

## Publications

### Peer-reviewed

- Rose T**, Natali S, Brotzu A, Fabian P, Goren Y (2023) Bellows and furnace covers in the unalloyed copper metallurgy of the Chalcolithic Southern Levant: Reassessing the evidence from Abu Matar. *Archaeometry* 24:3. <https://doi.org/10.1111/arcm.12931>
- Rose T**, Natali S, Brotzu A, Bar S, Goren Y (2023) First evidence for alloying practices in the Chalcolithic Southern Levant (4500–3800 BCE) as revealed by metallography. *Herit Sci* 11:193. <https://doi.org/10.1186/s40494-023-01030-2>
- Rose T**, Bar S, Asscher Y, Goren Y (2023) Identification of Fazael 2 (4000–3900 BCE) as first lost wax casting workshop in the Chalcolithic Southern Levant. *Herit Sci* 11:192. <https://doi.org/10.1186/s40494-023-01029-9>
- Rose T**, Fabian P, Goren Y (2023) The (in)visibility of lost wax casting moulds in the archaeological record: Observations from an archaeological experiment. *Archaeol Anthropol Sci* 15:31. <https://doi.org/10.1007/s12520-023-01731-6>
- Klein S, **Rose T**, Westner KJ, Hsu Y-K (2022) From OXALID to GlobalID: Introducing a modern and FAIR lead isotope database with an interactive application. *Archaeometry* 64:935–950. <https://doi.org/10.1111/arcm.12762>
- Rose T**, Fabian P, Goren Y (2021) Shedding New Light on the Pure Copper Metallurgy of the Chalcolithic Southern Levant Through an Archaeological Experiment. *EXARC Journal* 2021:1–11. <https://exarc.net/ark:/88735/10601>
- Rose T**, Hanning EK, Klein S (2020) Smelting Experiments with Chalcopyrite Ore based on Evidence from the Eastern Alps. *Metalla* 25:77–100.
- Rose T**, Télouk P, Fiebig J, Marschall HR, Klein S (2020) Iron and oxygen isotope systematics during corrosion of iron objects: A first approach. *Archaeol Anthropol Sci* 12:133. <https://doi.org/10.1007/s12520-020-01072-8>
- Klein S, **Rose T** (2020) Evaluating copper isotope fractionation in the metallurgical operational chain: An experimental approach. *Archaeometry* 62:134–155. <https://doi.org/10.1111/arcm.12564>
- Rose T**, Télouk P, Klein S, Marschall HR (2019) Questioning Fe isotopes as a provenance tool: Insights from bog iron ores and alternative applications in archeometry. *J. Archaeol. Sci.* 101:52–62. <https://doi.org/10.1016/j.jas.2018.11.005>

### Data Publications

- Westner KJ, **Rose T**, Klein S, Hsu Y-K, Becerra MF, Nezafati N, Renson V, Stephens JA (2023) GlobalID – Global Lead Isotope Database V. 1.1. <https://doi.org/10.5880/figeo.2023.043>
- Adam B, Basha A, Cop M, Cordes B, Eschke C, Feeken C, Frankenberger B, Freund J, Jerger D, Jung N, Krause E, Lindstaedt B, Marutschke C, Rhiem F, **Rose T**, Ruffing N, Schieberle A (2023) Metadata schema of the ELN Finder (V1\_0).xlsx. <https://repository.publisso.de/resource/fri:6452815>
- Westner KJ, **Rose T**, Klein S, Hsu Y-K (2021) GlobalID – Global Lead Isotope Database. GFZ Data Services. <https://doi.org/10.5880/figeo.2021.031>
- Rose T**, Klein S, Hanning EK (2020) Copper isotope fractionation during prehistoric smelting of copper sulfides: experimental and analytical data. GFZ Data Services. <https://doi.org/10.5880/figeo.2020.013>

### Software

- GlobalID Core Team (2021) GlobalID web application V. 1.0. <https://globalid.dmt-lb.de/>
- Rose T**, Giroto C (2021) chronochrt: Creating Chronological Charts with R. R package version 0.1.0. <https://CRAN.R-project.org/package=chronochrt>

