



EINLADUNG

zum

VERA - SEMINAR

von

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**Environmental Sampling for Safeguards –
*To see the world in a grain of sand***

The International Atomic Energy Agency, frequently referred to as the “nuclear watchdog”, is the world’s centre for cooperation in the nuclear field and seeks to promote the safe, secure and peaceful use of nuclear technology. Through a set of technical measures, or Safeguards, the IAEA verifies that States are honouring their international legal obligations to use nuclear material and technology only for peaceful purposes. Its independent verification work allows the IAEA to play an indispensable role in preventing the spread of nuclear weapons.

In the aftermath of the first Iraq war in 1991, the IAEA searched for nuclear signatures providing evidence that the country was involved in clandestine nuclear activities. As a result of these findings and a broad research program applied in several countries (“93+2 program”) the IAEA with the assistance of member states developed and implemented the framework for an Additional Protocol (AP) to the Nuclear Non-Proliferation Treaty (NPT). One additional verification instrument that was added to the IAEA’s “toolbox” is the Environmental Sampling for Safeguards (ESS). This allows the IAEA to check not only for the correctness of a country’s declarations (via the NPT), but also for its completeness (via the AP). In legal terms, ESS has the function to verify the absence of undeclared materials and processes; in practice, this is executed by specifically looking for signatures indicating undeclared nuclear materials and/or activities.

The Environmental Sample Laboratory (ESL) supports ESS by providing logistical (production, receipt, and archiving of ES kits and samples) and analytical support (screening and detailed analysis of ES). Detailed characterization performed at the ESL uses bulk analytical techniques such as Inductively Coupled Plasma Mass Spectrometry (ICPMS), Thermal Ionization Mass Spectrometry (TIMS), Isotope Dilution Mass Spectrometry (IDMS), as well as particle analytical techniques such as Large Geometry Secondary Ion Mass Spectrometry (LG-SIMS), and Scanning Electron Microscopy (SEM).

The presentation will provide an overview of the Safeguards related work with a focus on the analytical work of the Office of Safeguards Analytical Services’ Environmental Sample Laboratory.

Donnerstag, 25. Januar 2018, 16:30 Uhr

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",
1. Stock, Victor-Franz-Hess Hörsaal**