



EINLADUNG
zum
VERA - SEMINAR
von

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Quantifying Holocene and Anthropocene erosion rates with cosmogenic and fallout nuclides

Short-lived cosmogenic nuclides, such as in-situ produced ^{14}C in quartz, and fallout nuclides, such as ^{137}Cs and $^{239,240}\text{Pu}$, are particularly suited to determine Holocene and/or anthropogenic rates of soil erosion. While fallout ^{137}Cs has been widely used to study erosion processes, the methodology and application of the in-situ produced ^{14}C and $^{239,240}\text{Pu}$ are still somewhat experimental. In the case of in-situ ^{14}C it are experimental/methodological obstacles that stand in the way of wider application, in the case of fallout plutonium it is down to neglect. This experimental/neglected status is a pity, since in situ ^{14}C has the potential to allow resolving Holocene from longer-term Earth-surface process rates, whereas fallout Pu can be used to overcome difficulties in ^{137}Cs methodology arising from the Chernobyl fallout (particularly in Europe) and the relative short half-life of radionuclides of Cs.

The presentation will (i) introduce the intrinsic methodological benefits of in-situ produced radiocarbon and fallout plutonium, (ii) report on developmental work at CologneAMS to establish routine use of these nuclides and (iii) present a showcase application for fallout plutonium.

Donnerstag, 30. April 2015, 16:30 Uhr

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