metRology - a new R package for statistical metrology

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The techniques for statistical modeling, computation and data analysis that have, particularly during recent years, been developed or adapted for use in metrology often are sufficiently involved to prevent manual application, and instead require that the metrologist employ implementations in computer software. This talk describes a new joint initiative at NIST's Statistical Engineering Division and Laboratory of the Government Chemist, UK to facilitate statistical and mathematical computation in measurement science by producing a new R package, **metRology**, that is freely available to all. The broad goals of the project are:

1. To provide access to a wide range of powerful statistical and graphical methods for the analysis of metrological data, exploiting the model-oriented constructs that R provides;
2. To accelerate the development of extensible, scalable, and interoperable software for metrology;
3. To promote the production and dissemination of high-quality documentation that is a key component of reproducible research;
4. To provide training in R emphasizing computational and statistical methods for the analysis of metrological data.

R is provided with a command line interface, which is the preferred user interface. However, metrologists who will only use some features of **metRology** occasionally would probably benefit from a graphical user interface (GUI). A menus/dialog boxes GUI and a spreadsheet GUI for R will be introduced.