

MARKUS FUCHS

LIST OF PUBLICATIONS (OCTOBER 2022)

Peer-Reviewed Journals:

Submitted

- Dreibrodt, S., Langan, C. C. M., **Fuchs, M.**, Bork, H.-R. submitted. The Anthropocene in Quaternary processes – examples from central European landscapes of the eastern Harz Mountains forelands (Germany). *Quaternary Science Reviews*.
- Richter, C., Wolf, D., Milano, S., Walther, F., **Fuchs, M.**, Sahakyan, L. & Faust, D. submitted. The complexity of stable isotope interpretation in high-continental systems - a malacological study from the Southern Caucasus. *Boreas*.
- Sontag-González M., Mittelstrass D., Kreutzer S. & **Fuchs M.** accepted. Wavelength calibration and spectral sensitivity correction of luminescence measurements for dosimetry applications: method comparison tested on the IR-RF of K-feldspar. *Radiation Measurements*.

2022

- Junge, A., Dunseth, Z. C., Shahack-Gross, R., Finkelstein, I. & **Fuchs, M.** 2022. The Archaeology and history of rock-cut cisterns and open water reservoirs in the Negev Highlands, Israel. *Bulletin of the American Schools of Oriental Research (BASOR)*.
- Kolb, T., Tudyka, K., Kadereit, A., Lomax, J., Poręba, G., Zander, A., Zipf, L., **Fuchs, M.** 2022. The μ Dose-system: determination of environmental dose rates by combined alpha and beta counting – performance tests and practical experiences. *Geochronology* 4, 1-31.
- Kolb T., Sontag-González, M. & **Fuchs, M.** 2022. Testing the potential of a standardized growth curve approach for improving the applicability and performance of fading correction. *Quaternary Geochronology* 73, 101375.
- Kothieringer, K., et al. **Fuchs, M.** 2022. Mid- to Late Holocene landscape dynamics and rural settlement in the uplands of northern Bavaria, Germany. *Geoarchaeology*.
- Sontag-González, M. & **Fuchs, M.** 2022. Spectroscopic investigations of infrared-radiofluorescence (IR-RF) for equivalent dose estimation. *Radiation Measurements* 153, 106733.
- Wolf, D., Lomax, J., Sahakyan, L., Hovakimyan, H., Profe, J., Schulte, P., Suchodoletz, H. v., Richter, C., Hambach, U., **Fuchs, M.** & Faust, D. 2022. Last glacial loess dynamics in the Southern Caucasus (NE-Armenia) and the phenomenon of missing loess deposition during MIS-2. *Scientific Reports* 12, 13269.

2021

- Junge, A., Dunseth, Z. C., Shahack-Gross, R., Finkelstein, I. & **Fuchs, M.** 2021. Construction and usage of rock-cut cisterns: a chronological approach in the arid Negev Highlands, Israel. *Archaeological and Anthropological Sciences* 13. Doi: 10.1007/s12520-021-01366-5
- Lomax, J., Wolf, D., Wolpert, T., Sahakyan, L., Hovakimyan, H., Faust, D. & **Fuchs, M.** 2021. Establishing a luminescence-based chronostratigraphy for the last glacial-interglacial cycle of the loess-palaeosol sequence Achajur (Armenia). *Frontiers in Earth Science*. doi: 10.3389/feart.2021.755084
- Murari, M., Kreutzer, M., King, G., Frouin, M., Friedrich, J., Lauer, T., Klasen, N., Schmidt, C., Tsukamoto, S., Richter, D., Mercier, N. & **Fuchs, M.** 2021. Infrared Radiofluorescence (IR-RF): a review. *Quaternary Geochronology* 64, 101155.
- Murari, M., Kreutzer, M., Frouin, M., Friedrich, J., Lauer, T., Klasen, N., Schmidt, C., Tsukamoto, S., Richter, D., Mercier, N. & **Fuchs, M.** 2021. Infrared Radiofluorescence (IR-RF): An inter-lab comparison. *Geochronometria* 48, 105-120.
- Scherer, S., Deckers, K., Diete, I. J., **Fuchs, M.**, Henkner, J., Höpfer, B., Junge, A., Kandeler, E., Lehndorff, E., Leinweber, P., Lomax, J., Miera, J., Poll, C., Toffolo, M., Knopf, T., Scholten, T., Kühn, P. 2021. What's in a colluvial deposit? New perspectives from archaeopedology. *Catena* 198, 105040.
- Scherer, S., Höpfer, B., Deckers, K., Fischer, E., **Fuchs, M.**, Kandeler, E., Lehndorff, E., Lomax, J., Marhan, S., Marinova, E., Meister, J., Poll, C., Rahimova, H., Rösch, M., Wroth, K., Zastrow, J., Knopf, T., Scholten, T., Kühn, P. 2021. Middle Bronze Age land use practices in the north-western Alpine foreland (Hegau) – A multi-proxy study of colluvial deposits, bogs and archaeological features. *Soil*. doi.org/10.5194/soil-2020-84

