# National Institute of Statistical Sciences

ANNUAL Report
July 2018 – June 2019

Research

NISS Affiliates



Junior Researchers



Ingram Olkin Fund

# *From the Leadership*

As NISS completes its 30th year, its role continues to span the world of research, the broader statistics community, and the rising generation of statisticians and data scientists. At the same time, modern communications via electronic media and virtual meetings are enabling NISS to spread its impact.

In keeping with our roots in cross-disciplinary research, NISS continues to reinterpret its mission, with a new focus on the important role of statistics in data science. As John Tukey is reported to have said, "Statisticians get to play in everyone's backyard." But now the backyard is full of big data and the new play equipment includes the necessary computational tools for data science.

NISS finished a strong year with initiatives and expanded activities on every aspect.

- The network of Affiliates grew.
- Statistics community activities nearly doubled.
- Funded projects expanded. Research staff were highly productive, measured in publications and visible in the impacts of their work.
- The Ingram Olkin Fund inaugurated its series of annual forums: Statistics Serving Society.
- Financial support for NISS increased from Affiliates, from donations and from sponsored research.
- Rental of the original NISS building brings activity back into the NISS building and supports building costs and maintenance.
- Increases in total assets and cash reserves and a clean audit mark a solid financial picture.

Looking forward to its 30th anniversary year, NISS is poised to celebrate!

James L. Rosenberger, PhD
Director
National Institute of Statistical Sciences

Nell Sedransk, PhD
Director-DC
National Institute of Statistical Sciences

# Table of Contents

# NEW at NISS

## Virtual Institute

NISS serves both its network of affiliates and the next generation of statisticians with virtual meet-ups and webinars. These allow NISS to reach hundreds of participants and also to preserve presentations for future viewing on the NISS website.

*Real World Data and its Applications in the Pharmaceutical Industry* in October broke the NISS-Merck Meet-up record with over 350 attendees online from industry, government and academia.

A new series of Academic Meet-ups began with oversubscription for *Digging Deeper into p-Values* in November leading to more Meet-ups planned to follow this discussion.

For the rising generation of statisticians, virtual career fairs were held for government and segments of industry. Another new webinar series on non-technical skills for successful careers included *Landing Your First Job as a Statistician*.
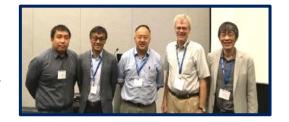
## NISS Awards

**G. Jogesh Babu**, Distinguished Professor of Statistics, Astronomy & Astrophysics & Director of the Center for Astrostatistics at Pennsylvania State University was honored with the *2018 Jerome Sacks Award for Cross-Disciplinary Research*.

For his vision and dedication in helping to build the astrostatistics community for more than two decades, his commitment to young researchers in the field, and his research contributions to the analysis of astronomical data.

The *Sacks Award Invited Session* at JSM, *Cross-Disciplinary Research on Statistical Genomics and Bioinformatics*, featured Harvard **Professor Jun Liu**, who received the *2017 Jerome Sacks Award*.

**Matthias Schonlau**, Professor of Statistics at University of Waterloo received the *2018 NISS Distinguished Alumni Award*.

For honoring his distinguished career as a research statistician in both industry and academia, especially his contributions in the area of survey methodology.

## North Carolina Update

The NISS Building consists of approximately 27,804 rentable square feet located at 19 TW Alexander Drive in Research Triangle Park, NC. In November 2018, NISS executed a lease with Teledyne Scientific Company to lease the original wing of the building (approximately 58% of the building space). Teledyne pays prorated building operating expenses, ground lease and taxes; by rental agreement payments start in November 2019 after a 11-month rent holiday.

In August 2018, the building was listed for sale. As of June 2019, two organizations (non-profit and for-profit entities) have expressed serious interest in a purchase.

# NISS RESEARCH

## NISS Projects

NISS research responds to problems where data is the key to science, and the foundation for evidence-based decision-making and policy. Research results are theoretical, computational and impactful. NASS (National Agricultural Statistics Services, USDA) and NCES (National Center for Education Statistics, US Department of Education) funded major research projects during 2018-2019.

## NISS-NASS Research Projects

Over the course of 2018-2019 five NISS Research Associates (pre-doctoral and post-doctoral fellows) have taken on key technical roles in NASS projects and the Director of NISS-DC has both lead research teams and mentored junior NASS staff. Three major NASS programs have come to fruition during 2018-2019 with NISS staff and Director providing core technical support.