### Edited volumes

- Rose T** (ed) (2023) Lead Isotopes in Archaeology: An Interactive Textbook. Zenodo. <https://doi.org/10.5281/zenodo.10205820>
- Rose T**, van der Meulen-van der Veen, B, Neff D, Penton S (eds) (2022–2023) Special Section: The Contribution of Metal Corrosion Products to Archaeological Research. *Journal of Archaeological Science: Reports* 45–48.
- Rose T**, Gelder G de, Fernández-Blanco D, Sieber MJ (eds) (2021) Proceedings of the 5th International Young Earth Scientists (YES) Congress “Rocking Earth’s Future”: 9-13 September 2019, Berlin, Germany. German YES Chapter and GFZ German Research Centre for Geosciences, Potsdam. <https://doi.org/10.2312/yes19>

### Non peer-reviewed

- Anders I, Braesicke P, Degbello A, Frickenhaus S, Grieb J, Veronika G, Hasler S, Henzen C, Hezel DC, Keßler C, Klammer R, Lorenz S, Mahecha M, Mehrtens H, Müller C, **Rose T**, Sadeghi F, Thiemann H, Weiland C, NFDI4Earth Consortium (2023) Collection of NFDI4Earth One-Pagers, Zenodo. <https://doi.org/10.5281/zenodo.7583596>

- Arndt S, Burger F, Dreyer B, Espinoza S, Fischer B, Fuhrmans M, Henzen C, Hofman V, Jaeger D, Linke D, Löbe M, Mathiak B, **Rose T**, Saalbach C, Shutsko A, Soeding E, Stein R, Terzijska D (2022) "Cookbooks, Guidance, and Best Practices": Working Group Charter (NFDI section-metadata), Zenodo. <https://doi.org/10.5281/zenodo.6758256>
- Rose T**, Klein S, Hsu Y-K, Westner KJ (2022) GlobalID: A new database and interactive web tool for provenancing archaeological metals. *Archeomatica* 13:10–12
- Rose T**, Fabian P, Goren Y (2021) New insights into the Chalcolithic Metallurgy of the Southern Levant: Revisiting the evidence of Abu Matar. *Metalla Sonderheft* 11:12–14.
- Rose T**, Hanning EK, Klein S (2019) Verhüttungsexperimente mit Chalkopyrit-Erz nach Vorbildern aus dem bronzezeitlichen Ostalpenraum und Nepal. *Experimentelle Archäologie in Europa* 18:47–60. <https://doi.org/10.23689/figeo-3706>
- Rose T**, Télouk P, Marschall HR, Klein S (2018) Die Bedeutung von Raseneisenerzen für die Herkunftsrekonstruktion mittels Eisenisotopen. In: Glaser L (ed) *Archäometrie & Denkmalpflege* 2018. Verlag Deutsches Elektronen-Synchrotron, Hamburg, pp 114–117.
- Rose T**, Morgenstern G, Stelter M, Klein S (2017) Cu isotope fractionation during prehistoric smelting: a contribution of modern pyrometallurgy. In: *Proceedings of the European Metallurgical Conference 2017*, vol 3. GDMB, Clausthal-Zellerfeld, pp 1153–1167.
- Rose T**, Morgenstern G, Stelter M, Klein S (2016) Fraktionierung von Kupferisotopen während der Verhüttung. In: Schlütter F, Greiff S, Kronz A (eds) *Archäometrie und Denkmalpflege 2016*. Jahrestagung an der Georg-August-Universität Göttingen, 28.9.–1.10.2016, pp 198–201.
- Rose T** (2013) Analytical techniques and the chaîne opératoire of pottery. In: Ramminger B, Stilborg O, Helfert M (eds) *Naturwissenschaftliche Analysen vor- und frühgeschichtlicher Keramik III: Methoden, Anwendungsbereiche, Auswertungsmöglichkeiten*. Habelt, Bonn, pp 153–171.

