for working with data.
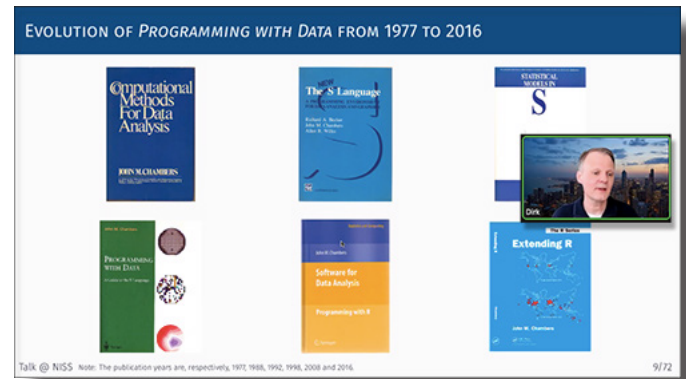
What Dirk presented during this tutorial are the really easy first steps for Rcpp, and he explained that there are many technical materials behind what he presented. He emphasized that this is just a beginning, and there are many more technical methods to learn. He provided helpful resources for those interested in learning more.

Dirk highlights three key reasons to use Rcpp:

1. Rcpp increases speed and performance.
2. We can now do things we could not do before with Rcpp.
3. It is very easy to extend R this way.

During the tutorial, Dirk explains that C++ is a very helpful language as well to use due to its wide use and it also has a good tool support (debuggers, profilers, and code analysis). C++ is one of the most frequently used languages in science and research and is industrial strength, vendor independent and is still evolving to this day.

R gives us an entire infrastructure for us to compile code. There are small differences with using Rcpp but a lot of things actually remain the same, for instance Rcpp would now have 'types'. Dirk portrayed an image showing a function in R versus in C++ via Rcpp for a side by side comparison as one example.

As it is very relevant in today's statistics world, NISS is so thrilled that Dirk Eddelbuettel gave us an entrance into Rcpp, and we hope to do more on this topic in the future.

Those who have attended this tutorial will be given post-event access to the recording to use as a reference.

Did you miss this event? You may purchase the video recording through us! Reach out to officeadmin@niss.org for information.

Thank you to the NISS Academic Affiliates Committee for organizing, especially Kevin Lee, Western Michigan University.

Read the Complete News Coverage with links to Speaker Slides

RECENT EVENT: VIRTUAL CAREER FAIR - INSURANCE & FINANCE

During this session, the speakers described opportunities for statisticians/data scientists from three companies in the insurance and finance industries. Attendees were provided with an inside look at the research that statisticians in these companies get involved in and announced career opportunities for prospective employees to consider!

Each one of our speakers presented on job opportunities and hiring status, described the range of skills needed to succeed in their company, and the career paths for statisticians/data scientists/analysts in their company. Additionally, our speakers gave advice on what they would give to students based on their own experience.

Our Panelists came together during a Q&A session where our audience had the opportunity to discuss topics with panelists and asked questions.

Speakers of this session included Nathan Lally with the Hartford Steam Boiler (Munich Re Group), Dan McCarthy and Qingqing (Anna) Dai with Liberty Mutual Insurance, and Siddhartha Dalal with Columbia University (formerly with AIG). Our Moderator for the day was Susan Edwards

from RTI International.

"We provide all kinds of intelligence to our clients, and we motivate behavioral changes to promote well-being!"
    Nathan Lally with the Hartford Steam Boiler (Munich Re Group)

Read the Complete News Coverage with links to Speaker Slides

New Advances in Statistics and Data Science

May 24-26, 2022

About

As Statistics and Data Science continue to evolve in the big data era, we face new challenges that call for novel interdisciplinary research combining statistics, machine learning, econometrics, computer science, and biology. This 3-day conference brings together leading researchers from these various fields. They will offer new perspectives and methodologies, and address the opportunities and challenges of 21st century Data Science.

Organizers

Zheng Tracy Ke (Harvard University)
Weichen Wang (University of Hong Kong)

Get the Latest Updates for this Conference!

Students! A discounted registration fee is being offered to students. Please contact the organizers (weichenw@hku.hk) for the promotion code. Also a poster session for students to present their interesting work for the NASDS Best Poster Award is available.

