



EINLADUNG

zum

VERA-SEMINAR

von

**Kerstin Rumpelmayr**

Fakultät für Physik - Isotopenforschung, Universität Wien

**Reconstructing diet by stable isotope analysis:  
Two case studies from Bronze Age and  
Early Medieval Lower Austria**

Carbon and nitrogen stable isotope analysis is nowadays a method frequently applied for the reconstruction of past human diets. The principles of this technique were developed in the late 1970s and 1980s, when it was shown that the isotopic composition of an animal's body reflected that of its diet. Given that the investigated material (often bone collagen) is well enough preserved, several aspects of diet can be investigated by carbon and nitrogen isotopic signatures - expressed as  $\delta^{13}\text{C}$ - und  $\delta^{15}\text{N}$ -values - as e.g. whether nutrition was based on  $\text{C}_3$  or  $\text{C}_4$  plants. Furthermore, these signatures can be used for the detection of a marine component in the diet and they contain information about the trophic level of an individual.

The goal of the work presented in this talk was to investigate certain aspects of diet using carbon and nitrogen stable isotope analysis of human and animal skeletal remains from Austrian archaeological sites. Two sites (both in Lower Austria) were selected for this study, the Bronze Age Cemetery of Gemeinlebarn and the Early Medieval settlement of Thunau/Gars am Kamp. Previous archaeological and anthropological examinations suggested that both sites were inhabited by socially differentiated populations. Hence, during the stable isotope analysis special attention was paid to the detection of variation in nutritional habits due to sociogenic or gender-related differences.  $\delta^{13}\text{C}$ - und  $\delta^{15}\text{N}$ -values were measured in collagen, extracted from bone samples, by means of elemental analyzer-isotope ratio mass spectrometry (EA-IRMS). The obtained stable isotope data were examined for significant differences between social groups and the sexes using statistical hypothesis testing (MANOVA and ANOVA).

**Donnerstag, 19. Januar 2012, 16:30 Uhr**

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