## Outreach

### Public

- Interview: **Rose T** (2021) Rekonstruktion zur chalkolithischen Metallurgie in der südlichen Levante (4200-3800 v. Chr.). MAMUZ Wissen: Experimentelle Archäologie erklärt!, <https://www.youtube.com/watch?v=BLZKBjeHtBs>
- Rose T** (2020) Two become one: Combining Experimental Archaeology with Archaeometry (Webinar). Heritage's Wavelength, <https://www.youtube.com/watch?v=RY53SMFJQJ0>
- Rose T**, Pagelson Y, Goren Y (2021) Video: Reconstruction the Metallurgy of the Chalcolithic Southern Levant (4200 – 3800 BCE). Part of the exhibition "Experimentelle Archäologie/Experimental Archaeology" at the MAMUZ (WMB Weinviertel Museum Betriebs GmbH), Mistelbach.
- Rose T**, Pagelson Y, Goren Y (2021) Rekonstruktion zur chalkolithischen Metallurgie in der südlichen Levante (4200–3800 v. Chr.) / Reconstructing the Metallurgy of the Chalcolithic Southern Levant (4200-3800 BCE). In: WMB Weinviertel Museum Betriebs GmbH (ed) *Experimentelle Archäologie / Experimental Archaeology*. Eine Ausstellung des MAMUZ (WMB Weinviertel Museum Betriebs GmbH) in Zusammenarbeit mit EXARC., Mistelbach, pp 52–57.
- Rose T**, Hanning EK, Klein S (2019) DBM @ RGZM: Experimente zur prähistorischen Kupferverhüttung im Labor für Experimentelle Archäologie. *Archäologie Schweiz* 42:44–45.
- Greifelt T, Köhler S (2018) Experimente zur Kupferproduktion in der Bronzezeit. Scientific direction: Thomas Rose, Sabine Klein, Erica K. Hanning, Michael Herdick, Bochum, <https://www.youtube.com/watch?v=O69QMIana0E>
- Siering D (2017) Vertical Memory: Catalogue to the exhibition "A million years of permanent sleep", 7. June to 8. July 2017, 1822-Forum, Frankfurt am Main. Scientific advisor: Thomas Rose

### Academic

- Rose T** (2023) 16th Congress of the Pan African Archaeological Association for Prehistory and Related Studies (PAA). *GMit* 93:88–89
- Rose T** (2023) 16th Congress of the Pan African Archaeological Association for Prehistory and Related Studies. *Elements* 19:196
- Sieber MJ, **Rose T** (2021) YES – we rocked Earth's future! *GMit* 86:120.
- Rose T**, Koç G, Latinovic M (2020) 5. International Young Earth Scientists Congress. *GMit* 79:94–95.
- Rose T**, Klein S (2018) Workshop "Mehr als Erz schmelzen – Wie wird ein Experiment Wissenschaft?". *GMit* 73:53–55.
- Rose T**, Westner K, Ströbele F, Holly M (2018) 1st Workshop for Young Researchers in Archaeometry and Conservation Studies. *Elements* 14:49.
- Rose T**, Westner K, Ströbele F, Holly M (2017) 1. Workshop für Nachwuchswissenschaftler in der Archäometrie & Denkmalpflege; 11.–12. September, Frankfurt am Main. *GMit* 70:103–105.
- Rose T**, Heckel C (2016) IMA @ emc2016. *GMit* 66:70–71.
- Rose T**, Werner M (2016) Unterschriftenaktion auf Grund der Novellierung des Wissenschaftszeitvertragsgesetzes. *GMit*

63:30–31.

van Veen M, Werner M, Georg M, Esefelder R, **Rose T** (2016) Studentische Interessensvertretung: GeStEIN e.V. GMit 63:29–30.

