

# Zachary C. Dunseth

Joukowsky Institute for Archaeology and the Ancient World · Brown University  
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## Professional Appointments

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2019- **Postdoctoral Fellow**, Joukowsky Institute for Archaeology and the Ancient World, Brown University, Providence, RI, USA

## Education

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2019 **Ph.D., Archaeology**  
Tel Aviv University, Tel Aviv, Israel  
2014 **M.A., Archaeology and Ancient Near Eastern Cultures**, *summa cum laude*  
Tel Aviv University, Tel Aviv, Israel  
2009 **B.A., Archaeology and Classical Humanities**, *summa cum laude*  
The George Washington University, Washington, DC, USA

## Research Interests

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Human-animal-environmental interactions; ancient human adaptations to arid environments: subsistence strategies, settlement practices, desert trading and copper networks; desert cities; phytolith analysis and methodology; geoarchaeology; Early, Intermediate, Middle Bronze Ages; Byzantine-Early Islamic Period;

## Teaching Experience

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### Brown University

Spring 2021	ARCH 0763 Private Life of the Privy: Secret History of Toilets	<i>Instructor of record</i>
Fall 2020	ARCH 1774 Microarchaeology	<i>Instructor of record</i>
Spring 2020	ARCH 1867 Pastoralism and Power: Lush Lives of Arid Landscapes	<i>Instructor of record</i>
Fall 2019	ARCH 1870 Environmental Archaeology	<i>Instructor of record</i>

### Tel Aviv University (Megiddo Archaeological Fieldschool, Kiriath-jearim Archaeological Fieldschool)

2012-2019	TAU 3932/3944 Archaeological Field Techniques (x6)	<i>Co-instructor</i>
2014-2018	TAU 5672/5674 Megiddo and the History of Ancient Israel (x3)	<i>Co-instructor</i>

### Laboratory for Sedimentary Archaeology, University of Haifa

2015-2019 Lab Instructor  
Responsible for training graduate, postdoc and visiting students in optical microscopy (phytolith and microremain analysis), FTIR spectroscopy, thin section production (petrographic and micromorphology), lab safety and experiment design.

### Other Educational Service

2014-2016 Education Coordinator (Megiddo Expedition)  
Coordinated visiting lecturers, daily logistics, administered tests and grading for approx. 40 students.

## Publications

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### Peer-Reviewed Articles

*In press* Finkelstein, I., Römer, T., Nicolle, C., **Dunseth, Z.C.**, Kleiman, A., Mas, J., Porat, N. and Walzer, N. Excavations at Kiriath-jearim, 2019: Preliminary Report. *Tel Aviv* [accepted for publication in 2021]  
*Submitted* Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I., and Fuchs, M. Construction and usage of rock-cut cisterns in the arid Negev Highlands (Israel) according to the OSL and micromorphology evidence. *Archaeological and Anthropological Sciences*.  
2020 Fuks, D. and **Dunseth, Z.C.** Dung in the Dumps: what we can learn from multi-proxy studies of archaeological dung pellets. *Vegetation History and Archaeobotany*. <https://doi.org/10.1007/s00334-020-00806-x> **Impact Factor: 2.364 (2019), 2.423 (5-year)**  
2020 Butler, D.H., **Dunseth, Z.C.**, Tepper, Y., Erickson-Gini, T., Bar-Oz, G. and Shahack-Gross, R. Byzantine – Early Islamic resource management detected through micro-geoarchaeological investigations of trash mounds (Negev,

