

## STATEMENT OF SIGNIFICANCE AND IMPACT

### ***Project title: Insurgency, Resistance, and Interaction: Archaeological Inquiry into New Kingdom Egyptian Rule in Jaffa***

Since 2007 the Jaffa Cultural Heritage Project has brought to light the results of earlier excavations from 1955 to 1974 in Jaffa (Tel Yafo) by Jacob Kaplan, the municipal archaeologist of Tel Aviv-Jaffa. One of the primary objectives of this project was to provide a baseline for renewed archaeological exploration of Jaffa in which modern data collection methods and analytical techniques are employed to improve our understanding of the site and its population. During the Late Bronze Age, for example, from ca. 1460 to 1200 BC Jaffa, on the coast of Canaan (southern Tel Aviv today), functioned as an Egyptian garrison, supply-port, and administrative center for Egypt's New Kingdom imperial expansion into Canaan. Work on the earlier excavation records and the renewal of excavations in 2011 (with plans to continue in 2012) have revealed an archaeological narrative for a period fraught with conflict and resistance to the Egyptian presence by the region's Canaanite inhabitants, alongside evidence of increasing social interaction.

Studies over the past five years reveal that Tel Yafo provides an ideal archaeological site for assessing the intensity and character of social interaction between the Egyptian military personnel and local communities as revealed in multiple destruction levels and changing percentages of various types of material culture over time. Plans for the continuation of excavations at the site employing high-resolution recovery methods intended to obtain a wider array of material evidence such as botanical, faunal, shell and residue samples indicative of food production, consumption, and local economy during different periods offer the potential of revealing a narrative of social interaction at one of the most important fortresses within Egyptian imperial control of Canaan over a period of nearly 300 years. This narrative appears to stand in stark contrast to the official rhetoric of the Egyptian crown that, while mentioning continuous efforts to pacify Canaanite settlements, carefully avoids reference to lost Egyptian fortresses, failures, and military losses that typify local resistance, which at times climaxed in outright insurgency. This project provides, therefore, a unique case study of insurgency and social interaction in antiquity that informs similar contexts up to the present.

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### *Insurgency, Resistance, and Interaction:*

#### *Archaeological Inquiry into New Kingdom Egyptian Rule in Jaffa*

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## NARRATIVE

### 1. Substance and Context

Over the course of the past decade western military powers have faced an intractable problem that even the most well-trained, well-armed, well-informed, and logistically superior military powers seem unable to avoid and overcome: insurgency. The problem is, of course, not one simply for the military historian or tactician, as the effects of insurgency shape military strategy and public perceptions of conflicts, and very often the ability and desire of a nation to exert its will, usually political, over another. As such, the problem is as ancient as warfare itself. Whenever a polity has, to one extent or another, exerted its political or military strength over another, resistance is often manifest through insurrection. While resistance or rebellion does not always require violence, by definition insurgencies do. Thus, insurgencies reveal a de facto state of affairs as concerns the extent of military control of a region or population, which may not be reflected in official rhetoric, even record keeping, concerning military actions.

The rhetorical trumping of victories and near deafening silence in official sources concerning indecisive military engagements is a far greater problem to the historian of antiquity than to the modern historian, whose sources are quite varied and robust (Richardson 2010b). As is oft-observed, the rulers of ancient empires were apt to downplay resistance in official rhetoric to serve their ends, which often involved sustaining their military efforts almost indefinitely (Richardson 2010a). Yet, the historical sources in which rulers touted their successes serve all too often as the sole basis for history writing on ancient empires. Nonetheless, checks can be brought to bear concerning our use of historical sources, notably, through the employment of archeological data, especially when the data are chronologically nuanced. Such is the case at the archaeological site of ancient Jaffa (Tel Yafo), situated on the coast on southern side of Tel Aviv (Figure 1), which for nearly 300 years was home to an imposing Egyptian fortress that served as a beachhead for near annual campaigns throughout Canaan (i.e., ancient Israel). The current proposal seeks, therefore, support for a three-year investigation to expand and intensify the collection of data from the Egyptian gate area to improve our understanding of the site's history as well as the nature of Egyptian interactions with their Canaanite subjects during the Late Bronze Age (ca. 1500 to 1200 BC).

*Research Scope.* An important archaeological mound and famous historical port along the coast of the southern Levant, Jaffa's settlement history reflects nearly every major period from the Middle Bronze Age through the present (i.e., ca. 1900 B.C. on). The site consists of an ancient mound of approximately 10 acres in size that was built on a sandstone ridge overlooking the Mediterranean Sea, and during various periods it also included a sprawling lower city of nearly the same size. During the Late Bronze Age Jaffa served as a fort and garrison for the Egyptian New Kingdom army as known from both historical and archaeological sources. Both of these sources reveal a history of interaction between the local inhabitants of Jaffa and its hinterland with the Egyptian garrison that occupied the site for nearly three centuries. The evidence from these occupational phases provide a unique opportunity to reconstruct a narrative not articulated in other textual or historical sources, revealing a period that despite the evidence for near constant military and political tension within the region, also witnessed sustained and seemingly increased social interaction between Egyptians from the garrison fortress and the region's indigenous inhabitants, principally identified as Canaanites. Owing to the duration and well preserved archaeological context, this project serves as a useful case study of the extent to which archaeology is able to inform a historical narrative that includes a range of interactions from violent to peaceful between an occupying military force and a region's indigenous population.

*Source Material.* The annals of Thutmose III (1482–1428 BC) include Jaffa among the pharaoh's conquests ca. 1460 BC and this is generally identified as the date for the establishment of the Egyptian garrison at the site (Morris 2005:138, and n. 89). Recent efforts by our project to publish the unpublished findings of Jacob Kaplan, who excavated at the site from 1955 to 1974 (Burke 2011a, 2011d), indicate that a large corpus of Egyptian ceramics actually derive from the initial phase of Egyptian occupation following Thutmose III's conquest, through ca. 1400 BC (Burke and Lords 2010; Burke and Mandell 2011). This corpus is identifiable as such because the assemblage, which consists predominantly of Egyptian wares and dates to precisely the decades following Thutmose III's campaign, is embedded within a destruction debris 1.5 to 2 m thick (Figure 5), which is unequivocally the product of a conflagration resulting from violent interaction given the effort known to be required to burn entire settlements built of mudbrick. This

identification of the destruction is buttressed by the evidence for less severe, but extant destructions that plagued the site in the following two centuries, as attested in the stratigraphic sequence at the site.

Analysis toward the publication of this corpus has revealed that the ceramic types indeed belong to the early Eighteenth Dynasty corpus (dated to the reigns of Thutmose III and Amenhotep II), as known from assemblages in Egypt and Egyptian fortresses in Nubia. The assemblage consists principally of vessels related to the food production and consumption habits of the Egyptian garrison. The vessels include, for example, a wide array of Egyptian-style bowls, jars and jugs, imported carinated bowls, and numerous so-called beer jars (Burke and Lords 2010; Burke and Mandell 2011). The production characteristics of the Egyptian wares reveal a mixing of techniques that are usually differentiated between Egyptian and Canaanite ceramics (Martin 2004, 2005, 2006, 2009, 2010; Martin and Barako 2007; Martin and Ben-Dov 2007; Martin et al. 2009). Thus, even the ceramic evidence serves as one index of social interaction between these groups, which contrasts sharply with the evidence for continuous conflict particularly in the later phases of this period.

Although frequently associated by scholars with the Egyptian retaking of the city, the overwhelming quantity of imported and locally produced Egyptian ceramics within the fifteenth century destruction suggest that this event was most likely the result of an attack by Canaanites in the region, as no other potential agents present themselves historically or archaeologically. Indeed, from our analysis of the unpublished materials, we have argued that the famous Egyptian tale of *The Capture of Jaffa* (Simpson 2003:72–74) may, in fact, relate in a literary genre the events of the Egyptian retaking of the fortress after its loss to Canaanite insurgents and should be set within the later fifteenth century in the decades after Thutmose established the garrison (Burke and Lords 2010). From the tale it appears that, while Canaanites formed the core of the insurgency, the fortress was not originally an exclusively Egyptian settlement devoid of indigenous groups. Well-known, local social groups such as the *maryannu* (a Hurrian term for charioteers) and the *'apiru*, who are identified as a socially disenfranchised collective comprised in part of disinherited kin, lived in and around the site, according to the *Capture of Jaffa*.

The persistence of Canaanite wares and what appears to be an increase in the percentage of Canaanite wares within the local assemblage over the course of the Late Bronze Age, suggests a dynamic environment of sustained social interaction between the garrison and the local Canaanite population, once again, including evidence for conflict. Alongside the Egyptian corpus of ceramics, which persists throughout the period and is in particular evident through the Egyptian simple bowls—presumably connected with rations to Egyptian personnel—is a wide range of Canaanite ceramics that is normally interpreted to indicate the cohabitation of Canaanite personnel within the Egyptian fortress, as resulting from the dietary practices of this population. Canaanite cooking pots as well as a full range of other vessels make up the non-Egyptian assemblage. While many questions remain concerning the precise relationships between these assemblages, which are usually associated with separate ethnic groups, such a picture of cohabitation and symbiotic relationships is substantiated from the evidence of modern conflicts where local inhabitants may ally themselves, sympathize with, or at the least interact and trade with an occupying army for political, social, economic, or a variety of reasons. While our preliminary understanding is instructive, additional data from the field will need to be collected to permit a more detailed analysis of the relationship between these assemblages and their relative proportions during different phases of the Late Bronze Age. Still according to the archaeological and textual records, Jaffa's population was more diverse than a traditional understanding of official Egyptian rhetoric leads one to assume.

While the early years of Egyptian control in Jaffa aid our understanding of Jaffa as contested space, Jaffa's archaeological record in subsequent phases reveals the nature of Egyptian and Canaanite interactions for the following two centuries. Its history appears to have been hardly more peaceful later on. Evidence of the region's unrest comes as early as the reign of Amenhotep II (1428–1402 BC) who during his ninth year (ca. 1420 BC) was required to quell an insurrection at nearby Aphek, Jaffa's sister-settlement located to the northeast along the main north-south highway through the coastal plain. While the site, unlike Jaffa, had been given a great deal of attention because of an Akkadian letter found at the site dated to the thirteenth century BC (Owen 1981)—the end of this period, a recent study has downgraded the site's status from so-called governor's residence (based solely on the presence of the letter) to that of a rural agricultural

estate comprising a single building (Gadot 2010). This reappraisal is based on the nature of the findings from the site, which while of Egyptian origin, reflect a small, single-residence settlement commensurate with a royal farming estate albeit under Egyptian control. Within this context, the references to Jaffa's grain silos (*šnwtj*) in the Amarna letters of the 14th-century B.C., which were excavated in Egypt, take on new significance, as they reveal Jaffa's role as a grain storage depot, presumably stockpiling the produce of Aphek, a farmstead in Jaffa's hinterland, in connection with efforts to supply Egyptian troops on campaign each year in Canaan. An insurrection in the region of Aphek would therefore have posed a serious problem to Egyptian control of the coastal plain, through which the highway passed, but also to Jaffa since it was central to supplying Jaffa's granaries.

While the granaries identified in the Amarna letters have yet to be exposed in excavations in Jaffa, evidence of Amenhotep II's commemoration at the site are unmistakably present in the discovery of two scarabs dated to his reign, one of which commemorates his hunting of his 102<sup>nd</sup> lion (Sweeney 2003). The scarabs derive, however, from later contexts, notably, within the bricks of the gate constructed after his reign (Herzog 2008). Nonetheless, a reevaluation of the so-called "Lion Temple," excavated by J. Kaplan in 1972 may date as early as his reign, as suggested by the discovery of a scarab of Queen Tiy, wife of Amenhotep III (1392–1354 BC), on the floor of the building along with a defleshed and decapitated lion skull (Kaplan and Ritter-Kaplan 1993).

Despite recent evidence from the project's analysis that suggest that the proportion of Egyptian ceramics within the site declined relative to local ceramic traditions over the course of the Late Bronze Age, the fort in historical sources and its remaining material culture remained Egyptian. Indeed, during the thirteenth century Ramesses II erected a monumental commemorative façade inscribed with his name upon the latest phase of the gate (Figure 6). Fragments of the façade were among the earliest remains exposed by Jacob Kaplan in the late 1950s when he began excavations in Area A. Although the fragments are suggestive of Jaffa's importance within the Egyptian imperial network of fortifications in Canaan, their findspots are also indicative of the tenuous nature of Egyptian control. The fragments were found reused within the restored gate complex dated to the late thirteenth century, within at most a few decades of the

façade's addition to the fortress. The destruction of the façade may be dated on the basis of ceramics excavated from the floor of the gate in 2011 to the rebellion of Egyptian vassals in Canaan during the reign of Merneptah mentioned in Egyptian records (Yurco 1986). Thus, once again, the archaeological context at Jaffa indicates that, despite the place of Jaffa as the most important Egyptian port in Canaan, it was the site of repeated military assaults by Egypt's Canaanite subjects, revealing a narrative of challenges to Egyptian hegemony that is only vaguely alluded to in Egyptian sources, usually without direct reference to Jaffa.

*Relationship to Published and Ongoing Work.* In 2007, the Jaffa Cultural Heritage Project was established as a long-term joint archaeological research project between the University of California, Los Angeles (UCLA) and the Israel Antiquities Authority (IAA) under the direction of Aaron A. Burke and Martin Peilstöcker, respectively. The project, which is a unique cooperation in Israel, is concerned with interdisciplinary archaeological research of Tel Yafo through the employment of historical, archaeological, and scientific methods involving the integration of both research and salvage excavation data (Burke and Peilstöcker 2011). Among the four primary activities of the Jaffa Cultural Heritage Project, which are intended to facilitate study of the site, are (1) renewed archaeological exploration of Tel Yafo, (2) publication of previous and ongoing excavations, (3) public presentation of the project's findings, and (4) conservation of archaeological structures and historic monuments. The current proposal focuses on the first of these activities in connection with renewed excavations in Area A atop the archaeological site.

During the first three years of activity by our project, the Jaffa Cultural Heritage Project, more than three quarters of the project's efforts and funding were directed toward the Kaplan Publication Initiative, which addresses the documentation, analysis, and publication of archaeological materials excavated from 1955 to 1974 by Jacob Kaplan, the municipal archaeologist of Tel Aviv-Jaffa during this period (Burke 2011d). His archaeological work in Jaffa ranged from salvage excavations intended to save Jaffa's archaeological remains from modern development to long-term research excavations in areas that were protected from attempts at reclamation for modern construction. The centerpiece of his archaeological research was his excavations in Area A (Figure 2; Figure 3), which were begun in 1955 and continued through 1974. The great potential of this excavation area and the excellent preservation of the early remains

(i.e., those of the Bronze Age) meant that the excavations in Area A lasted longer than any of his excavations in other areas of the site, producing nearly two-thirds of the archaeological finds known from Jaffa.

During the three decades spanned by Kaplan's excavations in Area A, two major phases of activity can be distinguished that reveal qualitative and quantitative differences in data collection and organization (Kaplan and Ritter-Kaplan 1993). During the first phase of excavations from 1955 to 1958 he encountered unequivocal evidence of the Egyptian presence in Jaffa during the Late Bronze Age. As might be expected, due to the nature of archaeological methods when these remains were excavated and despite producing a large ceramic corpus, the quality and quantity of data collection does not permit the type of rigorous interrogation capable today. In particular, few animal bones, shells, lithics, and no botanical remains or carbon samples, let alone residue samples were recovered during the 1950s excavations, making it effectively impossible to identify the foodstuffs and cuisine that were associated with the corpus of Egyptian vessels he exposed during these excavations. Unfortunately, the intensity of Kaplan's fieldwork and other excavation commitments made it impossible for him to publish more than a few preliminary reports for his excavations.

Despite the obvious limitations of earlier data-collection methods, our initiative has been able to successfully associate this assemblage with the earliest phase of Egyptian occupation permitting the current research proposal. Furthermore, it has also demonstrated the value of careful analysis of earlier archaeological excavations in Jaffa, with a focus on their publication, and the integration of this analysis within any planning for renewed archaeological exploration at the site (Burke 2011d). This effort has already resulted in published articles from these studies (Burke 2010; Burke and Lords 2010) and includes several contributions within the first volume of the Jaffa Cultural Heritage Project series published in 2011 (Burke and Mandell 2011; Keimer 2011a; Peilstöcker and Burke 2011; Pierce 2011; Tsuf 2011). Our publication initiative has supplemented therefore the picture that had previously been provided only by short preliminary reports published by Jacob Kaplan after each excavation season (Kaplan 1956, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1968, 1969, 1970, 1971, 1972, 1974a, 1974b; Kaplan and Kaplan

1975). This initiative will culminate in a final report on the Area A excavations within the new series, and the preliminary results of our work provide the framework for this research proposal.

The understanding that our analysis and publication efforts have provided since 2007 in advance of the renewal of excavations are now further enhanced by our renewal of excavations with the same part of Area A, which began in 2011. Excavations in 2011 within what is known as the Ramesses Gate area were undertaken with a primary objective of assessing the quality of Kaplan's excavation records (as well as his work), but furthermore with determining to what extent the stratigraphic sequence within the excavation area could be further understood after various short-lived archaeological soundings in 1985 by the Israel Antiquities Authority and in 1997 and 1999 by Tel Aviv University (Herzog 2008). Our work successfully demonstrated that 1) potential does exist for improving our understanding of the stratigraphic sequence through a new campaign of excavation, and 2) Kaplan's recording methods suffice to permit the a more exhaustive study and integration of the previously excavated material than is often undertaken for legacy datasets in an attempt to better understand the site's settlement history and its inhabitants, now with a view to the issue of insurgency and social interaction over a protracted period.

