

NISS

Winter 2014

Parameters

A newsletter from the National Institute of Statistical Sciences



Analyzing Complex Survey Data with Missing Item Values Workshop a Success

NISS held a workshop for its affiliates and others on October 17 at the Bureau of Labor Statistics Conference Center in Washington DC. Over 70 people attended the workshop, entitled “Analyzing Complex Survey Data with Missing Item Values.”

The workshop focused on the current state of research and applications for work with incomplete data and imputation for complex designs, technology transfer, application context and dominant features that affect feasibility and statistical properties. Later in the day, the group discussed prospective joint work that they could conduct.

Speakers included: John Eltinge, Bureau of Labor Statistics, Phil Kott, RTI International, Rod Little, University of Michigan, Shu Yang, Harvard School of Public Health, Joe Schafer, U.S. Census Bureau, Kirk White, U.S. Census Bureau, Martha Stinson,

U.S. Census Bureau, Tim Keller, USDA National Agricultural Research Service, Jerry Reiter, Duke University, Jae-kwang Kim, Iowa State University, Paul Biemer, RTI International and The Odum Institute (UNC). There was also a working session on “Challenging Problems with Incomplete Data and Imputation in Large-scale Federal Surveys” with Geoffrey Paulin, U.S. Census Bureau.

Copies of all of the presentations can be found on the [NISS website](#).



Joe Schafer, U.S. Census Bureau, presents to the NISS and SAMSI affiliates.



Paul Biemer, RTI International.

(Photos courtesy of Jerry Reiter)

NISS in Transition: Looking Back, Celebrating, Looking Forward

Next year will be the 25th anniversary for NISS. 2015 will also see the arrival of the 3rd Director of NISS. Since



Alan Karr's stepping down at the end of August 2014 until the new Director arrives on the scene, hopefully July 2015, NISS will

be in transition. How then can this time, not quite a year, best be used? Transition provides time to take stock, to renew and to prepare to hand over a productive and efficient institute.

Thanks to the thoughtful support and committed energies of everyone on the Board of Trustees plus the enthusiasm and work on the part of the NISS staff (Martha, Katherine and Jamie), this transition is truly becoming a year of renewal and reinvigoration.

As of this writing, the search for a new Director is proceeding apace. Several highly qualified applicants have been considered by the Search Committee, followed by interviews of candidates on a short list. It is anticipated that a new Director will be named by mid-spring, hopefully even earlier in 2015.

Looking back: Under the leadership of the first two Directors, NISS has established strong ties to Affiliates in all

three sectors: academia, industry, government. During the transition, these and the solid and long-term research programs and the highly successful postdoctoral fellowship program need to be maintained. Current projects and current postdocs continue to be productive as opportunities for new NISS projects continue to arise.

Celebrating: NISS has reached its 25th year through the engagement of researchers, institutions and clients. This anniversary celebrates the NISS Family - everyone currently connected to NISS and past NISS connections whether as postdocs, members of the Board of Trustees, collaborators or friends.

Looking Forward: NISS has always been busy, with the Director being the busiest of all. To prepare NISS for a new Director, systems and practices are being reviewed. Some, like the IT system, are overdue for reconfiguration in order to be efficient. Other changes will make NISS operations smoother and more transparent. Making these changes now will mean that the new Director can work in an efficiently run institute to bring a new vision for NISS into reality. But the Director won't have to spend precious energy, capital and time developing administrative processes. By the end of June, changes to be completed include integrating the budgeting and accounting system, reconfiguring the IT systems and the connected security system, and updating the

NISS website.

We want to thank you and all of our NISS family for all you have done for us in the past as NISS moves toward its second quarter century.

Sincerely,

Nell Sedransk, PhD

Acting Director

National Institute of Statistical Sciences

Follow NISS on social media!

Follow @NISSAMSI on Twitter.



facebook

LinkedIn

NISS Parameters is a publication of the National Institute of Statistical Sciences ©2014 All rights reserved. No part of this publication may be reproduced without the permission of NISS.

8th Annual ITSEW Conference Explored Fundamentals and Frontiers of Total Survey Error

The National Institute of Statistical Sciences (NISS), along with the U.S. Census Bureau, RTI International and Westat, held the 8th annual International Total Survey Error Workshop in Washington DC October 1-3 at the Bureau of Labor Statistics Conference Center. The theme of the 2014 workshop was *Total Survey Error: Fundamentals and Frontiers*.