- Israel). *PLOS ONE* 15(10): e0239227. <https://doi.org/10.1371/journal.pone.0239227> **Impact Factor: 2.40 (2019), 3.226 (5-year)**
- 2020 Gradoli, M.G., Waiman-Barak, P., Bürge, T., **Dunseth, Z.C.**, Sterba, J.H., Lo Schiavo, F., Perra, M., Sabatini, S. and Fischer, P.M. Cyprus and Sardinia in the Late Bronze Age: Nuragic table ware at Hala Sultan Tekke. *Journal of Archaeological Science: Reports* 33: 102479. <https://doi.org/10.1016/j.jasrep.2020.102479>
- 2019 **Dunseth, Z.C.**, Fuks, D., Langgut, D., Weiss, E., Melamed, Y., Butler, D.H., Yan, X., Boaretto, E., Tepper, Y., Bar-Oz, G. and Shahack-Gross, R. Archaeobotanical proxies and archaeological interpretations: a comparative study of phytoliths, pollen and seeds in dung pellets and refuse deposits at Early Islamic Shivta, Negev, Israel. *Quaternary Science Reviews* 211: 166-185. <https://doi.org/10.1016/j.quascirev.2019.03.010> **Impact Factor: 3.803 (2019), 4.878 (5-year)**
- 2019 Bar-Oz, G., Weissbrod, L., Erickson-Gini, T., Tepper, Y., Malkinson, D., Benzaquen, M., Langgut, D., **Dunseth, Z.C.**, Butler, D.H., Shahack-Gross, R., Roskin, J., Fuks, D., Weiss, E., Marom, N., Ktalav, I., Blevis, R., Zohar, I., Farhi, Y., Filatova, A., Gorin-Rosen, Y., Yan, X. and Boaretto, E. Ancient trash mounds unravel urban collapse a century before the end of the Byzantine hegemony in the Southern Levant. *Proceedings of the National Academy of Sciences of the United States of America* 116(17): 8239-8248. <https://doi.org/10.1073/pnas.1900233116> **Impact Factor: 9.412 (2019), 10.620 (5-year)**
- 2018 **Dunseth, Z.C.** and Shahack-Gross, R. Calcitic dung spherulites and the potential for rapid identification of degraded animal dung at archaeological sites using FTIR spectroscopy. *Journal of Archaeological Science* 98: 118-124. <https://doi.org/10.1016/j.jas.2018.07.005> **Impact Factor: 2.787 (2019), 3.182 (5-year)**
- 2018 **Dunseth, Z.C.**, Finkelstein, I. and Shahack-Gross, R. Intermediate Bronze Age subsistence practices in the Negev Highlands, Israel: Macro- and microarchaeological results from the sites of Ein Ziq and Nahal Boqer 66. *Journal of Archaeological Science: Reports* 19: 712-726. <https://doi.org/10.1016/j.jasrep.2018.03.025>
- 2018 Finkelstein, I., Adams, M.J., **Dunseth, Z.C.** and Shahack-Gross, R. The Archaeology and History of the Negev and Neighboring Areas in the Third Millennium BCE: A New Paradigm. *Tel Aviv* 45: 63-88. <https://doi.org/10.1080/03344355.2018.1412054>
- 2018 Finkelstein, I., Römer, T., Nicolle, C., **Dunseth, Z.C.**, Kleiman, A., Mas, J. and Porat, N. Excavations at Kiriath-jearim near Jerusalem, 2017: preliminary report. *Semitica* 60: 31-83.
- 2017 **Dunseth, Z.C.**, Junge, A., Lomax, J., Boaretto, E., Fuchs, M., Finkelstein, I. and Shahack-Gross, R. Dating archaeological sites in an arid environment: A multi-method case study in the Negev Highlands, Israel. *Journal of Arid Environments* 144: 156-169. <https://doi.org/10.1016/j.jaridenv.2017.05.006> **Impact Factor: 1.830 (2019), 2.076 (5-year)**
- 2016 **Dunseth, Z.C.**, Junge, A., Fuchs, M., Finkelstein, I. and Shahack-Gross, R. Geoarchaeological Investigations in the Intermediate Bronze Age site of Mashabe Sade, the Negev Highlands. *Tel Aviv* 43: 43-75. <https://doi.org/10.1080/03344355.2016.1161372>
- 2016 Junge, A., Lomax, J., Shahack-Gross, R., **Dunseth, Z.C.**, Finkelstein, I. and Fuchs, M. OSL age determination of archaeological structures using trapped aeolian sediments: A case study from the Negev Highlands, Israel. *Geoarchaeology* 31: 550-563. <https://doi.org/10.1002/gea.21578> **Impact Factor: 1.906 (2019), 1.765 (5-year)**
- In prep.* **Dunseth, Z.C.**, Wade, K., and Plekhov, D. Phytoliths in R: A tool for analysis and an experiment in standardization. For submission to *Frontiers in Plant Science*.
- In prep.* **Dunseth, Z.C.**, Efrati, B., Ackerfeld, D., Butler, D.H., Junge, A., Finkelstein, I. and Shahack-Gross, R. Spatial reconstructions at open-air desert sites: A methodological case study comparing macro- and microarchaeological assemblages via GIS at Nahal Nizzana 332, Negev, Israel. For submission to *Journal of Field Archaeology*.
- In prep.* Wade, K.R., **Dunseth, Z.C.** and Plekhov, D. Improved methods and details for the reliable extraction of phytoliths using the heavy sonication protocol.

