Glass Expansion Lunch and Learn ICP Workshop

Title: *Mastering Sample Introduction for Optimal ICP-OES and ICP-MS Performance*

Date: Thursday, January 15th 2026

Time: 12:00 to 1:00 pm

Room: Coronado I

Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) and Mass Spectrometry (ICP-MS) are cornerstone techniques for elemental analysis across diverse industries, enabling precise characterization of various sample types. However, challenges such as signal suppression, instrument drift, quality control failures, and frequent maintenance can compromise the quality of results and laboratory efficiency. These issues often stem from suboptimal sample introduction systems or inadequate maintenance practices. To optimize ICP-OES and ICP-MS performance, selecting an appropriate sample introduction configuration tailored to the sample type and chemical matrix is critical, alongside adhering to consistent maintenance protocols.

This short course will explore five key sample introduction components—nebulizer, spray chamber, torch, RF coil, and interface cones—including a thorough, in-depth discussion on commercially available designs, their impact on sample introduction, and their role in instrument performance. Participants will learn how to select the optimal configuration for specific ICP applications and implement effective maintenance strategies to extend component lifespan and enhance analytical reliability. The course will conclude with practical tips, troubleshooting techniques, and streamlined solutions to improve productivity and simplify operations in the ICP laboratory.