

## Statistics on Informatics Graphs R&D&A

### Job description:

Sandia National Laboratories seeks one or two new researchers for long-term positions in the area of statistics on large-scale informatics graphs. These graphs might arise from the analysis of complex social and engineered networks, such as might be derived from human interactions or internet traffic, as distinguished from biological networks. Data sets may involve millions of points with hundreds of variables each, and require massively-parallel computing. Of particular interest is the incorporation of statistics with uncertainty, forecasting, and graph-feature identification. Prediction, hypothesis testing, and validation & verification methodologies are all relevant research topics. Relevant expertise includes stochastic process modeling, Monte Carlo Markov Chain generation, Bayesian analysis approaches, multivariate analysis, sensitivity analysis, and nonparametric statistical methods.

The successful applicants will be expected to conduct world-class research resulting in peer-reviewed publications. The successful applicants will be expected to partner with others to advance the broad program described in "Department description;" this includes taking an interest in informatics-based science applications, interacting with consumers of information, and developing application-specific software solutions.

### Department description:

The Computer Science and Informatics Department at Sandia National Laboratories conducts research and development in discrete mathematics, informatics, and computer science. Specific research topics include graph algorithms, multi-dimensional algebraic methods, machine learning, and large-scale text analysis. The department partners to support national security missions. Full applications span data ingestion, aggregation, analysis and presentation of results. To this end Sandia maintains active programs in interactive large-scale information visualization, and massively-parallel hardware platforms (thousands of processors). Newly funded research involves analytical approaches for discovering relationships and predicting responses in large-scale data represented as graphs. Computability and algorithm scalability are critical and permeate all fields of study.

### Required/desired criteria:

A PhD in statistics, mathematics, computer science, or equivalent is required. The successful applicant(s) must have the ability to work in a collaborative research environment, and be willing to work in national security application domains. A strong publication record and object-oriented software skills are required. GPA > 3.5 graduate, and GPA > 3.3 undergraduate. The ability to obtain and maintain a U.S. security clearance is required. Dual citizens may be asked by the U.S. DOE to renounce foreign citizenship. Sandia National Laboratories is an Equal Opportunity Employer M/F/D/V.

Submissions: Apply online at <http://www.sandia.gov/employment>, click Career Opportunities, and Search Job Postings for 61844. Please also send a letter of interest and CV electronically to Suzanne Rountree, [slkroun@sandia.gov](mailto:slkroun@sandia.gov). Phone is (505) 844-4379. Submissions before 9 January 2009 will receive full consideration.