

# Closing the gap – North Carpathian loess traverse in the Eurasian loess belt



International Workshop, 6th Loess Seminar in Wrocław (Poland)

Institute of Geography and Regional Development, University of Wrocław  
International Union for Quaternary Research, Loess Focus Group

# CLOSING | | THE GAP

North Carpathian loess traverse in the Eurasian loess belt

International Workshop

## 6<sup>th</sup> Loess Seminar



16-17 May, 2011, Conference (workshop) in University of Wrocław

18-21 May, 2011, Excursion "From Silesian to Volhynian Loess"

abstract & field guide book

May, 2011, Wrocław, Poland

# Closing the gap – 6<sup>th</sup> Seminar Program

## Monday May 16th

Jan Czekanowski Hall, Collegium Anthropologicum, 35 Kuźnicza Street

8.30 - Registration

9.45 - Opening Ceremony

## Plenary Session

Chairpersons: Ludwig Zöller, Slobodan Marković and Zdzisław Jary

10.00-10.20

Marković, S.B., Hambach, U., Stevens, T., Kukla, G.J., Smalley, I.J., Oches, E.A., McCoy, W.D., Machalett, B., Buggle, B., Zech, M., Basarin, B., Ujvari, G., Sümegi, P., Kovacs, J., O'Hara Dhand, K., Jovanović, M., Lukić, T., Gaudenyi, T., Zöller, L., Danube Loess Stratigraphy: Towards Eurasian loess chronostratigraphy **(7)**

10.20-10.40

Hambach, U., Jovanović, M., Marković, S.B., Gaudenyi, T., The Titel Loess Plateau case study: a unique European palaeoclimatic record covering the last 600 kyrs **(8)**

10.40- 11.00

Haesaerts, P., Mestdagh, H., Pirson, S., Gerasimenko, N., Pedosedimentary markers, a tool for long distance proxy-correlation of last interglacial early pleniglacial loess-palaeosol sequences, from North-Western Europe to Central Siberia **(9)**

11.00-11.20 Coffee break

11.20-11.40

Bluszcz, A., Luminescence dating of loess in Poland **(10)**

11.40-12.00

Mroczek, P., Genesis of microfeatures in primary loess **(11)**

12.00-12.20

Jary, Z., Late Pleistocene loess-palaeosol stratigraphy in Poland and western part of Ukraine **(12)**

12.20-14.00 Lunch time

## Thematic session: Loess as a source of proxies

Chairpersons: Natalia Gerasimenko and Pierre Antoine

14.00-14.15

Issmer, K., Eolian system as a response to paleoclimatic changes during Pleistocene and Holocene in Western and Central Poland **(13)**

14.15-14.30.

Basarin, B., Marković, S.B., O'Hara Dhand, K., Kovačević, A., Hambach, U., Smalley, I.J., Stevens, T., Orbital calendar of Serbian Loess **(14)**

14.30-14.45

Novenko, E.Yu., Voskresenskaya, K.V., Suganova, I.S., Late Pleistocene paleoenvironments in the centre of European Russia (reconstruction by pollen and plant macrofossil data from loess and alluvial sediments) **(15)**

14.45-15.00

Moine, O., Loess malacofauna: a useful proxy of millennial-timescale environmental changes in Poland and Ukraine **(16)**

15.00-15.15

Zech, M., Glaser, B., Tuthorn, M., Buggle, B., Marković, S.B., Zöller, L., Compound-specific  $\delta^{18}\text{O}$  analyses of monosaccharides using GC-Py-IRMS: A novel palaeoclimate proxy for loess research? **(17)**

15.15-15.30 Coffee break

horizons within Upper Pleniglacial loess. Special feature of the sg/LMs horizon, which is noted in much of the sections, is a distinct, abrupt increase of magnetic susceptibility (MS) value. However, it is difficult to estimate, what was the reason of this phenomenon. It can

be related to climate change of the loess sedimentary environment. Rapid increase of MS may be also linked with magnetic properties of deposited aeolian silt, which suggests changes of loess source areas.

## Eolian system as a response to paleoclimatic changes during Pleistocene and Holocene in Western and Central Poland

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The territory of Poland lies in the Central European Pleistocene periglacial and glacial zone. The study of the Quaternary continental paleoenvironment in this region has a long tradition. In the last few years, classic disciplines such as geomorphology, sedimentology, paleogeography, geoarchaeology and paleoecology are being conducted, focusing on multiproxy reconstructions.

Long tradition of paleoenvironmental investigations with such world leaders as Prof. S. Różycki -defined glacial and weathering source of loess sediments, Prof. H. Maruszczak defined periglacial genesis of loess and Prof. S. Kozarski - defined Vistulian and Holocene eolian activity in Pomerania and center Polish Lowlands. Those researches had focused on eolian phenomena.

Actually new paleoclimatic (Bradley,1999) trends, that focus on high resolutions and multiproxy investigations, need more precocious definition of geomorphic systems. Past climate can be reconstructed using a combination of different types of proxy records. These records can then be integrated with observations of Earth's modern climate and placed into a computer model to infer past as well as predict future climate.

During five decades technological progress force to some correction in defining geomorphic entities also from methodological point of view.

According nonlinearity in geosciences and the chaos mathematical theory we could found some paleoclimatic solutions, which well correspond with eolian system. Eolian system belongs to very sensitive geomorphic system.

My new proposition of the eolian system contains such entities as:

- continuous and discontinuous loess cover,
- inland sand dunes,
- eolian cover sands,
- ventifacts and periglacial deflation pavements.

All such separated entities well correspond with paleoclimatic changes in Poland. They are the best examples paleoclimatic changes during Pleistocene and Holocene in Western and Central Poland. They are response to paleoclimatic global changes.

Local longitude Vistula river divided Poland into two different areas under climatic conditions. This rules also functioned during Pleistocene and Holocene.

Paleoclimatic changes according NOAA impact to loess sedimentation at Eurasian loess belt are well present in Silesian loess profiles there were well described DO cycles which present rapid climatic changes (RCC).

## Location of the sites presented during the field excursion

Zapreżyn, Biały Kościół, Branice, Złota, Kawęczyn, Tyszowce, Korshiv, Kazimierz Dolny