2020

- Bertran, P., Andrieux, E., Bateman, M., **Fuchs, M.**, Klinge, M. & Marembert, F. 2020. Mapping and chronology of coversands and dunes from the Aquitaine Basin, southwest France. *Aeolian Research* 47. doi.org/10.1016/j.aeolia.2020.100628.
- Richter, C., Wolf, D., Walther, F., Meng, S., Sahakyan, L., Hovakimyan, H., Wolpert, T., **Fuchs, M.** & Faust, D. 2020. New insights into Transcaucasian glacial-interglacial climate conditions inferred from Quaternary gastropod faunas. *Journal of Quaternary Sciences* 35, 634-649.
- Rousseau, D.-D., Antoine, P., Boers, N., Lagroix, F., Ghil, M., Lomax, J., **Fuchs, M.**, Debret, M., Hatté, C., Moine, O., Gauthier, C., Jordanova, D., & Jordanova, N. 2020. DO-like events of the penultimate climate cycle: the loess point of view. *Climate of the Past*. doi.org/10.5194/cp-2019-122.
- Tudyka, K., Bluszcz, A., Poreba, G., Miaosz, S., Adamiec, G., Kolarczyk, A., Kolb, T., Lomax, J. & **Fuchs, M.** 2020. Increased dose rate precision in combined α and β counting in the μ Dose system - a probabilistic approach to data analysis. *Radiation Measurement* 134, 106310.

2019

- Fuchs, M.** & Lomax, J. 2019. Stone pavements in arid environments: Does grain size matter for OSL dating? *Quaternary Geochronology* 49, 191-198.
- Antoine, P., Jordanova, D., Jordanova, N., Lomax, J., Lagroix, F., Till, J., Debret, M., Taylor, S. N., Hatté, C., Moine, O., **Fuchs, M.** & Rousseau, D.-D. 2019. A remarkable Late Saalian (MIS 6) loess (dust) accumulation in the Lower Danube at Harletz (Bulgaria). *Quaternary Science Reviews* 2017, 80-100.
- Lomax, J., Antoine, P., Rousseau, D.-D., Lacroix, F., Hatté, C., Taylor, S., Till, J., Debret, M., Moine, O., Jordanova, D. & **Fuchs, M.** 2019. A luminescence-based chronology for the Harletz loess sequence, Bulgaria. *Boreas* 48, 179-194.
- Miera, J. J., Henkner, J., Schmidt, K., **Fuchs, M.**, Scholten, T., Kühn, P. & Knopf, T. 2019. Neolithic settlement dynamics derived from archaeological data and colluvial deposits between the Baar and adjacent low mountain ranges, southwest Germany. *Quaternary Science Journal* 68, 75-93.
- Trigui, Y., Wolf, D., Sahakyan, L., Hovakimyan, H., Sahakyan, K., Zech, R., **Fuchs, M.**, Wolpert, T., Zech, M. & Faust, D. 2019. First calibration and application of leaf wax n-alkane biomarkers in loess-paleosol sequences and modern plants and soils in Armenia. *Geosciences* 9, 263.

