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ELMALI FIELD SCHOOL OF GEOANTHROPOLOGY, TURKEY

Course ID: ARCH 350L

Session 1: June 9–July 9, 2024

Session 2: July 14–August 11, 2024

Academic Credits: 8 Semester Credit Units

FIELD SCHOOL DIRECTOR(S)

Dr. Bülent Arıkan, Eurasia Institute of Earth Sciences, Istanbul Technical University

(bulent.arikan@gmail.com)



OVERVIEW

Past climate changes, accompanied with anthropogenically driven paleoenvironmental changes, significantly impacted human societies of every scale. In the Near East, one of three locales of continuous socio-cultural evolution in the world, such changes brought transformations in economy, social organization, and political structure. Scientific research illustrates that these transformative changes did not have the same impact in a region; there are many cases where climate change did not materialize or did not impact human groups. Disparity in the patterns of paleoclimatic trends as well as socio-economic and political consequences of these events force scientists to move towards local –rather than regional– reconstructions of past environmental conditions and human-environment interactions.

The Elmalı Plain of southwest Turkey offers the ultimate setting for reconstructing past environmental conditions, understanding human-environment interactions, and assessing how human groups responded to past environmental changes in the long-term. The Plain offers numerous geological

resources that will reveal past environmental patterns. Archaeological sites will reflect how human societies interacted with their environments, including adaptive behaviors they showed in the face of environmental changes.

Hacimusalar is the largest of 13 mounds on the Plain. The first phase of archaeological research at Hacimusalar Mound started in 1994 and continued until 2019. In a quarter of a century, the excavations revealed Early and Middle Byzantine churches, Hellenistic structures, an Iron Age industrial sector, and an Early Bronze Age fortress along with dwellings. Since the summer of 2022, the second phase of archaeological research has been initiated at Hacimusalar by Istanbul Technical University's Eurasia Institute of Earth Sciences.

This new research on the Mound follows Landscape Archaeology, emphasizing interdisciplinary research protocols. The research questions of the Elmalı Field School of Geoanthropology (EFSG) are:

- (1) how did the climate of Elmalı Plain change after 10,000 BC,
- (2) how did these changes impact the ecosystem (e.g., flora and fauna),
- (3) how did the topography around the mound change in relation to lakes on the Plain,
- (4) what kinds of adaptive behaviors did human societies display in order to adjust to natural and anthropogenic environmental changes on the Plain.

The aim is to build a systematic paleoenvironmental research design to reconstruct complex, time-transgressive past human-environment interactions. To achieve this, we will generate data sets through specific methods; (a) coring dried lake beds for pollen and sedimentological analyses, (b) sampling cedar trees for dendrochronology (tree-ring research), (c) intensive paleotopography research through geophysics and geoarchaeology (i.e., analyzing sediment types at and around the site), (d) reconstructing past topography around the site through remote sensing. Concurrent archaeological excavations on the Mound will focus on Early Bronze Age and earlier levels while the Byzantine churches will be restored as part of a plan to preserve the cultural heritage and to turn the site into a tourist attraction.

ACADEMIC CREDIT UNITS & TRANSCRIPTS

Credit Units: Attending students will be awarded 8 semester credit units through our academic partner, Connecticut College. Connecticut College is a highly ranked liberal arts institution with a deep commitment to undergraduate education. Students will receive a letter grade for attending this field school (see assessment, below). This field school provides a minimum of 360 hours of experiential education. Students are encouraged to discuss the transferability of credit units with faculty and registrars at their home institution prior to attending this field school.

Transcripts: An official copy of transcripts will be mailed to the permanent address listed by students on their online application. One more transcript may be sent to the student's home institution at no additional cost. Additional transcripts may be ordered at any time through the [National Student Clearinghouse](#).

PREREQUISITES

No prerequisites. This is hands-on, experiential learning and students will study on-site how to conduct interdisciplinary archaeological research. Field work involves physical work and exposure to the elements

and thus requires a measure of understanding that this will not be the typical university learning environment. You will have to work outdoors and will get sweaty and tired. Students are required to come equipped with sufficient excitement and adequate understanding that field work requires real, hard work, in the sun and wind. The work requires patience, discipline, and attention to detail.