## Conferences

### Oral presentations

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2023) News from the GlobalID engine room. Historical Metallurgy Society: Research in Progress Meeting, online

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2023) Fighting the data kraken: GlobalID as example for a modern approach to research data management and curation in Archaeometry. Young Researchers in Archaeometry 6, Tübingen

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2023) Towards a community standard for lead isotope data: Where we are and where we are heading to. 29th Annual Meeting of the European Association of the Archaeologists (EAA), Belfast

**Rose T** (2023) Publish them right: Paper, data, software, GitHub, open source – and everything else. Short Course “Data Science” of the German Mineralogical Society, Frankfurt am Main.

**Rose T**, Klein S, Greifelt T, Westner KJ, Hsu Y-K (2023) NFDI4Earth Educational Pilot: Teaching Lead Isotope Geochemistry and Application in Archaeometry (LIGA-A). 2nd NFDI4Earth Plenary, Dresden

**Rose T** (2023) Using GitLab: Organizing software development as a team. NFDI4Earth Academy Cohort Calls, online

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2023) Towards a community standard for lead isotope data: Current state and lessons learned. Archäometrie und Denkmalpflege, Mannheim

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2023) GlobalID: A research data infrastructure for lead isotope data in archaeology. deRSE23, Paderborn

Klein S, **Rose T**, Westner KJ, Hsu Y-K (2023) GlobalID: Vision of the core team, introduction to the app and discovered challenges. Many LIDs, but none matching the vessel: Developing a community standard for the publication and long-term archiving of lead isotope data in the archaeological sciences – A brainstorming workshop, Bochum

**Rose T**, Hezel DC, Marschall HR, Bernard L, NFDI4Earth Consortium (2022) NFDI4Earth: First steps towards a national ESS research data infrastructure. DMG Sektionstreffen Petrologie & Geochemie 2022, Mainz

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) Nine-tailed data monsters?: Lessons learnt in the compilation of GlobalID. GeoMinKöln 2022, Köln

**Rose T**, Hezel DC, Marschall HR, Bernard L, NFDI4Earth Consortium (2022) First steps towards a national ESS research data infrastructure. GeoMinKöln 2022, Köln

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) From OXALID to GlobalID: Towards a community-standard for lead isotope data in archaeology. Young Researchers in Archaeometry 5, online

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) From OXALID to GlobalID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. 28th Annual Meeting of the European Association of the Archaeologists (EAA), Budapest

**Rose T** (2022) Developments towards FAIR and LOUD instrumental data repositories in other disciplines. 28th Annual Meeting of the European Association of the Archaeologists (EAA), Budapest

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) From OXALID to GlobalID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. 16th PAA Congress, Zanzibar

**Rose T**, Hezel DC, Marschall HR, Braesicke P, Bernard L (2022) NFDI4Earth: addressing the digital needs of Earth System Sciences. SciDataCon 2022 @ International Data Week 2022, Seoul, online

**Rose T**, Hezel DC, Marschall HR, Bernard L (2022) Potentiale der NFDI4Earth für die Archäologie. Gemeinsame Tagung von DGUF & NFDI4Objects, Frankfurt am Main

Hsu Y-K, Klein S, **Rose T**, Westner KJ (2022) From OXALID to GlobalID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. Advances in Isotope Ratio and related analyses for mapping migrations from Prehistory to the Viking Age (Joint Meeting of the Royal Society of Chemistry & Society of Antiquaries), London

**Rose T**, Drews E-L (2022) Aufgaben und Ziele der NFDI4Earth. Bundesfachschäftentagung Geowissenschaften, Halle (Saale).

**Rose T**, Bar S, Rosenberg D, Buchman E, Shalev S, Goren Y (2022) Evidences for polymetallic copper metallurgy in the Chalcolithic site of Fazaal (middle Jordan valley). 43rd International Symposium on Archaeometry, Lisboa.

Westner KJ, Klein S, **Rose T**, Hsu Y-K (2022) From OXALID to GlobalID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. Le plomb et ses questions analytiques, Nantes.

**Rose T** (2022) From sceptres and crowns: A new model for the origins of lost wax casting in the Chalcolithic Southern Levant. Seminario della Scuola di Dottorato in Archeologia - IX Edizione, Rome.