### Final Excavation Reports

- In press* Kleiman, A. and **Dunseth, Z.C.** Area W: Sounding in the Northeastern Sector of the Mound. In: Finkelstein, I. and Martin, M.A.S. eds., *Megiddo VI: The 2010-2014 Seasons*. Pennsylvania State University Press. [Submitted 2015]
- In press* Thum, J. and **Dunseth, Z.C.** Stone Vessel Fragments from Settlement Contexts. In: Finkelstein, I. and Martin, M.A.S. eds., *Megiddo VI: The 2010-2014 Seasons*. Pennsylvania State University Press. [Submitted 2015]
- In prep.* **Dunseth, Z.C.** and Walzer, N. Area B: Stratigraphic Report. In: Finkelstein, I., Römer, T. and Nichole, C. *Kiriath-jearim I: The 2017-2019 Seasons*.

### Invited Book Chapters

- In press* **Dunseth, Z.C.** and Kalisher, R. Spoilage. In: Fu, J., Shafer-Elliott, C. and Meyers, C., eds., *The Handbook to Food in the Hebrew Bible and Ancient Israel*. Bloomsbury T&T Clark. [Submitted 2020]

### Technical Reports

- 2019 **Dunseth, Z.C.**, Waiman-Barak, P. and Shalev, S. Report: XRF and FTIR Analysis of Black Burnished Vessels from Hala Sultan Tekke.
- 2019 Gradoli, M.G., **Dunseth, Z.C.**, Shalev, S. and Waiman-Barak, P. Analytical Study of a Selected Group of Late Bronze Age Ceramics from Hala Sultan Tekke (Cyprus) and Sardinia (Italy).
- 2016 **Dunseth, Z.C.** and Shahack-Gross, R. Report: Mineralogical and Microarchaeological Report for Halutza (Sq. 1b, East Section).

### Semi-popular Articles

- 2017 **Dunseth, Z.C.** Animal dung and archaeological sites: Microarchaeological investigations of Intermediate Bronze Age subsistence practices in the Negev Highlands. *TAU Archaeology: Newsletter of The Jacob M. Alkow Department of Archaeology and Ancient Near Eastern Cultures and the Sonia and Marco Nadler Institute of Archaeology* 2: 27.

### Conferences and Workshops Organized

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- 2020 **State of the Field: Archaeology of the Levant**, Brown University, Providence, RI, USA, 13-14 March 2020. Co-organizers: F. Rojas, R. Kalisher, D. Plekhov. [Canceled 8 March 2020 due to COVID-19]
- 2019 **Northeast Environmental Archaeology Network (NEEAN) Workshop: An Introduction to Phytolith Analysis for Archaeologists**. Co-organizers: K. Wade, H. Dine and D. Plekhov. Paleoethnobotany Laboratory, Boston University, Boston, USA, 9 November 2019.

### Invited Lectures, Workshops and Departmental Talks

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- 2021 **Dunseth, Z.C.** Dung and Desert Copper: Evaluating 3rd Millennium BCE desert subsistence at the macro- and microscales. *Pitt-Rivers Archaeological Science Seminar Series*, University of Cambridge, Cambridge, UK, 5 March 2021 (remote).
- 2020 **Dunseth, Z.C.** The Early Bronze Age in the South: View from the Negev, for seminar series titled *Nomads in Archaeology: View from the South* (E. Ben-Yosef), Tel Aviv University, Tel Aviv, Israel, 16 November 2020 (remote).
- 2019 **Dunseth, Z.C.** Introduction to phytolith quantifications and morphologies in the Southern Levant. *Northeast Environmental Archaeology Network (NEEAN) Workshop: An Introduction to Phytolith Analysis for Archaeologists*. Paleoethnobotany Laboratory, Boston University, Boston, USA, 9 November 2019.
- 2019 **Dunseth, Z.C.** Data in Microarchaeology: WTF is going on? *Archaeological Data Analysis Working Group*, Brown University. 15 November 2019.
- 2019 **Dunseth, Z.C.** Dung and Desert Copper: Bronze Age Subsistence Strategies in the Negev Highlands, Israel' for *Brown Bag Series in Archaeology*, Jukowsky Institute for Archaeology and the Ancient World, Brown University, Providence, RI, USA, 24 October 2019.
- 2018 **Dunseth, Z.C.** The Negev Highlands during the Intermediate Bronze Age (c. 2500-1950 BCE): The Geoarchaeological Perspective. Department of Maritime Civilizations, University of Haifa, Haifa, Israel, 23 October 2018.
- 2018 **Dunseth, Z.C.** 'Dung in the Desert: Exploring Subsistence Economies in the Negev Highlands during the Intermediate Bronze Age through Geoarchaeology' for seminar titled: *The Desert and the Sown* (I. Sharon and U. Davidovich), Hebrew University of Jerusalem, Jerusalem, Israel, 9 April 2018.
- 2016 **Dunseth, Z.C.** Dung in the Desert: A Microarchaeological Investigation into Subsistence Practices during the Intermediate Bronze Age, for seminar titled: *Archaeological Science: Recent Contributions to the Archaeology of the Southern Levant* (E. Ben-Yosef), Tel Aviv University, Tel Aviv, Israel, 28 March 2016.

