NISS

Parameters

NISS Holds Workshop on Microsimulation Models for Surveys

NISS held a workshop on Microsimulation Models for Surveys on April 7, 2011 in Washington DC. The event was hosted by the Bureau of Labor Statistics (BLS), which is the featured affiliate in this issue of *Parameters*—see page 4. More than 25 researchers from academia and government agencies attended, the latter even in spite of what was then a possibly imminent shutdown of the federal government.

Topics covered in the workshop included:
- Overview of Simulation Models and a Simulation Model for NHIS Field Operations and Cost Estimates
- Simulation Models to Inform Health Policy
- Cost and Cost Modeling for the Consumer Expenditure Survey (CES)
- Optimizing Call Scheduling to Minimize Data Collection Costs
- Accounting for Uncertainty in Microsimulation Models

Microsimulation in another setting where NISS has been active. Traffic microsimulation models could be used to evaluate the effectiveness of lengthening an on ramp on the highway. See page 3 for related story.

- Thoughts on Developing a Microsimulation Model of a Federal Survey

Some of the speakers were Bor-Chung Chen, U.S. Department of Transportation, Carolyn Rutter, Group Health Research Institute, John L. Eltinge and Jeffrey M. Gonzalez, BLS, Mike Hidiroglou, Francois Laflamme, H. Choudhry, and Yves Bélanger, Statistics Canada, Gregoriy Bobashev, RTI International and Alan Karr and Larry Cox, NISS.

The highlight of the workshop was the in-session and off-line discussions among the participants, which will lead to a white paper and research agenda. For additional information, see the **NISS** website.

From the Director

Send Us Your Ideas!

To get to the point before turning verbose, NISS wants and needs your ideas about what we can and should be doing to serve the statistical sciences community more effectively and more excitingly. Nothing is too far afield: as I have often said, my most important role at NISS is to ask questions and make suggestions that are so stupid that no one else feels inhibited, so let your imagination run wild! Then we can all work together to turn your good ideas into even better ones.

Here is a bit of context. Ever since its creation in December 1990 (Yes, we are about to become an adult!) NISS has been the statistics community's institute, and we have multiple layers of interaction with it. The innermost of these is our governance structure. Sparing you the gory details, five of our ten parent organizations—and actually our legal owners—are the ASA, COPSS, ENAR/WNAR, the IMS, and Section U of the AAAS. Each of these organizations is represented on our Board of Trustees, and NISS benefits enormously from the advice and counsel of the Board.

Moving outward, the next layer is the Affiliates, who since the program was created in 2000, have influenced profoundly the course of
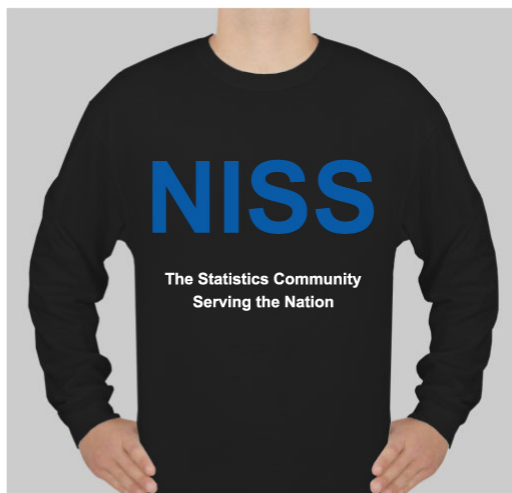
our research and the nature of our activities, to the point that NISS and the Affiliates Program really are inseparable. And never being afraid to confuse causality and correlation when it benefits NISS, I am proud to note that seven of last eight mens' NCAA basketball champions and all three of the most recent womens' champions are Affiliates!

SAMSI, too, gives us multiple links, and to the applied mathematics as well as the statistics community.

But ideas come from people, not from organizations, and coming back to where I started, we need yours. What can NISS do for you, for your organization, for the community, or for the nation that would really MAKE A DIFFERENCE? To make all this more fun, we have created a dedicated E-mail address, ideas@niss.org, to which you can respond. Everyone who does send in an idea will receive (until we run out of them) a lovely NISS T-shirt (pictured to the left), and those who submit truly outstanding ideas will be recognized at the NISS/SAMSI JSM Reception.

So get thinking and we can't wait to hear from you!

