

## *Workshop Sessions 1 and 2*

### **GAMMA SPECTROMETRY CALIBRATION AND EFFICIENCY CORRECTIONS MOVING BEYOND PHYSICAL STANDARDS?**

Innovative approaches for improving the quality of gamma spectrometry calibrations, such as Monte Carlo or efficiency modeling techniques, are becoming increasingly accessible to the measurements community. Following a brief introduction, three experts in the field, Kara Morris from Canberra Industries, Ken Embury from Ametek-Ortec, and Simon Jerome from the National Physical Laboratory, will present methods, approaches, and software available, and general considerations important for developing calibrations and corrections to measurements that move beyond the traditional approach of matching the geometry of physical standards to the samples being measured. They will discuss how these approaches can be defensibly implemented in the laboratory. The workshop will culminate with a panel discussion of QA/QC needed to assure the quality of such novel approaches to gamma spectrometry calibration.

The workshop will consist of three parts. It will start with a short introduction. This will be followed by Kara Morris from Canberra, Ken Embury from Ametek-Ortec, and Simon Jerome from the National Physical Laboratories (UK), who will address techniques and software currently available to perform non-standards-based efficiency corrections. Presentations will consist of PowerPoint presentations, short demos and examples that elucidate the techniques and data that provide information on how well they perform. The workshop will close with a panel discussion about what QA/QC is needed to assure the quality of the techniques presented.

**Goals:** To foster a greater understanding of mathematical, modeling, and other techniques for developing corrections to gamma spectrometry count data that do not rely solely on physical calibration standards. To promote discussion about an important topic that has received little attention: What QA/QC is needed to defensibly apply such corrections that are becoming more and more available to the community.

**Presenters:** Ken Embury, Ametek-Ortec; Kara Morris, Canberra Industries; Simon Jerome, National Physical Laboratories (UK); and Bob Shannon, Quality Radioanalytical Support.