International Total Survey Error Workshop (ITSEW) 2022

31 August - 2 September, 2022

Total Error in Official Statistics: Current Practices and New Methods

The conference will be hosted by The Cathie Marsh Institute for Social Research and The Social Statistics Department, School of Social Sciences, University of Manchester, United Kingdom.

In addition to traditional TSE topics, we are encouraging contributions on:

- Evaluations of multiple error sources in official statistics
- Error frameworks and their use for administrative data products
- Total error frameworks for Big Data
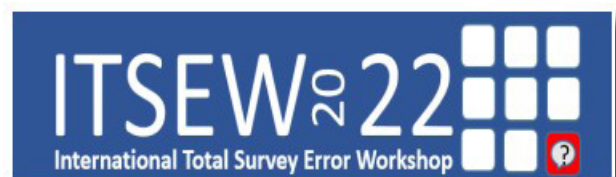- "Total statistical uncertainty" frameworks for estimates derived from nonprobability samples
- Errors in data integration processes and integrated data products
- Use of quality profiles and declarations in official statistics
- Minimizing total error using ART (adaptive/responsive/tailored) designs and data collection strategies
- Statistical disclosure limitation error

The Call for Papers on the ITSEW2022 website is now open with deadlines and registration information.

Included with the registration are: A tour of Manchester, Wine reception and Conference dinner!

Get the Latest Updates for this Conference!

Become a Sponsor of NISS Hosted Events!

NISS Invites corporations, institutions and individuals to sponsor events that are hosted by NISS. Sponsorship helps to defray the cost of organizing events and is a great way to give your organization visibility that targets statisticians and other related professions who attend NISS events! *Learn More!*

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Lu Chen (NISS Research Associate) joined NISS and the Research and Development Division of the National Agricultural Statistics Services (NASS) in 2019 and has been working on a number of projects, primarily focused on the United States Census of Agriculture. This census is conducted every five years and provides a complete enumeration of the farms and ranches in United States.

County Estimates (Planted Acreage, Harvested Area, Production and Yield)

At the close of the harvesting season, the County Estimates program at NASS (National Agricultural Statistics Service) provides the USDA's agricultural estimates at the county level for key crops by planted acreage, harvested acreage, yield and production. Survey data are the major source of information to produce estimates; however these estimates may not be fully consistent with administrative data from other sources. Thus, NASS developed and has now adopted a Bayesian model to improve the accuracy of estimates and to address possible inconsistencies in the survey data. NASS practices and its publication standard for the estimates require rounding for the final estimates. In consequence, rounding at the county level leads to tabulation inconsistency at the state level for state totals and estimated ratios (such as yield). Independentbasic administrative constraints also still need to hold.
New algorithms have been designed at NASS that take administrative constraints into account in the rounding process. Comparative studies of the performance of the candidate algorithms are next in order to identify the most timely and accurate rounding method. Thus far, a software library has been developed and documented for rounding at one level and benchmarking state-level totals. It has now been expanded beyond rounding planted and harvested NASS estimated state-level totals and concurrently enforcing administrative constraints provided by the FSA (Farm Service Agency) and RMA (Risk Management Agency) to round yield and production and to stabilize ratio relationships with harvested acreage.

Small Area Estimation

Core research and modeling efforts for producing summary agriculture statistics, especially small area estimates, continue to expand the suite of Bayesian methods to meet specific requirements for each implementation. Recent additions include the development of a lognormal–normal model for acreage and spatial mixture models for cash rental rates. Model performance is systematically evaluated first by simulations and then by application to past NASS data. Algorithms for detection of deviation from the model, identification and characterization of influential sources (e.g., counties or sampled units) are similarly validated with simulation and application to past data.

Cash Rental Rates

Estimates of agricultural cash rental rates at different geographic levels (e.g. state or county level) have taken on increased importance over recent years due to their application in rental agreement formulation, farm program administration, and related activities. For the county level estimates, NASS has implemented a model-based approach that uses two years (not necessarily consecutive) of data from its survey to estimate rental rates. The current primary research objective is to use the small-area model-based approach at the state level. However, a second objective is to there is to detect influential records in the survey and automatically reweight them to help clean the county-level survey summaries as the model inputs.

NISS POSTDOCTORAL/EARLY CAREER STATISTICIANS & DATA SCIENTISTS

New Research Positions at NISS for Spring and Summer 2022!