It might be remarked that studies of the sort proposed here are not unknown, and to some extent this is true. Roman frontier studies have permitted an improved understanding of the nature of interactions along the Roman frontier and its ever changing, dialectical nature (Elton 1996; Savage and Thompson 1979; Whittaker 1994), while other studies of the frontier have sought to provide an alternative perspective (e.g., Miller 1977; Parker 2001, 2002). Such studies lack, however, the context provided by a study of Egyptian imperial action in Canaan during the New Kingdom period (ca. 1530 to 1150 BC) through sites such as Jaffa. In the first place, it is unclear that a "frontier" existed in the framework of Egyptian imperial military action or that Jaffa should be viewed in this context, and, indeed, such a term is hardly, if ever, employed in scholarly discourse for the region; a leading "edge" (Latin "limes") as intimated in the use of the term frontier cannot be articulated anywhere throughout the course of Egyptian activity until it is established in relation to the competing powers of Mitanni and the expanding Hittite empire ca. 1250 BC. Even then it appears to have been little more than a declared limit to military campaigning; it was neither a

cultural nor military border. Rather Egyptian imperial action appears driven by ending insurgencies and punishing insurgents in an effort to maintain control of the region, and hence military activity often takes place well behind anything that might be defined as the “frontier” or leading edge of expansion. In the second place, Egypt’s interactions with Canaan had a very long history before its New Kingdom episode of imperial expansion. Those interactions were overwhelmingly peaceful and included the presence of a large population of Canaanites in Egypt from the late third millennium through the start of the New Kingdom. Some episodic violence in the Middle Kingdom (ca. 2000 to 1800 BC) may have established a precedence for New Kingdom campaigns, but it cannot be connected in any direct way to later military expansion. Thus, for approximately seven centuries preceding the New Kingdom (ca. 2200 to 1500 BC), intensive mostly peaceful interactions were the norm between both regions and their populations, and they included enormous population centers of Canaanites living in the Egyptian Delta, as at Avaris (Tell ed-Dab‘a) at the start of the New Kingdom (Bietak 1996).

A variety of hypotheses have emerged over the past decade in an attempt to account for the range of social interaction between Egyptian military personnel and local Canaanite inhabitants based on material culture (Higginbotham 2000; Killebrew 2004; Martin 2004). While useful, these approaches are characterized by limits of one sort or another (as noted in Burke and Lords 2010). Every one of them is, first, restricted to the methods of art historical and ceramic analyses but lacking the requisite data for investigating the diet of the populations under scrutiny, which is a far better indicator of ethnic identification. Thus, these approaches remain largely hypotheses that require testing when excavations of such contexts should again take place since in these studies data from residue analysis, bone, botanical, and shell remains relating to food production are absent, all of which can be collected during new excavations, as in Jaffa. Together with their excavated contexts, evidence for ceramic production, food production, and dietary habits present a viable avenue to articulate Jaffa’s population in this period and social interaction between Egyptians and Canaanites, the two prominent populations attested at Jaffa. The second problem with existing studies relates to their temporal scope. Each of the studies in question addresses a particular phase—usually the last phase—of Egyptian presence in Canaan and seeks to abstract an understanding of

the nature of Egyptian and Canaanite interactions during earlier phases of imperial expansion. This, however, is problematic owing to the fact that there is neither a clear basis for an articulated and consistent Egyptian imperial attitude toward the region over the course of the entire period, nor evidence that Canaanites were as receptive to Egyptian culture during the early phase of their conquests than they may have been more two centuries later. Indeed, the archaeological evidence from Jaffa points toward an early phase characterized by the greatest intensity of violence (evidenced by the most intensive destruction) and social separation (evidenced by the lowest percentage of non-Egyptian ceramics), with evidence for increasing integration over time as measured against an index of the increasing percentage of non-Egyptian material culture within the latest phases of the fortress during the Late Bronze Age. Thus, it is our contention that Jaffa's unique, long-term role as a beachhead for the military and administrative management of Egypt's territorial claims on Canaan, can be archaeologically accessed to provide a nuanced, untraditional and unofficial perspective that reveals the realities of Egyptian policies, standing in stark contrast to royal narratives. Such a perspective will not only permit a reappraisal of the textual sources for the period (e.g., Amarna letters, various papyri), but also permit a framework for the reconsideration of other imperial contexts where, in particular, territorial absorption into a core "home" culture was never a goal, standing in stark contrast to the traditional, if overly simplified, perspective of Roman imperial objectives; Egypt never sought to be Rome, and while multiculturalism was alive and well in Egypt, full integration of non-Egyptians was usually an incidental result of other events.

*Major Issues to be Addressed.* In order to articulate the progression of interactions between Egyptians and Canaanites in Jaffa during the New Kingdom two major components must be addressed by this project. First, a *chronological framework* for Jaffa's settlement during this period must be established, which can permit a historically nuanced examination of these interactions. Second, a variety of intensive collection methods must be employed in archaeological fieldwork to improve upon earlier collection, if such data are to facilitate a better understanding of the *nature* of social interactions in Jaffa. Both of these elements are fundamental to a study of interactions at Jaffa, the principal Egyptian fortress and control point for Egyptian administration along the coast, given the limitations of data collected to date.

Concerning the first objective, while Jacob Kaplan's excavations from the 1950s to the 1970s were successful in providing a relative stratigraphy for excavations in Area A, the location of the Egyptian garrison, as is evident from his own preliminary analysis and, in particular, from our efforts to publish his findings, new excavations are required to establish chronological controls for the occupational sequence. Our work to date, including the 2011 excavations, reveals that there is substantial potential to articulate a sequence of well-dated occupational phases associated with the no fewer than 4 sub-phases of Late Bronze Age occupation (ca. 1530 to 1200 BC) that can be associated with Egyptian occupation of the site.

While our excavations have exposed the terminal phase of the gate complex dated to the end of the thirteenth century BC (Late Bronze IIB), our processing of the unpublished materials from Kaplan's excavations has revealed the destruction of the initial phase (Stratum VI), encountered between 29 and 28 m above sea level to the south of the gate, which dates roughly between 1460 and 1400 BC (Late Bronze IB in the local sequence) and is therefore correlated with the initial phase of the Egyptian fortress (Burke and Lords 2010) and associated, as mentioned above, with a Canaanite insurgency. The identification of a corpus of more than 70 vessels from an Egyptian garrison kitchen are among the earliest New Kingdom Egyptian ceramics found at Canaanite sites, preceding in date the vast majority of recently published Egyptian ceramics from Late Bronze Age sites in Canaan that derive from contexts of the latter half of the Late Bronze Age (LB IIB-Iron IA, 1300–1150 BC), the later stages of Egyptian imperial control. Thus, the ceramic corpus from Jaffa, for which we anticipate recovering still more vessels owing to the conditions of its deposition (a sealed, site-wide destruction debris) when the remaining deposit that collapsed within the gate is excavated and excavations are expanded to the north of the gate (beginning 2012), will provide a view to both the earlier and later phases of the Egyptian presence in Jaffa during the period. Establishing precise dates for each of the architectural phases associated with the transition from a Canaanite controlled site to Egyptian stronghold is critical to the project's efforts to identify shifts in the ethnic composition of the site that may be detected in changes to the material culture record. As discussed further below under methods, the project is prepared to utilize a range of methods to articulate an optimal understanding of the chronology of events and context (i.e., sub-50 year). These include artifact-derived dates for contexts, such

as ceramics but inscribed artifacts (e.g., scarabs; Sweeney 2003). While the ceramics themselves provide enhanced potential, owing to the association of many Egyptian types with the reigns of particular pharaohs, inscribed artifacts are especially important (e.g., Burke and Lords 2010), as are Mycenaean and Cypriot ceramics owing to the chronological ties they provide with eastern Mediterranean chronologies. Even greater chronological resolution is possible, however, than can be provided by these traditional methods, notably, through the employment of radiocarbon dating of short-lived samples (e.g., seeds from floors), dendrochronology for dating wood used in construction of the gate and nearby structures (begun in 2011), and paleomagnetism (beginning 2012), which utilizes historical geological data for tracking the location of magnetic north over centuries preserved in the record of fired, in situ artifacts (e.g., mudbricks within destruction debris). At least three levels of the Egyptian gate (Levels VI to IVA-B) and its environs present destruction debris of varying severity and thickness that could be more definitively dated using these techniques, and thus be potentially correlated with historical events that form the temporal framework of interactions to be studied.

The second requirement for an improved understanding of the nature and significance of interactions at Jaffa is intensive data collection methods. In addition to those that relate to issues of chronology mentioned above, collection methods including wet sieving of occupational debris excavated from floors and destruction debris above them will contribute to establishing additional indices for assessing interactions at the site. Thus, floral, faunal, and shell remains, along with residue samples taken from the interiors of unwashed complete or restorable vessels will be analyzed for evidence of food preparation and consumption practices, which given what is known of Egyptian practices from a wealth of tomb and epigraphic evidence can be distinguished from local practices to a degree sufficient to serve this purpose. In full recognition of the limitations that the debate concerning ethnicity and diet have raised, the range of samples related to consumption (which are rarely available in many archaeological contexts) should improve the potential for their use as indices of dietary variation and interaction. Changes in the overall proportions of the ceramic assemblage that may be characterized as Egyptian, Egyptianizing, and Canaanite over the course of the Late Bronze Age will, in this context, likewise serve as a useful index of

interaction, revealing the relative degree to which increases or decreases in contact may have encouraged a borrowing and blending of traditional practices in ceramic production that may also reveal interactions.

## **2. History and Duration of the Project**

*Preliminary Research.* The Jaffa Cultural Heritage Project was established in 2007 by Aaron Burke (UCLA) and Martin Peilstöcker (IAA) (Burke and Burke 2008; Peilstöcker and Burke 2009). In 2008 and 2009 the Jaffa Cultural Heritage Project undertook excavations within one of Jacob Kaplan's old excavation areas, Area C (Figure 2) on the west side of Tel Yafo (Burke 2009; Burke and Peilstöcker 2009a; Burke et al. in prep). This excavation area was selected, not only to permit potential access to Bronze Age remains on this side of the site, but also in order to demonstrate the feasibility of the excavations within the complicated urban context of Tel Yafo. These excavations proved the potential for the resumption of excavations in Jaffa through bridge-building between various institutions involved in the cooperation. Following a study season in 2010, in 2011, as mentioned earlier, the directors received permission to renew excavations within Area A within the Ramesses Gate area, and excavations were conducted between July 7 and August 12, 2011 exposing the final phase of the gate, dated to the thirteenth century BC (Late Bronze IIB).

*Financial Support.* Financial support for the project has come from a variety of sources with the greatest part of the funding coming from UCLA, but also from the Shelby White-Leon Levy Program for Archaeological Publications (2008–2011) as well as a number of smaller grants. These funds have made possible not only the field component, but have also been integral to efforts to publish the unpublished excavations for which only preliminary reports exist (Kaplan 1956, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1968, 1969, 1970, 1971, 1972, 1974a, 1974b; Kaplan and Kaplan 1975). The cumulative investments from a variety of funding sources for this project to date total more than \$370,000 in addition to contributions in kind by the Israel Antiquities Authority by means of equipment loaned, logistical support, personnel, and access to archives, all of which are usually for-fee services.

*Publications Produced.* To date the publications of the project include a number of preliminary reports with others in progress (Burke 2009; Burke and Burke 2008; Burke and Peilstöcker 2009a, 2009b;

Burke et al. in prep), the first volume of *The History and Archaeology of Jaffa* within The Jaffa Cultural Heritage Project series, published by the Cotsen Institute of Archaeology at UCLA, includes 25 articles (Peilstöcker and Burke 2011 and articles therein). These detail the site's history (e.g., Burke 2011c), the project's objectives (Burke and Peilstöcker 2011), including preliminary archaeological studies, and early work on the Kaplan Publication Initiative (Burke 2011b, 2011d; Burke and Mandell 2011; Keimer 2011b; Tsuf 2011). In November 2011 the volume received the G. E. Wright Award for archaeological publication from the American Schools of Oriental Research. *The History and Archaeology of Jaffa 2*, which will principally address archaeological reports and a section devoted to the study of the Kaplan excavations will be submitted to press in late spring 2012. An additional volume dedicated to the Area A excavations by J. Kaplan will be published to complete the publication of Bronze and Iron Age remains excavated by him.

*Resources and Research Facilities.* In light of what the project has learned regarding Jaffa's history and archaeology from work over the preceding four years and having successfully demonstrated the potential for institutional cooperation in archaeological field work at Tel Yafo, the Jaffa Cultural Heritage Project has renewed the exploration of Bronze Age Jaffa under the most ideal conditions, with full access to extant materials and their integration into the research design. Since 2007 the project has utilized the rooftop facilities of the Jaffa Museum of Antiquities as its laboratory and expedition headquarters during the field season (see location in Figure 3), and for full access to the Kaplan storerooms on site. The project and its personnel have unrestricted access to the libraries, GIS lab, publications office, and other research facilities of the University of California, Los Angeles and the Cotsen Institute of Archaeology at UCLA, a leading archaeology research institute supporting projects worldwide. The project's primary website can be accessed at [www.nelc.ucla.edu/jaffa](http://www.nelc.ucla.edu/jaffa), with additional representation on the Israel Antiquities Authority website: [www.antiquities.org.il/jaffa](http://www.antiquities.org.il/jaffa).

*Project continuance.* The proposed research is part of a longer term archaeological research program focused on Jaffa, including publication of a wide range of earlier excavations, both salvage and research. Based on the results of the 2011 season, excavations may well continue beyond the limits of the current research proposal. It is anticipated that the continuation of the project, much like the work that has

been done prior to NEH support, would be undertaken through a broad spectrum of funding sources reflective of the diverse activities and discrete research agendas within the project, including both intramural and extramural funding. Partnerships that have led to substantial support of research efforts will continue to play an important part in enabling the research, as will the participation of undergraduates through a credit-granting fieldwork program. Thus, many aspects of the project, thanks to artful collaborations, can be sustained as the project chooses to continue its activities. Continued efforts will be made to pursue extramural grants, and it is anticipated that NEH support for the project will provide a substantial boost to those efforts. Additionally, private sponsorship, the development for which is currently ongoing, is anticipated to provide an additional source of long-term support for the continuation of research excavations and other research at the site. The publication series now established receives the support of the Cotsen Institute of Archaeology Press at UCLA, the home institution of Aaron Burke, which is of fundamental importance to the project's continuation of its efforts of its publication program.

### **3. Staff**

Aaron A. Burke, Associate Professor of the Archaeology of the Levant and Ancient Israel in the Department of Near Eastern Languages and Cultures at the University of California, Los Angeles, is co-director of this project along with Martin Peilstöcker, research archaeologist for Jaffa for the Israel Antiquities Authority. Aaron Burke received his Ph.D. from the University of Chicago in Near Eastern Archaeology and has 15 years of field excavation experience at sites with complex depositional histories dating from the Bronze Age to classical periods in Israel and Turkey, and has also participated in excavations of a New Kingdom fortress in the north Sinai of Egypt. He has taught at the University of California, Los Angeles since 2005 where he is a member of the Cotsen Institute of Archaeology faculty. Among his specialties are archaeological approaches to the study of ancient warfare during the Bronze Age (ca. 3000 to 1200 BC) on which he has published numerous articles as well as a monograph.

Dr. Martin Peilstöcker, a German citizen working in Israel as a Research Archaeologist for the Israel Antiquities Authority and currently residing in Mainz, Germany, received his Ph.D. from Tel Aviv University in Near Eastern Archaeology in 2005. He has conducted salvage excavations in Jaffa since 1996

and research excavations in conjunction with the Jaffa Cultural Heritage Project since 2008. He has more than 25 years of excavation experience in Israel on and directing dozens of excavations ranging from prehistoric periods through the Ottoman period. In addition to his full-time participation for two months of fieldwork with the Jaffa Cultural Heritage Project each year, Dr. Peilstöcker devotes additional time during the academic year to the needs of this project (which are funded by Johannes-Gutenberg Universität, where he is on fellowship until 2013, and are not included in the project's budget). The co-directors have known each other for a decade and have collaborated on this project since November 2006.

Aaron Burke devotes his full-time (100%) during three months of the summer (two months of which are in Jaffa with another month spent processing the project's results upon return), and 25% of his paid time during the nine-month academic year on matters related to the project's ongoing research agenda, which is identified as cost-sharing by the University of California, Los Angeles in the budget. The principal investigator for this project is Aaron Burke, indicated by the listing of his name first on the excavation licenses issued thus far (2008, 2009, 2011 see appendix), and with respect to this grant application, due to his U.S. citizenship.

In 2011, Aaron Burke and Martin Peilstöcker were granted a license for excavations within Area A (G/35-2011; see Appendix), which provides them with the necessary permissions to continue their work for coming seasons under a renewal license, which is provided as long as the project has submitted basic documentation on its work in the previous season and remains in good standing with respect to publication. On this basis the directors foresee no impediments to the renewal of the license for 2012 and subsequent seasons. The granting of a research excavation license for these excavations to Aaron Burke is made possible by his affiliation with the Cotsen Institute of Archaeology at UCLA, an archaeological research institution, a requirement of the Israel Antiquities Authority for the issuing of licenses. Further support for the project is provided by the Israel Antiquities Authority with whom Dr. Peilstöcker is employed but on research leave.

Two excavation seasons (summers 2013 and 2014, which will be in addition to the preceding 2011 and 2012 seasons), followed by a study season (summer 2015) toward finalizing publication form the

proposed timetable for this project. In addition to the co-directors, the project's staff of graduate student supervisors, and the anticipated annual participation of 25 undergraduates as part of an archaeological field school (summers 2012-13) run by UCLA will provide the bulk of the workforce overseen by staff members. Six graduate students will each oversee a 5 x 5 m square under the supervision of George Pierce, a Ph.D. candidate advisee of Aaron Burke from the Near Eastern Languages and Cultures (NELC) department at UCLA (Pierce 2011). An advanced graduate student in Egyptian Archaeology also from the NELC department at UCLA, Krystal Lords, will serve as the Egyptian ceramics specialist; she is already a vested material participant in the project as a co-author with the PI (Burke and Lords 2010) and responsible for the analysis and documentation of the Egyptian ceramics excavated by Jacob Kaplan, discussed throughout this proposal. In addition to their contributions, the following specialists will participate in the analysis of finds, report writing, and final publication, thus forming the core of specialized staff whose activities are the focus of this proposal.