COURSE OBJECTIVES

The main objectives of EFSG are:

- (1) to introduce students the theory and practice of archaeological excavation,
- (2) to expose students to interdisciplinary paleo-environmental research methods that complement archaeological research,
- (3) to illustrate how cultures evolved through time and how they impacted their environments even several thousand years ago.

The motto of EFSG is 'learning through active participation'. In order to facilitate this, we focus on: (i) establishing a solid foundation in methodological and archaeological framework through readings and site visits where students will familiarize themselves with problems as well as opportunities in developing and testing hypotheses, (ii) gaining personal hands-on experience in relevant stages of field work under supervision of experts in these fields, (iii) processing data for further analyses, which will bring competency in applying specific methods from the beginning to the end, and (iv) assessing the hypotheses established at the beginning of the research. The elective topics largely focus on the methods that EFSG will be using to generate data sets to explore the long-term human-environment interactions. These data sets, gathered through specific earth science methods, will allow scholars and students to illustrate diachronic changes in environment and adaptive human behaviors.

Students will devote their time equally among four activities. Participation in excavation is required. After the first week of lectures and theoretical training, students will select a maximum of three field methods from the list below. For each topic a maximum of three students will be assigned, students will be mentored and supervised by scholars in that particular field. Each topic in the list below is practiced on site so students will have an opportunity to get practical training as well. Students will then use theoretical and practical knowledge they accumulate in preparing their short-papers (see Assessment below).

Excavation: students will experience the crucial step in obtaining data relevant to social and cultural structure at Hacimusalar. Their experience will include keeping detailed records, drawing plans, and to-the-scale sketching of small finds.

ELECTIVE (pick max. 3 methods)

Architecture and history of art: students will learn about the development of artistic and architectural techniques through time by assessing the ancient structures at the site.

Conservation and restoration: Students will be exposed to methods of maintaining small finds and structures, handling them for restoration and conservation purposes.

Geophysics: students will learn about methods of identifying subterranean features and structures.

Geoarchaeology: students will learn about the basic principles of geology and they will explore the geological evolution of Elmalı Plain. Additionally, if interested, students will also learn about how the physical environment evolved through time.

Paleoenvironmental reconstruction: Students will join a team of experts sedimentologists and palynologists that work at the lakes nearby to gather geological samples through coring and their preliminary analyses.

Photogrammetry and remote sensing: students will learn and gain experience in gathering and processing high resolution imagery obtained at archaeological sites by UAVs. This module will also introduce basic GIS concepts for mapping.

Archaeometry: students will learn about which methods answer what kinds of archaeological questions (such as tracing to source, technological developments) while they practice sample removal, preparing samples for lab analyses, and processing results for publication.

Anthropology: students will learn about physical anthropology, especially through methods of studying human skeletal remains while developing skills to determine age and sex as well as diagnosing trauma/illnesses.

Information systems: students will learn about digitizing data obtained in various methods, integrating them into the main project database, querying and visualizing data for assessments.

LEARNING OUTCOMES

| Skill | Skill Definition |
|-----------------------------------|---|
| Excavation | Ability to identify and expose features, understanding stratigraphy, recording features and associations |
| Artifact Processing | Ability to identify, collect and record a wide range of artifact types, cleaning finds, cataloguing them |
| Architecture and history of art | Ability to identify the small object or architectural fragment accurately in space and time, associate the find with the relevant culture |
| Conservation-restoration | Ability to identify the material, evaluating the condition of the artifact/structure, cleaning and handling |
| Geophysics | Ability to use the equipment, gathering data and processing data off-site |
| Geoarchaeology | Ability to collect, sample and analyze soil and sediment samples |
| Paleoenvironmental reconstruction | Ability to gather sediment samples, retrieve necessary organic particles from sediments sampled |
| Photogrammetry and remote sensing | Ability to operate UAVs, retrieve and process data, mapping on GIS |
| Archaeometry | Ability to identify a research question, picking the appropriate method, accurately following the sampling and analysis procedures |
| Anthropology | Ability to identify human skeletal materials, excavating them, cleaning and assessment |
| Information systems | Ability to understand and properly record data gathered, entering them into project database and querying data |

ASSESSMENT

Students will be graded based on their work as follows.