Alan Karr
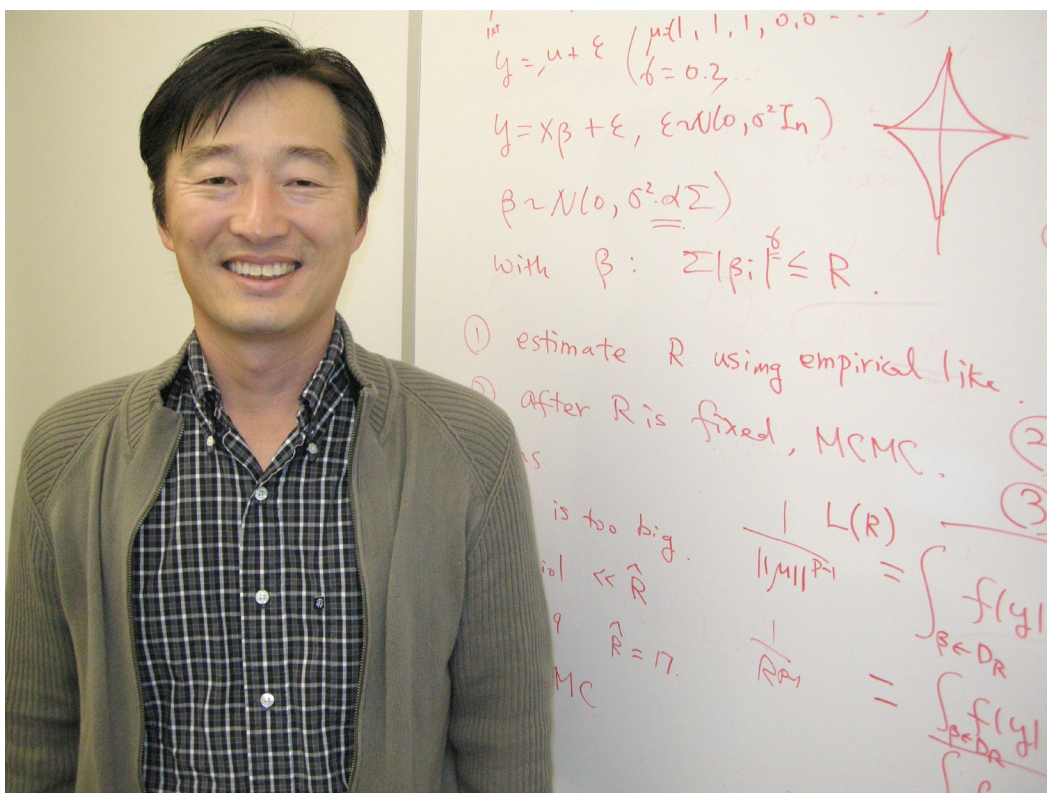Director

Former Postdoc Profile:
Jaeyong Lee

Jaeyong Lee has had an interest in Bayesian nonparametric statistics for many years. He grew up in Korea and majored in statistics and computer science as an undergraduate at Seoul National University. In his junior year, in the mathematical statistics course, the teacher compared frequentist statistics with Bayesian statistics. "I was intrigued by that because I didn't think there were any philosophical components to statistics," remarked Jaeyong.

Jaeyong came to the United States to get his Master's degree at the University of Nebraska and then went on to Purdue University to get his Ph.D. in statistics. This is where he met Jim Berger, who became his advisor.

Jaeyong arrived at Duke University in 1997, when Jim Berger moved there. In 1998, just after he received his Ph.D. from Purdue, Jaeyong became a postdoctoral fellow for NISS. During his two years at NISS, he worked on two major projects. The first was on transportation, where he was involved in the microsimulation

of individuals' daily trajectories *(see photo on page 1)*. Some of those he collaborated with included Dongchu Sun. The other project was the first NISS digital government on data confidentiality, where he worked with Alan Karr and Ashish Sanil.

Jaeyoung was at SAMSI this past year for the AOD program.

This was one of the first times people were really focusing on the issue of confidentiality in tlight of new electronic technologies. Jaeyong also remembered that the team worked with the National Agricultural Statistics Service (NASS) on disseminating information about the use of chemicals such as herbicides and

pesticides on farms. The goal was to disseminate information at the county level, but this was not possible at the same time as protecting the identities of individual farms from which information had been gathered. A method for aggregating information to "super-counties"—groups of geographically adjacent counties— was created, and in collaboration with NISS neighbor MCNC, a software tool was produced that implemented the methodology. "During the time I was at NISS, there were not as many postdocs as

Affiliate Profile:
Bureau of Labor Statistics

The Bureau of Labor Statistics (BLS) of the U.S. Department of Labor is responsible for measuring labor market activity, working conditions, and price changes in the economy. Its mission is to collect, analyze, and disseminate essential economic information to support public and private decision-making. BLS employs over 2,500 people. Like many organizations, BLS recognizes that its employees are one of its most valuable assets.

