



National Institute of Statistical Sciences
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www.niss.org

NISS Affiliates and NISS/SAMSI University Affiliates 2006 Annual Meeting

Summary

June 14, 2006

1 Introduction

The 2006 annual meeting of the NISS Affiliates and NISS/SAMSI University Affiliates was held on April 27-28, 2006, in Athens, GA.

This first of the “mobile” annual affiliates meetings was hosted by the Department of Statistics at the University of Georgia. Gauri Datta and John Stufken played major roles in planning and arranging the meeting, especially the technical program on April 27.

Attending the meeting were Dennis Cosmatos (Wyeth), Rob Creecy (Census Bureau), Thomas Gerig (NISS/NCSU), Fred Huffer (Florida State University), Alan Karr (NISS), Feng Liang (Duke University), Yunming Mu (Texas A&M University), Vijay Nair (University of Michigan), Sastry Pantula (North Carolina State University), Edsel Peña (University of South Carolina), Bahjat Qaqish (University of North Carolina at Chapel Hill, Department of Biostatistics), Nell Sedransk (NISS), Keith Soper (Merck), Paul Speckman (University of Missouri), John Stufken (University of Georgia), John Wierman (Johns Hopkins University), Lee Wilkinson (SPSS) and Stanley Young (NISS).

2 Technical Program: April 27, 2006

Speakers and titles were:

Paul Schliekelman, University of Georgia: *Expression QTLs and Mapping of Complex Disease Genes*

Abhyuday Mandal, University of Georgia: *Estimation of Process Parameters to Determine the Optimum Diagnosis Interval for Control of Defective Items*

Mary Meyer, University of Georgia: *Shape Restricted Regression Splines, with Applications*

Feng Liang, Duke University: *Nonparametric Bayesian Kernel Models*

The presentations are available on the affiliates web site, at www.niss.org/affiliates/planningmeeting200604.html.

The affiliates annual dinner was held at the Basil Press restaurant in Athens.

3 Planning Meeting: April 28, 2006

The meeting convened at 9:30 AM in the Holiday Inn Express hotel in Athens, GA. It was preceded by an informal affiliates breakfast.

3.1 Reports

NISS Director Alan Karr reported on recent, current and planned activities at NISS and SAMSI. A copy of the full presentation is available at www.niss.org/affiliates/planningmeeting200604.html.

Highlights:

- Continued growth of the affiliates programs: new affiliates since the 2005 annual meeting are Bell Labs, Nuevolution, Wyeth, Xerox Innovation Group, the National Cancer Institute, the University of California, Berkeley (Department of Statistics), the University of Connecticut (Department of Statistics), George Mason University, Purdue University (Department of Statistics) and Virginia Commonwealth University (Department of Biostatistics).
- The affiliates' collectively receiving ASA's 2005 SPAIG award.
- Events at affiliates' sites, including the September 30, 2005 *The Future of Data Analysis: A Conference in Honor of Jon Kettenring* at Avaya Labs Research, the October 27–29, 2005 *Workshop on Overarching Issues in Risk Assessment* at Iowa State University, the April 18–19, 2006 *Workshop on Survey Costs* at the National Center for Education Statistics (NCES), and this meeting.
- A strong presence of NISS in education statistics, through leading roles in the Education Statistics Services Institute—Statistics (ESSI–Stat) and NAEP Education Statistics Services Institute (NESSI).
- Research initiatives in evolving software systems, experimental analysis of algorithms, survey modeling, evidentiary statistics and biomedical imaging, the latter two described by Associate Director Nell Sedransk.
- Several NISS and affiliate-targeted initiatives, including
 - The NISS New Research Fellowships; a copy of the announcement is appended to this report.
 - The NISS/Odum Institute Postdoctoral Fellowship; a copy of the announcement is appended to this report.
 - NISS co-sponsorship of events hosted by affiliates.
- Planned expansion of the NISS building, to accommodate growth at both NISS and SAMSI.
- Various aspects of the SAMSI renewal proposal, which was submitted on May 26, 2006.
- Strong efforts to make SAMSI truly national, including a rotating deputy directorship, national program leadership, and national participation in working groups.
- New SAMSI summer programs in 2006 on *Multiplicity and Reproducibility in Scientific Studies* and in 2007 on *Dynamic Treatment Regimes and Multi-Stage Decision Making*.

- SAMSI programs in 2006–07 on *Development, Assessment and Utilization of Complex Computer Models* and *High-Dimensional Inference and Random Matrices*.
- Planned SAMSI programs in 2007–08 on *Random Media, Risk Analysis, Extreme Events and Decision Theory* and *Environmental Sensor Networks*.

