



UNITED STATES DEPARTMENT OF COMMERCE  
National Institute of Standards and Technology  
Gaithersburg, Maryland 20899-8392

## **Improving Measurement Assurance of *In Vitro* Toxicity Assays**

### **NIST NRC Postdoctoral Fellowship Solicitation**

Description: *In vitro* and acellular assays can play an important role in determining the potential toxicity of compounds to humans and ecological receptors. To establish the extent of the biological relevance of these assays in predicting the effects in physiological systems, a high-level of confidence in the precision and robustness of these assay measurements is required. This postdoctoral opportunity features an opportunity to comprehensively examine an *in vitro* assay or assays to improve the repeatability and interlaboratory agreement of the assay results. This could entail using cause-and-effect analysis to understand sources of variability in the assay, designing new plate layouts that include key process control measurements, and utilizing appropriate statistical analyses to understand the assay results and their uncertainties. This process should lead to improvements in the comparability and reproducibility of assay results within and between laboratories.

For more information, please contact Bryant C. Nelson, Nanomedicine Measurement Assurance Project Leader, ([bryant.nelson@nist.gov](mailto:bryant.nelson@nist.gov))

Keywords: *in vitro* bioassays, method development; cytotoxicity, genotoxicity, immunotoxicity.