The information produced by BLS is very comprehensive and is vital information to many decision makers, including the President and members of Congress, and Federal policy makers, as well as many local elected officials and leaders from local communities. BLS provides key figures on unemployment; inflation; earnings levels; projections of occupational and industry growth; productivity trends; job accidents and illnesses; consumer household expenditures; and much more.

The agency is heavily staffed with mathematical statisticians. They are responsible for assuring the statistical integrity of the sample survey estimates. The statisticians work on the design of large-scale sample surveys. Another area of research that the statisticians at BLS are involved with is to develop new techniques for sample design and estimation. The statisticians work closely with economists and computer specialists regarding program objectives, survey design, and systems development on planning and designing sample surveys.

Some of the areas that the statisticians at BLS are involved with include:

- developing and refining sampling frames
- defining and implementing the sample
- survey design
- measuring the quality of the data collected and improving the data collection and processing procedures
- deriving or selecting appropriate estimation procedures and preparing written systems requirements
- evaluating the results of surveys with respect to sample design and accuracy
- researching and developing statistical measures and procedures to improve BLS surveys
- serving as statistical consultants for the economic analysts of the Bureau.

"Many statisticians find that working at BLS is a stimulating and engaging atmosphere to work," said John Eltinge, Associate Commissioner at BLS. Eltinge is responsible for management of a wide range of methodological research projects that address the needs of BLS production programs. He consults with BLS senior management and BLS programs on methodological research. He is also responsible for cross-office coordination on recruitment and training of methodological personnel. Eltinge has been involved with NISS for many years and acts as the affiliate liaison for BLS. Alan Karr, director of NISS, stated that "The NISS-BLS relationship has a long history. It began under former Associate Commissioner Cathryn Dippo, who played a key role in the creation of the Digital Government initiative at NSF. NISS and BLS have co-sponsored at least four workshops, and BLS hosted the 2007 Affiliates Annual Meeting. NISS and BLS, together with RTI International and several other organizations, provided the impetus for creation of the International Total Survey Workshops (ITSEW). I look forward to many future collaborations with BLS."

NISS sponsored, and BLS hosted, the workshop on microsimulation models for surveys, that took place on April 7. For a full story, see page 1.

Jaeyong Lee - Continued

there are now," remarked Jaeyong, "It was nice to have the opportunity to work with people who were not in academics." Jaeyong also commented, "When I was getting ready to leave Penn State (where he went following his time at NISS), Murali Haran was thinking of being a postdoc at NISS, so the head of the department asked me if I thought it was a good experience and I said yes, it is a great place to get some experience." Murali did indeed come to NISS for a year before assuming his faculty position at Penn State.

For three years, Jaeyong was an assistant professor at Penn State University. Then, he took a job at Seoul National University (SNU), where he works today as professor of statistics. He has been at SNU for seven years and was appointed full professor in 2010.

Last year, Jaeyong was one of SAMSI's visitors, as part of the program on Space-Time Analysis for Environmental Mapping, Epidemiology and Climate Change. He, again, was able to collaborate with Dongchu Sun, who was one of the program organizers. Jaeyong participated in the working groups on Interaction of Deterministic and Stochastic Models and the Computation, Visualization and Dimension Reduction in Spatio-Temporal Modeling. He is also involved with SAMSI this year, and was here this past fall to participate in the Analysis of Object Data program. He is again in two working groups. One is the Hierarchical Methods for Object Data; the other is Dynamics and Inference.

Jaeyong has two daughters, April, who is 13 years old and Sunnie, who is 16. April came to the United States with him to study. Sunnie is in an art school in Korea and chose to stay there during Jaeyong's visit to the United States. Minhye, his wife, also stayed in Korea to be with her . He and Minhye used Skype every day to keep in touch during his six-month stay at SAMSI. "This is the first time in 18 years we have been apart for so long," said Jaeyong. He was happy to be going home at the end of December. Jaeyong will still be participating in the two working groups during the Spring semester via WebEx.

Synthetic Longitudinal Business Database

The United States Census Bureau announced in March that it has released its Synthetic Longitudinal Business Database Beta Data Product (SynLBD) for use by the general public. The SynLBD is an experimental data product produced by the Census Bureau in collaboration with the National Institute of Statistical Sciences (NISS), Duke University, Cornell University, the Internal Revenue Service (IRS) and the National Science Foundation (NSF).