RESEARCH THAT MAKES A DIFFERENCE

Early career researchers at NISS have the opportunity to work with researcher leaders to develop innovative data science technology and statistical modeling methodology to address high impact problems. Projects are variously located at NISS-DC, at a NISS Affiliate/hub or at federal statistical agencies. and to see the impact as these solutions are implemented. Research projects at NISS make a difference by developing innovative data science technology and statistical modeling methodology for high priority projects at federal statistical agencies. Primary focus of each project may call for specific expertise such as:

◊ statistical and AI modeling of massive, high dimensional data,
◊ Bayesian modeling for prediction of highly defined small subset properties, including small area estimation/prediction,
◊ latent factor analysis to define new metrics of difficulty
◊ visualization of statistical data,
◊ statistical/mathematical/AI space-time modeling that integrates heterogeneous data types (satellite image, GIS, sample survey, theoretical/empirical model),

◊ GANS or other AI simulation for synthetic networks and complex data as suitable surrogates for privacy-restricted large scale data
◊ other data science and statistical computation tools.

NISS Research Associates are highly successful and publish and present their research regularly. As testimony to their research on high-priority challenges, especially for methodology defining key national statistics and indicators, NISS Research Associates continue to receive awards both for individual contributions and for work with multidisciplinary teams.

NISS appointments are for one year with expectation of renewal. Positions are open as early as February 2022. Applicants must be able to work in multidisciplinary context and to bring statistical theory and data science technology to a research team with the goal of formulating a comprehensive technical approach problem solving.

US citizenship may be required for some NISS positions.

Applications are accepted on the NISS website. Please include citizenship/visa status and date of availability with the application.

APRIL

Virtual Career Fair - Pharmaceutical Companies

Event Date: Wednesday, April 13, 2022 - 12 noon - 1:30 pm ET
Event Type: Webinar

The pharmaceutical industry provides interesting and challenging career and research opportunities for statisticians and data scientists. Is work in the pharmaceutical sector something that you would like to know more about? Then this session is for you! NISS hosts Career Fair sessions that focus ... (read more)

MAY

Virtual Career Fair - Academic Departments

Event Date: Wednesday, May 11, 2022 - 12 noon - 1:30 pm ET
Event Type: Webinar

Interested in pursuing a career as a statistician at an academic institution? Then you won't want to miss this next career fair sponsored by NISS that will offer essential information about job opportunities for statisticians/data scientists in different academic environments. This session... (read more)

NISS Graduate Student Network - 2nd Annual Research Conference

Event Date: May 14-15, 2022 12 - 5 pm ET
Event Type: Online Conference

The NISS Graduate Student Network is very excited once again to announce a two-day graduate student research conference! The first conference took place in June of 2021 and was a resounding success! This second conference will be a two-day event and take place on May 14 and 15, 2021, from noon - 5... (read more)

New Advances in Statistics and Data Science

Event Date: May 24-26, 2022
Event Location: Honolulu, Hawaii,

About As Statistics and Data Science continue to evolve in the big data era, we face new challenges that call for novel interdisciplinary research combining statistics, machine learning, econometrics, computer science, and biology. This 3-day conference brings together leading researchers from... (read more)

JUNE

ISBIS CONFERENCE 2022 on "Statistics and Data Science in Business and Industry"

Event Date: June 20-21, 2022
Event Type: Conference

The ISBIS CONFERENCE 2022 on "Statistics and Data Science in Business and Industry" will take place at University of Napoli Federico II in Naples June 20-21, 2022. The Program and Organizing Committees hope to offer the opportunity to meet in person to share perspectives on the newest developments... (read more)

AUGUST

2022 NISS Writing Workshop for Junior Researchers

Event Date: August, 2022
Event Type: Workshop

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! "Thanks for organizing the writing workshop! We are very glad that we attended the workshop. We learned... (read more)

SEPTEMBER

International Total Survey Error Workshop (ITSEW) 2022

Event Date: 31 August - 2 September, 2022
Event Location: University of Manchester, UK

Theme: "Total Error in Official Statistics: Current Practices and New Methods." The International Total Survey Error Workshop 2022 will take place from the 31st of August through the 2nd September 2022. It will be hosted by The Cathie Marsh Institute for Social Research and The Social Statistics Department,... (read more)

Find Full Details for All Events on the NISS Website!

Subscribe to this Newsletter!

The National Institute of Statistical Sciences (NISS) is an organization whose mission fosters cross-disciplinary research and advocates for statistical engagement in data science.

NISS