- Dr. Edward Maher is a Research Associate at the Field Museum in Chicago and will serve as the project's faunal specialist. He has undertaken the analysis of the faunal assemblage from Kaplan excavations at the site since early 2010 and will publish these findings in the volumes in preparation for these excavations. His familiarity with the faunal assemblages of sites in the southern coastal plain such as Tel Mor, Tell Zayta, and Ekron, and his interest in the functional role played by fauna within different archaeological contexts makes his contribution especially significant within the current study.
- Ehud Weiss (Bar-Ilan University, Israel) serves as the project's botanist since 2011, studying the botanical remains recovered from fine and wet sieving at the site. Study of Jaffa's botanical remains has never been undertaken (anywhere on site) and promises to provide not only clues into the dietary preferences of its inhabitants, but also a better understanding of Jaffa's environment during the Late Bronze Age.
- Omri Lernau is affiliated with the Institute of Archaeology at Haifa University. He consults on fish bones excavated at a number of archaeological projects throughout Israel. A practicing pediatric

surgeon, Lernau has gained a reputation as the foremost fishbone expert in Israel and he is able to identify species based upon exceedingly small bone fragments. He is very well published on the subject and in 2011 he examined all fish bone recovered from Jaffa to date. His assessments will assist us in determining if Jaffa's inhabitants consumed a higher than normal percentage and/or wider assortment of Nilotic fish, among other species, as part of a cultural dietary preference. The extremely large vertebrae of Nile perch have been identified among samples excavated by Jacob Kaplan in the 1970s.

- Andrew Koh received his Ph.d. from the University of Pennsylvania in Classics but has remained active in archaeology through his innovative research in residue analysis of ceramic vessels. By such means he has been able to identify a variety of substances transported and stored in ancient ceramic vessels in the eastern Mediterranean. He has developed a working collaboration with the ARCHEM laboratory in Crete where he is able to run the requisite tests of his samples at a greatly discounted rate permitting him to test more liberally than is often possible. These techniques will be applied to all complete and restorable vessels in advance of any cleaning to which they may later be subjected. This will guarantee the potential for collecting samples with ancient residues intact. By such means it may be possible to identify, for example, the composition of beer and other drinks associated with Egyptian and Canaanite consumption practices. Newly excavated samples, however, are necessary owing to the earlier assemblage having been washed after excavation, thus also warranting the renewed excavations.
- Inbar Ktlav, an independent contractor for the Israel Antiquities Authority, is an established archaeomalacologist and in 2010 began analysis of shells excavated from Area A both in earlier work and the current expedition. Her analysis will allow us to determine the extent to which Jaffa's inhabitants consumed or used mollusks from freshwater sources such as the nearby Ayalon River in addition to those from the Mediterranean. Furthermore, her inspection of shells will be able to determine potential uses for shell collection such as consumption, tool production, dye production

(for Phoenician purple), and jewelry. The variety of reasons for mollusk harvesting may reveal distinct practices associated with Egyptians and the local inhabitants of the region.

- Felix Hoflmayer of the German Archaeological Institute will provide analysis of Radiocarbon samples in conjunction with the Thiessen Foundation's support of a collaborative project on Eastern Mediterranean chronology. Dates from short-lived samples within the gate and neighboring contexts will enable the improvement of the site's historical chronology.
- Brita Lorentzen of the Dept. of Earth and Atmospheric Sciences at Cornell University will run analysis of dendrochronology samples collected from building materials that will further improve the chronology of the site by providing dates for the construction of buildings. These dates will be bracketed by those from other sources (e.g., Radiocarbon, epigraphic remains). Her work, under the supervision of Peter Kuniholm with the Tree Ring Laboratory at Cornell, is part of a broader project sampling wood from a variety of contexts in the southern Levant with the goal of improving our understanding of the chronology of various monuments and buildings.
- Jacco Dieleman, Associate Professor of Egyptology in the Near Eastern Languages and Cultures Department at the University of California, Los Angeles will serve as the project's Egyptian epigrapher. He has taught at UCLA since 2003 and has extensive experience working with Egyptian manuscripts and inscriptions on various types of material. He will address any inscribed objects excavated by the project, which based on the findings of previous excavations may include Egyptian hieratic ostraca, scarabs, and inscribed statuary.
- William Schniedewind is Professor of Hebrew Bible and Northwest Semitics in the Near Eastern Languages and Cultures department at the University of California, Los Angeles. He has taught at UCLA since 1994 and has published extensively on the development of scribal practices in ancient Israel. In addition to his role as associate director on the project since 2007, he will serve as the project's Semitic epigrapher will publish any inscriptions in alphabetic Northwest Semitic scripts or Akkadian.

- Stefan Mehlig (Institute for Spatial Information and Surveying Technology at the University of Applied Sciences in Mainz) will provide oversight of the integration of data within a GIS for management of spatial control and the production of publication quality final plans.

*Personnel costs.* Each of the primary specialist staff members, the faunal specialist (Maher), botanical specialist (Weiss), residue analyst (Koh), and hired illustrator are paid \$1,500 for their on-site work each season, while the shell specialist (Ktlav) will contract for \$500 on average per year for her analysis. The GIS staff member (Mehlig) will work onsite and for three weeks of post processing, which will be contributed by Mainz University through this cooperation. In addition to field time, all specialists will spend several weeks each year writing up their results for publication in the excavation report. Annual round trip airfares for specialists from the United States (Maher, Koh, Schniedewind, Dieleman) are included in the budget. Schniedewind and Dieleman's salaries are, however, not included as they have full-time faculty appointments at UCLA. Room and board for staff members from abroad (Mehlig, Koh, Maher, Schniedewind, and Dieleman) are also included.

As modeled during the first five years of the Jaffa Cultural Heritage Project activities, each year a group of graduate students, as well as undergraduates, participate in the fieldwork and analysis of the project. For each of the 8-week seasons approximately 5 weeks will be devoted to excavation and 3 weeks to preparation (week before excavation), analysis, processing, and the write-up of reports of our findings. The third season (2015) will be devoted to a study season involving only staff. The participation and commitment of graduate staff has been central to the project's success. The proposal budget thus requests for the seven core, graduate staff members 7 roundtrip airfares to Israel per year (\$2,000 per person, based on current fares), plus \$2,800 per person for food and accommodations for 8 weeks. The project director (Burke) will arrange separate funding for his travel and accommodations as cost-sharing. In addition to these expenses, one graduate student researcher (GSR) will work for the project at 25% time for each of the three academic years following the 2013, 2014, and 2015 seasons associated with this proposal and will be funded by the Department of Near Eastern Languages and Cultures as part of UCLA's cost-sharing

contribution. Annual budgeted project costs include the database (OCHRE) license (\$600), vehicle (\$2,000), vehicle fuel (\$500), chemicals for residue analysis (\$50), and ARCHEM residue samples analysis (\$1,000). One-time costs include flotation equipment for floral sample collection (\$1,000), to double our capacity from 2011.

#### **4. Methods**

At least six excavation squares can be excavated per season at the requisite level of intensive collection defined in this proposal (see Figure 7 and Figure 4). Excavation squares are supervised and documented by square supervisors (Ph.D. students) with 3 undergraduate students excavating. The excavations of the area are overseen by the directors who are supported by an assistant area supervisor. To achieve the project's goal of a higher resolution of stratigraphic control within the excavations, the standard excavation unit for the Jaffa excavations employed is the 5 × 5 m square (with half meter, unexcavated balks between squares in order to preserve stratigraphic profiles), resulting in excavation squares of 4.5 x 4.5 m.

Stratigraphic units are mostly either debris layers or architectural units and generally identified by the term locus. Each layer (e.g., destruction debris, occupational debris, deliberate fill) represents a unique depositional event, which when excavated locus by locus permits a reconstruction of natural and human activity over time (earliest on the bottom). Additional subdivision of occupational debris identified above surfaces or in destruction debris will be marked off with 1 m grids relative to the square lines for additional spatial controls increasing the recovery and location of very small artifacts, which are well preserved in Jaffa. As in 2011, whenever such smaller grids are employed buckets of dirt are first dried on plastic sheets to permit recovery of unbaked Egyptian sealings that are expected as part of the administration of the fortress. Samples are then wet sieved (US mesh size 60; for device design, see Shelton and White 2010) to permit collection of botanical remains and micro-fauna (e.g., fish bones). Through this process superimposed stratigraphic units may be identified within a single excavation square yielding the best possible sequence from excavation. Individual artifacts identified in situ will be plotted in three-dimensional space using a total station and entered in the GIS database for further analysis and querying, which includes the features excavated by J. Kaplan (e.g., see original plan in Figure 4), and to

permit the production of high resolution plans of the architectural remains and the finds upon the surfaces within each structure, as well as within outdoor spaces. Other fill layers will be sampled at less intensive rates of 1:5 or 1:10 as warranted.

The process outlined above is intended for maximum recovery of remains in order to permit the level of resolution and control necessary to improve upon earlier work at the site and in Israel in general where such methods are insufficiently employed, when they are at all. By advocating an intensive collection process on a smaller but more manageable scale than is often the case in archaeological projects, it will be possible to achieve a higher level of data resolution, as demonstrated in 2011 when wet sieving for seed remains and the collection of dendrochronology samples was implemented for all floor contexts, and became all the more important in what could otherwise be regarded as very clean contexts. Alongside the analysis of the earlier excavation's documentation, this intensive approach coupled with a systematic and regularly applied expansion of the excavation area over the course of what will be the third and fourth seasons of excavation (2013, 2014), following (2011, 2012), will permit both a detailed level of spatial analysis of artifacts and remains, but also a better understanding of the chronology of the development of the site with greater quantities of recovered samples for dating our specialists.

The workweek will run 5 days per week over the course of 5 weeks, with additional work on the weekends by square supervisors in maintaining up-to-date records and entering their data in the project's database. Within the lab and storage facilities the project's staff will register, photograph, scan for illustration (whenever possible), analyze, and prepare materials for conservation and further analysis by various specialists. The analysis toward publication of the project's findings is aided by the use of OCHRE (Online Cultural Heritage Research Environment; <http://ochre.lib.uchicago.edu>), which was developed by David and Sandra Schloen at The University of Chicago. It addresses the needs of spatially organized data of the types derived from archaeological and artifactual observations. As an online multiuser environment, which is password-protected, it permits the interaction of the projects members from various locations with the data and ongoing analysis of the excavations findings (Burke in press). As of 2012, the database includes all computerized databases available for excavations in Jaffa, both research and salvage. The

project's implementation of this database has already entered an advanced state as a result of the Kaplan Publication Initiative, and access can be gained through the project's website to those resources that are ready to be made available (<http://www.nelc.ucla.edu/jaffa/resources/OCHRE.html>). Consequently the project's staff is already familiar with its use and have contributed to its development, adding, for example, in 2009 a facility for the incorporation of scans of 3D artifact. High-speed DSL internet service at the Jaffa Museum, which is provided by the Israel Antiquities Authority, enables project staff to upload, manage, and query data online, whether they are working in Jaffa or during the academic year from a variety of different locations around the world. The database is stored on a server in Chicago, and also backed up and secured by a professional system administrator at The University of Chicago.

### **5. Final Product and Dissemination**

As already inaugurated with the first volume edited by the project's co-directors (Peilstöcker and Burke 2011), the Jaffa Cultural Heritage Project excavation results will be published as a peer-reviewed final report volume in the Jaffa Cultural Heritage Project series by the Cotsen Institute of Archaeology Press. PDFs of the volumes will be made available online through the Cotsen Institute page on the California Digital Library Initiative website, which will further increase the visibility and dissemination of the results of this project; this new initiative is reflected in the first of the Press's works that has already appeared there. The excavation volume will provide a stratigraphic overview of each phase, specialist reports addressing small finds, as well as the integration of Jaffa's settlement history within the historical context of the Late Bronze Age, wherein a robust discussion of the social interaction and evidence for insurgency can also be articulated. Additional materials, which are often left out of archaeological reports due to the constraints of space and costs, will be made available online through the OCHRE database, which will be freely accessible and can be queried by users (see discussion above). Since unique URLs are assigned to every item in the OCHRE database these can be embedded within the PDFs of the published reports, further querying and analysis of individual artifacts and archaeological contexts will be possible directly from the PDF versions of the reports; the full URLs will also appear in the printed and print-on-demand versions of the volume. OCHRE will therefore provide not only access to the results of the ongoing excavations of the

Jaffa Cultural Heritage Project, but also to the results of the publication efforts related to the Kaplan Publications Initiative, as already reflected there. The online database will be made accessible in stages as each of the related final report volumes is (Burke in press). Additional articles and specialist studies will be published in other journals and edited works facilitating a wider audience for the project's results (e.g., Burke 2010). These will include annual preliminary reports in the online journal for *Excavations and Surveys in Israel*, along with synthesis studies in the *Bulletin of the American Schools of Oriental Research*. A lengthy review article addressing the evidence for articulation of social interaction and the evidence for insurgency will be targeted for publication in the *American Journal of Archaeology*. A lengthy document providing direct access to project and Jaffa-related bibliography can be accessed via the project website (<http://www.nelc.ucla.edu/jaffa/resources/bibliography.html>).

## **6. Work Plan**

The current proposal seeks NEH funding for what will be the third and fourth excavation seasons (2013 to 2014) to be undertaken by the Jaffa Cultural Heritage Project in Area A and followed by an intensive 8-week season of final analysis of finds for publication (2015). The 2015 study season will bring to a close a preliminary phase of research over 4 seasons within Area A, laying the groundwork for longer-term exploration of the site with additional extramural support that NEH funding will attract. The on-site fieldwork by the project takes place annually during 8 weeks in Jaffa from mid-June to mid-August and when surveying and planning of architectural features, excavation, processing of finds, and documentation are undertaken. Further analysis of finds and stratigraphic context, will be undertaken between October and May of the academic years that follow. These analyses by specialists and project staff will permit the submission of regular preliminary reports, journal articles, and the preparation of individual reports to be included in the final report for these excavations. During this time additional funds will also be pursued through grant writing and other fundraising mechanisms. Manuscripts from staff for the final report volume for the Area A excavations from 2011 to 2014 by the Jaffa Cultural Heritage Project in connection with this proposal and work preceding it will be due in December 2015 permitting the final report's preparation for submission to the Cotsen Press by June 2016.

# AARON A. BURKE

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## CURRENT APPOINTMENT

**The University of California, Los Angeles**, 2005–Present

Assoc. Prof., *Archaeology of the Levant*, Dept. of Near Eastern Languages and Cultures, 2011–Pres

Asst. Prof., *Archaeology of the Levant*, Dept. of Near Eastern Languages and Cultures, 2005–2011

## EDUCATION

**The University of Chicago**, Chicago, IL. Ph.D. (2004), MA (2000). Near Eastern Archaeology, 2004

[[dissertation](#)] **Wheaton College**, Wheaton, IL, 1996, *magna cum laude* B.A.s Archaeology and Near Eastern Studies; Ancient Languages

## PUBLICATIONS

Batiuk, Stephen and Aaron A. Burke

- 2005 The Tell Atchana Mapping and GIS Project. Pp. 145–52 in *The Amuq Valley Regional Projects, Volume 1: Surveys in the Plain of Antioch and Orontes Delta, Turkey, 1995–2002*, ed. K. A. Yener. Oriental Institute Publications 131. Chicago: Oriental Institute of the University of Chicago.

Burke, Aaron A.

- 2007 Magdalūma, Migdālīm, Magdoloī, and Majādīl: The Historical Geography and Archaeology of the Magdalu (Migdāl). *Bulletin of the American Schools of Oriental Research* 346: 29–57
- 2008 *“Walled Up to Heaven”: The Evolution of Middle Bronze Age Fortification Strategies in the Levant*. Studies in the Archaeology and History of the Levant 4. Lawrence E. Stager, ed. Winona Lake, IN: Eisenbrauns.
- 2009 More Light on Old Reliefs: New Kingdom Egyptian Siege and Asiatic Resistance, Pp. 57–68 in *Exploring the Longue Durée: Essays in Honor of Lawrence E. Stager*. Winona Lake, IN: Eisenbrauns. (Invited contribution.)
- 2010 Canaan under Siege: The History and Archaeology of Egypt’s War in Canaan during the Early Eighteenth Dynasty. In *Studies on War in the Ancient Near East: Collected Essays on Military History*, edited by J. Vidal, pp. 43–66. Alter Orient und Altes Testament 372, Ugarit-Verlag, Münster.
- 2011 An Anthropological Model for the Investigation of the Archaeology of Refugees in Iron Age Judah and Its Environs. In *Interpreting Exile: Interdisciplinary Studies of Displacement and Deportation in Biblical and Modern Contexts*, edited by B. E. Kelle, F. R. Ames, and J. Wright, pp. 41–56. Ancient Israel and Its Literature 10, Society of Biblical Literature, Atlanta.
- 2011 An Archaeological Cold Case Solved. In *Biblical Archaeology Review*, edited by H. Shanks, pp. 28, 67–68. Vol. 37. Biblical Archaeology Society, Washington, D.C.
- 2011 The Archaeology of Ritual and Religion in Ancient Israel and the Levant and the Origins of Judaism. In *Oxford Handbook of the Archaeology of Ritual and Religion*, edited by T. Insoll, pp. 893–905, Oxford University, Oxford.
- 2011 The Bibliography of Jacob Kaplan and Haya Ritter-Kaplan. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 243–249. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, eds., Cotsen Institute of Archaeology, Los Angeles.
- 2011 Early Jaffa: From the Bronze Age to the Persian Period. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 63–78. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, eds., Cotsen Institute of Archaeology, Los Angeles.
- 2011 The Kaplan Excavations Publication Initiative. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 239–242. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, eds., Cotsen Institute of Archaeology, Los Angeles.
- forthc. Introduction to the Middle Bronze Age: Themes and Developments. In *Oxford Handbook of the Archaeology of the Levant (ca. 8000–332 BCE)*, eds. M. L. Steiner and A. E. Killebrew. Oxford: Oxford University Press. (Invited contribution.)

