Geophysical Research Abstracts
Vol. 16, EGU2014-205, 2014
EGU General Assembly 2014

My Way in Archaeomagnetism

Mary Kovacheva
Retired from National Institute of Geophysics, Geodesy and Geography, Sofia, BAS

The talk describes the main hallmarks in my nearly half a century activity in the field of archaeomagnetism. Beginning from zero in my country in 1967, now the Bulgarian database is the longest data set comprising the three geomagnetic characteristics. I consider that the determination of the direction and absolute palaeointensity from one and the same material is the most valuable input data for the important geomagnetic field modeling. The recovered full geomagnetic vector gives much more opportunities for different geophysical applications. The maintenance, filling up and revision of the local database remained my principle obligation during my professional way. As a result taking the advantage of our country to have plenty of prehistoric single and multilevel sites the knowledge of the geomagnetic field behavior was prolonged deeply in the past going to 6000 yrs BC. The usage of 14C dates will be discussed describing possible difficulties which can be encountered. The specific multilevel prehistoric sites, found mostly in the Near East and the Balkans, with clear stratigraphy are particularly useful for archaeomagnetic discovery of the past geomagnetic field behavior. In this respect the well-timed activity of geophysical teams following the archaeological excavations is very important for the future elucidation of geomagnetic secular variations. The constant tight contact with the archaeological community of each country during this process is crucial.
Examples of most valuable topics of interest for archaeologists will be given in the talk as synchronizations, magnetic characteristics related to the type of ceramics, archaeomagnetic dating etc. This is an important task because we should keep their interest towards our studies giving us the necessary materials. Some obtained questionable results will be discussed parallel with the progress in understanding the physical processes in baked clay and its magnetic mineralogy. Going deeply in diagnosis of the magnetic signal carriers a new well spread mineral phase has been discovered in the baked clay artifacts.
I acknowledge my gratitude towards the younger colleagues from Sofia and other European laboratories for all fruitful discussions and collaborative work.