

Statistical Methods for Reference Material Value Transfer and Uncertainty Propagation (U.S. Citizenship Preferred)

Overview

This project involves collaborative research working with a team of statisticians at NIST on statistical methodology for the development of Standard Reference Materials (SRMs). The research will focus on cases where SRMs are being updated and it is desired to carry older certified values forward rather than conduct a full recertification measurement process. The project will explore the theoretical issues, risks, and statistical questions associated with this carry-forward approach. The project also involves developing theoretical methods for adjusting and propagating uncertainties when this approach is utilized.

Duties include but are not limited to:

- Work with scientific collaborators to help refine and clarify project goals and timelines.
- Use statistical modelling and simulation studies to explore the appropriateness of reusing certified values in a range of situations.
- Develop a theoretical framework for expanding uncertainties to account for the reuse of values.
- Implement statistical methods via a high-level programming language such as R or Python.
- Present and communicate results and statistical analysis to non-statisticians.

Required Skills, Expertise and Qualifications

- Master's degree in statistics or a related quantitative field.
- Experience with data analysis and statistical simulation.
- Proficiency in at least one of R or Python.
- Strong oral and written communication skills.

Employment Terms: This opportunity is to be an associate researcher in the NIST Statistical Engineering Division for a term of 1 year, with options to renew and/or pursue longer-term federal employment. Associate researchers are NOT Federal Employees, but they work aside NIST researchers. Relocation expenses will not be provided.

Salary: \$80,000-\$85,000

How to express interest: Interested candidates, U.S. Citizens preferred, who meet all of the required qualifications are invited to express their interest in the position by sending an updated CV to Julia Sharp at julia.sharp@nist.gov or apply at <https://engineering.gwu.edu/gwu-prep-job-opportunities>.