Burke, A. A., and K. V. Lords

- 2010 Egyptians in Jaffa: A Portrait of Egyptian Presence in Jaffa during the Late Bronze Age. *Near Eastern Archaeology* 73(1):2–30.

Burke, Aaron A. and Alice R. Mandell

2011 Egyptian “Flowerpots” from Kaplan’s Area A Excavations: Cultural and Historical Implications. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 261–270. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, general editor, Cotsen Institute of Archaeology, Los Angeles.

Burke, Aaron A. and Martin Peilstöcker

2009 Yafo, Kikar Qedumim. *Hadashot Arkhaeologiyot—Excavations and Surveys in Israel* 121. [http://www.hadashot-esi.org.il/report\\_detail\\_eng.asp?id=1062&mag\\_id=115](http://www.hadashot-esi.org.il/report_detail_eng.asp?id=1062&mag_id=115)

2009 Notes and News: The Jaffa Visitors’ Centre, 2008. *Israel Exploration Journal* 59(2):220–227.

2011 The Jaffa Cultural Heritage Project: Objectives, Organization, Strategies, and Implementation. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 3–15. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, general editor, Cotsen Institute of Archaeology, Los Angeles.

Peilstöcker, Martin, and Aaron Alexander Burke (editors)

2011 The History and Archaeology of Jaffa 1. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26. Cotsen Institute of Archaeology, Los Angeles.

## RECENT PAPERS

*The Jaffa Cultural Heritage Project: Progress Report, 2011*. Paper presented at Annual Meeting of the American Schools of Oriental Research. Nov. 18, 2011. San Francisco.

*The Jaffa Cultural Heritage Project: A Three Year Retrospective*. Seminar for Old Testament and Biblical Archaeology at the Johannes-Gutenberg Universität, Mainz, Germany. July 7, 2010.

*Coping with the Effects of War: The Archaeology of Refugees in the Ancient Near East*. Disaster and Relief Management in Antiquity. Leipzig, Villa Tillmanns. Deutsche Forschungsgemeinschaft. October 5, 2010.

*A Fort and a Port: Egyptians in Jaffa during the LB I*. The Leon Recanati Institute for Maritime Studies, the University of Haifa. October 20, 2009.

*Excavations of the Jaffa Cultural Heritage Project in 2008*. Annual Meeting of the American Schools of Oriental Research (Boston). November 21, 2008

*Egyptians in Jaffa: Observations from Jacob Kaplan’s Excavations at Tel Yafo*. Sixth International Congress on the Archaeology of the Ancient Near East. Rome, University of Rome “La Sapienza.” May 8, 2008.

## ARCHAEOLOGICAL FIELDWORK & RESEARCH

*Jaffa*, ISRAEL (since 2007), Co-Director with Martin Peilstöcker, The Jaffa Cultural Heritage Project:

*Tel Kabri*, ISRAEL (July 2005). Assaf Yassar-Landau (Tel Aviv U.) & Eric H. Cline (George Washington U.). Staff.

*Ashkelon*, ISRAEL (1997–2000, 2004). Lawrence Stager, director (Harvard University) and J. David Schloen, associate director (The University of Chicago). Leon Levy Expedition.

*Tell Atchana* (Alalakh), TURKEY (September–October 2003). K. Aslihan Yener, Director and J. David Schloen, Assoc. Director. The Oriental Institute, The University of Chicago. Field Supervisor.

*Tell el-Borg*, EGYPT (March–April 2001). James K. Hoffmeier, director (Trinity International University). Staff.

*Yaqush*, ISRAEL (May–June 2000). J. David Schloen, director (The Oriental Inst., The University of Chicago). Staff.

## FELLOWSHIPS, GRANTS, & AWARDS

**Office of Vice Chancellor for Research, UCLA.** ’11–’12 transdisciplinary research of Late Bronze Age Jaffa (\$20K)

**Ross Travel Grant, UCLA.** Center for Jewish Studies, Summer 2011 (\$4K)

**Annual Professor, W. F. Albright Institute for Archaeological Research in Jerusalem,** Sept.–Dec. 2009. Research Project: “Egyptian and Egyptianizing Ceramics from Jaffa.”

**Digital Humanities Fellowship,** Humanities Division, UCLA, 2007. For GIS mapping work (\$2K)

**Faculty Summer Research Grant, UCLA.** 2010–2011 for JCHP Kaplan Excavations Publication project (\$6K).

**International Institute at UCLA,** Summer 2009 (\$10K)

**[Grant from Shelby White-Leon Levy Program for Archaeological Publication](#),** 2008–2011. With M. Peilstöcker for publication of Bronze and Iron Age remains from Jacob Kaplan’s excavations. (\$90K)

**UCLA Senate Faculty Research Grants:** 2011–2012 (\$10K); 2009–2010, 3D Scanning of Archaeological Artifacts from Jaffa (\$5K); 2008–2009, Excavations of the Jaffa Cultural Heritage Project (\$5K); 2006–2007, Levant Geodatabase (\$3K)

# Curriculum Vitae

## Personal information

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Name: Jacco Dieleman Ph.D.  
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## Present occupation

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Associate Professor of Egyptology, UCLA  
Visiting Research Scholar, Institute for the Study of the Ancient World ( NYU), 2010-11  
Editor of the *UCLA Encyclopedia of Egyptology*

## Education

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1999-2003 PhD program Research School of Asian, African, and Amerindian Studies (CNWS) of Leiden University, the Netherlands  
Title dissertation: Reading Magic. Social and Cultural Contexts of Two Demotic-Greek Magical Handbooks

1998-1999 Postgraduate *Advanced Master's Program* in Social Sciences, Research School CNWS, Leiden University

1997-1998 Postgraduate studies at Bayerische Julius-Maximalians Universität, Würzburg, Germany

1996 Summer Semester at Bayerische Julius-Maximalians Universität, Würzburg, Germany

1993-1997 Master's Comparative Literature, Leiden University  
Specialization: oral literature in Africa and postcolonial literature

1993-1997 Master's Egyptology, Leiden University  
Specialization: Egyptian philology (all phases of the Egyptian language) and Greek papyrology

## Publication List

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### Monographs:

- De Wereld in Evenwicht. Goden en Mensen in het Oude Egypte* (Amsterdam University Press; Amsterdam 2006). [The World in Balance. Gods and Men in Ancient Egypt – an introduction to ancient Egyptian religion]
- Priests, Tongues, and Rites. The London-Leiden Magical Manuscripts and Translation in Egyptian Ritual (100-300 CE)* (Religions in the Graeco-Roman World - RGRW 153; Brill Academic Publishers; Leiden 2005).

### Book chapters:

- “Egyptian Literature in the Hellenistic and Roman Period”, in: James Clauss and Martine Cuypers (eds.), *A Companion to Hellenistic Literature* (Blackwell Companions to Ancient Literature and Culture; Oxford forthcoming in 2009). [co-authored with Ian Moyer]
- “Cultural Constructions of Ambiguous or Unsanctioned Ritual in Ancient Egypt”, in: David Frankfurter and Henk Versnel (eds.), *A Guide to the Study of Ancient Magic* (Religions in the Graeco-Roman World; Brill Academic Publishers; Leiden forthcoming in 2011).
- “The Greek and Demotic Magical Papyri”, in David Frankfurter and Henk Versnel (eds.), *A Guide to Ancient Magic* (Religions in the Graeco-Roman World; Brill Academic Publishers; Leiden forthcoming in 2011).
- “Magic, Healing, and Sacred Knowledge”, in Christian Riggs (ed.), *The Oxford Handbook of Roman Egypt* (Oxford University Press; Oxford forthcoming in 2011)

### Articles:

- “What’s in a sign? Translating Filiation in the Demotic Magical Papyri”, in: Arietta Papaconstantinou (ed.), *The Multilingual Experience in Egypt from the Ptolemies to the ‘Abbāsids* (Ashgate; Surrey 2010) 127-52.
- “Cryptography at the Monastery of Deir el-Bachit”, in: Hermann Knuf, Christian Leitz, Daniel von Recklinghausen (eds.), *Honi soit qui mal y pense. Studien zum pharaonischen, griechisch-römischen und spätantiken Ägypten zu Ehren von Heinz-Josef Thissen* (OLA 194; Peeters Publishers; Leuven 2010) 511-17.
- “Continuity and Innovation in Scribal Conventions in Egyptian Formularies”, in: Shaul Shaked, Yuval Harari, Gideon Bohak (eds.), *Continuity and Transformation in the Magical Tradition* (The Israel Academy of Sciences and Humanities; Brill Academic Publishers; Leiden forthcoming in 2010)
- “A Coptic Magical Text from the Los Angeles County Museum of Art (LACMA). Ostrakon LACMA MA 80.202.214” *Coptica* 5 (2006) 20-31.
- “A Bilingual Account from Late Ptolemaic Tebtunis” *Zeitschrift für Ägyptische Sprache* 133 (2006) 56-65. [co-authored with Brian Muhs]
- “Miniaturization and the Opening of the Mouth in a Greek Magical Text (PGM XII.270-350)” *Journal of Ancient Near Eastern Religions* 3 (2003) 47-72. [co-authored with Ian Moyer]

## CURRICULUM VITAE

DR. FELIX HÖFLMAYER

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Orient Department

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### EDUCATION:

12/2010 Dr. phil. summa cum laude

03/2006 – 12/2010 Ph.D.-studies in Egyptology, University of Vienna (supervisor Prof. Dr. Manfred Bietak: Die Synchronisierung der minoischen Alt- und Neupalastzeit mit der ägyptischen Chronologie)

10/2005 Mag. phil. summa cum laude

10/1997 – 10/2005 Studies in Classical Archaeology and Egyptology, University of Vienna

### RESEARCH:

Since 06/2011 Researcher at the German Archaeological Institute (Orient-Department) Berlin (Radiocarbon dating the Bronze Age of the Southern Levant, funded by the Fritz-Thyssen-Foundation and the German Archaeological Institute)

10/2009 – 05/2011 Research assistant at the German Archaeological Institute (Orient-Department) Berlin and the German Protestant Institute Amman

12/2005 – 09/2009 Researcher at SCIEM 2000 („Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC“) of the Austrian Science Fund (FWF) at the Austrian Academy of Sciences

08/2005 – 11/2005 Research grant, SCIEM 2000, Austrian Science Fund (FWF)

05/2000 – 07/2000 Austrian Archaeological Institute: pottery database Marienkirche (Ephesos)

### ARCHAEOLOGICAL FIELDWORK:

2010 German Archaeological Institute: Survey Badia-Project, Hashemite Kingdom of Jordan

2010 German Archaeological Institute: Tall Hujayrat al-Ghuzlan, Hashemite Kingdom of Jordan

2002-2008 Austrian Archaeological Institute Cairo: Tell el-Dabca, Egypt

2005 Swiss Institute Cairo: Aswan/Syene, Egypt

2003 Austrian Archaeological Institute Athens: Aigeira, Greece

2001 Austrian Academy of Sciences: Velia, Italy

1999-2000 Landesmuseum Kärnten: Globasnitz, Austria

1997-1998 Stadtarchäologie Wien: Unterlaa, Austria

### PUBLICATIONS:

Höflmayer, F. forthcoming. „Ägyptische Imitationen zyprischer Base Ring-Krüge im östlichen Mittelmeerraum: Ein Beispiel für Kulturkontakt im zweiten Jahrtausend v. Chr.“ *Zeitschrift für Orient-Archäologie*.

Höflmayer, F. forthcoming. „Synchronising Middle Bronze Age Jordan with Egypt Using Radiocarbon Data.“ *Studies in the History and Archaeology of Jordan*.

Höflmayer, F. forthcoming. „The Date of the Minoan Santorini Eruption: Quantifying the ‘Offset’.“ *Radiocarbon*.

Höflmayer, F. forthcoming. „Ein neues 14C-Datum aus Saqqara (Lepsius) Grab 16 und seine Bedeutung für die absolute Chronologie von SM IB und SH IIA.“ In *Beiträge zum 13. Österreichischen Archäologentag 2010*.

Höflmayer, F. 2011. „Egyptian Pots, Aegean Chronology and Radiocarbon Dating: Recent Research on Egypt and the Aegean Early Late Bronze Age.“ In *Current Research in Egyptology 2010. Proceedings of the Eleventh Annual Symposium which took place at Leiden University, the Netherlands January 2010*, edited by M. Horn, J. Kramer, D. Soliman, N. Staring, C. van den Hoven and L. Weiss, 62–70. Oxford, Oakville. Oxbow Books.

- Höflmayer, F. 2011. "Egyptian Imitations of Cypriote Base Ring Ware in the Eastern Mediterranean." In *Intercultural Contacts in the Ancient Mediterranean*, edited by K. Duistermaat, and I. Regulski, 347–61. *Orientalia Lovaniensia Analecta* 202. Leuven. Peeters.
- Höflmayer, F. 2010. "Die Synchronisierung der minoischen Alt- und Neupalastzeit mit der ägyptischen Chronologie." Dissertation, Universität Wien.
- Höflmayer, F. 2010. "Ein neues 14C-Datum aus Saqqara (Lepsius) Grab 16 und seine Bedeutung für die absolute Chronologie von SH IIA." *Forum Archaeologiae* 54(3). <http://farch.net>.
- Höflmayer, F. 2009. "Aegean-Egyptian synchronisms and radiocarbon chronology." In *Time's up! Dating the Minoan eruption of Santorini*. Acts of the Minoan Eruption Chronology Workshop, Sandbjerg, November 2007, edited by D.A. Warburton, 187–95. Monographs of the Danish Institute at Athens 10. Aarhus. Aarhus University Press.
- Höflmayer, F. 2009. "Ägyptische Steingefäße in minoischen und mykenischen Gräbern." *Forum Archaeologiae* 50(3). <http://farch.net>.
- Höflmayer, F. 2008. "Das Ende von SM IB: Naturwissenschaftliche und archäologische Datierung." *Ägypten & Levante* 18:157–71.
- Höflmayer, F. 2007. "Ägyptische Skarabäen auf Kreta und ihre Bedeutung für die absolute Chronologie der minoischen Altpalastzeit (MM IB-MM IIB)." *Ägypten & Levante* 17:107–25.
- Höflmayer, F. 2005. "Die absolute Datierung der späten Mittelbronzezeit und der frühen Spätbronzezeit in der Ägäis." Diplomarbeit, Universität Wien.
- Höflmayer, F., W. Kutschera, and E.M. Wild. forthcoming. "Two Radiocarbon Dates from Tell Fadous/Kfarabida." *BAAL*.
- Höflmayer, F., A. Hassler, W. Kutschera, and E.M. Wild. forthcoming. "Radiocarbon Data for Aegean Pottery in Egypt: New Evidence for Saqqara (Lepsius) 16 and its Importance for LM IB/LH IIA." In *Proceedings of 'Radiocarbon Dating and Egyptian Chronology'*.
- Franzmeier, H., F. Höflmayer, W. Kutschera, and E.M. Wild. forthcoming. "Radiocarbon Evidence for New Kingdom Tombs: Sedment 254 and 246." *Ägypten & Levante*.
- Höflmayer, F., and A. Zdiarsky. forthcoming. "Synchronising Egypt and the Aegean. A Radiocarbon-Based Approach." In *Proceedings of the Xth International Congress of Egyptologists*.
- Hassler, A., and F. Höflmayer. 2008. "Mostagedda 1874 and Gurob 23. Notes on Some Recent Radiocarbon Dates and Their Importance for Egyptian Archaeology and Chronology." *Ägypten & Levante* 18:145–55.
- Bietak, M., and F. Höflmayer. 2007. "Introduction: High and Low Chronology." In *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium B.C. III. Proceedings of the SCIAM 2000 - 2nd EuroConference, Vienna 28th of May - 1st of June 2003*, edited by M. Bietak, and E. Czerny, 13–23. Contributions to the Chronology of the Eastern Mediterranean 9. Wien. Verlag der Österreichischen Akademie der Wissenschaften.
- Höflmayer, F. 2011. "Review of: Tree Rings, Kings, and Old World Archaeology and Environment: Papers Presented in Honor of Peter Ian Kuniholm." *American Journal of Archaeology* 115(3).

## Andrew J. Koh

### (a) Professional Preparation

University of Illinois at Urbana-Champaign	Biophysics, Classics	B.S., 1996
University of Pennsylvania	Art & Archaeology	Ph.D., 2006

### (b) Appointments

- 2010-present: Dartmouth College; Hanover, NH  
Lecturer of Classics, Dept of Classics
- 2009-2010: Tufts University; Medford, MA  
Lecturer of Classical and Near Eastern Archaeology, Dept of Classics and Archaeology Program  
Courtesy Appointment in Dept of Art & Art History  
Courtesy Appointment in Center for Materials Research in Archaeology and Ethnology (Massachusetts Institute of Technology; Cambridge, MA)
- 2008-2009: University of California; Los Angeles, CA  
Lecturer, Dept of Classics  
Courtesy Appointment in Dept of Art History
- 2006-2008: Wayne State University; Detroit, MI  
Visiting Assistant Professor, Dept of Classics, Greek, and Latin  
Courtesy Appointment in James Pearson Duffy Dept of Art and Art History  
Courtesy Appointment in Conservation Dept (Detroit Institute of Arts; Detroit, MI)

### (c) Publications

(i) up to 5 publications most closely related to the proposed project

- 2010 Wine and Olive Oil from an Early Minoan Hilltop Fort (with P. Betancourt). *Mediterranean Archaeology and Archaeometry* 10(2).
- 2008 Feasting at Mochlos? New Evidence for Wine Production, Storage, and Consumption from a Bronze Age Harbor Town on Crete (with T. Brogan). In *Dais: The Aegean Feast*, L. Hitchcock and R. Laffineur, eds. *Aegaeum* 29. Liège and Texas: Université de Liège and University of Texas Press.
- 2008 Transforming Archaeological Chemistry. *in Chemistry* 17(4): 16-17.
- 2008 *Wreathed in a Fragrant Cloud: Reconstructing a Late Bronze Age Aegean Workshop of Aromata*. Saarbrücken: VDM Aktiengesellschaft.
- 2008 The Contents of Two Amphorae and a Cooking Vessel. In *Mochlos III, Period VI. Mochlos after the Bronze Age. The Hellenistic Beam-Press Complex*, N. Vogeikoff-Brogan, ed. Philadelphia: INSTAP Academic Press.