### Professional Academic Presentations (\* = invited)

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- 2022\* **Dunseth, Z.C.** Cypriot and Nuragic table ware at Hala Sultan Tekke – using FTIR to rapidly characterize ceramic material to assist in provenance and technological studies. *The Power of Ceramics: Transformations and Interactions in the Eastern Mediterranean during the Late Bronze and Iron Ages*. Gentner Symposium of the Minerva Foundation. Tel Aviv University, Tel Aviv, Israel, 22-24 February 2022.
- 2021 **Dunseth, Z.C.**, Langgut, D. and Fuks, D. Dung in the Dumps: a comparison of phytoliths, pollen and seeds from refuse middens at Early Islamic Shivta (Negev, Israel). Session #246: Phytoliths and Human-Animal interactions. *European Association of Archaeologists Annual Meeting*, Kiel, Germany 17-21 September 2021 (online).
- 2021\* **Dunseth, Z.C.** The Negev and surrounding regions during the late 3<sup>rd</sup> millennium BCE: An update from the south. *Egypt and the Mediterranean World from the late fourth through early third millennium BCE*. Hosted by JAEI (Amman), AIAR (Jerusalem), ARCE (Cairo) and Macquarie University (Sydney). 18-27 May (remote).
- 2021 Wade, K.R., **Dunseth, Z.C.**, and Plekhov, D. Improved Methods and Details for the Reliable Extraction of Phytoliths using Heavy Sonication Protocol. *43<sup>rd</sup> Annual Conference of the Society of Ethnobiology*. May 12-14 2021 (online).

- 2021 Shahack-Gross, R., Junge, A., Fuchs, M., **Dunseth, Z.C.**, Finkelstein, I. The micromorphology of water storage systems in an arid environment. *ViMi – First Virtual Micromorphology Meeting*. University of Koln University of Basil, Goethe University. 23 April 2021 (remote).
- 2021 Butler, D.H., **Dunseth, Z.C.**, Tepper, Y., Erickson-Gini, T., Bar-Oz, G., and Shahack-Gross, R. Agropastoral resource management in the Negev heartland toward the close of Late Antiquity. *Society for American Archaeology 86<sup>th</sup> Annual Meeting*. April 15-17 2021 (online).
- 2020\* **Dunseth, Z.C.** and Walzer, N. Early Intermediate Bronze Age (2500-2200 BCE) Desert Trade: The Ein Ziq Assemblage in Light of New Data. *Chronologies in Clay: Pottery Based Relative Chronology of the IBA*. Tel Aviv University, Tel Aviv, Israel, 6 February 2020.
- 2019 Fuks, D., **Dunseth, Z.C.**, Langgut, D., Butler, D., Yan, X., Boaretto, E., Tepper, Y., Bar-Oz, G., Shahack-Gross, R. and Weiss, E. Dung in the Dumps: a comparative study of seeds, phytoliths and pollen in dung pellets and refuse deposits at Early Islamic Shivta, Negev, Israel. *18<sup>th</sup> Conference of the International Workgroup for Palaeoethnobotany*. Lecce, Italy, 4 June 2019.
- 2018 Butler, D.H., **Dunseth, Z.C.** and Shahack-Gross, R. Microarchaeological Investigation of Waste Management at Byzantine-Early Islamic Settlements in the Negev. *19<sup>th</sup> International Congress of Classical Archaeology*, Cologne/Bonn, Germany, 26 May 2018.
- 2018 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I. and Fuchs, M. Open water reservoirs in the Negev Highlands (Israel): A dating approach. *Arbeitskreis Geoarchäologie (Working Group Geoarchaeology)*. Munich, Germany, 4-6 May 2018.
- 2017 **Dunseth, Z.C.**, Finkelstein, I. and Shahack-Gross, R. Subsistence Practices in the Arid Negev Highlands during the Intermediate Bronze Age (c. 2500-1950 BCE): The Geoarchaeological Perspective. *Developing International Geoarchaeology (DIG) Conference 2017*, Newcastle University, Newcastle, U.K., 4 September 2017.
- 2015 Junge, A., Lomax, J., Shahack-Gross, R., **Dunseth, Z.C.**, Finkelstein, I. and Fuchs, M. OSL-age determination of archaeological structures using trapped sediments: a case study from the Negev Highlands, Israel. *Deutsches Lumineszenz- und ESR-Treffen (German Luminescence and Electron Spin Resonance)*, Berlin, Germany, 6-8 November 2015.
- 2015 Finkelstein, I., **Dunseth, Z.C.** and Shahack-Gross, R. The Intermediate Bronze Age in the Negev Highlands: An Update. *Summer 2015: Excavations of the Sonia and Marco Nadler Institute of Archaeology*, Tel Aviv University, Tel Aviv, Israel, 29 October 2015.
- 2015 Junge, A., Lomax, J., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I., and Fuchs, M. Reconstruction of settlement activities and following sediment accumulation processes of Bronze Age settlements in the Negev (Israel) using OSL-dating. *Junge Geomorphologen (Young Geomorphologists)*, Heimbach-Hergarten, Germany, 8-10 May 2015.
- 2014\* **Dunseth, Z.C.** Subsistence Practices in the Negev Highlands During the Intermediate Bronze Age (2500-1950 BCE): Preliminary Results from a Microarchaeological Investigation at Mashabe Sade. *ASOR Annual Meeting*, San Diego, USA, 20 November 2014.
- 2013 **Dunseth, Z.C.** The Negev Highlands Research Project: Preliminary Results at Mashabe Sade. *Summer 2013: Excavations of the Sonia and Marco Nadler Institute of Archaeology*, Tel Aviv University, Tel Aviv, Israel, 17 October 2013.
- 2013 **Dunseth, Z.C.**, Finkelstein, I. and Shahack-Gross, R. The Negev Highlands Project: An Iron Age Summary and Intermediate Bronze Age Introduction. *ERC Project: Reconstructing Ancient Israel, 3<sup>rd</sup> Annual Meeting*, Neve Ilan, Israel, 1 May 2013.

