**Budget justification**

Most of the proposed project’s budget is geared toward funding four field seasons at Tel Tsaf (2023–2026), subsequent analyses of the robust material assemblages, and the research team that will undertake these analyses. None of the funds requested here is covered by previous grants provided for the Tel Tsaf project (i.e., ISF, CARE, RFF). The PI requires no funding. He is responsible for carrying the project through its various stages, bringing it to a successful conclusion, and providing the ISF with orderly annual reports as required. He will dedicate adequate time to ensure that this multidisciplinary research will be executed effectively and efficiently

The project requires funds for ten personnel positions for the research project's entire duration (four years).

* A postdoctoral researcher (H. Ahituv) will focus on the extraction and analysis of starch and phytolith samples from tools, vessels, and sediments; this will be done with the PI in the Laboratory for Ancient Food Processing Technologies (LAFPT), Zinman Institute of Archaeology, University of Haifa.
* A Ph.D. student (M. Horden) will conduct botanical analyses in the Laboratory for Archaeological Botanics, Bar-Ilan University; these analyses will include the extraction and identification of seeds from grinding and pounding implements, ceramic vessels, and control samples.
* Another Ph.D. student (T. Shooval) will conduct the pottery analysis, particularly on food cooking vessels and foreign pottery.
* A third Ph.D. student (K. Hruby) will study ground stone tools, including typological, technological, and functional analyses with particular emphasis on food processing tools.
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*Supplies*

We seek funding for

* office supplies,
* packaging materials,
* chemicals, and
* sampling equipment (including consumables) for extracting starches, phytoliths, and organic residues (lipids).

*Services*

Organic residue analysis is needed for establishing the contents of cooking, processing, serving, and storage vessels and the substances processed with various tools. This analysis will be carried out by Prof. C. Spiteri (Institute of Prehistory, Early History and Medieval Archaeology, University of Tübingen).

We request funding for

* 80 organic residue samples (at 250 NIS/sample) to encompass the full range of vessels and tools and cover as many archaeological contexts as possible.

Additionally, ancient wood remains analysis will be carried out by Dr. A. Arranz Otaegui (Department of Cross-Cultural and Regional Studies, University of Copenhagen) for all samples retrieved from undisturbed loci, providing a coherent image of the use of trees for construction and as a food source (fruit trees).

Proteomic analysis (dental calculus) will be carried out by ?????????? (????) to extract direct evidence for consumed food.

Stable isotopic (Oxygen and Carbon) analysis of botanical, human, shell and faunal remains will be conducted by Dr. C. Pickard and Dr. R. Bendrey (University of Edinburgh).

We seek funding for these analyses to gauge the intensity of various economic and environmental parameters. These include estimating variations in production, water availability, and manuring, testing if animals were herded across large distances, had access to different water sources, occupied different elevations, and consumed varying ratios of C3/C4 plant biomass in their diet, and determining whether and how these features changed with time.

We request funding for

* 240 isotope samples (at 200 NIS/sample) to cover the full range of plants and animals, the site’s various phases, and structures.

An ancient animal DNA study will be conducted by Prof. G. Kahila Bar-Gal (Laboratory of Molecular Evolution, Koret School of Veterinary Medicine, The Hebrew University of Jerusalem) to analyze genetic variations in herd animals and dogs.

Ancient human DNA will be extracted from sediments and human bones to establish genetic links within the Tel Tsaf community and other communities, both close and far. Dr. V. Slone of the Departments of Anatomy and Anthropology and Human Molecular Genetics and Biochemistry, Tel Aviv University, will conduct the analyses.

A parasitological study will be conducted by Prof. A. Perri (Department of Anthropology, University of Nevada, Las Vegas), attempting to detect the impact of possible changes and variations in the diet on human health.

To substantiate a robust chronological framework that can establish both sequential and synchronic temporal relations, we request funding for

* 40 radiocarbon assays (at 1400 NIS/sample).

These assays will derive from short-lived samples from secure contexts.

The archaeomalacological analysis will be conducted by Dr. I. Ktalav of the Zinman Institute, Haifa University. This analysis will allow us to explore whether shellfish were used for food and better understand the Jordan River’s ecology and environmental conditions. We allocate funds for her for the four years of the project.

For geochemical analyses of representative artifacts (e.g., vessels, food processing tools) conducted by Dr. Y. Weiss of the Hebrew University in Jerusalem, funding is requested for the duration of the study to determine the geological provenience of various food-related and other objects (with particular emphasis on non-local raw materials and artifacts).

Funding for artifact documentation is requested to facilitate line drawings, graphic design services, photogrammetry, and 3D scans of figurines, flint items, pottery vessels, bone tools, and ground stone implements.

*Other expenses*

The project will comprise four seasons of fieldwork (during the years 2023, 2024, 2025 and 2026):

* 20 workdays each, constituting a total of 80 field days for the entire project.
* The team consists of 15–20 students, five staff members, and several specialists.

Excavations costs will cover various services and facilities provided by Kibbutz Kfar Rupin:

* lodging,
* meals,
* a space for a field lab and lectures, and
* a storeroom.

Notably, Kibbutz Kfar Rupin is located only ca. 15 minutes by car from Tel Tsaf and provides the most cost-effective price offer.

The requested funding is also designed to cover the costs of

* three car rentals and gasoline for transporting the team back and forth between the University of Haifa and the excavation and daily trips between Kibbutz Kfar Rupin and the site.

Additional expenses include

* a chemical toilet and
* excavation equipment (e.g., shades, digging and sifting equipment, and conservation materials).
* Funds for students’ travel expenses to scientific conferences to present the results of their work are requested for the last two years of the project (2025, 2026).

*Computers*

* Three laptop computers are requested.

Two will be provided to the research assistants for initial and advanced data collection in the lab and the field. The third laptop computer is requested for the PI to be used during the study. We also require

* two external drives for data storage (mainly while in the field) and
* an office printer.

*Miscellaneous*

Our funding request includes

* four-year membership fees to scientific associations and
* costs toward publication charges in high-profile peer-review journals where we intend to publish the research results.

We also seek financial support

* to cover the costs of professional literature.

*Equipment*

We seek to purchase

* a Nikon D7800 camera with two lenses and
* a compatible case for the field and lab.

It will be used to capture high-quality photos during the excavations, from which photogrammetric sections will be produced, as well as document loci and artifacts.

We also request

* a lab freezer (Thermo Scientific TSV05RPSA - 5 cu. ft. Value Refrigerator) to store sensitive samples for isotope, DNA, and other analyses.