(ii) up to 5 other significant publications

- 2008 The ARCHEM Project Turns Five. *Kentro: The Newsletter of the INSTAP Study Center for East Crete* 11: 6-8.
- 2007 The 2007 ARCHEM Project Season. *Kentro: The Newsletter of the INSTAP Study Center for East Crete* 10: 1-2.
- 2006 ARCHEM at INSTAP-SCEC. *Kentro: The Newsletter of the INSTAP Study Center for East Crete* 9: 8-9.
- 2005 Locating the *ἡτμ n p3 hr* of the Workmen's Village at Deir el-Medina. *Journal of the American Research Center in Egypt* 42: 95-101.

In Press Ceramic Analysis as a Window into the Social and Economic History of the Middle Minoan II Settlement at Mochlos (with T. Brogan). In *Proceedings of the Xth Cretological Congress*, Herakleion: Etairia Kritikou Istorikon Meleton.

**(d) Synergistic Activities**

1. Numerous professional papers and lectures presented at international/national conferences and symposia, on university campuses, and to the general public, including at the Netherlands Institute of Athens, Joukowsky Institute of Archaeology in Providence, RI, Cotsen Institute of Archaeology in Los Angeles, CA, and the American Chemical Society's Art Conservation and Archaeological Research Symposium.
2. Collaborations at over forty archaeological sites in four countries and numerous museums.

**(e) Collaborators and Other Affiliations**

- Collaborators

David G. Romano; University of Pennsylvania Museum of Archaeology and Anthropology

Philip P. Betancourt; Temple University

Christophe Vallianos; Museum of Cretan Ethnology Research Centre

Heather N. Lechtman; MIT Center for Materials Research in Archaeology and Ethnology

Aaron Burke; University of California, Los Angeles

Andrea Berlin; Boston University

Sharon Herbert; University of Michigan

- Graduate and Postdoctoral Advisors

David G. Romano; University of Pennsylvania Museum of Archaeology and Anthropology

Philip P. Betancourt; Temple University

Jeremy Rutter; Dartmouth College

Jeremy McInerney; University of Pennsylvania

Ian Morris; Stanford University

## MRS. INBAR KTALAV (BARUCH)

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### Higher Education

- 1995-1998 University of Haifa, Department of Archeology. B.A. *Summa cum laude*
- 1999-2003 University of Haifa, Department of Maritime civilizations. M.A. Thesis: *The Mollusc Fauna of Tell abu Hawam a Late Bronze and Iron Age Strata in northern Israel.*

### Archaeological Experience

- 1996-2000 Haifa University, the center of maritime civilizations, Tel Nami – Akko lab.- research assistant.
- 1996 Haifa University, Department of Archeology, El-Wad excavations.
- 1996 Beni Mizner memorial excavations, Kibbutz Samar, Kite excavation.
- 1997 Haifa University, the Center for Maritime Studies, Tel Nami.
- 1997 Beni Mizner memorial excavations, Eilat, Neolithic cemetery.
- 1998-1999 Haifa University, the Center for Maritime Studies. Dor beach, Underwater excavations.
- 1999 Haifa University, the Center for Maritime Studies, Tel Akko.
- 1999 Beni Mizner memorial excavations, Beer Ora, Islamic village.
- 1999 Haifa University, the Center for Maritime Studies. Tel Hannan, salvage excavation.
- 2000 Haifa University, the Center for Maritime Studies. Liman Tepe, Turkey, Underwater excavations.
- 2001 Haifa University, the Center for Maritime Studies. Afek , Survey.
- 2002 Haifa University, the Center for Maritime Studies. Afek , Excavation. – archaeomalacologist.
- 2006-2007 Israel Antiquities Authority. Field supervisor, education, Archaeomalacologist.
- 2006 Israel Antiquities Authority. Midrach oz. salvage excavation. Area supervisor.
- 2007-2010 Archaeomalacologist. Independent contractor.

### Participation in scientific conferences

Religion, cult and liturgy in Israel, Bar-Ilan University, 7 March 2000	-	The trumpet shell, <i>charonia variegata</i> and it's cultic role in Tel Nami
American Schools of Oriental Research Annual Meeting, Nashville, Tennessee, 15-18 November 2000.	-	Triton Shells from the Eastern Mediterranean and their Cultic Use During the Late Bronze Age
ICAZ, Durham, U.K. 23-28 August 2002.	-	Molluscan fauna from Tell Abu-Hawam.
The Zoological Society of Israel. Tel – Aviv University, 1 December 2002.	-	The Mollusk Fauna of Tell abu Hawam a Late Bronze and Iron Age Strata in northern Israel.

Landscape Modulators - Biodiversity project workgroup. The Institute for Desert Research, Midreshet Ben Gurion, 24 June 2004.	-	Terrestrial snail survey at Ramat Hanadiv .
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### Membership in professional organizations and Workgroups

ICAZ – International Council of Archaeozoology (2002-present)  
 Archaeomallacology workgroup (2002-present)  
 The Zoological Society of Israel (2001-present)  
 The Israel Prehistoric Society (1996-2002)

### Publications

Baruch, I., Artzy, M., Heller, J., Balensi, J. and Herrera, M.D., 2005, The Mollusc Fauna from the Late Bronze and Iron Age strata of Tell Abu Hawam, In: Bar-Yosef Mayer, D.E. (ed.) *Archaeomalacology: Molluscs in former environments of human behaviour*. Oxbow Books, Oxford.

Bar-Yosef Mayer, D.E. and Baruch, I., 2006, A Second Report on the Mollusc Shells of Megiddo. In: Finkelstein, I., Ussishkin, D., and Halpern, B., (Eds), *Megiddo IV. the 1998-2000 seasons*. Tel Aviv University, Sonia and Marco Nadler Institute of Archaeology, Monograph Series.

Getzov, N., Tepper, Y. and Ktalav, I. 2008. Midrakh 'Oz, Khirbat el-Khishash. *Hadashot Arkheologiyot 120*.

Getzov, N., Barzilai, O., Le Dosseur, G., Eirikh-Rose, A., Ktalav, I., Marder, O., Marom, N. and Milevski, I. 2009. Nahal Betzet II and Ard el Samra: Two Late Prehistoric Sites and Settlement Patterns in the Akko Plain. *Mitekufat Haeven- Journal of the Israel Prehistoric Society 39*: 81-158

Ktalav, I and Borowski, O. 2010. Molluscs from Iron Age Tel Halif. *Tel Aviv*, vol.37, 126-135.

Ktalav, I. 2010. Mollusks. In: Tepper, Y. Zippori (final report). *Hadashot Arkheologiyot 122*.

### Sample List of Relevant Projects

IAA	Amir Golani	Ashqelon-Barnea	EB
IAA	Nimrod Getzov	Naharia	Persian period
Tel Aviv University	Israel Finkelstein	Tel Megiddo	EBIII-IAI
Tel Aviv University	Asaf Nativ	Yesodot	Neolithic-EB
U. of Haifa	Michal Artzy	Tel Abu-Hawam	LB-IA
U. of Haifa	Michal Artzy	Tel Nami	LB
Emory University, Atlanta GA.	Oded Borowski	Lahav: Tel Halif	IA

## **Omri Lernau**

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### ***Education***

Medical School: 1959-1966 Hebrew University Hadassah Medical School.

Surgical Training: 1967-1973 Department of Surgery, Afula Hospital (Prof. S. Nissan)  
1970-1971 Department of Surgery, Barnes Hospital, St. Louis

Certification in General Surgery: 1973

Certification in Pediatric Surgery: 1985

Archaeological affiliation: Zinman Institute of Archaeology, University of Haifa, Israel.

### ***Employment History***

2003- Maccabi Health Services Head of surgical services  
1989-2003 Shaare Zedek Hospital Head of Department of Surgery A  
1976-1989 Hadassah Mount Scopus - Senior Surgeon  
1973-76 Afula Hospital – Senior Surgeon  
1966-1973 Afula Hospital – Surgical resident  
1970-71 Barnes Hospital, St. Louis – surgical resident  
1966 Afula Hospital – internship

### ***Academic appointments***

1977 Lecturer in surgery, Hebrew University  
1979 Senior lecturer in surgery, Hebrew University  
1983 Associated Professor in Surgery, Hebrew University  
2000 Associated Professor in Surgery, Ben Gurion University Medical School.

### ***Positions in academic administration***

Vice dean for teaching - Hebrew University Hadassah Medical School  
Tutor–Behavioral Studies, Sackler Medical School, TAU (2006-)

### ***Membership in professional/scientific societies:***

International Council for Archaeozoology (ICAZ)  
Fish Remains Working Group (FRWG)  
Israel Surgical Society  
American College of Surgeons  
British Association of Pediatric Surgery  
International Surgical Society  
Association for Medical Education in Europe (AMEE)

### ***Publications (Archaeozoology)***

Lernau, H. & Lernau, O. 1989. Fish bone remains. In: Mazar, E. & Mazar, B. (eds.): *Excavations in the south of the temple mount, the ophel of biblical Jerusalem*, Qedem Vol 29, pp. 155-161, Jerusalem.  
Lernau, H. and Lernau, O. 1992. Fish remains. in: A. De Groot and D.T. Ariel (eds.): *Excavations at the City of David 1978-1985; Final report* . Qedem 33, Pp. 131-148. Jerusalem.  
Galili, E., Weinstein-Evron, M., Hershkovitz, I., Gopher, A., Kislev, Lernau, O., Kolska-Horvitz, L. & Lernau, H. 1993. Atlit-Yam: A prehistoric site on the sea floor of the Israeli coast. *Journal of field archaeology*, 20:133-157.  
Davis, S.J.M., Lernau, O. & Pichon, J. 1994. The animal remains: Ne light on the origin of animal husbandry. In: Lechevalier M. & Ronen A. (eds.): *Le site de Hatoula en Judée occidentale, Israël. Memoires et Travaux du Centre de Recherche Français de Jérusalem*, 8. pp 83-97. Paris.  
Lernau, H. & Lernau, O. 1994. The fish remains. In: Lechevalier M. & Ronen A. (eds.): *Le site de Hatoula en Judée occidentale, Israël. Memoires et Travaux du Centre de Recherche Français de Jérusalem*, 8. pp 111-124. Paris.  
Lernau, O. & Ben Horin, M. 1994. Taphonomic curve and index: a preliminary exploration of a new concept. In: W. Van Neer (ed.), *Fish exploitation in the past*. Proceedings of the 7th meeting of the ICAZ Fish Remains Working Group, pp. 17-24. Annales du Musee Royal de l’Afrique Centrale, Sciences Zoologiques no. 274, Tervuren.

- Lernau, O. 1995. The fish remains from Upper Zohar. In: Harper R.P. (ed): *Upper Zohar. An Early Byzantine Fort in Palestina Tertia. Final report of excavations in 1985-1986*. pp 99-111 The Oxford University Press, Oxford.
- Lernau, O. 1996. Identification of fish bones - how certain is it? *Archaeofauna* 5: 49-53.
- Lernau, O., Cotton, H. & Goren, Y. 1996. Salted fish and fish sauces from Masada. A preliminary report. *Archaeofauna* 5:35-41.
- Cotton, H., Lernau, O., Goren Y. 1996. Fish sauces from Herodian Masada. *Journal of Roman Archaeology*, 9:223-238.
- Raphael O. & Lernau O. 1966. Faunal remains from Bab-el-Hawa: an Iron Age-Byzantine site in the Golan heights. *Archaeozoologia* vol. VIII pp 105-118.
- Lernau, O. 1996. Fish remains from Tel Harassim. In: Givon S. (ed): *The sixth season of excavation at Tel Harassim (Nahal Barkai)*, 1995 pp 14-23, Tel Aviv.
- Lernau, O. 1998. Fish remains at Elat-Elot. *'Atiqot* 36:41-46.
- Lernau, O. 1999. Fish remains from Horvat Sumaqa. In: Shimon Dar (ed) *Sumaqa – a Roman and Byzantine Jewish village on Mount Carmel, Israel*. BAR International Series 815.
- Lernau, O. 2000. Fish bones. In: I. Finkelstein, D. Ussishkin and B. Halpern (eds.) *Megiddo III – the 1992-1996 Seasons*. Pp. 463-477, Tel Aviv.
- Lernau, O. 2000. Fish bones from Horbat Rosh Zayit. In: Gal, Z. & Alexandre, Y. (eds): *Horbat Rosh Zayit*, pp. 233-237, Israel Antiquities Authority, Jerusalem.
- Lernau, O. 2001. Book Review: *Adrienne Mayor, The First Fossil Hunters, Paleontology in Greek and Roman Times, New Jersey: Princeton University Press* In: Cotton H. et al. (eds.) *Scripta Classica Israelica*, Yearbook of the Israel Society for the promotion of Classical Studies Vol XX pp. 257-260.
- Kolska Horwitz L., Galili E., Sharbit J. and Lernau O. 2002. Fauna from Five Submerged Pottery Neolithic Sites off the Carmel Coast. *J. of The Israel Prehistoric Society* 32:147-174.
- Lernau, O. 2002. Fish bones. In N. Scheftelowitz and R. Oren (eds.): *Tel Kabri. The 1986-1993 excavation seasons*. Pp. 409-427. Tel Aviv.
- Garfinkel Y., Dag D., Kolska Horwitz L., Lernau O. and Mienis H. 2002. Ziqim, A Pottery Neolithic Site In The Southern Coastal Plain Of Israel, A Final Report. *Journal of the Israeli Prehistoric Society*, 32, 73-145.
- Kolska Horwitz L. and Lernau, O. 2003. Animal remains. In H. Geva (ed): *Jewish quarter excavations in the old city of Jerusalem*. pp. 493-495. Jerusalem.
- Lernau, O. 2004. Fish remains from Early Bronze Age Ashqelon, Afridar. *Atiqot* 45: 299-303.
- Lernau, O. and Golani D. 2004. The Osteological Remains (Aquatic). D. Ussishkin (ed.): *The Renewed Archaeological Excavations at Lachish (1973-1994)*. Tel Aviv.
- Galili, E., Lernau, O. Sharvit, J., and Zohar, I. 2004. Fishing and coastal adaptation at 'Atlit-Yam' – a submerged PPNC fishing village off the Carmel Coast, Israel. *Atiqot* 48:1-34.
- Lernau, O. 2004. Fish remains. In: Figueras, P. (ed.): *Horvat Karkur 'Illit*. pp. 335-349, Beer Sheva.
- Van Neer, W., Lernau, O., Friedman, R., Mumford, G. and Poblome, J. 2004. Fish remains from archaeological sites as indicators of former trade connections in the Eastern Mediterranean. *Paleorient* 30\1 101-148.
- Lernau O. (2005) Fish remains from Ein Gedi, *'Atiqot* 49-56.
- Horwitz, L., Bar Giora, N., Mienis, H.K. and Lernau, O. 2005. Faunal and malacological remains from the Middle Bronze, Late Bronze and Iron Age levels at Tel Yoqne'am. In: Ben Tor, A., Ben Ami D. and Livneh, A. (Eds.) *Yoqne'am III The Middle and Late Bronze Ages. Final report of the Archaeological Excavations (1977-1988)*. *Qedem Reports*. 7:395-435.
- Lernau O. (2006). Fish remains. In I. Finkelstein, D. Ussishkin and B. Halpern (eds.): *Megiddo IV. The 1998-2002 seasons*. pp. 474-496. Tel Aviv.
- Reich, R., Shukrun, E. and Lernau, O. 2007. Recent Discoveries in the City of David, Jerusalem. *IEJ* 57: 153–169.
- Lernau O. (2008) The Fish Bones. In: Garfinkel Y. and Dag D. (eds.): *Neolithic Ashkelon* pp. 263-267. Jerusalem.
- Kolska-Horwitz, L., Lernau, O. (2010) Animal remains. In: Geva, H. (ed.): *Jewish quarter excavations in the old city of Jerusalem. Volume IV: The burnt house, final report*. pp. 290-299. Israel Exploration Society, Jerusalem.
- Lernau, O. (2009) Fish remains. In: Gadot, Y., Yadin E. (eds.), *Aphk-Antipatris II, the remains on the Acropolis* pp. 569-574, Tel Aviv University, Tel Aviv.
- Lernau, O. (2009), Fish bones. In: Panitz-Cohen, N., Mazar, A. (eds.) *Excavations at Tel Bet-Shean 1989-1996, Volume III, Israel Exploration Society, Jerusalem*.
- Kolska-Horwitz, L., Lernau, O. (2010) Animal remains. In: Geva, H. (ed.): *Jewish quarter excavations in the old city of Jerusalem. Volume IV: The burnt house, final report*. Israel Exploration Society, Jerusalem.

