

## Schriftenverzeichnis Michael Zech, Januar 2014

Accepted or in press

- Zech, M., Saurer, M., Tuthorn, M., Rinne, K., Werner, R.A., Siegwolf, R., Glaser, B. and Juchelka, D., in press. A novel methodological approach for  $\delta^{18}\text{O}$  analysis of sugars using GC-Pyrolysis-IRMS. *Isotopes in Environmental and Health Studies* DOI:10.1080/10256016.2013.824875.
- Zech, M., Tuthorn, M., Zech, R., Schlütz, F., Zech, W. and Glaser, B. in press. A 16-ka  $\delta^{18}\text{O}$  record of lacustrine sugar biomarkers from the High Himalaya reflects Indian Summer Monsoon variability. *Journal of Paleolimnology* DOI:10.1007/s10933-013-9744-4.

2014

- Tuthorn, M., Zech, M., Ruppenthal, M., Oelmann, Y., Kahmen, A., del Valle, H.F., Wilcke, W. and Glaser, B., 2014. Oxygen isotope ratios ( $^{18}\text{O}/^{16}\text{O}$ ) of hemicellulose-derived sugar biomarkers in plants, soils and sediments as paleoclimate proxy II: Insight from a climate transect study. *Geochimica et Cosmochimica Acta* 126, 624-634.
- Zech, M., Mayr, C., Tuthorn, M., Leiber-Sauheitl, K. and Glaser, B., 2014. Oxygen isotope ratios ( $^{18}\text{O}/^{16}\text{O}$ ) of hemicellulose-derived sugar biomarkers in plants, soils and sediments as paleoclimate proxy I: Insight from a climate chamber experiment. *Geochimica et Cosmochimica Acta* 126, 614-623.
- Zech, M., Hörold, C., Leiber-Sauheitl, K., Kühnel, A., Hemp, A. and Zech, W., 2014. Buried black soils on the slopes of Mt. Kilimanjaro as a regional carbon storage hotspot. *Catena* 112, 125-130.

2013

- Andreeva, D., Zech, M., Glaser, B., Erbajeva, M., Chimitdorgieva, G., Ermakova, O. and Zech, W., 2013. Stable isotope ( $\delta^{13}\text{C}$ ,  $\delta^{15}\text{N}$ ,  $\delta^{18}\text{O}$ ) record of soils in Buryatia, southern Siberia: Implications for biogeochemical and paleoclimatic interpretations. *Quaternary International* 290-291, 82-94.
- Tarasov, P., Müller, S., Zech, M., Andreeva, D., Diekmann, B. and Leipe, C., 2013. Last glacial vegetation reconstructions in the extreme-continental eastern Asia: Potentials of pollen and n-alkane biomarker analyses. *Quaternary International* 290-291, 253-263.
- Zech, M., Krause, T., Meszner, S. and Faust, D., 2013. Incorrect when uncorrected: Reconstructing vegetation history using n-alkane biomarkers in loess-paleosol sequences – A case study from the Saxonian loess region, Germany. *Quaternary International* 296, 108-116.
- Zech, M., Rass, S., Buggle, B., Löscher, M. and Zöller, L.. 2013. Reconstruction of the late Quaternary paleoenvironments of the Nussloch loess paleosol -- Response to the comments by G. Wiesenberg and M. Gocke. *Quaternary Research* 79(2), 306-307.
- Zech, M., Tuthorn, M., Detsch, F., Rozanski, K., Zech, R., Zöller, L., Zech, W. and Glaser, B., 2013. A 220 ka terrestrial  $\delta^{18}\text{O}$  and deuterium excess biomarker record from an eolian permafrost paleosol sequence, NE-Siberia. *Chemical Geology* 360-361, 220-230.

- Zech, M., Tuthorn, M., Glaser, B., Amelung, W., Huwe, B., Zech, W., Zöller, L. and Löffler, J., 2013. Natural abundance of  $^{18}\text{O}$  in topsoils along a climate transect over the Southern Scandinavian Mountains, Norway. *Journal of Plant Nutrition and Soil Science* 176, 12-15.
- Zech, R., Zech, M., Marković, S., Hambach, U. and Huang, Y., 2013. Humid glacials, arid interglacials? Critical thoughts on pedogenesis and paleoclimate based on multi-proxy analyses of the loess-paleosol sequence Crvenka, Northern Serbia. *Palaeogeography, Palaeoclimatology, Palaeoecology* 387, 165-175.