**Rose T** (2022) Neue Erkenntnisse zum Wachsauflöschverfahren in der chalkolithischen Südlevante. Science Day 2022

Archäometallurgie, Bochum.

Hsu Y-K, Klein S, **Rose T**, Westner KJ (2021) From OXALID to GlobaLID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. Historical Metallurgy Society: Research in Progress Meeting, online.

**Rose T** (2021) Corrosion on Metal Artefacts: Recent Developments and Challenges. Session Introduction. 27th Annual Meeting of the European Association of the Archaeologists (EAA), online.

Klein S, **Rose T**, Westner KJ, Hsu Y-K (2021) From OXALID to GlobaLID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. 3rd European Mineralogical Conference, Krakau.

**Rose T** (2021) Tutorial: Rietveld Refinement of Powder X-Ray Diffractograms. Young Researchers in Archaeometry 4, Évora.

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2021) From OXALID to GlobaLID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. Young Researchers in Archaeometry 4, Évora.

**Rose T**, Giroto CGM (2021) ChronochRt: Make chronological charts with R. CAA 2021, virtual.

Hanning EK, **Rose T**, Klein S (2021) Reconstruction of Copper Smelting Processes: Possibilities and Limitations: (Abstract published in Geo.Alp 17, 2020, 41-42). International Workshop Alpenkupfer im Vinschgau / Alpine Copper in the Vinschgau, online.

**Rose T**, Pagelson Y, Goren Y (2021) A-mace-ing know-how: Reconstructing Southern Levantine Metallurgy in the Chalcolithic. 12th Experimental Archaeology Conference, online, <https://www.youtube.com/watch?v=xH-y2h1SYqk>

Assher Y, Abadi-Reiss Y, Varga D, Goren Y, **Rose T**, Boaretto E, Rosenzweig G, Shalev S, Artioli G (2021) Ashkelon, Agamim-East. 13th Meeting of the Chalcolithic Forum, online.

**Rose T**, Goshen N, Goren Y (2021) Ghassulian or not Ghassulian?: Analysis of two unusual mace-head assemblages from the collections of the Israel Museum, Jerusalem. 13th Meeting of the Chalcolithic Forum, online.

**Rose T**, Fabian P, Goren Y (2021) New insights into the Chalcolithic Metallurgy of the Southern Levant: Revisiting the evidence of Abu Matar. Archäometrie und Denkmalpflege, online.

**Rose T**, Klein S (2020) Copper isotope fractionation during prehistoric copper smelting: Evidence from archaeological smelting experiments. 26th Annual Meeting of the European Association of the Archaeologists (EAA), online.

**Rose T** (2020) Potential of Iron Isotopes for Archaeometallurgical Research on Iron. Early Iron Production, Ariel.

**Rose T**, Bar S, Rosenberg D, Buchman E, Goren Y (2019) Preliminary evidences for a Chalcolithic copper workshop in Fazaal, Middle Jordan Valley. ICAS-EMME 2, Nikosia.

**Rose T**, Giroto CGM (2019) ChronochRt: Ein R-package zum automatisierten Erstellen von Chronologietabellen. 9. Workshop der AG CAA Deutschland, Wilhelmshaven.

**Rose T**, Klein S, Hanning EK (2019) Copper isotopes in prehistoric copper smelting: Linking experimental and analytical approaches. Young Researchers in Archaeometry 3, Nanterre.

**Rose T**, Klein S, Hanning EK (2019) Evaluation of copper isotope fractionation during chalcopyrite smelting. Archaeometallurgy in Europe, Miskolc.

Hanning EK, **Rose T**, Klein S (2019) Reconstruction and Innovation: Experimental Archaeology in Interpreting Copper Smelting Processes. Experimental Archaeology Conference 11, Trento.

**Rose T**, Hanning EK, Herdick M, Klein S (2018) Archaeological smelting experiments as a foundation for the development of stable metal isotope applications in archaeology. EXAR-Tagung 2018, Unteruhldingen.