## Brita Lorentzen

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### EDUCATION:

**Cornell University**, Ph.D. in Geological Sciences, expected Spring 2012

- Dissertation title: “*Navigating a Sea of Signals: The Climatic Interpretation of Variability in North-South Levantine Tree-Ring Records and Its Applications in Dendrochronological Dating and Timber Provenancing.*”
- Qualifying committee: Sturt W. Manning (Quaternary geology); Peter I. Kuniholm (Near Eastern archaeology and dendrochronology); Michelle F. Goman (Quaternary paleoecology); Timothy J. Fahey (forest ecology)

**Cornell University**, Bachelor of Arts in Archaeology, Concentration in Jewish Studies, May, 2006

### SELECT GRANTS AND FELLOWSHIPS:

- American Center of Oriental Research-Council of American Overseas Research Centers Fellowship. Project: “*Increasing the Precision and Accuracy of Levantine Chronologies Through Dendrochronological Dating of Historic and Archaeological Timbers in Jordan*” (\$10,075: Fall 2011).
- Association of American Geographers, Paleoenvironmental Specialty Group Student Research Competition. Project: “*Analysis of Late Pleistocene-Mid Holocene Paleoenvironmental Change in Central New York State from the Macrofossil and Sedimentological Records of Purvis Road Bog*” (\$500: Spring 2011).
- Mario Einaudi Center for International Studies, Student International Research Travel Grant. Project: “*Reconstructing Urban Development and Timber Trade in Late Ottoman Palestine Through Dendrochronological Analysis*” (\$1,000: Summer 2011).

### SELECT RESEARCH INTERESTS:

- Development of long-term tree-ring chronologies for the southeastern Mediterranean region (Israel, Jordan, Lebanon, the Sinai)
- High-precision dating of archaeological/ historical timbers in the Near East using dendrochronology and <sup>14</sup>C wiggle-matching
- Dendroprovenancing and reconstructing timber trade in the eastern Mediterranean
- Physiological responses of trees to temperature and precipitation extremes in arid environments

### FIELD RESEARCH EXPERIENCE:

**Dendrochronologist, Jaffa Cultural Heritage Project, Jaffa, Israel** , June 2011-present

**Dendrochronologist, Brown University Petra Area Project, Petra, Jordan**, June 2011-present

**Field Assistant, Cornell Tree-Ring Laboratory, Cornell University** , August 2007-present

**Unit Supervisor, Tel Dor Archaeological Excavations, Dor, Israel**, June– August 2006

**Volunteer, Tel Dor Archaeological Excavations, Dor, Israel**, June - August 2005

**Field School Student, Mitrou Archaeological Project, East Lokridha, Greece**, June - July 2004

**Volunteer, University of Wyoming and George C. Frison Institute Excavations, Hell Gap, Wyoming** , June 2003

### PUBLICATIONS

Lorentzen, B., P.I. Kuniholm, and T. Wazny, (2011) Dendrochronological Dating and Provenancing of Timbers from the Jaffa *Qishle* Complex (in preparation).

Lorentzen, B. and M.F. Goman, (2011) Macrofossil and Sedimentological Evidence for Early to Middle Holocene Climate Change and Succession in a Purvis Road Bog, Dryden, New York (in preparation).

Griggs, C.B., C.L. Pearson, S.W. Manning, and B. Lorentzen (2011) A 175-Year Annual Precipitation Reconstruction and Drought Assessment for Cyprus from *Pinus brutia* Tree-Rings (in review by the *International Journal of Climatology*)

### Curriculum Vitae for Dr. Edward F. Maher

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<http://fieldmuseum.academia.edu/EdwardFMaher>

#### EDUCATION

- 1998-2003 Ph.D. Anthropology - University of Illinois at Chicago (UIC)  
Dissertation Title: "Food for the Gods - Philistine Rites of Animal Sacrifice"
- 1996-1997 M.A. Eastern Mediterranean Archaeology - Katholieke Universiteit Leuven (Belgium)  
Thesis Title: "The Acquisition of Imported Fish in the Ancient Near East Through Long Distance Trade"
- 1988-1993 University of Lethbridge (Alberta, Canada) - B.A. Anthropology

#### RESEARCH INTERESTS

Complex society, empire, urbanism, social and economic organization, ethnography, trade, religion, symbolism, subsistence, zooarchaeology, ecology, abandonment, ancient Near Eastern history and historiography.

#### CURRENT POSITIONS

- 2010 Visiting Assistant Professor – North Central College (Illinois)
- 2007 – present Research Associate – The Field Museum of Natural History, Chicago, IL  
Conduct synthetic archaeological research on faunal remains stored in the Department of Anthropology.

#### ACTIVE FIELD RESEARCH PROGRAMS

Zooarchaeological results are merged with archaeology, history and cultural anthropology.

- 2009 - present Jaffa, Israel – Bronze and Iron Age Mediterranean port
- 2004 – present Tel Zeitah, Israel – Bronze and Iron Age settlement
- 2003 – present Mudaybi<sup>c</sup>, Jordan – 8<sup>th</sup> century BCE Moabite Fortress

#### BOOK

- Forthcoming Food for the Gods: Philistine Rites of Animal Sacrifice. Eisenbrauns.  
(Expected Date: to be determined)

#### PEER REVIEWED ARTICLES

- 2007 Faunal Remains. In: Tristan J. Barako, ed., *Tel Mor: The Moshe Dothan Excavations, 1959-1960*. Jerusalem, Pp: 229-232. Report No. 32, Israel Antiquities Authority, Jerusalem.
- 2006/07 Imminent Invasion: The Abandonment of Philistine Ekron. *Scripta Mediterranea*, Special Issue - Cyprus, The Sea Peoples and the Eastern Mediterranean: Regional Perspectives of Continuity and Change 27-28: 323-37.
- 2006 Benjamin Saidel, Tali Erickson-Gini, Jacob Vardi, Stephen A. Rosen, **Edward F. Maher** and Haskel Greenfield. Test Excavations at Rogem Be'erotayim in Western Negev. *Journal of the Israel Prehistoric Society* 36: 201-29.
- 2005 Hippopotamus Tooth from a Philistine Temple: Symbolic Artifact or Sacrificial Offering? *Near Eastern Archaeology* 68(1-2): 59-60.  
Faunal Remains. In: Moshe Dothan and David Ben-Shlomo, eds., *Ashdod VI, Excavation of Areas H and K*, Pp. 283-90. Report No. 24, Israel Antiquities Authority, Jerusalem.
- 2001 Justin S. E. Lev-Tov and **Edward F. Maher**. Food in Late Bronze Age Funerary Offerings: Faunal Evidence from Tomb 1 at Tell Dothan. *Palestine Exploration Quarterly* 133(2): 91-110.

#### FELLOWSHIPS, GRANTS, and AWARDS

- 2010 \$3700 (2500 Euro) – Deutsche Forschungsgemeinschaft (German Research Foundation)  
Supports zooarchaeological research from Qubur el-Walaydah, Israel.

2009/10 \$16,665 – National Endowment for the Humanities (AIAR) –Zooarchaeological research from the Philistine site of Qubur el-Walaydah, Northern Negev, Israel.

## **TEACHING EXPERIENCE**

Visiting Assistant Professor

2010 North Central College (Illinois)  
Ancient Mythology (Fall 2010), Cultural Anthropology

Visiting Lecturer

2008/09 University of Illinois at Chicago  
Archaeological Method and Theory, Art and Archaeology of Ancient Egypt, Art and Archaeology of the Ancient Near East.

## **ARCHAEOLOGICAL FIELD RESEARCH**

2009 Tel Zeitah, Israel (Pittsburgh Theological Seminary)  
Project zooarchaeologist for the excavation of a Bronze and Iron Age community.

2008 Zincirli, Turkey (The Oriental Institute, University of Chicago)  
Project zooarchaeologist for the excavation of a large Neo-Hittite urban center.

2000 The Negev Survey Project (Ben Gurion University, Israel)  
Surface surveys conducted in the Northern Negev region revealed new sites.

1999 Tel el Fara'h (south), Negev, Israel (Ben-Gurion University, Israel)  
Area Supervisor and project zooarchaeologist for the excavation of a fortified outpost dating from the Middle Bronze to Roman Period.

1997/98 Tel Harasim (Israel) (Bar-Ilan University, Israel)  
Field Supervisor and project zooarchaeologist for the excavation of a small multi-component village.

1994-96 Tel Miqne – Ekron (W. F. Albright Institute of Archaeological Research, Israel)  
Area Supervisor, Zooarchaeology Assistant  
Supervised junior staff members and students on proper field techniques; assisted with zooarchaeological sample preparations, identification and recording.

1993 Tel Miqne – Ekron (W. F. Albright Institute of Archaeological Research, Israel)  
Student volunteer; learned principals of archaeological field techniques.

## **RECENT ARCHAEOLOGICAL LABORATORY RESEARCH**

2007-present The Field Museum  
Integrative analysis of faunal assemblages which includes prehistoric Europe (Solutré, France) and the Neolithic Near East (Iraq and Iran).

2005/06 The Field Museum, Chicago, IL  
Analysis and manuscript preparation relating to archaeological investigations of the prehispanic site of El Palmillo, Mexico.

2004 W. F. Albright Institute of Archaeological Research, Jerusalem, Israel  
Analyzed a Philistine faunal assemblage (1200 – 1000 BCE) from Tel Miqne-Ekron.  
The Hebrew University of Jerusalem, Givat Ram Campus, Jerusalem, Israel  
Verified accurate species identification for a Philistine faunal assemblage from Tel Miqne-Ekron.

2002/03 The Field Museum, Chicago, IL  
Analyzed faunal remains from the Upper Paleolithic site of Solutré (France).

2000/01 W. F. Albright Institute of Archaeological Research, Jerusalem, Israel  
Concluded study of the animal bones from Tel Miqne-Ekron (7<sup>th</sup> century BCE).  
The Hebrew University of Jerusalem, Givat Ram Campus, Jerusalem, Israel  
Verified accurate species identification for a Philistine faunal assemblage from Tel Miqne-Ekron.  
University of Notre Dame, Project Assistant  
The Qumran Skeletal Collections: The De Vaux Cemetery Excavations at Qumran, Israel 1949-55. Assisted in a physical anthropological analysis of the remains.

**Martin Peilstöcker**  
Johannes Gutenberg-Universität  
Fachbereich 01 Seminar für Altes Testament & Biblische Archäologie  
55099 Mainz  
[peilstoe@uni-mainz.de](mailto:peilstoe@uni-mainz.de)

Home Address: Moselstrasse 32a, 65451 Kelsterbach, Germany  
Phone: +49 (6107) 6883225  
e-mail: mpeilstocker@hotmail.com

### **Education**

2005 Awarded by Tel Aviv University with the degree of Doctor of Philosophy.  
2004 Dissertation thesis presented to the Senate of Tel Aviv University for the Degree “Doctor of Philosophy”: The Plain of Akko from the Early Bronze Age to the beginning of the Late Bronze Age - a historical geography of the Plain of Akko from 3500 -1400 BC: a spatial analysis.  
1994-2003 Ph.D. studies in archaeology at Tel Aviv University the supervision of Prof. Ram Gophna (Tel Aviv) and Prof. Volkmar Fritz (Liebig University Giessen, Germany).  
1991 M.A. in biblical Archaeology at the Philipps University, Marburg, Germany. Master`s Thesis: “The Excavations at Tell Kabri as an Example for the Middle Bronze Age Urban Culture in Northern Israel” (in German), prepared under the supervision of Prof. Diethelm Conrad, Marburg  
1986-1990 M.A. studies of biblical Archaeology at the Faculty of Protestant Theology at the Philipps University, Marburg, Germany. Areas of concentration: Old Testament studies, biblical Hebrew.  
1986 Intermediate examination in biblical archaeology and classical archaeology and prehistory at the Philipps University, Marburg, Germany.  
1982-1986 Studies of biblical archaeology, classical archaeology and prehistory at the faculties of Protestant Theology and History of the Philipps University, Marburg, Germany. Areas of concentration: biblical history, Mesopotamian archaeology and European prehistory.

### **Working and Teaching Experience:**

2009-present Research Fellow at the Johannes Gutenberg Universität Mainz, Germany. Research of the urbanization and urbanism of Jaffa, and teaching of graduate and undergraduate students as preparation for their participation in the JCHP (see below) and related projects.

2007-present Co-director with Aaron A. Burke (UCLA) of the “Jaffa Cultural Heritage Project”

2006-2009 Accademical supervisor at the Tel Aviv office of the Israel Antiquities Authority.

1999 Guest lecturer at the University of Rochester (Rochester, NY) teaching Biblical Archaeology as part of the “Gallilean Studies” project of the Israel Antiquities Authority and the University of Rochester.

1994-2006 Research Archaeologist of the Israel Antiquities Authority, working at the Tel Aviv office of the IAA conducting archaeological excavations and research projects.

1996 Senior staff member of the Tel Megiddo expedition of the Tel Aviv University, headed by Prof. Finkelstein (Tel Aviv), Prof. Halpern (Pennsylvania State University, USA) and Prof. Ussishkin (Tel Aviv).

1995-2008 Director of the archaeological excavations of the Israel Antiquities Authority (IAA) in Jaffa (Tel Yafo, Israel). Work includes conducting and supervising various excavations and conducting the work of find processing, research, and publication.

1987-1993 Senior staff member of the Tel Kabri expedition of the universities of Tel Aviv (Israel) and Heidelberg (Germany) headed by Prof. Kempinski (Tel Aviv) and Prof. Niemeier (Heidelberg).

### **Major Archaeological Excavations and Surveys:**

2007-2011 Co-directing the archaeological fieldwork of the JCHP, field school of UCLA and the Johannes Gutenberg Universität Mainz.

- 1995-2008 Conducting several seasons of salvage excavations in “Ganor Compound” situated in the lower city of Jaffa on behalf of the Israel Antiquities Authority.
- 2002 - 2006 Conducting excavations at the “Fleamarket and Clocksquare Compound” and in the “Armenian Monastery” in Jaffa on behalf of the Israel Antiquities Authority.
- 2001 Conducting excavation at the Bronze Age cemetery of Shuni (Israel) on behalf of the Israel Antiquities Authority.
- 1998 Conducting excavations of an industrial area of the Byzantine period and a Middle Bronze Age graveyard at Lod (Israel) on behalf of the Israel Antiquities Authority.
- 1995, 1998 Conducting excavations of a fortress dating to the late Iron Age and Persian Period at Rishon LeZion (Israel) on behalf of the Israel Antiquities Authority.
- 1997 Conducting excavations of a Middle Bronze Age rural settlement at Petah Tikva (Israel) on behalf of the Israel Antiquities Authority.
- 1994-1995 Co-directing an archaeological survey in the hinterland of Akko (Israel) in cooperation with G. Lehmann, on behalf of the German Protestant Institute of Archaeology in Jerusalem.
- 1993 Senior staff member of the excavations at Khirbet ez-Zeraqon (Jordan), conducted by Prof. Mittmann (University Tübingen, Germany).
- 1992-1994 Field director of the excavation and reconstruction of the ancient water supply system at Sephhoris (Israel), a project of the National Parks Authority conducted by Tzuk (University Tel Aviv).

### **Selected Publications**

- 2003 The Akko Plain (Israel) during the Middle Bronze Age—Urbanism in a Mediterranean Coastal Plain. Paper presented at *Annual Meeting of the American Schools of Oriental Research*. Atlanta.
- 2003 The Plain of Akko from the Early Bronze Age to the Beginning of the Late Bronze Age: A Historical Geography of the Plain of Akko from 3500 to 1400 BC, A Spatial Analysis. Unpublished Ph.D. dissertation, Tel Aviv University, Tel Aviv.
- 2005 Yafo (Jaffa). *Hadashot Arkhaeologiyot—Excavations and Surveys in Israel* 117. Electronic document, [http://www.hadashot-esi.org.il/report\\_detail\\_eng.asp?id=227&mag\\_id=110](http://www.hadashot-esi.org.il/report_detail_eng.asp?id=227&mag_id=110). July 17, 2010.
- 2006 La ville franque de Jaffa à la lumière des fouilles récentes. *Bulletin Monumental* 164(1):99–104.
- 2007 Urban Archaeology in Yafo (Jaffa): Preliminary Planning for Excavations and Research of a Mediterranean Port City. *Palestine Exploration Quarterly* 139(3):149–165.
- 2009 Jaffa: Vergangenheit auf der Spur. *Welt um Umwelt der Bible* 2009(2):70–71.
- 2011 A Group of Late Bronze Age Tombs from the Ganor Compound. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 183–186. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, eds., Cotsen Institute of Archaeology, Los Angeles.
- 2011 The History of Archaeological Research at Jaffa, 1948–2009. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 17–32. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, eds., Cotsen Institute of Archaeology, Los Angeles.
- Peilstöcker, Martin, and Aaron Alexander Burke
- 2009 Yafo, Ganor Compound. *Hadashot Arkhaeologiyot—Excavations and Surveys in Israel* 121. Electronic document, [http://www.hadashot-esi.org.il/report\\_detail\\_eng.asp?id=1049&mag\\_id=115](http://www.hadashot-esi.org.il/report_detail_eng.asp?id=1049&mag_id=115). July 17, 2010.
- 2011 *The History and Archaeology of Jaffa 1*. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26. Cotsen Institute of Archaeology, Los Angeles.
- 2011 Preliminary Report for the 2007 Ganor Compound Excavations. In *The History and Archaeology of Jaffa 1*, edited by M. Peilstöcker and A. A. Burke, pp. 177–182. The Jaffa Cultural Heritage Project 1. Monumenta Archaeologica 26, A. A. Burke and M. Peilstöcker, eds., Cotsen Institute of Archaeology, Los Angeles.