The purpose of the data product is to provide users with access to longitudinal business data that can be used outside of a secure Census Bureau facility. The SynLBD includes synthesized information on establishments' employment and payroll, birth and death years and actual industrial classification. The synthetic data is generated by fitting models to the confidential data and using these to simulate replacement values. The idea is to preserve broad analyses in the data while protecting the confidentiality of individual establishments.

Saki Kinney, research statistician at NISS, began working on this project as a graduate student at Duke University working under Jerry Reiter, and has remained involved since joining NISS in 2008, under an Intergovernmental Personnel Act agreement between NISS and the Census Bureau.

People interested in using the product may apply for a free user account on the Cornell University Virtual RDC. For more information, visit the SynLBD website at http://www.ces.census.gov/index.php/lbd.

The research team is already working on a second version of this database.

NISS Calendar of Events

Southern Regional Council on Statistics (SRCOS) Summer Research Conference
June 5 – 8, 2011 in Hickory Knob State Resort Park in South Carolina.
NISS is a co-sponsor of this event.
Details here.

Difficulties with Observational Studies
June 16-17, 2011, at NISS.
Details: Forthcoming

International Total Survey Error Workshop
June 19-22, 2011 in Ste-Foy, Quebec, Canada
NISS is a co-sponsor of this event.
Details here.

JSM Affiliates Meeting
July 30, 2011, 3-6 PM, in Miami, FL
Details: Forthcoming

NISS/SAMSI JSM Reception
August 1, 2011, 5-7 PM, in Miami, FL
Featuring announcement of 2011 Sacks Award and NISS Distinguished Service Awards

Nonclinical Biostatistics Workshop
October 8-11, 2011 at Joseph B. Martin Conference Center, Harvard Medical School in Boston, MA.
NISS is a co-sponsor of this event.
Details here.

Donate to the NISS Fund

Gifts of any size to the NISS Fund enable us to increase our value added to the community, and to pursue exciting new opportunities, such as helping us pursue new research opportunities, fund a postdoc to attend important workshops and meetings, or for NISS to conduct a new research workshop. Please visit our website at www.niss.org to make your contribution. Your generosity is so greatly appreciated!

Photos from the Affiliates Annual Meeting

From L-R: Roy Whitmore, RTI International; George Michailidis, University of Michigan; Jim Landwehr, Avaya Labs; Kathy Ensor, Rice University. Background: Cliff Spiegelman, Texas A&M.

Many lively discussions took place at this year's annual affiliates meeting. The meeting was held in College Station, Texas April 14-15, 2011. NISS thanks this year's host, the Department of Statistics at Texas A&M University.

After a day of meetings, the group was treated to a special dinner prepared by a personal chef.

Keith Soper, Merck talking to Nell Sedransk, NISS.

L-R: Roy Whitmore, RTI International; Jim Landwehr, Avaya Labs; George Michailidis, University of Michigan; Scott Holan, University of Missouri.

NISS/SAMSI Affiliates

Industries

AT&T Labs–Research, Florham Park, NJ
Avaya Labs, Basking Ridge, NJ
GlaxoSmithKline, Research Triangle Park, NC and Collegeville, PA
MetaMetrics, Inc., Durham, NC
PNYLAB, LLC, Princeton, NJ
RTI International, Research Triangle Park, NC
SAS Institute, Cary, NC
SPSS, an IBM Company, Chicago, IL
Telecordia Technologies, Piscataway, NJ
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, Hyattsville, MD
National Geospatial-Intelligence Agency, Bethesda, MD
National Security Agency, Ft. George W. Meade, MD
Office of the Comptroller of the Currency (Treasury Department), Washington, DC
US Census Bureau, Washington, DC

Universities

Carnegie Mellon University, Department of Statistics
Columbia University, Department of Biostatistics
Cornell University, Department of Statistical Science
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
Georgia Institute of Technology – School of Mathematics and School of Industrial Systems and Engineering
George Mason University, Department of Statistics
Georgetown University Medical Center, Department of Biostatistics, Bioinformatics, and Biomathematics
Indiana University, Department of Statistics
Iowa State University, Department of Statistics
Johns Hopkins University, Department of Applied Mathematics and Statistics
Medical University of South Carolina, Department of Biostatistics, Bioinformatics and Epidemiology
North Carolina State University, Department of Statistics
North Carolina State University, Department of Mathematics
Oakland University, Department of Mathematics
Ohio State University, Department of Statistics
Pennsylvania State University, Department of Statistics
Purdue University, Department of Statistics

Rice University, Department of Statistics
Southern Methodist University, Department of Statistical Science
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
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University of Illinois Urbana–Champaign, Department of Statistics
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