This year's gathering fostered an exchange of ideas and preliminary research findings toward a better understanding of total survey error. Participation in this year's ITSEW was particularly valuable for researchers planning to present invited or contributed papers at next year's 2015 International Total Survey Error Conference (TSE2015). Participants shared ideas, received valuable feedback, identified opportunities for collaboration, and planned sessions or joint presentations for TSE2015 to be held September 19-22, 2015 in Baltimore, Maryland.

On Wednesday, October 1, Paul Biemer of RTI International and the University of North Carolina presented a short course on the Total Survey Error Paradigm in Practice. This was a great opportunity to become familiar with this key perspective on survey methodology, or to learn about

the state of current research and how it can be applied in practical survey situations.

On October 2 and 3, the workshop featured presentations and posters exhibiting current research on multiple error sources and their interactions including: design trade-offs, minimization strategies, estimation and analysis issues, and methods for presenting and visualizing TSE results.

Approximately 70 people attended the event. All of the presentations are available at the [NISS website](#).



Attendees enjoying informative talks at the ITSEW 2014.



*Gina Walejko, Center for Survey Measurement.
(Photos courtesy of Alan Karr)*



*Brady West, Survey Research Center,
University of Michigan.*

NISS News Bytes Board Meeting Addresses Transition of Organization

Former NISS postdoc, **Murali Haran**, is still at Penn State Statistics, continuing to enjoy his long-term research collaborations on climate science and infectious disease modeling along with his projects on Monte Carlo methods and spatial modeling.



Marc Genton (L), awards committee chair for ENVR, giving Murali Haran (R) the Young Investigator Award.

The highlights of this year include graduating his 6th Ph.D. student, Won Chang, who is now a postdoc at the University of Chicago

Murali also won the 2014 Young Investigator Award given by the American Statistical Association (ASA) Section on Statistics and the Environment (ENVR). The latter is given to a researcher under 40 years of age for contributions to statistical methods for environmental science.

NISS postdoc **Hang Kim**, the NISS research team including former director **Alan Karr** and senior fellow **Larry Cox**, and the folks at Duke have been busy publishing several papers that are for the Triangle Census Research Network project. The *Journal of Business and Economics Statistics* published a paper entitled "Multiple Imputation of Missing or Faulty Values under

(Continued on page 5)

NISS held its annual Board of Trustees and Members of the Corporation meeting November 7-8, 2014 at its headquarters in Research Triangle Park, North Carolina. About 25 members of the Board of Trustees and Members of the Corporation attended the meeting.

Acting Director Nell Sedransk gave some historical perspective to how the organization

was formed and grew to what it is today. She talked about some ways the organization was reorganizing to prepare for a new director's arrival. Some infrastructure is being updated, such as the email system, the servers and the security system. Every

Board member is serving

on at least one committee. A list of all the committees and the members of each committee is listed on the NISS website. A new intranet was developed to allow more communication to flow amongst committee members.

Friday evening, NISS held a special reception honoring former Director Alan Karr. In addition to the Board and Corporation Members, some of Dr. Karr's friends attended the event.

The Statistical and Applied Mathematical Sciences Institute's (SAMSI) director, Richard Smith, also talked about the similarities and differences between the two organizations. One consensus was that SAMSI is a grant, not a 501(c)(3) like NISS is, and that SAMSI's goal is to stimulate research, while NISS's goal is to actually conduct statistical research. SAMSI's focus includes applied mathematics as well as statistical sciences, while NISS' focus is much more on the statistical sciences.

The search committee also reported that the search for a new director is moving along well. They expect to name a new director sometime this spring. The new person would most likely start this summer.

The communications director, Jamie Nunnally, talked about increased efforts to raise brand awareness of NISS and to communicate to the statistics community more often. The organization expects to have more outreach to its former postdoctoral fellows, of which there are about 70 postdocs who have worked at NISS over the past 24 years. A new website is going to be developed to better meet the institute's current needs.

The board will hold a meeting March 6-7 to have more discussion about the mission and vision of NISS and the changes taking place.



Acting Director, Nell Sedransk, presenting to the Board of Trustees.