### Estimation US Hog Inventory
NISS Research Associates provided the core technical work on the modeling and statistical computation for a new model for US hog inventory - a leading economic indicator for the agricultural sector of the US economy. This work was the subject of a National Academy of Sciences workshop in June 2019 and has been published by NAS Press.

### Bayesian Methods for Estimation of Crops
NASS publishes estimates of several indicators including land area planted and estimated yield. To enable estimation for small areas, Bayesian methodology for estimation (and uncertainty estimation) based on survey data has been developed and is being refined for application to principal crops: corn, wheat, soybeans, cotton.

### County Estimates for Agricultural Commodities
Following the recommendation of a NAS panel, estimates at the county level have been developed utilizing the foundational work on Bayesian small area estimation. This methodology is now moved into production.

## Impact

Impact can take time to become evident. Two NISS expert panels commissioned by NASS (National Agricultural Statistics Service) in 2016 and 2017 proposed changes to demographics information requested and to the published reports. With the support of these two panels' recommendations, NASS made extensive changes to the demographics section of the US Census of Agriculture. The roles of women and new farmers in the US agricultural enterprise are better represented from the 2017 US Census of Agriculture than ever before.
From the *Capital Press* top story of 9 May 2018:

### Standing up for the count: Women Farmers better represented in 2017 Census of Ag

"The 2017 census added questions about who the decision-makers were in different areas of the operation and allowed respondents to identify additional producers and principal producers (those making decisions) on their operation, she said.

That led to a 6.9% increase in the number of all producers and a 26.6% increase in the number of female producers compared to 2012, she said.

In addition, the changes led to an increase of nearly 70% in USDA's calculation of the number of female primary producers. Among female producers, 65% identified as a principal producer and nearly 40% were reported as the primary producer on the operation."

## Publications 2018-2019

This year's NISS research has been disseminated in 28 publications and 6 additional manuscripts submitted plus 12 presentations at statistics and data sciences conferences.

# NISS RESEARCH

## NISS Projects at NCES

NISS research at NCES includes working with NCES to identify critical issues where technical expertise is needed to assess potential impact or to evaluate possible decisions. NISS conducts the research necessary and assembles panels technical experts to consider the issue at hand and prepare the foundation for evidence-based decision-making and policy. In addition, NISS conducts primary research at the request of NCES; research results are theoretical, methodologic and/or computational.

As part of NISS-NCES Scholars, NISS also forms research teams that engage distinguished researchers as NISS Senior Fellows in statistics, quantitative methodology, psychometrics and related fields to undertake longer-term research projects with the support of NCES.

## NISS-NCES Technical Expert Panels

### p-Values: Significance and Non-Significance

Two panels of outstanding national/international stature addressed the issues of defining, reporting and citing "significance" of research findings from NCES data. These two panels focused the national/international dialogue about p-values on education research and interpretation of education data.

The first panel, held in September 2018, articulated the defining position: the substantive importance and the (statistical) uncertainty associated with this information can be known must be a primary inference; and a "threshold approach" to determining which findings are publishable/published must be replaced by full publication of all planned analyses – and distinguished from unplanned follow-on analyses.

The second panel, held in January 2019, affirmed the September panel's position on abandoning a purely dichotomizing approach to defining importance of research findings and then addressed the implementation issues and considered the value to be added in setting new expectations for publication of research results.

Scholars who participated in these two panels span the statistical, quantitative methodology and educational research communities, and include chief journal editorial staffs, as well. Results of these two panels' deliberations and recommendations carry the potential for far-reaching impact with new expectations for publications of NCES data research.

### Improving SES (Socio-Economic Status) Indicators

Education research has relied for over half a century on eligibility for free/reduced price lunch (FRL) as a primary indicator of a student's socioeconomic status (SES). With changes in the regulation and the implementation of FRL practices, it is no longer a stable indicator with a universal and relevant definition.

The working session engaged technical experts and NCES staff in discussion of criteria for development and evaluation of new indicators to replace FRL in research and reporting. Attention then turned to consideration of a proposal to use geographically-based information linked to available survey data from the American Community Survey.

This workshop engaged NCES staff as well as distinguished researchers in economics, sociology, education and statistics.

## NISS Research Projects

### Software Testing and Validation

Comprehensive checking and review were concluded of new R Package, *EdSurvey*, that NCES commissioned from another NCES contractor. This software is to be available to the public by NCES for the purpose of analyzing NCES public data.

