



Contribution ID: 73

Type: **Invited Lecture**

OPENING LECTURE - Radioanalytical techniques in natural environmental radioactivity determination

Friday, 21 September 2012 11:00 (20 minutes)

Inexpensive analytical tools such as gamma spectrometric measurements are usually applied in radiological monitoring of contaminated areas. However, detection limits obtained by such methods may not fit for the purpose, in particular when biological materials are to be analysed, so more sensitive techniques have to be considered. Appropriate option is radiochemical determination involving alpha-spectrometric or beta-counting detection, as well as measurement following neutron activation. Radiochemical procedures for the determination of U-238, Ra-226 and Pb-210 are presented and critically compared with the gamma spectrometric measurements, as exemplified by a case study of the Žirovski vrh mine and milling facility in Slovenia.

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Session Classification: Session 13 (cn't of Session 12) - Radioactive elements in the environment, radiation archeometry and Health Physics

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