

ORAL CONTRIBUTIONS

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## 1. OVERVIEW OF THE CURRENT EXCAVATIONS IN SCHÖNINGEN

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Since 2008 researchers from the University of Tübingen and the Heritage Office of Lower Saxony have conducted a new series of excavations and analyses at the late Lower Paleolithic locality of Schöningen. This complex locality that formed in lakeside deposits during the terrestrial equivalent of MIS 9 includes multiple sites dating to ca. 300 ka BP. Since completing a number of rescue excavations near the active portion of the lignite mine in Schöningen, ongoing fieldwork has focused on the well-known Spear Horizon with its well preserved wooden implements and skeletons of dozens of butchered horses. This paper presents the newest results from these excavations and discusses their implications for our understanding of the technological and social-economic behavior of the hominins who inhabited and used the landscape around the paleo-lake of Schöningen. Using these observations we can begin to reconstruct the settlement dynamics of the hominins who occupied this part of the northern European Plain during the late Middle Pleistocene.

ORAL

## 2. THE CHRONOSTRATIGRAPHY AND ENVIRONMENTAL DEVELOPMENT OF THE MIDDLE PLEISTOCENE SEQUENCE OF SCHÖNINGEN

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The Quaternary sequence of Open Lignite Mine Schöningen represents one of the longest terrestrial records in Europe and has the potential to provide unique insight into Middle Pleistocene environmental and climatic changes and the correlation of terrestrial records to the Marine Isotope Stage system (MIS). Schöningen is famous for the oldest weapons which could have been used for long range hunting – the well-known Schöning-

gen wooden spears. However, formation processes and nature of the sediment trap containing this record, as well as the chronostratigraphic position are debated, including the age of the spears.

Extensive palynological work provides a relative framework for the age of the stratigraphical succession at Schöningen, including the definition of unique interglacial pollen assemblages which are difficult to be placed in the European chronostratigraphical framework. Chronometric dating is therefore needed to provide anchor points. First results are available from U-series dating of peat formation of the Reinsdorf Interglacial of Schöningen site 13 II-2 underlying the archaeological horizon of level 13 II-4 with an age of around 300 ka and from luminescence dating, notably TL ages on heated flint from the oldest human occupation at the site of Schöningen 13 I-1. The dating results provide a nominal age range between MIS 10 and MIS 7 for that layer and by inference of proxy data the human occupation at Schöningen 13 II must have taken place during/around MIS 9.

This work forms the basis of a new project to provide a chronostratigraphical framework for Schöningen, funded by the Ministry of Science and Culture (PRO\*Niedersachsen) of the state of Lower Saxony, which will be based on the dating of the entire sequence with multiple chronometric techniques and refined high resolution palynological and sedimentological studies. We will present first luminescence age results and new palynological data from the project.

ORAL

## 3. A GEOARCHAEOLOGICAL VIEW ON SITE FORMATION AND HUMAN BEHAVIOR AT SCHÖNINGEN

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Geoarchaeological research at Schöningen is focused on describing and evaluating the depositional contexts at Schöningen 13 II-4, Schöningen 13 II-4 Upper Berm and Schöningen 12 II-4. We performed geoarchaeological field analyses and micromorphological analyses to investigate the formation of the find-bearing layers and the obtained data were then used to re-evaluate concepts and ideas about human behavior during the Lower Paleolithic.