#### Posters (# = undergraduate student)

- 2020 Parker, Z.#, Adams, M.J., **Dunseth, Z.C.** 3D Modeling of an 'Assyrian' Palace at Megiddo. Summer Research Symposium (digital event). Brown University, Providence, RI, USA.
- 2018 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I. and Fuchs, M. Bleaching of the quartz OSL signal during anthropogenic sediment deposition. *Deutsches Lumineszenz- und ESR-Treffen (German Luminescence and Electron Spin Resonance)*, Bern, Switzerland, 23-25 November 2018.
- 2018 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I. and Fuchs, M. Correcting the chronology: Lifecycle of open water reservoirs constrained by OSL. *Junge Geomorphologen (Young Geomorphologists)*, Hildesheim, Germany, 25-27 May 2018.
- 2018 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I. and Fuchs, M. Ancient water reservoirs and cisterns as archaeological and paleoenvironmental archives in the Negev Highlands, Israel. *European Geosciences Union General Assembly 2018*, Vienna, Austria, 12 April 2018.
- 2018 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I. and Fuchs, M. Ancient water harvesting installations in the Negev Highlands (Israel) – establishing a chronology. *Arbeitskreis Wüstenrandforschung (Working Group Desert Fringe)*, Rauscholzhäusen, Germany, 9-10 February 2018.

- 2018 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Finkelstein, I. and Fuchs, M. Nutzungspotential historischer Zisternen für die Paläoumweltforschung und Geoarchäologie: Die Negev Highlands, Israel (Potential of ancient cisterns for palaeoenvironmental and geoarchaeological research: the Negev Highlands Israel). *Arbeitskreis Wüstenrandforschung (Working Group Desert Fringe)*, Rauischolzhausen, Germany, 9-10 February 2018.
- 2016 Junge, A., **Dunseth, Z.C.**, Shahack-Gross, R., Lomax, J., Finkelstein, I. and Fuchs, M. Pre-occupation – occupation – post-occupation: Dating sediments associated with ancient settlement structures in Israel to reconstruct human activity. *Junge Geomorphologen (Young Geomorphologists)*, Webellinsee, Germany, 27-29 May 2016.
- 2016 Junge, A., Lomax, J., **Dunseth, Z.C.**, Finkelstein, I., Shahack-Gross, R. and Fuchs, M. Reconstruction of settlement phases at Intermediate Bronze Age Structures in the Negev Highlands (Israel) using luminescence dating. *European Geosciences Union General Assembly 2016*, Vienna, Austria, 26 April 2016.
- 2015 Junge, A., Lomax, J., Shahack-Gross, R., **Dunseth, Z.C.**, Finkelstein, I. and Fuchs, M. Reconstruction of settlement phases at Intermediate Bronze Age structures in the Negev Highlands (Israel) using luminescence dating. *Batsheva de Rothschild Seminar on Atmospheric Dust, Dust Deposits (Loess) and Soils in Deserts and Desert Fringe*, Jerusalem and Mashabe Sade, Israel, 14-19 October 2015.
- 2015 Junge, A., Lomax, J., Shahack-Gross, R., **Dunseth, Z.C.**, Finkelstein, I. and Fuchs, M. Rekonstruktion von Siedlungsphasen und anschließender Sedimentakkumulation an Bronzezeitlichen Siedlungen in den Negev Highlands (Israel) anhand von OSL-Datierungen. *Working Group Geomorphology & German Congress on Geomorphology*, Berlin, Germany, 3-4 October 2015.