Postdoc Profile - Neung Soo Ha

Neung Soo Ha started working as a postdoctoral fellow for NISS this fall. He is working on a project that involves the National Survey of Recent College Graduates (NSRCG) as part of a project funded by the National Center for Science and Engineering Statistics at NSF. “With NISS we are developing a model-based analysis of multi-dimensional contingency tables,” said Neung Soo.

Neung Soo grew up in South Korea and then came to the United States when he was fourteen. He moved to Andover, Massachusetts and was living with relatives. He received his undergraduate degree in applied mathematics at Columbia University, then he went to the University of Illinois for his Master’s degree. He considered getting a Ph.D. but decided to go back to South Korea to fulfill his military service. He spent the next two years in the military and another year in South Korea before returning to the United States. He applied and was accepted to the University of Maryland for his Ph.D. in statistics.

He decided to pursue a career in statistics because he felt it was very useful and more widely applicable than mathematics.

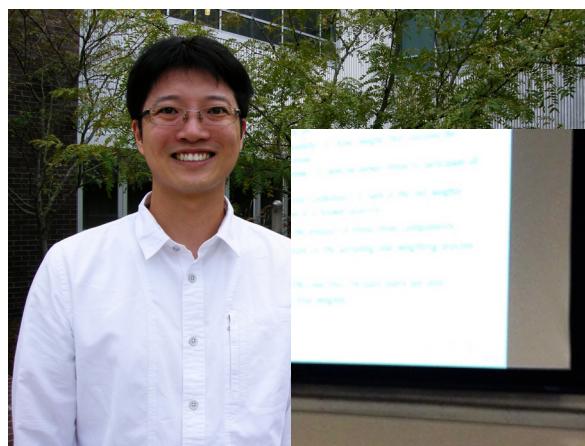
Neung Soo first heard about NISS and SAMSI while he was a Ph.D. student at the University of Maryland. When he spent an internship at the National Center for Health Statistics (NCHS), he heard about NISS from Meena Khare, who was one of the heads of the department where Neung Soo

was working at the time.

He heard about SAMSI from another student from the University of Maryland, Atheya Avanti, who was a SAMSI postdoc in 2009.

After receiving the Ph.D., Neung Soo got an email from

to run or do the Insanity workout, which is a high intensity interval training program.



SAMSI that the institution was hiring a postdoctoral fellow for the Computational Methods in Social Science program during 2013-2014 and decided to apply.

While at SAMSI, he was working on a survey that dealt with the health insurance rates for counties in Florida. He also was involved with the weighting and the Census working groups. The weighting working group is still meeting regularly even though the research program is officially over.

Neung Soo spends the second year of his postdoc mainly working for NISS, but is also working on research that he started last year at SAMSI. When he is not working, Neung Soo enjoys watching movies of all genres. He also likes to exercise. He particularly likes

Neung Soo Ha, postdoctoral fellow at NISS.

News Bytes

(From page 4)

Linear Constraints.” *The Journal of Computational and Graphical Statistics* published “The General Multiset Sampler.” The DOI is 10.1080/10618600.2014.962701. And, soon to be published is an article entitled, “Statistical Disclosure Limitation in the Presence of Edit Rules” in the *Journal of Official Statistics*.

NISS was saddened to hear that **Dr. Marvin Zelen**, former Member of the Corporation from 2000-2001, and from the Department of Biostatistics at Harvard University, passed away on November 15 from cancer. He was 87.

NISS Looking for Nominations for the Jerome Sacks Award for Cross-Disciplinary Research



Terry Speed (L) receiving the Jerome Sacks Award from NISS Board chair Mary Batcher this past year at the NISS-SAMSI reception at JSM in Boston, MA.

The NISS Board of Trustees established the Jerome Sacks Award for Cross-Disciplinary Research in 2000 to honor Sacks' service as the founding director of NISS. The annual prize of \$1,000, to be presented this year at the NISS/SAMSI Joint Statistical Meetings Reception in Seattle, Washington, recognizes high-quality cross-disciplinary research involving the statistical sciences.

The 2015 award selection committee solicits nominations of researchers whose work is cross-disciplinary, sustained and encompasses innovation in the statistical sciences. Preference will be given to work that, in

the spirit of NISS, creates new research relationships bridging the statistical sciences and other disciplines, or new bridges among academia, industry and government. Achievements such as patents and software creation will be considered.