2012

- Marković, S., Hambach, U., Stevens, T., Jovanović, M., O'Hara-Dhand, K., Basarin, B., Lu, H., Smalley, I., Buggle, B., Zech, M., Svičev, Z., Sümegi, P., Milojković, N. and Zöller, L., 2012. Loess in the Vojvodina region (Northern Serbia): an essential link between European and Asian Pleistocene environments. *Netherlands Journal of Geosciences – Geologie en Mijnbouw* 91 (1/2), 173-188.

- Zech, M., Kreutzer, S., Goslar, T., Meszner, S., Krause, T., Faust, D. and Fuchs, M., 2012: Technical Note: *n*-Alkane lipid biomarkers in loess: post-sedimentary or syn-sedimentary? *Biogeosciences Discussions* 9, 9875-9896.

- Zech, M., Rass, S., Buggle, B., Löscher, M. and Zöller, L., 2012. Reconstruction of the late Quaternary paleoenvironment of the Nussloch loess paleosol sequence, Germany, using *n*-alkane biomarkers. *Quaternary Research* 78, 326-335.

- Zech, M., Werner, R., Juchelka, D., Kalbitz, K., Buggle, B. and Glaser, B., 2012. Absence of oxygen isotope fractionation/exchange of (hemi-) cellulose derived sugars during litter decomposition. *Organic Geochemistry* 42, 1470-1475.

2011

- Buggle, B. und Zech, M., 2011. Mit Biomarkern den Wäldern der Vergangenheit auf der Spur – Pflanzenbürtige Lipide als molekulare Fossilien: neue Einblicke in die Vegetationsgeschichte Mitteleuropas. In: Spektrum-Magazin der Universität Bayreuth, Universität Bayreuth, Schmälzle, F. (Hrsg.), 7. Jahrgang, Ausgabe 1, Seite 10-13.

- Schatz, A., Zech, M., Buggle, B., Gulyas, S., Hambach, U., Markovic, S., Sümegi, P. and Scholten, T., 2011. The late Quaternary loess record of Tokaj, Hungary: Reconstructing palaeoenvironment, vegetation and climate using stable C and N isotopes and biomarkers. *Quaternary International* 240 (1-2), 52-61.

- Stevens, T., Marković, S., Zech, M., Hambach, U. and Sümegi, P., 2011. Dust deposition and climate in the Carpathian Basin over an independently dated last glacial–interglacial cycle. *Quaternary Science Reviews* 30 (5-6), 662-681.

- Zech, M., Bimüller, C., Hemp, A., Samimi, C., Broesike, C., Hörold, C. and Zech, W., 2011. Human and climate impact on  $^{15}\text{N}$  natural abundance of plants and soils in high mountain ecosystems – a short review and two examples from the Eastern Pamirs and Mt. Kilimanjaro. *Isotopes in Environmental and Health Studies* 47 (3), 286-296.

- Zech, M., Leiber, K., Zech, W., Poetsch, T. and Hemp, A., 2011. Late Quaternary soil genesis and vegetation history on the northern slopes of Mt. Kilimanjaro, East Africa. *Quaternary International* 243 (2), 327-336.
- Zech, M., Pedentchouk, N., Buggle, B., Leiber, K., Kalbitz, K., Markovic, S., Glaser, B., 2011. Effect of leaf litter degradation and seasonality on D/H isotope ratios of *n*-alkane biomarkers. *Geochimica et Cosmochimica Acta* 75, 4917-4928.
- Zech, M., Zech, R., Buggle, B., and Zöller, L., 2011. Novel methodological approaches in loess research – interrogating biomarkers and compound-specific stable isotopes. *Eiszeitalter & Gegenwart – Quaternary Science Journal* 60 (1), 170-187.
- Zech, R., Huang, Y., Zech, M., Tarozo, R. and Zech, W., 2011. High carbon sequestration in Siberian permafrost loess-paleosols during glacials. *Climate of the Past* 7, 501-509.
- Zech, W., Zech, R., Zech, M., Leiber, K., Dippold, M., Frechen, M., Bussert, R. and Andreev, A., 2011. Obliquity forcing of Quaternary glaciation and environmental changes in NE Siberia. *Quaternary International* 234 (1-2), 133-145.