### Evaluation of Restricted Access Licensing Process and Preparation of Training Materials for Licensees

The goal is to make the process efficient while ensuring that licensees understand the statistical requirements for appropriate analysis and inference (e.g., how to analyze plausible scores or how to understand sampling weights).

# AFFILIATES and PROGRAMS

## NISS Affiliates

Renewed commitment to expand the NISS Affiliates Program succeeded in recruiting 11 new Academic Affiliates. New Affiliates were highlighted in the quarterly newsletter, *Parameters,* and on the NISS website homepage.

## Ingram Olkin Fund

In honor of Ingram Olkin, who was a giant in the field of statistics and a driving force in the establishment of a national institute of statistics, the Ingram Olkin Fund was established at NISS.

In 2018, the Ingram Olkin Fund allocated funding to create a series of forums on *Statistics Serving Society*. In the spirit of Professor Olkin's profound impact on so many social science disciplines as well as the mathematical and statistical sciences, the aim of each forum is to bring the latest innovations in statistical methodology and data science to new areas of research and new issues for public policy.

In June 2019, the first forum in this series was held on *Gun Violence – The Statistical Issues.* The event was over-subscribed. The agenda and video of all presentations this meeting is publicly available on the NISS website at: https://www.niss.org/news/statisticians-focus-data-related-gun-violence-inaugural-ingram-olkin-forum.

## Affiliates Programs

NISS Affiliates, through the Affiliate Committee, planned 3 conferences, 2 workshops, and 3 series of virtual events hosted by NISS. NISS also co-sponsored 23 events hosted by NISS Affiliates.

Participation at Alternatives to the Traditional p-Value NISS-hosted virtual events surpassed 500 participants with additional viewers connected via YouTube.

### NISS/Merck Webinar Series

| | | |
|---|---|---|
| 4  October  2018 | *Real World Data and Its Applications in Pharmaceutical Industry* | 360 participants |
| 22 January  2019 | *Statistical Challenges in Immuno-Oncology* | 256 participants |
| 1  April  2019 | *Applications of Real World Data* | 352 participants |

All events in this series are available as videos on the NISS website.

### Academic and Research Webinar Series

| | | |
|---|---|---|
| 23 May  2019 | *Alternatives to the Traditional p-Value* | 538 participants |

All events in this series are available as videos on the NISS website.

### Early Career Meet-up Series and Virtual Career Fairs

| | | |
|---|---|---|
| 10 October  2018 | *How to Land Your First Job as a Statistician* | 160 participants |
| 29 January  2019 | *Improve Your Statistical Communication Skills* | 49 participants |
| 23 April  2019 | *Succeeding as a Statistician in Academia* | 150 participants |

All events in this series are available as videos on the NISS website.

### NISS Research Conferences and Workshops

| | | | |
|---|---|---|---|
| 29 July  2018 | *Affiliates Meeting: Session on "Real World Evidence and Alternatives to the Traditional p-value"* | 2018 JSM | 33 participants |
| 29-31 July  2018 | *Writing Workshop for Junior Researchers* | 2018 JSM | 25 participants |
| 21-22 September  2018 | *R & Spark: Tools for Data Science Workflows* | SAMSI at RTP, NC | 33 participants |
| 25-26 February  2019 | *R & Spark: Tools for Data Science Workflows* | BLS, Washington DC | 22 participants |
| 26-27 June  2019 | *IOF Forum: The Statistics of Gun Violence* | Alexandria, VA | 54 participants |

# RESEARCHERS

## Senior Fellows and Senior Mentors

**Edward Blair**
NISS Senior Fellow
University of Houston

**Johnny Blair**
NISS Senior Fellow
Consultant

**Jay Breidt**
NISS Senior Fellow
Colorado State University

**Steven Glazerman**
Senior Fellow
Mathematica

**Alan F. Karr**
Director Emeritus
NISS

**Jean Opsomer**
NISS Senior Fellow
Colorado State University

**Jerome Sacks**
Director Emeritus
NISS

**Nathaniel Schenker**
NISS Senior Fellow
Retired (NCHS)

**Erin Schliep**
Research Fellow
University of Missouri

**Clifford Spiegelman**
NISS Senior Fellow
Texas A&M University

**Xia Wang**
NISS Senior Fellow
University of Cincinnati

**Christopher Wikle**
NISS Senior Fellow
University of Missouri

**Recai M. Yucel**
NISS Senior Fellow
University at Albany

## Research Associates

*"A different perspective of what type of problems to tackle and how to tackle them.
In that sense it had a profound long-term effect on my career."*

