



## SU-476

# Advanced ISOCS™ Measurements



### DESCRIPTION

Mirion's SU-476-3 training course was designed to provide advanced instruction for current users of ISOCS software, with emphasis on improved sample modeling, accuracy of analysis results, evaluation of total measurement uncertainty, and equipment deployment options for complex measurement applications. This course provides detailed recommendations for modeling complicated source distributions using the standard ISOCS geometry templates. Various advanced ISOCS applications will be discussed, including measurements of nuclide activity in near surface and subsurface soil, contamination on the surface of complex objects, and determination of nuclide activity vs. depth in sample material. Additional topics include use of ISOCS software for in vivo counting, underwater radioactivity measurements, and airborne radioactivity measurements. Numerous practical examples and student exercises will be presented and discussed. Approximately 60% of this 3-day course will be presented in lecture format, with the remaining 40% allocated for group discussion and practical exercises.

### HOW YOU WILL BENEFIT

Attendees who complete this course will improve their proficiency with "Geometry Composer" and various "advanced" features of Mirion's ISOCS and Genie software. Attendees will also learn how to apply ISOCS calibrations to define and achieve optimized data quality objectives for a variety of measurement applications. This knowledge will enable attendees to plan, perform, and evaluate gamma spectroscopy measurements with improved productivity, accuracy, and confidence. Supervisors and managers will benefit from the knowledge and confidence gained by course attendees, ensuring a more efficient and defensible analytical process for their gamma spectroscopy measurement program.

### WHO SHOULD ATTEND

This course is intended for technical and supervisory personnel who are familiar with basic ISOCS measurement options and methods, and who desire additional expertise in use of ISOCS sample modeling templates, advanced features of ISOCS and Genie software, and specialized in situ measurement applications.

### COURSE CONTENT

- Review of the ISOCS Efficiency Calibration Process
- Detector Positioning Conventions and Optional "Efficiency Factors"
- Comprehensive Review of Available ISOCS Sample Modeling Templates
- Sample Dimensions and Activity Distributions
- Material Composition and Photon Attenuation Considerations
- The ISOCS Uncertainty Estimator (IUE)
- Specialized ISOCS Measurement Applications
- Review and Interpretation of ISOCS Measurement Results

### PREREQUISITES

Attendees should be familiar with fundamental principles of gamma spectroscopy, and have some previous hands-on experience with in situ measurement hardware and software. Attendees should also be familiar with the basic operations of Mirion's Genie and ISOCS software packages. Prior attendance of Mirion's SU-474 Basic ISOCS Measurements training course is recommended.