

A n t i M A T E Examples: Into and Out of the Younger Dryas at Lake Härmäläjärvi, NW-Germany

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During the INTIMATE training school 2013 the Late Glacial lake Härmelsee¹ has been revisited, enabling students to gain hands-on experience training school participants during five days. Subsequent research was performed by training school participants using state-of-the-art palaeo-environmental methods. Subsequent research was performed by training school participants during five days. Subsequent research was performed by training school participants during five days.



Box 1. Chronology

The partially varved sequence (fig. 1) enables construction of an age-depth model at annual resolution. The floating varve chronology (Aritina Haljuc) will be anchored to an absolute timescale both by using several ^{14}C dates on macro-remains (Katalin Hubay) and through dated tephra isochrons (Gwydyon Jones; fig 2).

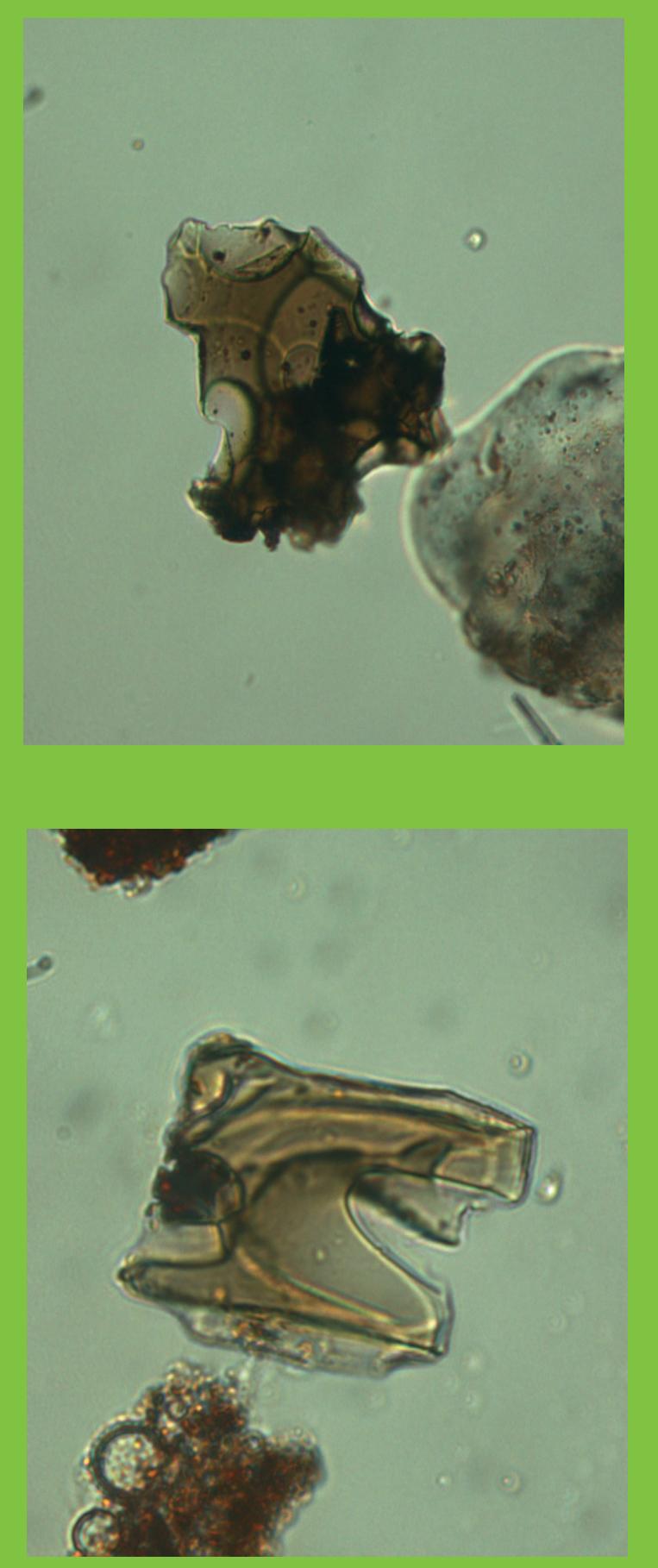


Figure 2. Tephra shards.

The strong age control on Lake Härmelsee will allow correlation to regional terrestrial and marine archives, and global ice core records.

Box 2. Climate- and environment reconstruction techniques

Sedimentology Geochemistry

XRF-scans (Aritina Halluc) and LOI measurements (Renée de Bruïjn; fig. 1) are performed at high resolution for the entire Late Glacial section of the core.

