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NISS/SAMSI Affiliate Update

December 2014

Post Job Opportunities on the NISS Website

Did you know that as a NISS/SAMSI affiliate you can post your job opportunities for free on our website? Just send your job description to Katherine Kantner (kak@niss.org). We prefer you send the jobs in Word or within an email. We do not have a limitation on number of words or what you need to include in your job description. This is just one of many benefits we offer to our affiliates.

NISS Job Opportunities

NISS plans to appoint several postdoctoral fellows/research analysts to be deeply involved in the statistical methodology, modeling and analysis of large statistical data bases. Fellows will participate in ongoing research collaborations between NISS and federal agencies and will conduct research in methodological development, implementation and data analysis of high importance and impact for inference and interpretation of federal data. Fellows will be located in Washington, DC.

Current openings include collaborations of NISS with NASS (National Agricultural Statistical Survey). For more information, [click here](#).

NISS also plans to appoint a Ph.D. -level research analyst/statistician to be deeply involved in the statistical methodology and application of large statistical databases. The research analyst will lead division-level and center-level work related National Center for Education Statistics (NCES) publications, and will participate in project data analysis using restricted NCES databases. The research analyst will be located in the Washington DC area, and interact strongly with NCES. He or she will report to both the Director of NISS and the NCES supervisor. For more information on this job, [click here](#).

SAMSI Events

Undergraduate Workshop

When: February 26-27, 2015

Where: RTP, NC

Deadline to Apply: **January 9, 2015.**

This workshop will focus on ecology.

[Details here](#).

Bioinformatics: Discovering Patterns in Human Microbiome Data

When: March 16-18, 2015

Where: RTP, NC

Deadline to Apply: **February 6, 2015**

The aim of this workshop is to create a forum for ideas for

GSK Hosts Students as Part of the Undergraduate Workshop

About 25 students from around the United States attended SAMSI's [undergraduate workshop](#) October 23-24. Students got to hear about the exciting field of bioinformatics along with a visit to a local pharmaceutical company and NISS/SAMSI affiliate GlaxoSmithKline.



The students got to hear about how applied mathematicians and statisticians help with the drug development pipeline. Biologists and chemists rely greatly on the statisticians to help them interpret the results in the clinical trials, for example. Alan Menius and Katja Remlinger of GlaxoSmithKline hosted the students and took them on a tour of some of the labs. One of the participants noted that, "The speakers were down to Earth and the workshop was well set up." Another student said, "I LOVED the tour. It was awesome to see an industry in which math is applied at a higher level every day."

For more about the undergraduate workshop, read the [SAMSI blog here](#).

overcoming current and future challenges in the analysis of human microbiome data. In this workshop, participants will learn how metagenomic (sequence-based) and metabolomic (mass spectroscopy-based) data are generated and the implications for analysis. Gaps in the current state-of-the-art methods will be highlighted, particularly with respect to the analysis of multivariate longitudinal data and the use of statistical experimental design to assess bias. Participants will break into research groups and will be asked to formulate plans to address the deficiencies of current methods. [Details here.](#)

NIMBioS Graduate Workshop on Current Trends in Statistical Ecology

When: April 15-17, 2015

Where: Knoxville, TN

Deadline to Apply: **December 1, 2014**

This workshop will give participants the opportunity to learn about the latest trends in statistical ecology.

[Details here.](#)

Undergraduate Modeling Workshop

When: May 17-22, 2015

Where: NCSU, Raleigh, NC

Deadline to Apply: TBA

More details to come soon.

Summer Program: Uncertainties in Computational Hemodynamics

When: June 1-3, 2015

Where: SAMSI, RTP, NC

Deadline to Apply: **April 6, 2015**

During this workshop, bio-engineers, mathematicians, medical doctors, physiologists and statisticians will work collaboratively toward the resolution of three significant challenges in the context of computational hemodynamics: (i) stochastic modeling, (ii) big data approach and (iii) relevance in the clinical setting. The three-day event is structured so that one day will be devoted to each challenge, with a mix of talks and brain storming sessions. [Details here.](#)

Extreme Value Analysis and Applications

When: June 15-19, 2015

Where: Ann Arbor, MI

Deadline for Abstracts: **Feb. 17, 2015**

The 9th International Conference on Extreme Value Analysis and Applications, co-sponsored by SAMSI, features recent research on the probability and statistics of extreme value phenomena and its important applications to climate and weather, finance, insurance, engineering and computer science.

Industrial Mathematics & Statistical Modeling Workshop

When: July 12-22, 2015

Where: NCSU, Raleigh, NC

Deadline to Apply: **April 15, 2015**

Graduate students in mathematics, engineering, and statistics will be exposed to challenging and exciting real-world problems arising in industrial and government laboratory research. Students will also experience the team approach to problem solving. Students are divided into six-member teams. [Details here.](#)

SAMSI's 2015-16 Programs

SAMSI has announced its programs for 2015-16. [Nominations are now open for an affiliate representative to join with the program leaders committee for each of these programs.](#) Contact Sujit Ghosh at ghosh@samsi.info.

Challenges in Computational Neuroscience (CCNS)

The CCNS program will develop mathematical and statistical methods for neuroscience applications. These will be used to understand the underlying mechanisms that bridge multiple spatial and temporal scales, linking the activity of individual components (e.g., molecular biology, genetics, and neuron networks), and their interactions to the complex dynamic behavior of the brain and nervous system. Brain theory, modeling, and statistics will be essential to turn data into better understanding of the brain. The CCNS program will address the underlying methodological, theoretical, and computational challenges. Probability and statistics, dynamical systems, geometry, and computer science will be combined with respect to theory and in applications.

The opening workshop is scheduled for August 17-21, 2015. Go to the [SAMSI website](#) for details.

Program on Statistics and Applied Mathematics in Forensic Science (Forensics)

SAMSI's program on Forensics is focused on strengthening the statistical and applied mathematical foundations of forensic science. Forensic science is fundamentally based upon statistical comparisons of the characteristics of materials left at a crime scene to characteristics of possible sources or suspects. These comparisons are often acknowledged by forensic scientists to be highly subjective. A series of reports by the National Research Council (NRC) has raised deep questions about major forms of forensic evidence and has made a clear case for heeding statistical underpinnings for forensic procedures. Evidence from a crime include fingerprints, patterns and impressions (footprints and tire tracks), tool marks and firearms, hair, fibers, documents, paints and coatings, bloodstains, and fire debris. Working groups will focus on statistical issues for pattern evidence, for bias, for imaging, and for quality control for forensics laboratories. Crosscutting challenges are to identify where statistics can have a quick impact, and to educate mathematical scientists about forensics and forensic scientists about the mathematical sciences.

Opening workshop is August 31-September 4. Look at the [SAMSI website](#) for more details.

Postdoc applications for these two programs can be submitted to: [mathjobs.org](#), [SAMSI PD2015 Job #6133](#).

NISS and SAMSI

P.O. Box 14006, Research Triangle Park, NC
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