**Alexandra Brown**
Research Associate

**Lu Chen**
Research Associate

**Ya Mo**
Research Associate

**Luca Sartore**
Research Associate

*"The chance to work on real projects from industry and develop further methodologies based on the applied research.
This experience had a big impact on my later research"*

**Joseph Rodhouse**
Research Associate

**Andreea Erciulescu**
Research Associate

**Yijun (Frank) Wei**
Research Associate

*"Be part of an interdisciplinary team . . . team-based research makes the statistician
an equal player at the table and recognizes the intellectual contributions."*

**National Institute of Statistical Sciences**
## Statement of Assets, Liabilities and Net Assets
### As of June 30, 2019

|  | Jun 30, 19 | Jun 30, 18 |
|---|---|---|
| **ASSETS** | | |
| Current Assets | | |
| Checking/Savings | | |
| Checking - FCB | 120,961 | 77,782 |
| Total Checking/Savings | 120,961 | 77,782 |
| | | |
| Accounts Receivable | | |
| Grant and Contract Receivables | 208,007 | 74,638 |
| Affiliate Program Receivables | 15,241 | 3,000 |
| Rental Income Receivable | (30,694) | 0 |
| Workshop Receivables | 8,275 | 0 |
| Total Accounts Receivable | 200,829 | 77,638 |
| | | |
| Other Current Assets | | |
| Prepaid Expenses | 0 | 10,334 |
| Sales Tax Receivable | 3,480 | 4,517 |
| Undeposited Funds | 300 | 0 |
| Total Other Current Assets | 3,780 | 14,851 |
| Total Current Assets | 325,569 | 170,272 |
| | | |
| Fixed Assets | | |
| Land | 1,350,000 | 1,350,000 |
| Equipment | 65,762 | 62,719 |
| Furniture & Fixtures | 7,326 | 7,326 |
| Building - Construction | 2,456,778 | 2,456,778 |
| Building - Improvements | 183,811 | 159,877 |
| Building - Addition | 4,342,915 | 4,342,915 |
| Website | 97,000 | 97,000 |
| Accumulated Depreciation | (2,746,226) | (2,546,294) |
| Lease Closing Costs | 205,480 | 205,480 |
| Accumulated Amortization | (12,552) | 0 |
| Total Fixed Assets | 5,950,293 | 6,135,800 |
| | | |
| Other Assets | | |
| Security Deposits | 5,400 | 11,375 |
| Total Other Assets | 5,400 | 11,375 |
| **TOTAL ASSETS** | 6,281,262 | 6,317,447 |
| | | |
| **LIABILITIES & EQUITY** | | |
| Liabilities | | |
| Current Liabilities | | |
| Accounts Payable | | |
| Accounts Payable | 37,850 | 240,805 |
| Total Accounts Payable | 37,850 | 240,805 |
| | | |
| Credit Cards | | |
| FCB Visa | 19,097 | 0 |
| Total Credit Cards | 19,097 | 0 |

### National Institute of Statistical Sciences
## Statement of Assets, Liabilities and Net Assets
#### As of June 30, 2019

| | Jun 30, 19 | Jun 30, 18 |
|---|---:|---:|
| **Other Current Liabilities** | | |
| Accrued Vacation Leave | 15,944 | 0 |
| SS & Medicare Withheld | 0 | (0) |
| Med 125 Withheld | (1,271) | 0 |
| FSA Withheld | (500) | 0 |
| 401K Payable | 0 | 0 |
| **Total Other Current Liabilities** | 14,173 | 0 |
| **Total Current Liabilities** | 71,121 | 240,805 |
| **Long Term Liabilities** | | |
| Deferred Affiliate Rev. (Rest.) | 104,740 | 121,742 |
| Deferred Base Rent Revenue | (120,394) | 0 |
| 250K Lease Loan | 223,676 | 250,000 |
| Construction Loan | 2,412,337 | 2,399,562 |
| **Total Long Term Liabilities** | 2,620,359 | 2,771,304 |
| **Total Liabilities** | 2,691,479 | 3,012,109 |
| **Equity** | | |
| Net Assets | 3,552,060 | 3,552,060 |
| Unrestricted Net Assets | (143,983) | 295,908 |
| Net Income | 181,706 | (542,631) |
| **Total Equity** | 3,589,783 | 3,305,337 |
| **TOTAL LIABILITIES & EQUITY** | 6,281,262 | 6,317,447 |