# Curriculum Vitae

Stefan Mehlig

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<b>Personal Data</b>	Date of birth	12-18-1984
	Birthplace	Würzburg
	Nationality	German
	Marital status	unmarried
<b>Education Civilian Service Studies</b>	2004	University-entrance diploma, Wirsberg academic high school, Würzburg; examination subjects: english, mathematics, economics & legal Doctrine
	09/2004 - 05/2005	Civilian service as civilian technician in vocational training center Caritas Don Bosco GmbH, Würzburg
	from 10/2005	<i>Surveying and Geoinformatics</i> - Studies at the University of Applied Sciences Würzburg-Schweinfurt
	Degree 2009	Major subjects of study: laser scanning, land survey register (cadastre), global positioning system (GPS), web development, industry survey
<b>Diploma Thesis</b>	<i>Testing and Calibration of Terrestrial Laser Scanners</i> (in cooperation with i3mainz - Institute for Spatial Information and Surveying Technology)	
<b>Internship Vacation Work</b>	07/2005 - 08/2005	Pre-study internship SEIB Ingenieur-Consult, Würzburg; construction survey, check survey
	10/2006 - 02/2007	1st internship land surveying office Schweinfurt; subdivision survey, determination of boundaries, building survey for cadastre, replotting
	02/2008 - 05/2008	2nd internship engineering firm Vogl, Würzburg; structural monitoring, staking out, river survey, structure survey (indoor/outdoor), quantity survey, land register survey
	08/2008 - 09/2008	engineering firm Vogl, Würzburg
<b>Occupation</b>	since 01/2010	research associate at i3mainz - Institute for Spatial Information and Surveying Technology
	Projects	<i>SigmaTLS+</i> : Image processing aided calibration, testing and field testing of Terrestrial Laser Scanning systems to improve quality of scanning data  <i>German inscriptions Online - 3D</i> : Measurement and Inscription Research - Application-related work at St. Michael's Church in Hildesheim, collegiate church in Michelstadt and St. Peter and Paul in Öhringen (laser scanning)  <i>Jaffa Cultural Heritage Project (JCHP)</i> : Head of Surveying and GIS work on the 2011 excavations in Jaffa (cooperation with Johannes Gutenberg University Mainz, University of California Los Angeles, Israel Antiquities Authority)

## WILLIAM M. SCHNIEDEWIND

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Department of Near Eastern Languages & Cultures, Humanities, 380  
Los Angeles, CA 90095-1511

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### ACADEMIC POSITION

*University of California, Los Angeles*

Chair, Department of Near Eastern Languages and Cultures. Professor, Biblical Studies and Northwest Semitic Languages.

### EDUCATION

Ph.D., Brandeis University (Waltham, MA), Near Eastern and Judaic Studies. Dissertation, "Prophets, Prophecy, and Inspiration: A Study of Prophecy in the Book of Chronicles," advisors Marc Brettler. Received June 1992.

M.A., Brandeis University (Waltham, MA), Near Eastern and Judaic Studies. Received June 1989.

M.A., Jerusalem University College (Jerusalem, Israel), Historical Geography of Ancient Israel.

M.A. Thesis, "Building Terms and Source Citations in the Books of Kings and Chronicles," advisor Anson F. Rainey. 1984 - 1986.

B. A., George Fox University (Newberg, OR), Religion. Graduated *magna cum laude*.

### SELECT PUBLICATIONS

#### **Books**

- 1995 *The Word of God in Transition: From Prophet to Exegite in the Second Temple Period*. Journal for the Study of the Old Testament Supplement 197. Sheffield, Sheffield.
- 1999 *Society and the Promise to David: The Reception History of 2 Samuel 7:1-17*. Oxford University, New York.
- 2004 *How the Bible Became a Book: The Textualization of Ancient Israel*. Cambridge University, Cambridge.

#### **Articles**

- "Prolegomena for the Sociolinguistics of Classical Hebrew," *Journal of Hebrew Scriptures* 5 (2004), Article 6.
- "Jerusalem, the Late Judahite Monarchy, and the Composition of the Biblical Texts," in *Jerusalem in Bible and Archaeology: The First Temple Period*, edited by Andrew G. Vaughn and Ann E. Killebrew (Atlanta: Scholars, 2003), pp. 375-393.
- "A Possible Reconstruction of the Name of Hazael's Father in the Tel Dan Inscription," (co-authored with Bruce Zuckerman), *Israel Exploration Journal* 51 (2001), pp. 88-91.
- "Orality and Literacy in Ancient Israel," *Religious Studies Review* 26/4 (2000), pp. 327-332.
- "The Chronicler as an Interpreter of Scripture," in *Chronicles as Literature* (eds. Pat Graham and Steven McKenzie; Sheffield: JSOT, 1999), pp. 158-180.
- "The Dialect of the Elisha-Elijah Narratives: A Case Study in Northern Hebrew," co-authored with Daniel Sivan, *Jewish Quarterly Review* 137 (1997), pp. 303-337.
- "Prophets in the Chronicler's History Work," in *Chronicles and the History of Israel* (eds. M. Patrick Graham, and Kenneth G. Hoglund; JSOTSS, 238; Sheffield: JSOT Press, 1997), pp. 204 - 224.
- "The Tel Dan Stele: New Light on Aramaic and Jehu's Revolt," *Bulletin of the American Schools of Oriental Research* 302 (1996), pp. 75-90.
- "Are We His People or Not? Biblical Interpretation During Crisis," *Biblica* 76 (1995), pp. 540-550.
- "Textual Criticism and Theological Interpretation: a pro-Temple Tendenz in the Greek Text of Samuel-Kings," *Harvard Theological Review* 87 (1994), pp. 107-116.
- "History or Homily: Toward Understanding the Chronicler's Purpose," in *Proceedings of the Eleventh World Congress of Jewish Studies: Division A: The Bible and Its World*. Jerusalem: World Union of Jewish Studies, 1994, pp. 91-97.

## EHUD WEISS

Archaeobotanical Lab., The Institute of Archaeology

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The Martin (Szusz) Department of Land of Israel Studies and Archaeology, Bar-Ilan University, Ramat-Gan, 52900 ISRAEL

Kimmel Center for Archaeological Sciences, Weizmann Institute  
of Science, Rehovot 76100 ISRAEL

Tel: +972-(0)8-9346101

[Ehud.Weiss@weizmann.ac.il](mailto:Ehud.Weiss@weizmann.ac.il)

<http://www.weizmann.ac.il/kimmel-arch/home.html>

### APPOINTMENTS

Senior Lecturer, Martin (Szusz) Department of Land of Israel Studies and Archaeology, Bar Ilan University.

Visiting scientist, Kimmel Center for Archaeological Science, Weizmann Institute of Science.

### EDUCATION

- 2001-2004 Post-Doc. Harvard University, Department of Anthropology, Stone Age Lab. of Prof. Ofer Bar-Yosef.
- 1996-2002 Ph.D. Bar-Ilan University. Archaeobotany. Land of Israel Studies and Archaeology.
- 1995-1996 M.Sc. University College London, Institute of Archaeology. Bioarchaeology and Geoarchaeology.
- 1989-1992 B.A. Bar-Ilan University. Land of Israel Studies and Biology.

### RECENT PUBLICATIONS

#### Books

- in prep. Zohary, D., Hopf, M. and E. Weiss. *Domestication of Plants in the Old World*. 4th edition. Oxford University Press, Oxford.

#### Edited volumes

- 2009 Fairbairn, A.S. & Weiss, E. (Eds.) *From Foragers to Farmers*. Gordon C. Hillman Festschrift. Oxford: Oxbow Press.
- 2009 Boaretto, E. Shahack-Gross, R. Shalev, S. Weiner S., & Weiss E. (Eds.), Special issue of the Israel Journal of Earth Sciences, entitled "Archaeological Science in Israel".  
<http://www.sciencefromisrael.com/openurl.asp?genre=issue&issn=0021-2164&volume=56&issue=2>

#### Peer Reviewed

- 2004 Nadel, D.\*, **Weiss, E.\***, Simchoni, O., Tsatskin, A., Danin, A., & Kislev, M. Stone Age Hut in Israel Yields World's Oldest Evidence of Bedding. *Proceeding of the National Academy of Science* 101(17): 6821-6826. **IF 10.452**. \*Equal contribution  
<http://www.pnas.org/content/101/17/6821.abstract>
- 2004 **Weiss, E.**, Wetterstrom, W., Nadel, D. & O. Bar-*Proceeding of the National Academy of Science* 101 (26): 9551-9555. **IF 10.452**.  
<http://www.pnas.org/content/101/26/9551.full?ck=nck>
- 2004 Piperno, D.R.\*, **Weiss, E.\***, Holst, I. & Nadel, D. Processing of wild cereal grains in the Upper Palaeolithic revealed by starch grain analysis. *Nature* 430 (7000): 670-673. **IF 32.182** \*Equal contribution.  
<http://www.nature.com/nature/journal/v430/n7000/full/nature02734.html>
- 2004 Nadel D., Tsatskin A., Belmaker M., Boaretto E., Kislev M. E., Mienis H., Rabinovich R., Simchoni O., Simmons T., **Weiss E.** & Zohar I. On the Shore of a Fluctuating Lake: Environmental Evidence from Ohalo II (19,500 B.P.). *Israel Journal of Earth Science* 53: 207-223. <http://www.sciencefromisrael.com/link.asp?id=54755r27m6923185>.
- 2005 **Weiss, E.**, Kislev, M.E. Simchoni, O. & Nadel, D. Small-Grained Wild Grasses as Staple Food at the 23 000-Year-Old Site of Ohalo II, Israel. *Economic Botany* 58S: 125-134. **IF 0.557**.

- <http://www.bioone.org/doi/abs/10.1663/0013-0001%282004%2958%5BS125%3ASWGASF%5D2.0.CO%3B2>
- 2005 Faust, A. & **Weiss, E.**, Judah, Philistia and the Mediterranean World: Reconstructing the Seventh Century BCE Economic System. *Bulletin of the American School of Oriental Research* 338: 71-92. <http://www.asor.org/pubs/basor/338.pdf>
- 2006 **Weiss, E.**, Kislev, M.E. and Hartmann, A. Autonomous Cultivation before Domestication. *Science* 312: 1608-1610. **IF 31.853.**  
<http://www.sciencemag.org/cgi/content/summary/312/5780/1608>
- 2006 Hartmann, A., Kislev, M. E. & **Weiss, E.** How and When Was Wild Wheat Domesticated? *Science* 313: 296-297. **IF 31.853.**  
<http://www.sciencemag.org/cgi/content/full/313/5785/296b>
- 2007 Bar-Oz, G., Bouchnick, R., **Weiss, E.**, Weissbrod, L., Lernau, O., Bar-Yosef Mayer, D. E. and Reich, R. "Holy Garbage": a quantitative study of the city-dump of Early Roman period Jerusalem. *Levant* 39: 1-12.  
<http://www.cbirl.org.uk/Publications/abstracts3.htm>
- 2008 **Weiss, E.**, Kislev, M. E., Simchoni, O., Nadel, D. and Tschauner, H. Plantfood preparation area on an Upper Paleolithic brush hut floor at Ohalo II, Israel. *Journal of Archaeological Science* 35(8): 2400-2414. <http://dx.doi.org/10.1016/j.jas.2008.03.012>
- 2008 **Weiss, E.**, Kislev, M.E. Plant Remains as a Tool for Reconstruction of the Past Environment, Economy and Society: Archaeobotany in Israel. *Israel Journal of Earth Science* 56: 163-173.  
<http://www.sciencefromisrael.com/openurl.asp?genre=article&issn=0021-2164&volume=56&issue=2&spage=163>
- In Press **Weiss, E.**, Fairbairn, A. & Fritz, G. Ethnobotanist of the distant past: Professor Gordon C. Hillman 2004 Distinguished Economic Botanist. *Economic Botany*.
- In Press Nadel, D., **Weiss, E.** & Tschauner, H. Gender-specific indoor space division during the Upper Palaeolithic? A brush hut floor as a case study, UISPP conference, Lisbon, 2006. In: L. Oosterbeek (ed.) Proceedings of the XV Congress UISPP Lisbon 2006. Archaeopress, Oxford.
- In Press Faust, A. & **Weiss, E.** Between Assyria and the Mediterranean World: The Prosperity of Judah and Philistia in the 7<sup>th</sup> Century BCE in Context. In: What Would a Bronze Age World System Look Like? World systems approaches to Europe and western Asia 4th to 1st millennia BC. OXBOW, Oxford.

### Recent Grants and Scholarships

- 1995-1996 The British Council, Foreign and Commonwealth Office - Anglo-Jewish Association Scholarship.
- 1998-9 The Rothschild Foundation, Rothschild Fellowship Scholarship.
- 2000 Irene Levi Sala CARE Archaeological Foundation, Research Grant.
- 2001-2004 Harvard University, Department of Anthropology, MacCurdy Post-Doctoral Fellowship in Old World Prehistory and Paleoanthropology.
- 2006-2009 "Center of Excellence", Israel Science Foundation, grant No. 300/06, together with N. Goren-Inbar, M.E. Kislev, R. Rabinovich and Y. Kronfeld. Title: The effect of climate change on the environment and hominins of the Upper Jordan Valley between ca. 800Ka and 700Ka ago as a basis for prediction of future scenarios.
- 2008-2012 Individual Research Grant, Israel Science Foundation, grant No. 711/08. Title: Economic diversity and space use between occupations of Upper-Palaeolithic Ohalo II: A multi-layer spatial analysis of plant remains.

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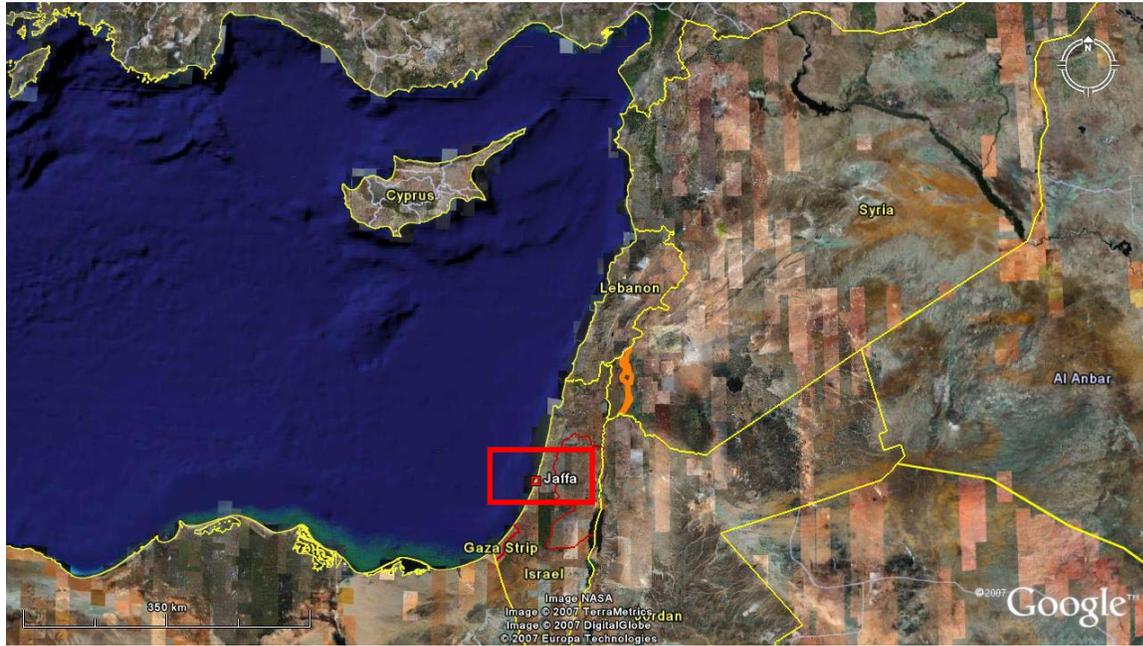
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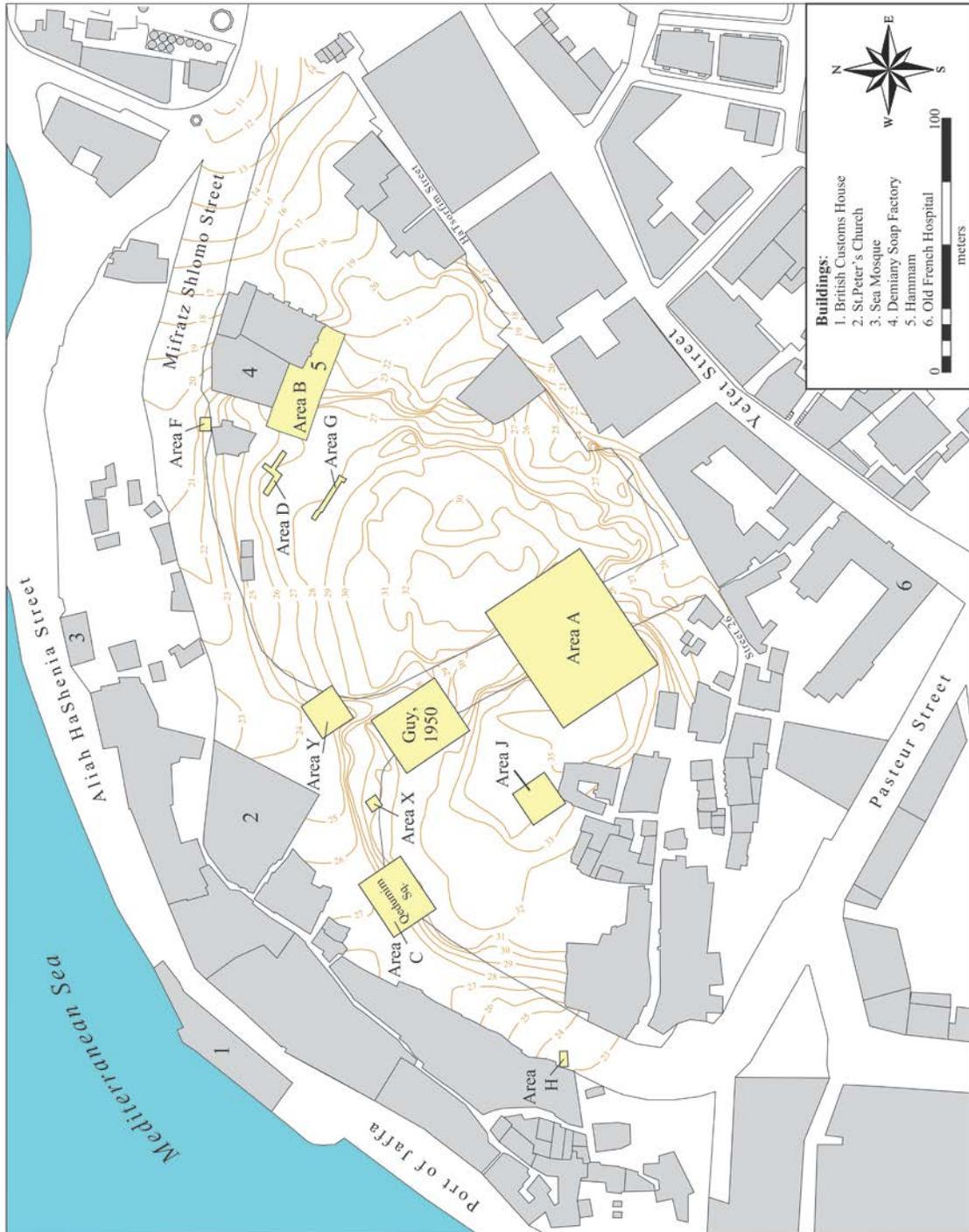
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**Figures**