**Rose T**, Hanning EK, Herdick M, Klein S (2018) Archaeological Smelting Experiments for Evaluating Copper Isotope Fractionation During Smelting. Young Researchers in Archaeometry 2, Berlin.

**Rose T**, Télouk P, Marschall HR, Klein S (2018) Provenancing iron artefacts with iron isotopes: New insights from bog iron ores. 24th Annual Meeting of the European Association of the Archaeologists (EAA), Barcelona.

**Rose T** (2018) Experimental-archäologische Untersuchungen als Grundlage für Methodenentwicklung. Workshop "Mehr als Erz schmelzen – Wie wird ein Experiment Wissenschaft", Bochum.

**Rose T**, Télouk P, Marschall HR, Klein S (2018) Die Bedeutung von Raseneisenerzen für die Herkunftsrekonstruktion mittels Eisenisotopen. Archäometrie und Denkmalpflege, Hamburg.

**Rose T**, Morgenstern G, Stelter M, Klein S (2017) Diffusion-induced copper isotope fractionation in copper metal: Implications for archaeometallurgical research. GeoBremen, Bremen.

**Rose T**, Morgenstern G, Stelter M, Klein S (2017) Identification of copper isotope fractionation during smelting with an experimental process-oriented approach. 23rd Annual Meeting of the European Association of the Archaeologists (EAA), Maastricht.

**Rose T**, Morgenstern G, Stelter M, Klein S (2017) Diffusion-induced stable isotope fractionation: Implications for archaeometallurgy. 1st Workshop for Young Researchers in Archaeometry and Conservation Studies, Frankfurt am Main.

**Rose T**, Morgenstern G, Stelter M, Klein S (2017) Cu isotope fractionation during prehistoric smelting: a contribution of modern pyrometallurgy. European Metallurgical Conference 2017, Leipzig.

**Rose T**, Klein S, Höfer HE (2016) Lead isotope signatures of ores corrupted by gangue minerals: a plea for more geochemistry in archaeometallurgy. XII Nordic Conference on the Application of Scientific Methods in Archaeology, Aarhus.

**Rose T**, Morgenstern G, Stelter M, Klein S (2016) Fraktionierung von Kupferisotopen während der Verhüttung. Archäometrie und Denkmalpflege, Göttingen.

**Rose T**, Klein S, Höfer HE (2016) Many a mickle makes a muckle: Pb isotope signature of copper ores masked by leaded inclusions in gangue minerals. 2nd European Mineralogical Conference, Rimini.

**Rose T** (2012) Analytical techniques and the chaîne opératoire of pottery. talk. 5. Archäologischer Workshop für junge Wissenschaftler/innen: Naturwissenschaftliche Analysen vor- und frühgeschichtlicher Keramik: Methoden, Anwendungsbereiche, Auswertungsmöglichkeiten, Hamburg.

**Rose T** (2011) Kupferisotopenfraktionierung während der Kupferverhüttung? talk and poster. DAAD RISEweltweit Alumni-Meeting, Karlsruhe.

### Posters

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2023) GlobaLID: A Research Data Infrastructure for the Lead Isotope Community in Archaeology. Poster. 1st Conference on Research Data Infrastructure, Karlsruhe

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) GlobaLID: Accessing and visualizing lead isotope data for the reproducible reconstruction of raw material provenance. poster. useR! 2022, online

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) From OXALID to GlobaLID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. poster. 43rd International Symposium on Archaeometry, Lisboa.

**Rose T**, Klein S, Westner KJ, Hsu Y-K (2022) From OXALID to GlobaLID: A substantial upgrade of a well-known data pool of lead isotopes for metal provenancing using R and Shiny App. poster. ICAS-EMME 3, Nicosia.

**Rose T**, Goren Y (2019) The Emergence of Copper Pyrotechnology in the Chalcolithic Southern Levant. poster. Young Researchers in Archaeometry 3, Nanterre.