**National Institute of Statistical Sciences**

## Statement of Activities
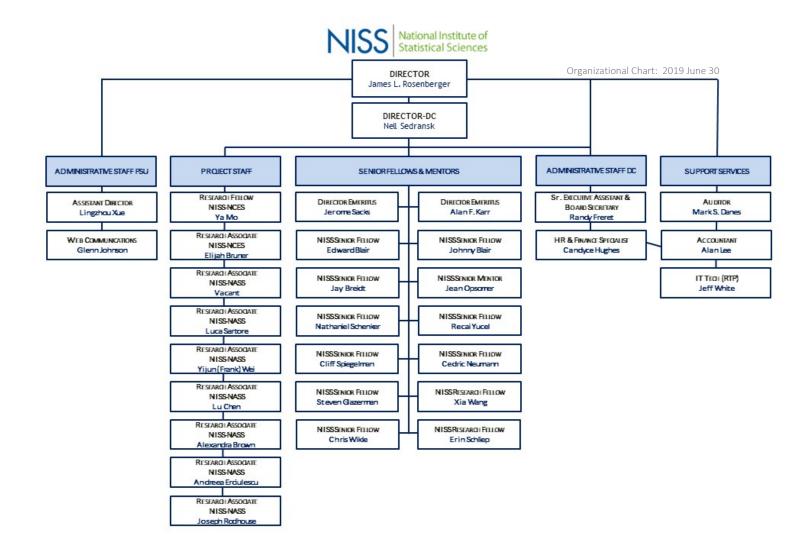
### July 2018 through June 2019

| | Jul '18 - Jun '19 | Jul '17 - Jun '18 |
|---|---|---|
| **Ordinary Income/Expense** | | |
| **Income** | | |
| GRANT AND CONTRACT REVENUE | 1,446,066 | 1,474,676 |
| OTHER REVENUE | 347,376 | 183,225 |
| BUILDING REVENUE | 203,808 | 0 |
| **Total Income** | 1,997,250 | 1,657,901 |
| **Gross Profit** | 1,997,250 | 1,657,901 |
| **Expense** | | |
| SALARIES and FRINGE BENEFITS | 971,807 | 1,136,822 |
| OFFICE EXPENSES | 119,673 | 120,086 |
| TRAVEL EXPENSES | 88,351 | 72,805 |
| CONSULTANTS / PROFESSIONAL ... | 173,289 | 340,894 |
| BOARD OF TRUSTEES EXPENSES | 8,329 | 11,162 |
| MISCELLANEOUS | 9,759 | 6,807 |
| BUILDING EXPENSES | 167,287 | 226,994 |
| OTHER EXPENSES | 199,938 | 202,962 |
| **Total Expense** | 1,738,434 | 2,118,534 |
| **Net Ordinary Income** | 258,815 | (460,632) |
| **Other Income/Expense** | | |
| **Other Expense** | | |
| Interest Expense - 3,250K Loan | 77,110 | 81,998 |
| **Total Other Expense** | 77,110 | 81,998 |
| **Net Other Income** | (77,110) | (81,998) |
| **Net Income** | 181,706 | (542,631) |

# Appendices

A. NISS Organization Chart

B. NISS Governance and Committee Membership

C. NISS Affiliates

D. NISS Events

E. NISS Bibliography

# Organization Chart

NISS | National Institute of Statistical Sciences

Organizational Chart: 2019 June 30

**DIRECTOR**
James L. Rosenberger

**DIRECTOR-DC**
Nell Sedransk

| ADMINISTRATIVE STAFF PSU | PROJECT STAFF | SENIOR FELLOWS & MENTORS | | ADMINISTRATIVE STAFF DC | SUPPORT SERVICES |
|---|---|---|---|---|---|