3.2 Three-Minute Madness

Each affiliate was given three minutes to describe recent events, needs and concerns; as usual, participation was mandatory. A brief summary follows.

Census Bureau: The Bureau maintains an active program of research that includes mathematical statistics, computational statistics, survey methods, time series, small area estimation and data confidentiality. Expanded contact with the academic community is planned, including Census Bureau support for graduate students.

Duke: The Institute of Statistics and Decision Sciences is changing its name to the Department of Statistical Sciences and instituting an undergraduate major.

Florida State University: Dan McGee is now chair. There have been two recent hires. A Ph.D. program in biostatistics has been initiated.

Johns Hopkins University: The recently re-named Department of Applied Mathematics and Statistics has 9 tenure-track faculty and 4 lecturers. An Institute for Computational Medicine has been established at Hopkins.

Merck: Some three hundred people work in Biostatistics and Decision Sciences; Keith Soper's group of twenty is focused mainly on target and discovery. The Merck Company Foundation supports graduate students in biostatistics in fifteen departments each year. Summer internships are available.

University of Georgia: There have been several recent faculty hires. The statistical consulting activity has been re-organized. State budget problems are falling hard on the university.

University of Michigan: Currently, there are 16 faculty in the Department of Statistics, including outstanding young faculty. The state budget situation is not good.

University of Missouri: Nancy Flournoy is doing an outstanding job as department chair. Six faculty have been hired in the past 3 years. Chris Wikle has received the Chancellor's Research Productivity Award.

North Carolina State University: The VIGRE program will have five postdocs next year; there are currently 32 faculty, including 2 new hires.

University of North Carolina—Biostatistics: Activity is expanding through faculty hires in imaging and bioinformatics. Michael Kosolrof becomes department chair on May 1.

University of South Carolina: Don Edwards is the current department chair. There have been several faculty hires.

SPSS: Lee Wilkinson is working on development of a visualization engine (see www.spss.com/visualization), predictive analytics and security for the transportation network, and is on the organizing committee for an NSF-sponsored workshop on the mathematics of visualization, planned for the fall of 2006.

Texas A&M University: The statistics department is hiring aggressively, including five new appointments this year. A masters degree program is being offered via distance education.

Wyeth: Dennis Cosmatos is part of a “Critical Path Initiative.” Issues of interest include combining information and prioritizing compounds.

3.3 Group Discussion

The meeting concluded with a far-ranging, free-wheeling and very productive discussion, framed by two issues posed by Karr:

- Systematizing the role of affiliates in forming NISS projects;
- Shared NISS–Affiliate postdoctoral programs.

Important points raised included:

- Brainstorming/exploratory workshops for affiliates, perhaps necessarily targeted at subsets of the industrial and government affiliates.
- Visits of NISS directors to affiliates.
- Posed by Cosmatos: how can the affiliates program help address “grand challenges” such as predicting the probability of success for a pharmaceutical compound from multiple sources?
- Can NISS work to promote mutually beneficial data sharing among affiliates, possibly using NISS technologies for secure analysis of distributed databases?
- Affiliates problem days.
- Remote participation of affiliates in annual meetings via tele- or video conferencing.

Karr reaffirmed the NISS commitment to “affiliates only” events.

The meeting adjourned at 3:00 PM.



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NISS New Researcher Fellowships for 2006–07

The National Institute of Statistical Sciences (NISS) is pleased to announce establishment of NISS New Researcher Fellowships for cross-disciplinary research. As many as three New Researcher Fellows will be appointed for 2006–07.

New Researcher Fellows will come to NISS to explore high-impact cross-disciplinary research by becoming involved in ongoing NISS projects. NISS anticipates that they will continue to participate in the research when they return to their home institutions, leading to collaborative publications, conference presentations and, very importantly, follow-on proposals with NISS personnel or others.

The NISS research portfolio is dynamic. Currently, it contains projects on bioinformatics, data confidentiality, data quality, chemoinformatics, education statistics, software engineering and web data. Initiatives on evidentiary statistics, proteomics and survey costs are underway. Basic information about current NISS projects is available at www.niss.org/projects.html.

Each New Researcher Fellow will join one (current or future) NISS project, a process initiated by a one-month or longer visit to NISS. This residency can take place at any time agreed on by the fellow and NISS. During it, the fellow will collaborate with NISS directors, faculty fellows and postdocs in both ongoing research and setting of a research agenda in which the fellow will remain engaged. Following the initial residency at NISS, each New Researcher Fellow will continue collaboration with other project members by means of e-mail, teleconferences and, possibly, additional visits to NISS.