Past winners include: Terry Speed (2014), Kenneth Burnham (2013), William Meeker (2012), Emery Brown (2011), Sallie Keller (2010), Ramanathan Gnanadesikan (2009), John Rice (2008), Cliff Spiegelman (2007), Adrian Raftery (2006), Jeff Wu (2005), Douglas Nychka (2004), Raymond Carroll (2003), Max Morris (2002), and Elizabeth Thompson (2001).

The nomination process is very straightforward. All that is needed is a nomination letter of no more than two pages, names of at least two other individuals who have consented to write letters of support and a CV. Nomination letters should be submitted by June 12, 2015 to sacksaward2015@niss.org.

P.O. Box 14006
19 T.W. Alexander Drive
Research Triangle Park, NC 27709
919.685.9300 (phone) 919.685.9310 (fax)
www.niss.org

NISS/SAMSI Affiliates

Industries

AIG, Inc., New York City, NY
AT&T Labs-Research, Florham Park, NJ
Avaya Labs, Basking Ridge, NJ
GlaxoSmithKline, Research Triangle Park, NC
and Collegeville, PA
Merck Research Laboratories, Whitehouse
Station, NJ
MetaMetrics, Inc., Durham, NC
PepsiCo - Biology Innovation Research Lab,
New Haven, CT
Quintiles, Durham, NC
RTI International, Research Triangle Park, NC
SAS Institute, Cary, NC
SPSS, an IBM Company, Chicago, IL
Yahoo! Research Laboratory,
Silicon Valley, CA

Government Agencies & National Laboratories

Bureau of Labor Statistics, Washington, DC
Energy Information Administration,
Washington, DC
National Agricultural Statistics Service,
Fairfax, VA
National Center for Education Statistics,
Washington, DC
National Center for Health Statistics,
Washington, DC
National Geospatial-Intelligence Agency,
Springfield, VA
National Security Agency, Washington, DC
US Census Bureau, Washington, DC

Universities

Arizona State University, School of Mathematical and Statistical Sciences

Baylor University, Department of Statistical Science
Carnegie Mellon University, Department of Statistics
Columbia University, Department of Biostatistics
Duke University, Departments of Statistical Science and Mathematics
Duke University Medical Center; Department of Biostatistics and Informatics
Emory University, Department of Biostatistics
Florida State University, Department of Statistics
George Mason University, Department of Statistics
Georgetown University Medical Center, Department of Biostatistics, Bioinformatics and Biomathematics
Georgia Institute of Technology - School of Mathematics and School of Industrial Systems and Engineering
Indiana University, Department of Statistics
Indiana University-Purdue University Indianapolis, Department of Mathematical Sciences
Iowa State University, Department of Statistics
Medical University of South Carolina, Department of Biostatistics, Bioinformatics and Epidemiology
North Carolina State University, Department of Mathematics
North Carolina State University, Department of Statistics
Oakland University, Department of Mathematics and Statistics
Ohio State University, Department of Statistics
Pennsylvania State University, Department of Statistics

Purdue University, Department of Statistics
Rice University, Department of Statistics
Stanford University, Department of Statistics
Texas A&M University, Department of Statistics
University of California - Berkeley, Department of Statistics
University of Connecticut, Department of Statistics
University of Florida, Department of Statistics
University of Georgia, Department of Statistics
University of Illinois Urbana-Champaign, Department of Statistics
University of Maryland-Baltimore County, Department of Mathematics & Statistics
University of Michigan, Departments of Statistics and Biostatistics
University of Missouri-Columbia, Department of Statistics
University of North Carolina at Chapel Hill, Department of Statistics and Operations Research
University of North Carolina at Chapel Hill, Department of Biostatistics
University of North Carolina at Chapel Hill, Department of Mathematics
University of Pennsylvania, Department of Biostatistics and Epidemiology
University of Pennsylvania, Wharton School, Department of Statistics
University of Pittsburgh - Departments of Statistics and Biostatistics
University of South Carolina, Department of Statistics
Virginia Commonwealth University, Departments of Biostatistics and Statistical Sciences
Virginia Polytechnic Institute and State University, Department of Statistics