**ADMINISTRATIVE STAFF PSU**

ASSISTANT DIRECTOR
Lingzhou Xue

WEB COMMUNICATIONS
Glenn Johnson

**PROJECT STAFF**

RESEARCH FELLOW
NISS-NCES
Ya Mo

RESEARCH ASSOCIATE
NISS-NCES
Elijah Bruner

RESEARCH ASSOCIATE
NISS-NASS
Vacant

RESEARCH ASSOCIATE
NISS-NASS
Luca Sartore

RESEARCH ASSOCIATE
NISS-NASS
Yijun (Frank) Wei

RESEARCH ASSOCIATE
NISS-NASS
Lu Chen

RESEARCH ASSOCIATE
NISS-NASS
Alexandra Brown

RESEARCH ASSOCIATE
NISS-NASS
Andreea Erciulescu

RESEARCH ASSOCIATE
NISS-NASS
Joseph Rodhouse

**SENIOR FELLOWS & MENTORS**

DIRECTOR EMERITUS
Jerome Sacks

DIRECTOR EMERITUS
Alan F. Karr

NISS SENIOR FELLOW
Edward Blair

NISS SENIOR FELLOW
Johnny Blair

NISS SENIOR FELLOW
Jay Breidt

NISS SENIOR MENTOR
Jean Opsomer

NISS SENIOR FELLOW
Nathaniel Schenker

NISS SENIOR FELLOW
Recai Yucel

NISS SENIOR FELLOW
Cliff Spiegelman

NISS SENIOR FELLOW
Cedric Neumann

NISS SENIOR FELLOW
Steven Glazerman

NISS RESEARCH FELLOW
Xia Wang

NISS SENIOR FELLOW
Chris Wikle

NISS RESEARCH FELLOW
Erin Schliep

**ADMINISTRATIVE STAFF DC**

Sr. EXECUTIVE ASSISTANT &
BOARD SECRETARY
Randy Freret

HR & FINANCE SPECIALIST
Candyce Hughes

**SUPPORT SERVICES**

AUDITOR
Mark S. Danes

ACCOUNTANT
Alan Lee

IT TECH (RTP)
Jeff White

# Governance

## Board of Trustees Committees for 2018-2019

**Executive**: Raymond Bain (Chair), Christy Chuang-Stein (Vice-Chair), Mary Batcher, James Booth, Tim Hesterberg, Gabriel Huerta, Bhramar Mukherjee, Hal Stern, Leland Wilkinson, James Rosenberger (Ex-Officio), Nell Sedransk (Ex-Officio)

**Affiliates**: Christy Chuang-Stein (Chair), Nathan Cruze, Joel Dubin, Harold Gomes, Dan Holder, Dan Jeske, Glenn Johnson, Mimi Kim, Phil Kott, Esra Kurum, Victor Lo, Sam Woolford, Lingzhou Xue, James Rosenberger (Ex-Officio)

**Affiliates - Recruiting & Retention**: Sam Woolford (Chair), Lingzhou Xue, James Rosenberger (Ex-Officio)

**Awards & Nominations**: James Booth (Chair), Christy Chuang-Stein, Tim Hesterberg, Hal Stern, James Rosenberger (Ex-Officio)

**Communications & Marketing**: Tim Hesterberg (Chair), Richard Zink, Jan Hannig, Dan Holder, Nell Sedransk, Ron Wasserstein, Randy Freret, Glenn Johnson (Ex-Officio)

**Finance**: Mary Batcher (Chair), Ray Bain, Ed Cohen, Ron Wasserstein, Alyson Wilson, James Rosenberger (Ex-Officio), Candyce Hughes (Ex-Officio), Nell Sedransk (Ex-Officio), Alan Lee (Consultant)

**Ingram Olkin Fund Committee**: Nancy Flournoy (Chair), David L. Banks, Larry Hedges, Tim Hesterberg, Claire Kelling, Sally Morton, James Rosenberger, Jerry Sacks, Allan Sampson, Christopher Schmid, Lingzhou Xue

**Salary & Evaluation**: Raymond Bain (Chair)

# Affiliates

## New Affiliates

Bentley University, Mathematical Sciences

Cornell University, Statistics and Data Science

George Mason University, Department of Statistics

Southern Methodist University, Statistical Science

University of California at Los Angeles, Biostatistics

University of California at Los Angeles, Statistics

University of Kentucky, Department of Statistics

University of Minnesota-Twin Cities, Statistics

University of North Carolina in Greensboro, Department of Mathematics and Statistics

University of Texas at Austin, Department of Statistics and Data Sciences

Western Michigan University, Department of Statistics

## Academic

Albert Einstein College of Medicine, Biostatistics

Arizona State University, Math & Statistical Sciences

Baylor University, Department of Statistical Science

Clemson University, Math & Statistical Sciences

Columbia University, Department of Statistics

Duke University, Department of Statistical Science

Emory University, Biostatistics and Bioinformatics

Florida State University, Department of Statistics

Georgetown University, Department of Biostatistics, Bioinformatics and Biomathematics