Lipid biomarkers (Aritina Halluc) and GDGTs (J. and Dryas (fig. 1, F

Sedimentology

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Figure 1. Loss on ignition (LoI) of the composite core. Intervals studied in STSMs are indicated by lines under graph (see box 2)

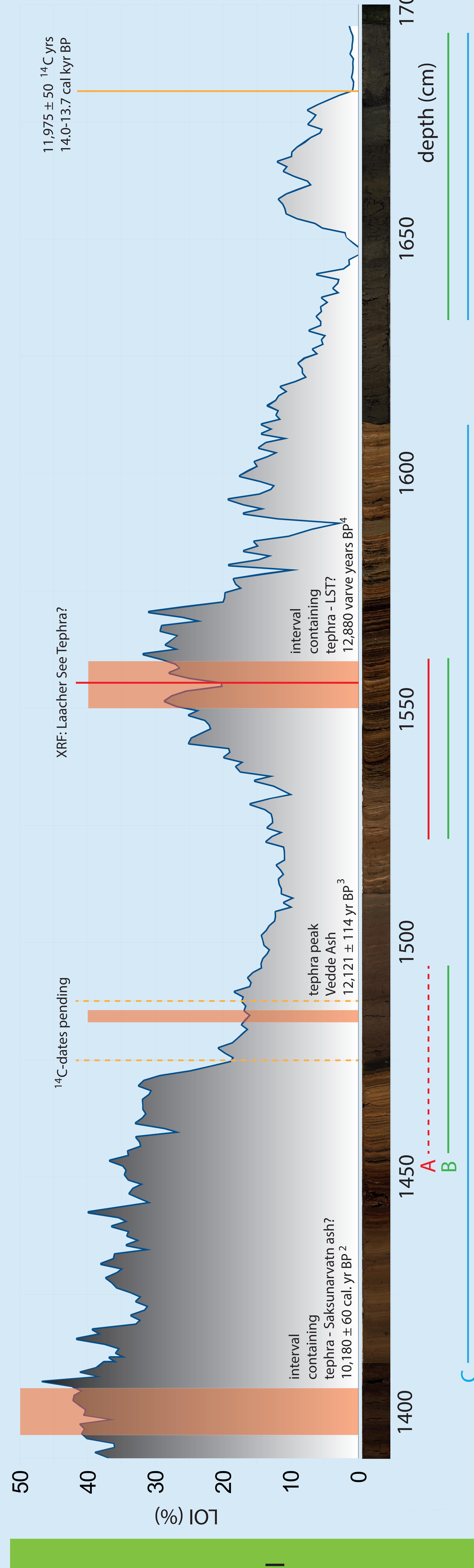


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Box 2. Climate- and environment reconstruction techniques

- Sedimentology**
XRF-scans (Aritina Haliuc) and LOI measurements (Renée de Brujin; fig. 1) are performed at high resolution for the entire Late Glacial section of the core.
- Geochemistry**
Lipid biomarkers (Ilaria Baneschi) and GDGTs (Johanna Menges) are used for climate reconstruction at the transitions around the Younger Dryas (fig. 1, A intervals).
- Palaeo-ecology**
Palaeo-ecological reconstructions are made based on chironomids (Tom Peters and Falko Turner; fig. 1, B intervals) and pollen (Falko Turner, C intervals).

References: ¹Merkt, J. & Müller, H., 1999. Quaternary Sci. 17(8); ²Andrews et al., 2002. J. Quaternary Int. 61; ³Rasmussen et al., 2006. J. Geophys. Res. Atmos. 111, ⁴Litt et al., 2001. Quaternary Sci. Rev. 20.

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2002. J. Quaternary Sci. 17(8);³ Rasmussen et al., 2006. J. Geophys. Res.-Atmos. 111, 1–20.

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The image shows the official logo of the University of Oxford. It consists of the words "UNIVERSITY OF OXFORD" arranged vertically on the left and horizontally on the right, all in a white serif font. Below this text is a circular seal. The seal's outer ring contains the words "UNIVERSITY OF OXFORD" at the top and bottom. Inside the ring, there is a central book flanked by two crowns, with the Latin motto "DOMINA MUNIT TIBI MEA NYS LLEV" inscribed around it.

The logo consists of a large, stylized blue geometric shape composed of several thick, dark blue lines forming a hexagon-like pattern. To the right of this graphic, the word "COST" is written vertically in a bold, black, sans-serif font. Below "COST", the text "EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY" is written in a smaller, black, all-caps, sans-serif font.

The logo of the University of Amsterdam (UvA) is displayed. It consists of a black square containing a white stylized letter 'U' formed by three 'X' marks.

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The image shows the official crest of the University of Oxford. The crest is circular with 'UNIVERSITY OF OXFORD' written around the top inner edge and 'S: UNIVERSITATIS: OXFORDIANAE:' written around the bottom inner edge. In the center is a shield with a cross, containing the Latin motto 'DOMINA MUNDO TOTUS ALIVIA MEA'. Above the shield are two crowns, and below it is a small heraldic figure.

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