## Projects and Fieldwork

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### Current Fieldwork

- 2019- **Arad: Early Desert Urbanism at the Macro- and Microscales, Arad, Israel** | Director/PI
- 2017- **The Shmunis Family Excavation at Kiriath-jearim, Israel** | Area supervisor  
Directors: I. Finkelstein, T. Römer, C. Nicolle
- 2017- **Cisterns as Sediment Archives in Arid Environments, Negev, Israel** | Field director/Geoarchaeologist  
DFG-funded project investigating the feasibility of using archaeological cisterns as sediment archives for arid environments. PIs: M. Fuchs, A. Junge  
2019-2020 Nahal Revivim 101  
2019-2020 Nahal Revivim 102  
2019-2020 Har Hemet 288  
2019-2020 Mishor HaRuchot 9.3  
2018 Borot Hazaz  
2018 Bor Ritma  
2018 Borot Ramaliya  
2017 Mishor HaRuchot 9.1
- 2008- **The Megiddo Expedition, Megiddo, Israel** | Area supervisor (2018- ), Microarchaeologist (2012- ), Assistant area supervisor (2012-2016), Student excavator (2008)  
Directors: I. Finkelstein, M.J. Adams, M.A.S. Martin

### Previous Fieldwork

- 2012-2019 **Negev Highlands Research Project, Negev, Israel** | Field director/Microarchaeologist  
GIF-funded project investigating subsistence and chronology of 3<sup>rd</sup> millennium BCE Negev Highland sites.  
*Large sites*  
2014-2015 Ein Ziq  
2012-2014 Mashabe Sade  
*Small sites*  
2017 Nahal Nizzana 332  
2016 Nahal Besor 45  
2014 Ramat Boqer 25  
2014 Nahal Boqer 74  
2013, 2016 Atar Nahal Boqer 66  
2012-2013 Mashabe Sade Ephemeral Site (Roi'i 2)
- 2016 **Tel Aphek, Israel** | Field archaeologist  
(Directors: A. Kleiman, S. Kleiman, T. Tsuk)
- 2009, 2013 **Tel Kabri Excavations, Kabri, Israel** | Co-assistant area supervisor (2013), Square supervisor (2009)  
Directors: A. Yasur-Landau, E.H. Cline

### Microarchaeology Projects

## Current

- 2020- **The Flowering Desert, Negev, Israel** | Geoarchaeologist  
PIs: D. Fuks, M. Collins  
British Academy-funded project focused on reconstructing first millennium CE desert agriculture from dung remains in the Negev Highlands and Arava Valley, Israel. Partnered with the Negev Camel Caravan Project (G. Bar-Oz and G. Avni), and the Avdat in Late Antiquity Project.
- 2020- **Tel Masos, Negev, Israel** | Geoarchaeologist  
Director: S. Ben-Dor Evian
- 2019- **The Söderberg New Swedish Expedition at Hala Sultan Tekke, Cyprus** | Geoarchaeologist  
Director: P.M. Fischer
- 2019- **Avdat in Late Antiquity, Negev, Israel** | Geoarchaeologist  
PIs: S. Bucking, T. Erickson-Gini
- 2019- **Tel Beth-Shemesh Archaeological Project, Israel** | Microarchaeologist  
Directors: S. Bunimovitz, Z. Lederman

## Previous

- 2015-2020 **Crisis on the Margins of the Byzantine Empire, Negev, Israel** | Microarchaeologist  
PIs: G. Bar-Oz, N. Marom, Y. Tepper
- 2012-2013 **Reconstructing Ancient Israel: The Exact and Life Sciences Perspective** | Student microarchaeologist  
PIs: I. Finkelstein, S. Weiner; Project Leader: R. Shahack-Gross