Iowa State University, Department of Statistics

Ohio State University, Department of Statistics

Pennsylvania State University, Department of Statistics

Purdue University, Department of Statistics

Rice University, Department of Statistics

Texas A&M University, Department of Statistics

University of California at Riverside, Statistics

University of Georgia, Department of Statistics

University of Illinois Urbana-Champaign, Statistics

University of Michigan, Statistics and Biostatistics

University of North Carolina at Chapel Hill, Department of Statistics and Operations Research

University of Pennsylvania

University of Pittsburgh, Department of Biostatistics

University of Pittsburgh, Department of Statistics

University of South Carolina, Department of Statistics

## Government Agencies & National Laboratories

Bureau of Labor Statistics

Energy Information Administration

National Agricultural Statistics Service

National Center for Education Statistics

National Security Agency

U.S. Census Bureau

## Industry

Google

Merck & Co., Inc.

Minitab Inc.

RTI International

SAS Institute, Inc.

## NISS Events

| | | |
|---|---|---|
| 29 July  2018 | *Affiliates Meeting: Session on "Real World Evidence and Alternatives to the Traditional p-Value"* | Vancouver, CA |
| 29-31 July  2018 | *Writing Workshop for Junior Researchers* | Vancouver, CA |
| 21-22 September 2018 | *R & Spark: Tools for Data Science Workflows* | RTP, NC |
| 4  October  2018 | *NISS/Merck Real World Data & Its Applications in Pharmaceutical Industry* | Virtual |
| 10 October  2018 | *How to Land Your First Job as a Statistician* | Virtual |
| 22 January 2019 | *NISS/Merck Statistical Challenges in Immuno-Oncology* | Virtual |
| 29 January  2019 | *Improve Your Statistical Communication Skills* | Virtual |
| 25-26 February  2019 | *R & Spark: Tools for Data Science Workflows* | BLS |
| 1  April  2019 | *NISS/Merck Applications of Real World Data* | Virtual |
| 23 April  2019 | *Succeeding as a Statistician in Academia* | Virtual |
| 23 May  2019 | *Alternatives to the Traditional p-Value* | Virtual |
| 26-27 June  2019 | *IOF Forum: The Statistics of Gun Violence* | Alexandria, VA |

## NISS Co-sponsored Programs

| | | |
|---|---|---|
| 8-10 September  2018 | *Workshop on Higher-Order Asymptotics and Post-Selection Inference* | Washington U, St. Louis |
| 17-19 September 2018 | *MBI Workshop 1: Family Based Genomic Studies* | Ohio State |
| 22 September  2018 | *StatFest 2018* | Amherst |
| 28-29 September  2018 | *Workshop on Point Process Models* | Texas A&M U |
| 5-7 October  2018 | *International Conference on Advances in Interdisciplinary Statistics* | UNC |
| 10-12 October  2018 | *MBI Workshop 2: Math and the Microbiome* | Ohio State |
| 26 October  2018 | *Georgia Statistics Day 2018* | U Georgia |
| 7 -9 November  2018 | *MBI Workshop 3: Modeling and Analysis of Dynamic Social Networks* | Ohio State |
| 18-19 January  2019 | *Statistics Annual Winter Workshop 2019* | U Florida |
| 11 March  2019 | *Using Surveys to Improve the Representativeness of Nonprobability Samples in Epidemiologic Studies* | BLS |
| 28 March  2019 | *71st Clemson University / University of Georgia Joint Statistics Colloquium* | U Clemson |
| 29 March  2019 | *4th Analytics Without Borders Conference* | U Bryant |
| 17 April  2019 | *12th Annual Conference on Statistical Issues in Clinical Trials: Electronic Health Records in Randomized Clinical Trials: Challenges & Opportunities* | U Pennsylvania |
| 26 April  2019 | *The 2019 Bradley Lecture* | U Georgia |
| 6 May  2019 | *2019 Rao Prize Conference* | Penn State |
| 10-11 May  2019 | *WuFest: A Conference on Engineering Statistics and Related Topics* | Georgia Tech |
| 10-12 May  2019 | *The 7th Workshop on Biostatistics and Bioinformatics* | U Georgia |
| 13 May  2019 | *The 2nd Midwest Statistical Machine Learning Colloquium* | Iowa State |
| 16-18 May  2019 | *USCOTS 2019* | Ohio State |
| 28-31 May  2019 | *Tripods Center Workshop: Structure in the Micro-World* | Ohio State |
| 2-5 June  2019 | *2019 SRCOS Summer Research Conference* | Carrollton, KY |
| 2-4 June  2019 | *MBI Bayesian Causal Inference Workshop* | Ohio State |
| 10-13 June  2019 | *The 36th Quality and Productivity Research Conference* | U American |