2018

- Fuchs, M.**, 2018. Preface: Quaternary and Tertiary landscapes and their sediments in Hesse, Germany – a guidebook to selected field trips on geology, geomorphology and geoarchaeology. *DEUQUA Spec. Pub.*, 1, 1–2.
- Henkner, J., Ahlrichs, J., Downey, S., **Fuchs, M.**, James, B., Junge, A., Knopf, T., Scholten, T. & Kühn, P. 2018. Archaeopedological analysis of colluvial deposits in favourable and unfavourable areas: Reconstruction of land use dynamics in SW Germany. *Royal Society Open Science* 5, 171624.
- Junge, A., Lomax, J., Shahack-Gross, R., Finkelstein, I. & **Fuchs, M.** 2018. Chronology of an ancient water reservoir and the History of Human Activity in the Negev Highlands, Israel. *Geoarchaeology* 33, 695-707.
- Kolb, T. & **Fuchs, M.** 2018. Luminescence dating of pre-Eemian (MIS 5e) fluvial terraces in Northern Bavaria (Germany) – benefits and limitations of applying a pIRIR₂₂₅ – approach. *Geomorphology* 321, 16-32.
- Lomax, J., Steup, R., Shumilovskikh, L., Hoselmann, C., Sauer, D., van Dienenhoven, V. & **Fuchs, M.** 2018. Quaternary environments of Giessen and its surrounding areas, *DEUQUA Spec. Pub.*, 1, 15–28.
- Meyer-Heintze, S., Sprafke, T., Schulte, P., Terhorst, B., Lomax, J., **Fuchs, M.**, Lehmkuhl, F., Neugebauer-Maresch, C., Einwögerer, T., Händel, M. & Simon, U. 2018. The MIS 3/2 transition as recorded in a new sequence of Krems-Wachtberg – a multi-methodological approach. *Quaternary International* 464, 370-385.

Murari, M., Kreuzer, S., & **Fuchs, M.** 2018. Further investigations on IR-RF: dose recovery and correction. *Radiation Measurement* 120, 110-119.

Schirmer, W. & **Fuchs, M.** 2018. Loess at foot slope position in the Northern Franconian Alb (Germany). *Erlanger. Beitr. Petr. Min.* 28, 1-12.

2017

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Henkner, J., Ahlrichs, J., Fischer, E., **Fuchs, M.**, Rösch, M., Scholten, T. & Kühn, P. 2017. Land use dynamics derived from colluvial deposits and bogs in the Black Forest, Germany. *Journal of Plant Nutrition and Soil Science* 181, 240-260.

Kolb, T., **Fuchs, M.**, Moine, O., & Zöllner, L. 2017. Quaternary river terraces as archives for paleoenvironmental reconstruction: new insights from the headwaters of the Main River, Germany. *Z. Geomorph. Suppl. N.F.* 61, 53-76.

Kreuzer, S., Murari, M. K., Frouin, M., **Fuchs, M.** & Mercier, N. 2017. Always remain suspicious: a case study on tracking down a technical artefact while measuring IR-RF. *Ancient TL* 35, 20-30.

Kühn, P., Lehndorff, E. & **Fuchs, M.** 2017. Lateglacial to Holocene pedogenesis and formation of colluvial deposits in a loess landscape of Central Europe (Wetterau, Germany). *Catena* 154, 118-135.

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Schmidt, M., **Fuchs, M.**, Henderson, A.C.G., Kossler, A., Leng, M. J., Mackay, A. W., Shemang, E. & Riedel, F. 2017. First palaeolimnological features of a mega-lake phase in the Kalahari (Botswana) during Marine Isotope Stage 5, inferred from diatoms. *Journal of Paleolimnology* 58, 373-390.

Zech, M., Kreuzer, S., Zech, R., Goslar, T., Meszner, S., McIntyre, C., Häggi, Ch., Eglinton, T., Faust, D. & **Fuchs, M.** 2017. Comparative C-14 and OSL dating of loess-paleosol sequences to evaluate post-depositional contamination of *n*-alkane biomarkers. *Quaternary Research* 87, 180-189.