## Fellowships and Grants

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### External

- 2020 **COVID-19 Relief Award**, Society for Classical Studies/Women's Classical Caucus  
To support at home summer microscopy research. \$350
- 2019 **Eric & Carol Meyers Excavation Fellowship**, ASOR  
For excavation support at Arad. \$2000
- 2017-2018 **Dan David Foundation Scholarship, Past Dimensions: Archaeology & Natural Sciences**  
Awarded to six PhD students and postdoctoral researchers of 'exceptional promise.' \$15,000
- 2013-2015 **Graduate Fellowship**, Israel Institute (\$12,000 x 2) \$24,000
- ### Internal
- 2021 **Virtual Conference Award**, Brown University \$240
- 2021 **SPRINT UTRA**, Brown University  
Olivia Golubowski, for digitizing and georectifying archaeological plans at Arad. \$4000 [for student]
- 2021 **Data Science Course Design Initiative**, Brown University \$750
- 2020 **BrownConnect Collaborative SPRINT Award**, Brown University  
Bamidele (Bi) Oke, for training Parker Zane in 3D reconstruction \$2000 [for student]
- 2020 **Undergraduate Teaching and Research Award (UTRA)**, Brown University  
Parker Zane, for 3D reconstruction of the Assyrian Palace at Megiddo using legacy data. \$4000 [for student]
- 2019 **JIAAW Research Apprenticeship Program**, Brown University  
Mia Mitchell, for independent study on Bedouin and archaeology in Negev \$500 [for student]
- 2019 **Program in Early Cultures**, Brown University  
To support a NEEAN Phytolith Workshop (co-organizers: K. Wade, D. Plekov, H. Dine) \$565
- 2019 **Salomon Curricular Mini-Grant**, Brown University  
To support hands-on microscopy lab activities for ARCH 1870. \$500
- 2014-2019 **PhD. Student Fellowship**, German-Israeli Foundation \$90,000
- 2015-2016 **PhD. Student Aid Scholarship**, TAU \$500
- 2012-2013 **M.A. Student Fellowship**, European Research Council \$10,000
- 2012-2013 **M.A. Thesis Scholarship**, TAU  
Merit-based scholarship to support completion of thesis. \$1000
- 2011-2012 **International M.A. Tuition Assistance Scholarship**, TAU  
Merit-based scholarship for international students (top 2). \$5000
- 2008 **William Warren Award**, GWU  
Travel award for attending the archaeological fieldschool at Megiddo. \$1500
- 2007-2009 **Presidential Recognition Award**, GWU  
Merit-based scholarship awarded for top students (\$4000 x 2) \$8000
- 2005-2009 **Presidential Academic Scholarship**, GWU  
Merit-based scholarship awarded by the university (\$18,200 x 4) \$72,800

## Awards and Honors

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- 2009 **Jane B. Hart Award for Outstanding Academic Achievement in Archaeology**, GWU \$100  
Awarded to top graduating Archaeology major (shared with Natalie Mueller).
- 2008 **Phi Beta Kappa**, GWU  
Inducted as a junior.
- 2005-2009 **Dean's List**, Columbian School of Arts and Sciences, GWU
- 2005-2007 **Dean's Scholar of Globalization**, GWU  
Invited and funded cross-disciplinary group partnered with international cohorts to investigate the psychological and social impacts of HIV/AIDS on local communities. Exchange component included meetings in Santiago, Chile; Beijing, China; and Singapore.

## Public Outreach

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- 19 Oct 2019 Uncover Archaeology: Community Archaeology Day, Joukowsky Institute for Archaeology and the Ancient World, Brown University, Providence, RI, USA
- 2014-2015 Open Day, hands-on archaeological laboratory activities for the public, Kimmel Center for Archaeological Science, Weizmann Institute of Science, Rehovot, Israel

## Press/Documentary Coverage

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- 2020-2021 **Documentary** (Thierry Ragobert): 'Ark of the Covenant: the Bible's origins', *Gedeon Programmes, Arte France, Cinephil*. Screened in Israel (KAN 11, Hebrew), France (ARTE France, French), Germany.  
Winner of the 'Le premier Prix special du jury' 12 Ème Festival International du Film d'Archéologie (Nyon)
- 22 Oct 2020 **News**: 'Trash Reveals Ancient Agriculture's Secrets' *Bible History Daily*, Biblical Archaeological Society (J. Laden) <https://www.biblicalarchaeology.org/daily/ancient-cultures/ancient-near-eastern-world/trash-reveals-ancient-agricultures-secrets/>
- 19 Oct 2020 **News**: 'Negev trash mounds reveal secrets of ancient agriculture' *Jerusalem Post* (H. Brown)
- 8 Jan 2014 **News**: 'How Did Bronze Age Villagers Survive in the Negev Desert' *Archaeology.org* (online) <https://www.archaeology.org/news/1705-140108-negev-mashabei-sadeh-dung>
- 8 Jan 2014 **News**: 'Fossil Dung Study Indicates: Ancients in the Negev Had Advanced Economy' *Haaretz* (J. Fridman)