The New Research Fellowship program will begin in 2006–07. It is open to those who received a Ph.D. in the statistical sciences in 2000 or later and who are employed in the US by academic, government or industrial organizations. Women and members of under-represented minority groups are particularly encouraged to apply.

Applications for 2006–07 New Researcher Fellowships (for NISS residency to begin between July 1, 2006 and June 30, 2007) are due by June 15, 2006. They should be submitted electronically (PDF is the preferred format) to nrf06@niss.org, and should consist of a CV, a statement of interest in NISS projects and the names and contact information for two references.

Awards consist of one month of salary with fringe benefits at the current rate set by the fellow's home institution, as well as travel and living expenses for a one-month visit to NISS. They can be paid either directly by NISS or through the home institution. Additional support that is matched by the Fellow's home institution may be possible in some cases.

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NISS/Odum Institute Joint Postdoctoral Fellowship

The NISS and the Howard W. Odum Institute for Research in Social Science at the University of North Carolina at Chapel Hill (Odum) seek a postdoctoral fellow who will be engaged at exciting, high-impact research at both institutes. The NISS/Odum fellow will be appointed by NISS, but will be based at both NISS and Odum, as well as able to participate in a wealth of other statistical opportunities in the Research Triangle area of North Carolina, including other projects at NISS and programs at the Statistical and Applied Mathematical Sciences Institute (SAMSI) (www.samsi.info). He or she will be mentored by senior statistical scientists at NISS and Odum.

The NISS/Odum fellow's primary role will be to engage in research

At NISS on wide variety of research on education statistics, principally in conjunction with major roles played by NISS in the ESSi-Stat and NESSI. This research ranges over theory and methodology (e.g., effect sizes and multiplicity) to specific issues such as high school graduation, completion and dropout rates.

At Odum on analysis of data from the National Survey of Child and Adolescent Well-Being (NSCAW), addressing issues such as multi-level analyses, non-sampling error, non-response bias, missing data and reliability and validity.

The appointment will be for a minimum of two years, initially at the current NISS postdoctoral of \$65,000 per year. Criteria for selection include demonstrated research ability in statistics or a relevant scientific discipline, strength in computation, skill in verbal and written communication, and genuine commitment to cross-disciplinary research.

Applicants must have received, or expect to complete, a doctorate in 2000 or later. Women and members of minority groups are particularly encouraged to apply.

Applications should consist of a letter of interest containing addresses, telephone numbers and citizenship status; three letters of reference; a one-page biographical sketch; a publication record or dissertation abstract; and a one-page statement of interest responding to the criteria and projects listed above. These items are to be submitted by E-mail, as PDF files if possible, to odum-application@niss.org. The goal is to make the appointment as soon as possible, so review of applications will begin at once and continue until the fellow is appointed.

Additional information about NISS is available at www.niss.org and about the Odum Institute at www2.irss.unc.edu/irss/aboutus/aboutirssindex.asp.

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At NISS, the fellow's primary role will be to engage in research on a variety of research on education statistics, principally in conjunction with major roles played by NISS in the Education Statistics Services Institute—Statistics (ESSI-Stat) and NAEP Education Statistics Services Institute (NESSI). This research ranges over theory and methodology (e.g., effect sizes and multiplicity) to specific issues such as high school graduation, completion and dropout rates.

At Odum, the fellow will join an inter-disciplinary team of scientists (including statisticians, psychometricians and child welfare researchers) engaged in the analysis of data from the National Survey of Child and Adolescent Well-Being (NSCAW). The NSCAW is a continuing panel survey and the largest study of child abuse and neglect in the world. Among the statistical issues that will be explored during the fellow appointment are:

- Multi-level analysis and structural equation models in complex survey settings
- Causal modeling of nonsampling error including measurement error and nonresponse, and
- Methods for reducing the effects of selection bias in observational studies.

The appointment will be for a minimum of two years, initially at the current NISS postdoctoral salary of \$65,000 per year. Criteria for selection include demonstrated research ability in statistics or a relevant scientific discipline, strength in computation, skill in verbal and written communication, and genuine commitment to cross-disciplinary research. Preference will be given to candidates with some background in survey data analysis. Applicants must have received, or expect to complete, a doctorate in 2000 or later. Women and members of minority groups are particularly encouraged to apply.

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