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2016

- Dietze, M., Dietze, E., Lomax, J., **Fuchs, M.**, Kleber, A. & Wells, S.G. 2016. Environmental history recorded in aeolian deposits under stone pavements, eastern Mojave Desert, USA. *Quaternary Research* 85, 4-16.
- Dunseth, Z., Junge, A., **Fuchs, M.**, Finkelstein, I. & Shahack-Gross, R. 2016. Geoarchaeological investigation at the Intermediate Bronze Age Negev Highlands Site of Mashabe Sade. *Tel Aviv* 43, 43-75.
- Junge, A., Lomax, J., Shahack-Gross, R., Dunseth, Z.C., Finkelstein, I. & **Fuchs, M.** 2016. OSL age determination of archaeological structures using trapped aeolian sediments: a case study from the Negev Highlands, Israel. *Geoarchaeology* 31, 550-563.
- Kolb, T., **Fuchs, M.**, & Zöller, L. 2016. Deciphering fluvial landscape evolution by luminescence dating of river terrace formation: a case study from Northern Bavaria, Germany. *Z. Geomorph. Suppl. N.F.* 60, 29-48.
- Long, H., **Fuchs, M.**, Yang, L. & Cheng, H. 2016. Abrupt sand-dune accumulation at the northeastern margin of the Tibetan Plateau challenges the wet MIS3a inferred from numerous lake-highstands. *Scientific Reports* 6, 25820; doi: 10.1038/srep25820.
- Richter, D., Mittelstraß, D., Kreutzer, S., Pintaske, R., Dornich, K. & **Fuchs M.** 2016. A new fully integrated X-ray irradiator system for dosimetric research. *Applied Radiation and Isotopes* 112, 122-130.

2015

- Fuchs, M.**, Dietze, M., Al-Qudah, K. & Lomax, J. 2015. Dating desert pavements - First results from a challenging environmental archive. *Quaternary Geochronology* 30, 342-349.
- Fuchs, M.**, Reverman, R., Owen, L.A. & Frankel, K. 2015. Reconstructing the timing of flash floods using terrestrial cosmogenic nuclide ^{10}Be surface exposure dating: A case study from the Leidy Creek alluvial fan and valley, White Mountains, California-Nevada, USA. *Quaternary Research* 83, 178-187.
- Fuchs, M.C., Kreutzer, S., Burow, C., Dietze, M., Fischer, M., Schmidt, C. & **Fuchs, M.** 2015. Data processing in luminescence dating analysis: An exemplary workflow using the R package 'Luminescence'. *Quaternary International* 362, 8-13.
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2014

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- Kreutzer, S., Lauer, T., Meszner, S., Krbetschek, M., Faust, D. & **Fuchs, M.** 2014. Chronology of the Quaternary profile Zeuchfeld in Saxony-Anhalt / Germany – a preliminary luminescence dating study. *Zeitschrift für Geomorphologie* 58, 5-26.
- Kreutzer, S., Schmidt, C., DeWitt, R. & **Fuchs, M.** 2014. The a-value of polymineral fine grain samples measured with the post-IR IRSL protocol. *Radiation Measurements* 69, 18-29.
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- Antoine, P., Rousseau, D.-D., Degeai J.-P., Moine, O., Lacroix, F., Kreutzer, S., **Fuchs, M.**, Hatté, C., Gauthier, C., Svoboda, J. & Lisá, L. 2013. High-resolution record of the environmental response to climatic variations during the Last Interglaciale-Glacial cycle in Central Europe: the loess-palaeosol sequence of Dolní Vestonice (Czech Republic). *Quaternary Science Reviews* 67, 17-38.
- Dreibrodt, S., Lubos, C., Hofmann, R., Müller-Scheessel, N., Richling, I., Nelle, O., **Fuchs, M.**, Rassmann, K., Kujundžić-Vejzagić, Z., Bork, H.-R. & Müller, J. 2013. Holocene river and slope

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2011

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