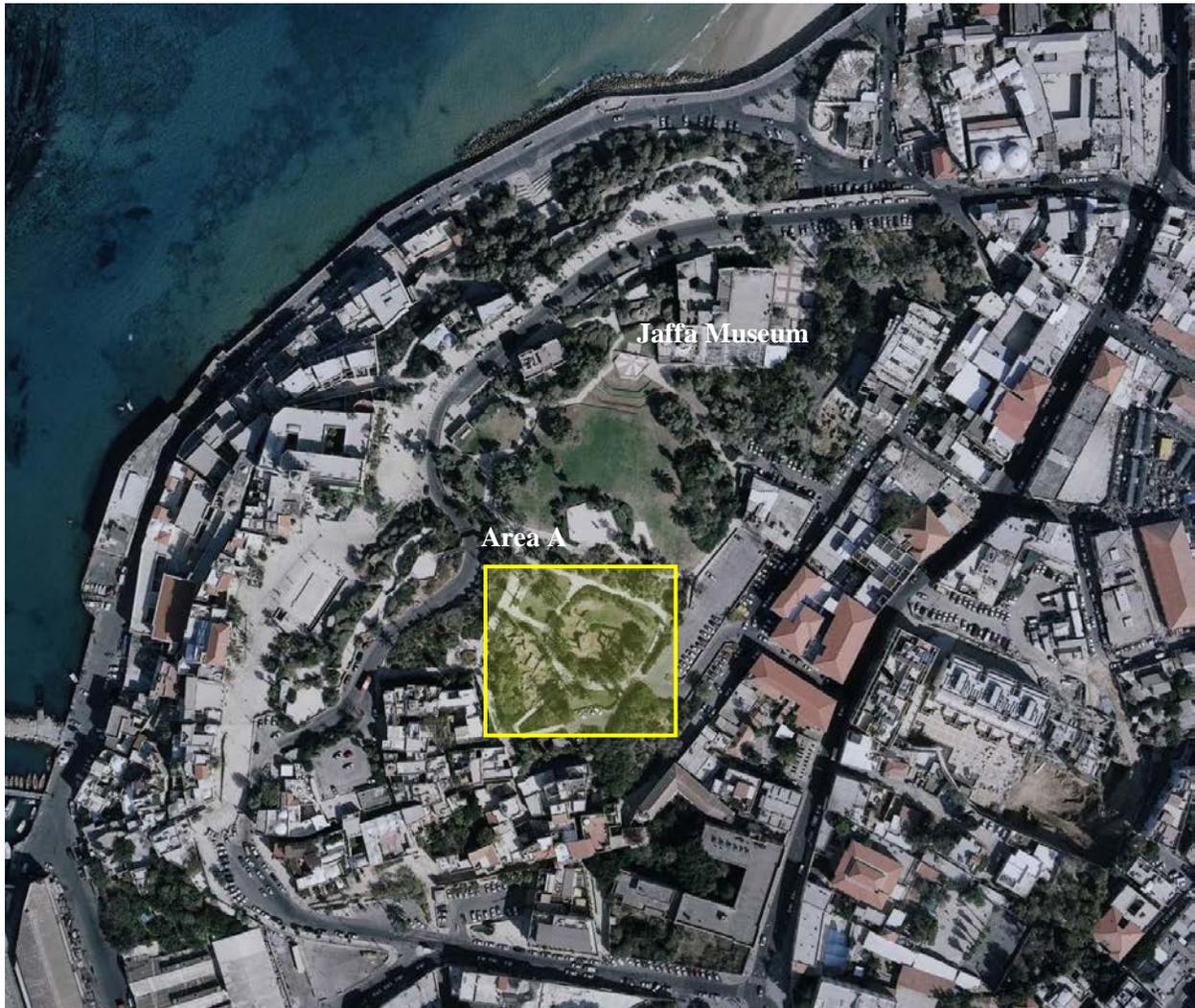
**Figure 1. Map showing the location of Jaffa.**



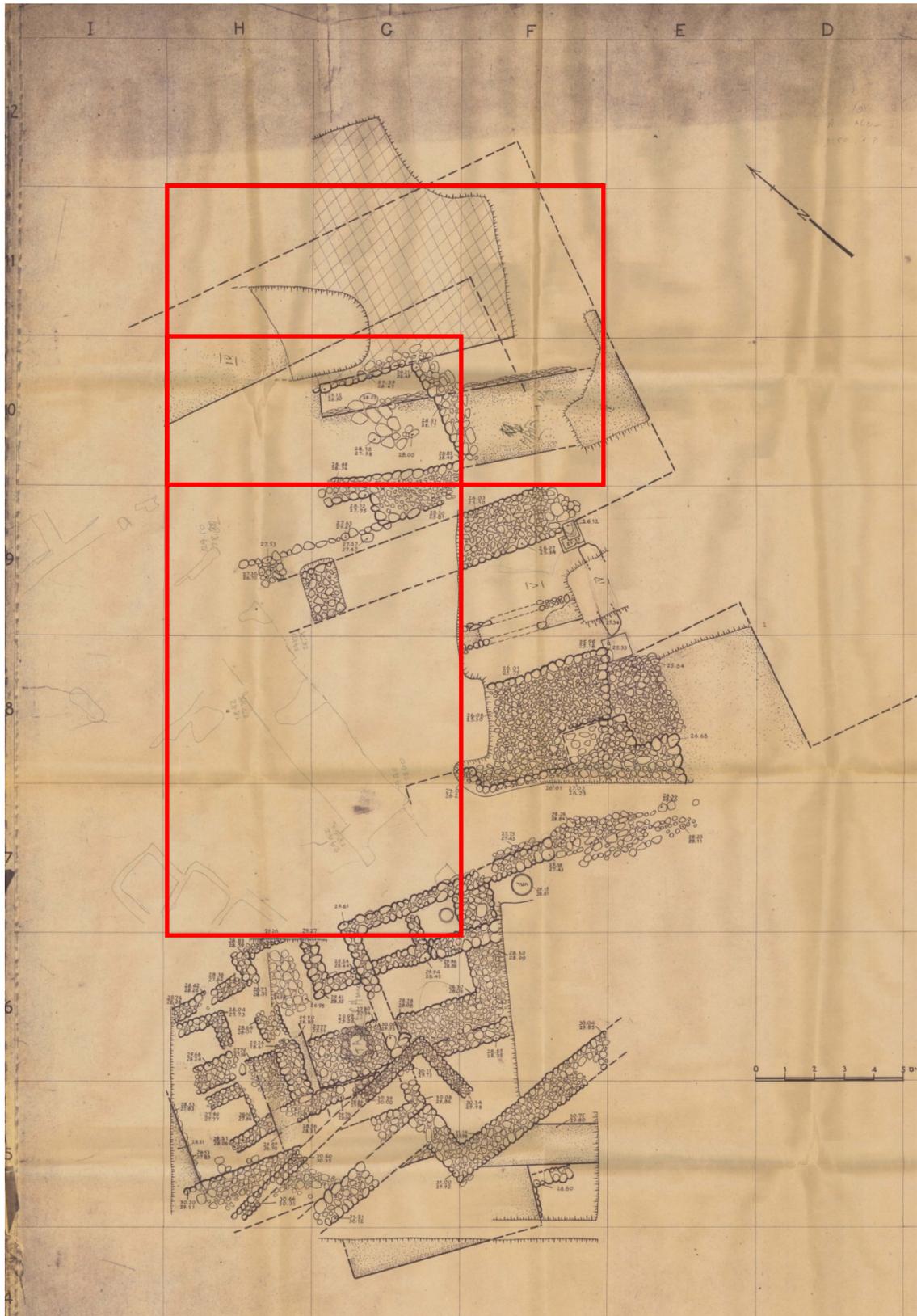
**Figure 2. Map of tell (mound) produced by Jaffa Cultural Heritage Project showing the location of Jacob Kaplan's excavations as well as current excavations within Area A**



**Figure 3. Aerial photograph of Tel Yafo showing Area A excavations in yellow. Note the proximity of Jaffa Museum facilities which serves as a field house and lab.**



**Figure 4. Preserved plan of Area excavations by Jacob Kaplan, ca. 1958. Kaplan Archive, courtesy of the Israel Antiquities Authority. Areas in red mark intended excavation areas for this proposal.**



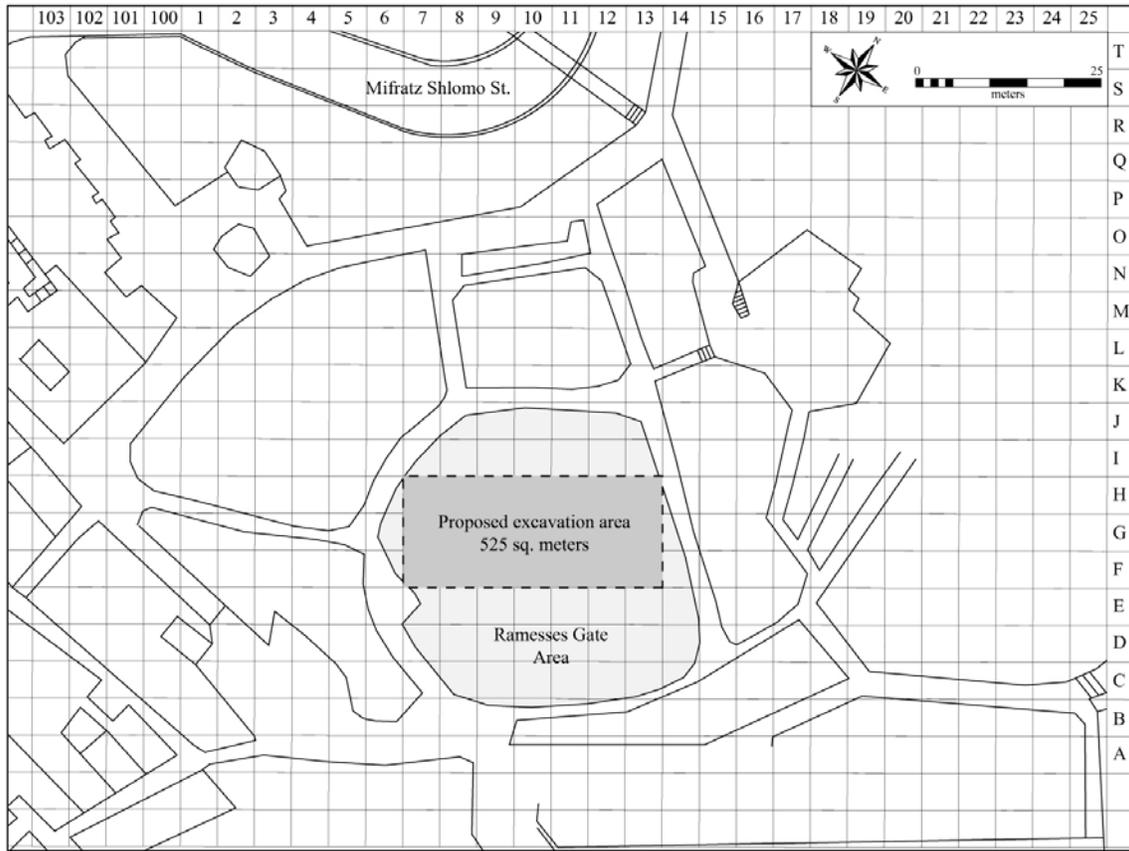
**Figure 5. Photo showing the Egyptian destruction debris during an early phase of the Egyptian garrison Late Bronze Age. More than seventy restorable and nearly complete Egyptian vessels were recovered in 1958 and are associated with appears to be a site-wide destruction, suggesting the loss of the garrison to a Canaanite insurgency between 1460 and 1400 BC. Such photos are among the resources employed in the publication effort of the old excavations, which have laid the groundwork for the proposed renewal of excavations.**



**Figure 6. Fragments of gate façade erected by Ramesses II and excavated by J. Kaplan in the 1950s within Area A**



**Figure 7. Plan showing proposed excavation areas in Area A for the renewed excavations**



ISRAEL  
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רשות  
העתיקות

28/04/2011

**License No. G-35/2011 to Conduct an Archaeological Excavation**

**In accordance with the Antiquities Law – 1978**

**Renewal of G-50/2009**

Issued to

**Aaron A. Burke on behalf of The Costen Institute of Archaeology, UCLA  
Peilstocker Martin on behalf of Israel Antiquities Authority (IAA)**

And to:

**Israel Antiquities Authority (IAA)  
The Costen Institute of Archaeology, UCLA**

To conduct an archaeological excavation at:

South West		North East	
Long.	Lat.	Long.	Lat.
176789	-662350	176829	-662380

These Areas are within the Site of

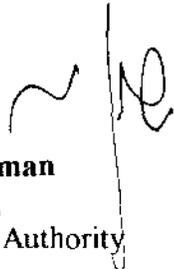
**823/0: Yafu**

This License is subject to the conditions and provisions detailed in the attached document, in accordance with the Antiquities Law-1978 and the rules specified therein.

"The bearer of an excavation license shall, both during the excavation and thereafter, until the expiration of the license, take all measures required –

- (1) to ensure the well-being of the workers and visitors at the excavation site, including fencing potentially dangerous areas.
- (2) to protect and insure the preservation of the excavation site and the antiquities discovered therein.
- (3) to prevent all damage or nuisance to neighbouring property".

This license is valid until  
**31/12/2011**

  
**Shuka Dorfman**  
Director,  
Israel Antiquities Authority

**Statement on Budget**

A number of items are not included in the budget and will be covered by additional grants and funding sources, for which a minimum total amount of \$46,950 will be required. These include Dr. Burke's related travel, room, and board during each of the 8-week seasons (\$14,400).

In addition to these expenses, the project will enlist the bulk of its labor force by means of an archaeological field school program through the Cotsen Institute of Archaeology with Aaron A. Burke serving as the coordinating instructor. Up to 25 students will be enrolled per year. The operating expenses and revenues made available for this have been omitted, however, from the budget. Nonetheless, as estimated on the basis of 20 participants in 2009 with an excavation season of 5 weeks, the costs related to room and board are approximately \$50,000 per 5-week season. Thus, over three years this is an equivalent of an additional \$150,000 in material labor contribution that averages about \$100 per day per person in labor. While this is not claimed as cost-sharing, it represents a substantial in-kind contribution for labor-related expenses for this project as well as a considerable logistical undertaking for Dr. Burke in support of the project's objectives. This labor model, which is commonly employed for archaeological projects in Israel and throughout the Mediterranean, makes this project possible in an economic environment that would otherwise be cost-prohibitive; the cost of labor and benefits would grossly exceed this figure and available funding sources. Furthermore, it fulfills the project's broader mandate of education and outreach relating to Jaffa's cultural heritage, while providing a stimulating environment to teach archaeological field methods and cultural heritage management to American college students. The total costs for students, not including airfare, will be between \$5,200 (UC) and \$5,700 (non-UC student) for which students receive approximately 8 units of UCLA credit for completing the course requirements.

### **History of Grants**

A total of more than \$155,000 in grant funding has been received since 2008 in support of the Jaffa Cultural Heritage Project (JCHP).

#### **2008**

UCLA Senate Faculty Research Grants, 2008–2009, Development of the JCHP (\$5,000)

Grant from Shelby White-Leon Levy Program for Archaeological Publication, 2008–2009. For publication of Bronze and Iron Age remains from Jacob Kaplan’s excavations. (\$30,000)

UCLA Senate Faculty Research Grants, 2008–2009, Excavations of the Jaffa Cultural Heritage Project (\$5,000)

#### **2009**

Grant from Shelby White-Leon Levy Program for Archaeological Publication, 2009–2010. For publication of Bronze and Iron Age remains from Jacob Kaplan’s excavations. (\$30,000)

International Institute at UCLA, Summer 2009. Faculty Grant in International and Regional Studies in support of 2009 excavations of the Jaffa Cultural Heritage Project. (\$10,000)

UCLA Senate Faculty Research Grants, 2009–2010, 3D Scanning of Archaeological Artifacts from Jaffa (\$5,000)

Annual Professorship, W. F. Albright Institute for Archaeological Research in Jerusalem, Sept.–Dec. 2009. Research Project: “Egyptian and Egyptianizing Ceramics from Jaffa.”

#### **2010**

Grant from Shelby White-Leon Levy Program for Archaeological Publication, 2010–2011. For publication of Bronze and Iron Age remains from Jacob Kaplan’s excavations. (\$30,000)

Faculty Summer Research Grant, UCLA. 2010–2011 for JCHP Kaplan Excavations Publication project (\$6,000).

#### **2011**

UCLA, Office of the Vice Chancellor for Research, 2011–2012. For transdisciplinary research project, as defined in NEH proposal submitted fall 2011. (\$20,000)

UCLA Senate Faculty Research Grants, 2011–2012. (\$10,000)

Ross Travel Grant, UCLA. Center for Jewish Studies, Summer 2011 (\$4K)