## Editing and Production

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- 2021- **Assistant Editor**, Finkelstein, I. and Martin, M.A.S. eds., In press. *Megiddo VI: The 2010-2014 Seasons* (Sonia and Marco Nadler Institute of Archaeology Monograph Series). Tel Aviv.
- 2019- **Scientific and English Editor**, Government-approved professional freelance scientific and English editor for the Agricultural Research Organization (Ministry of Agriculture and Development, State of Israel). Edited dozens of publications for plant science and medical journals (*Cellular Oncology, Environmental and Experimental Botany, Journal of Medicinal Plants Research, Journal of Arid Environments, LWF, Molecules, Oncotarget, Pharmaceuticals, Plant Breeding, Scientific Reports, Trends in Plant Science*).
- 2015- **Freelance English Editor**, 6 dissertations and theses at Tel Aviv University, University of Haifa, Bar-Ilan University and Weizmann Institute of Science; 5 research proposals (Wenner-Gren, Israel Science Foundation, Leon Levy and Shelby White Foundation); 3 book chapters; 3 articles in published monographs; and peer-reviewed biblical (*Semitica*), archaeological (*Tel Aviv, Levant* [2]) and archaeological science journals (*Journal of Archaeological Science*).
- 2014-2020 **Copy Editor**, Finkelstein, I. and Martin, M.A.S. eds., In press. *Megiddo VI: The 2010-2014 Seasons* (Sonia and Marco Nadler Institute of Archaeology Monograph Series). Tel Aviv.
- 2012-2013 **Artwork Editor**, updated translation of Schumacher, G.B. 1908. *Tell el-Mutsellim*. Leipzig. [Trans. Martin, M.A.S., 2013]

## Reviewer

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- 2020- Journal of Archaeological Science
- 2020- Entangled Religions
- 2020- Near Eastern Archaeology
- 2019- Archaeological and Anthropological Sciences (2)
- 2017- Bulletin of the American Schools of Oriental Research (BASOR) (2)

## Laboratory Skills

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## Optical microscopy

Phytolith and microremain analysis (expert), micromorphology (proficient), ceramic petrography (basic)  
Refurbishing, calibrating and maintenance of optical microscopes (3 years experience as a hobby)

## Mineralogical and elemental analyses

Fourier transform infrared spectroscopy (FTIR), X-Ray fluorescence (XRF, portable and benchtop),  
Thin section preparation and production (micromorphological and petrographic)

## Technical Skills

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### Survey equipment

Total station (Leica, Trimble), Real Time Kinematic (RTK) survey, 3D photogrammetry (field and lab), drone

### Software

Agisoft Metashape (3D photogrammetry)  
QGIS (geographic information system), MAPublisher (GIS plugin for Adobe Illustrator)  
Adobe suite (Illustrator, Photoshop)  
IBM SPSS (statistics), PAST (statistics)  
FileMaker (database)  
R (novice)

## Affiliations

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### Institutional Affiliations

2019- Program in Early Cultures, Brown University

### Archaeological Laboratories

2015- Laboratory for Sedimentary Archaeology, Department of Maritime Civilizations, The Leon H. Charney School of Marine Sciences, University of Haifa (head: R. Shahack-Gross)

2012-2015 Kimmel Center for Archaeological Science, Weizmann Institute of Science (head: S. Weiner)

### Professional Organizations

2021- International Phytolith Society (IPS)

2020- Society for Classical Studies (SCS)

2018- Archaeological Institute of America (AIA)

2014- American Schools of Oriental Research (ASOR)

## Relevant Training and Experience

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2020 Sheridan Center Data Science Course Design Institute, Brown University (L. Clark)

2019 Archaeology Data Analysis Group, Brown University (R Workshop: D. Plekhov, P. Van Valkenberg, B. Marwick)

2015 Intensive Training Course on Soil Micromorphology, Croatian Geological Survey, Zagreb, Croatia (instructors: G. Stoops, V. Marcelino, R.M. Poch, L. Galović, H. Posilović, M. Brlek)

2012 Megiddo Fieldschool on Archaeological Science, Kimmel Center for Archaeological Science, Weizmann Institute of Science, Rehovot, Israel and Megiddo Israel (led by S. Weiner, E. Boaretto, R. Shahack-Gross)

2011 Manuscript Collections Internship, National Anthropological Archives, Smithsonian Institution, Washington, DC, USA (host: L. Wang)

2008 Megiddo Expedition Archaeological Fieldschool, Megiddo, Israel

## Licenses

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Driver's License (U.S.)

PADI Advanced Underwater

ארכיאולוג חופר, Israel Antiquities Authority (archaeological excavation license)

## Languages

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English (native), Spanish (academic reading and elementary speaking [lapsed]), German (academic reading), Hebrew (basic reading and elementary speaking)