2010

- Werner, K., Tarasov, E., Andreev, A., Müller, S., Kienast, F., Zech, M., Zech, W. and Diekmann, B., 2010. A 12.5-kyr history of vegetation dynamics and mire development with evidence of Younger Dryas larch presence in the Verkhoyansk Mountains, East Siberia, Russia. *Boreas* 39 (1), 56-68.
- Zech, M., Andreev, A., Zech, R., Müller, S., Hambach, U., Frechen, M., and Zech, W., 2010. Quaternary vegetation changes derived from a loess-like permafrost palaeosol sequence in northeast Siberia using alkane biomarker and pollen analyses. *Boreas* 39 (3), 540-550.
- Zech, R., Huang, Y., Zech, M., Tarozo, R. and Zech, W., 2010. A permafrost glacial hypothesis to explain atmospheric CO<sub>2</sub> and the ice ages during the Pleistocene. *Climate of the Past Discussions* 6, 2199-2221.

2009

- Zech, M. and Glaser, B., 2009. Compound-specific δ<sup>18</sup>O analyses of neutral sugars in soils using GC-Py-IRMS: problems, possible solutions and a first application. *Rapid Communications in Mass Spectrometry* 23, 3522-3532.
- Zech, M., Zech, R., Glaser, B., Morrás, H. and Moretti, L., 2009. Late Quaternary environmental changes in Misiones, subtropical NE Argentina, deduced from multi-proxy geochemical analyses in a palaeosol sediment sequence. *Quaternary International* 196, 121-136.
- Zech, M., Buggle B., Leiber, K., Marković, S., Glaser, B., Hambach, U., Huwe, B., Stevens, T., Sümegi, P., Wiesenberg, G. and Zöller, L., 2009. Reconstructing Quaternary vegetation history in the Carpathian Basin, SE Europe, using *n*-alkane biomarkers as molecular fossils: problems and possible solutions, potential and limitations. *Eiszeitalter und Gegenwart – Quaternary Science Journal* 58 (2), 148-155.

Zech, R., Zech, M., Kubik, P., Kharki, K. and Zech, W., 2009. Deglaciation and landscape history around Annapurna, Nepal, based on  $^{10}\text{Be}$  surface exposure dating. Quaternary Science Reviews 28 (11-12), 1106-1118.

Zech, W., Zech, M., Zech, R., Peinemann, N., Morras, H., Moretti, L., Ogle, N., Kalim, R., Fuchs, M., Schad, P., Glaser, B., 2009. Late Quaternary palaeosol records from subtropical ( $38^\circ$  S) to tropical ( $16^\circ$  S) South America and palaeoclimatic implications. Quaternary International 196, 107-120.

2008

Zech, M. and Glaser, B., 2008. Improved compound-specific  $\delta^{13}\text{C}$  analysis of n-alkanes for application in palaeoenvironmental studies. Rapid Communications in Mass Spectrometry 22, 135-142.

Zech, M., Buggle, B., Markovic, S., Lucic, T., Stevens, T., Gaudenyi, T., Jovanovic, M., Huwe, B., Zöller, L., 2008. First Alkane Biomarker Results for the Reconstruction of the Vegetation History of the Carpathian Basin (SE Europe). In: J. Reitner et al. (Editors.), Veränderter Lebensraum – Gestern, Heute und Morgen. DEUQUA Symposium 2008. Abhandlungen der Geologischen Bundesanstalt 62, Wien, pp. 123-127.

Zech, M., Zech, R., Zech, W., Glaser, B., Brodowski, S. and Amelung, W., 2008. Characterisation and palaeoclimate of a loess-like permafrost palaeosol sequence in NE Siberia, Geoderma 143, 281-295.

2007

Zech, M., 2007. The Use of Biomarker and Stable Isotope Analyses in Palaeopedology/Reconstruction of Middle and Late Quaternary Environmental and Climate History, with examples from Mt. Kilimanjaro, NE Siberia and NE Argentina. Dissertation at the University of Bayreuth. <http://opus.ub.uni-bayreuth.de/volltexte/2007/289/>

Zech, M., Zech, R. and Glaser, B., 2007. A 240,000-year stable carbon and nitrogen isotope record from a loess-like palaeosol sequence in the Tumara Valley, Northeast Siberia. Chemical Geology 242, 307-318.

2006

Zech, M., 2006. Evidence for Late Pleistocene climate changes from buried soils on the southern slopes of Mt. Kilimanjaro, Tanzania. Palaeogeography, Palaeoclimatology, Palaeoecology 242, 303–312.

2005

Zech, M. und Schrumpf, 2005. Geochemische Kennzeichnung von Paläoböden an den SW-Hängen des Kilimandscharo, Tansania. In: Eidam, U., Schröder, H., Winter, S. (Hrsg.). Berliner Geographische Arbeiten, Heft 100, Seite 93-97.