# Bibliography

## Publications

### To Appear

Bellow, M. E., **Erciulescu, A. L.**, Cruze, N. B. "Benchmarking Options for Model-Based County-Level Estimation of Agricultural Cash Rental Rates.'' Proceedings of Federal Committee on Statistical Methodology Research and Policy Conference, Washington, DC.

**Erciulescu, A. L.**, Cruze, N. B., Benecha, H., Bejleri, V., Nandram B. "On Increasing the Number of County-Level Crop Estimates.'' Proceedings of Federal Committee on Statistical Methodology Research and Policy Conference, Washington, DC.

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## Submitted Manuscripts

**Bruner, E. D., Cui, W.,** Kulikowich, J. M. Constructing a Between Grade Unidimensional Assessment of Reading Comprehension using NAEP Items.

**Chen, L.**, Nandram, B. Bayesian Two-fold Model for Sub-Areas.

Kulikowich, J. M., **Bruner, E. D., Cui, W.**, **Mo, Y.** Digital Literacy Assessments: Effects of Substantive Covariates, Gender, and Context.

Nandram, B., **Chen, L.** A Bayesian Model for Small Areas Under Heterogeneous Sampling Variances.

**Sartore, L., Wei, Y.,** Abayomi, E., Riggins, E., Corral, G., Bejleri, V., Spiegelman, C. Modeling swine population dynamics at a finer temporal resolution.

**Wei, Y., Sedranks, N., Sartore, L.** "Web Scraping and Natural language processing for disease outbreak detection and information extraction".

# Conferences and Presentations

## 2018 Joint Statistical Meetings 28 July - 2 August 2018

**Chen, L.** "Bayesian Logistic Regression Model for Sub-Areas."

**Sartore, L.**, Cruze, N., Benecha, H., **Erciulescu, A.**, Toppin, K., **Spiegelman, C.** "Ad-hoc calibration for rounding rules with nonlinear benchmarks."

Toppin, K., **Sartore, L., Spiegelman, C.** "A global convergent algorithm for integer calibration weighting."

**Wei, Y. Sartore, L.**, Abernethy, J., Miller, D., Toppin, K., **Spiegelman, C.** "Deep Learning for Data Imputation and Calibration Weighting.

## Other Conferences & Workshops

| Presentations | | Location |
|---|---|---|
| **Sartore, L., Wei, Y.**, Abayomi, E., Riggins, S., Corral, G., **Sedransk, N.** "New Developments in Modeling Hogs Production and Growth at a Finer Temporal Resolution."<br>Quality and Productivity Research Conference. | 10-13 June 2019 | Washington, DC |
| **Sartore, L., Wei, Y.**, Abayomi, E., Riggins, S., Corral, G., **Sedransk, N.** "New developments in modeling hogs production and growth at a finer temporal resolution."<br>Quality and Productivity Research Conference. | 10-13 June 2019 | Washington, DC |
| **Sartore, L.**, Toppin, K. and **Spiegelman, C.** "The advantage of integer calibration in the age of big data."<br>NISS Big Data Workshop. | 9 July 2018 | Washington, DC |
| **Chen, L.** Bayesian Logistic Regression Model for Sub-Areas.<br>2018 New England Statistics Symposium. | 15-17 May 2019 | Hartford, CT |
| **Mo, Y.**, & **Sedransk, N.** "Using regression trees to identify distinct subgroup performance and achievement gain."<br>2019 American Education Research Association Conference. | 5-9 April 2019 | Toronto, Canada |
| **Erciulescu, A. L.** "Transparent and reproducible research in agricultural official statistics.''<br>Government Advances in Statistical Programming Workshop. | 24 October 2018 | Washington, DC |
| **Wei, Y.** "Using Gaussian copula to generate a synthetic population."<br>2018 Government Advances in Statistical Programming. | 24 October 2018 | Washington, DC |
| **Wei, Y., Sartore, L.** and **Sedransk, N.** "Using Gaussian copula to generate a synthetic population."<br>2018 Government Advances in Statistical Programming. | 24 October 2018 | Washington, DC |

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