



INVITATION
for a
VERA - SEMINAR
with

Detlev DEGERING

ADD Ideas GbR, 01723 Mohorn, Germany

Previously: VKTA – Strahlenschutz, Analytik & Entsorgung
Rossendorf e.V., TU Bergakademie Freiberg, Sächsische Akademie der
Wissenschaften

(Radioactive) Equilibrium is boring

The naturally occurring primordial radionuclides ^{238}U , ^{235}U and ^{232}Th are the starting points of radioactive decay series passing through isotopes of elements of significantly different chemical and physical properties. Radioactive equilibrium, i.e. the state of equal decay rates for all members of a decay series, can only be achieved in environmental systems that are closed over geological time scales. Radioactive disequilibria in open systems contain time information, since the recovery of the equilibrium takes place according to the half-lives of the nuclides involved. Gamma ray spectrometry is the method of choice to determine such disequilibria non-destructively and relatively uncomplicated.

The significance and the benefits of radioactive disequilibria in environmental and technical materials are illustrated by three examples:

- Age determination of forest soil layers by ^{210}Pb dating
- Fluids and precipitates from geothermal plants exploiting saline deep water
- Influence of time-dependent dose rates on age determination using dosimetric dating methods (OSL, TL ...)

Thursday, 20. June 2024, 16:30 o'clock

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