50%: Attend and participate each scheduled day, including lecture and field and laboratory work

30%: Record keeping: includes field notebooks that will be submitted and evaluated at the end of the course as well as digital survey data

- 10%:** An exam taken at the end of Week 1 of the field school, testing students on required readings and initial formal lectures
- 10%** A short paper on a selected topic that is covered in the field school curriculum due end of the field school.

COURSE SCHEDULE

All IFR field schools begin with a safety orientation. This orientation addresses local and program protocols concerning student behavior, appropriate attire, local practices and sensibilities that may be unfamiliar, potential fauna and flora hazards, IFR harassment and discrimination policies, and the student Code of Conduct.

| Week 1 | | Readings |
|----------------------------|--|---|
| Sunday 8:00-10:00p m | Arrival Dinner | |
| Monday 8:00-9:00 am | Handbook quiz | Handbook |
| Monday 9:00am-1:00pm | Lectures: <ul style="list-style-type: none"> • Introduction to Turkey • Anatolia from Paleolithic to Chalcolithic • Excavation methods I | Required: <ul style="list-style-type: none"> • Düring: pp. 1-27 (27 pages) • Gates: Chapter 5 (44 pages) Recommended: <ul style="list-style-type: none"> • Dincauze 2000, Chs1-2 • Pişkin&Marciniak 2022, Chs1-2 • Butzer 1982, Chs 1-2 |
| Monday 2:30-6:30pm | Site visit: Karain Cave, Antalya | |
| Tuesday 8:00am-1:00pm | Lectures: <ul style="list-style-type: none"> • Bronze and Iron Ages of Anatolia • Introduction to the archaeology of Elmalı Plain & Previous excavations at Hacimusalar Höyük • Excavation methods II | Required: <ul style="list-style-type: none"> • Warner 1994, Karataş Vol2, Chs 1-2 • Özgen, Baughn, and Ünlü, 2021, AJA 125 • Gates, C. 2020, Locus and Lot System: Chs1-2 (31 pages) Recommended: <ul style="list-style-type: none"> • Eslick 1992, Karataş Vol1, Chs 1-2 |
| Tuesday 2:30-6:30pm | Site visits: Elmalı Archaeology Museum | |
| Wednesday 8:00am-1:00pm | Lectures: | Required: |

| | | |
|------------------------------|---|--|
| | <ul style="list-style-type: none"> • The Lycians, Iron Age culture of SW Anatolia • Classical, Hellenistic-Roman, and Byzantine Asia Minor • Environment and society in Anatolia | <ul style="list-style-type: none"> • Bean, GE 1989, Lycian Turkey, Chs1-3 • Arıkan, 2016 <p>Recommended:</p> <ul style="list-style-type: none"> • Çevik, 2020 The Book of Lycia |
| Wednesday 2:30-6:30pm | Site visits: Antalya Archaeology Museum | |
| Thursday 8:00am-1:00pm | Lectures: <ul style="list-style-type: none"> • Methods in paleoenvironmental reconstruction • Integrating archaeological data with paleoenvironmental data | <p>Required:</p> <ul style="list-style-type: none"> • Arıkan et al. 2021 (21 pages) • Redman CL, 2005 (7 pages) • Barton et al 2012 (11 pages) <p>Recommended:</p> <ul style="list-style-type: none"> • Pişkin&Marciniak 2020, Chs.3-4 |
| Thursday 2:30-6:30pm | Practical: GIS applications | |
| Friday 8:00am-9:30am | Lecture: <ul style="list-style-type: none"> • Introduction to interdisciplinary field methods | <p>Required:</p> <ul style="list-style-type: none"> • Knitter et al. 2015 (7 pages) • Redman and Kinzig 2003 (14 pages) |
| Friday 10:00am-1:00pm | Practical: Laboratory experience | |
| Friday 2:30-6:30pm | Practical: Field walking | |
| Saturday | Study day (optional trip to Antalya) | |
| Sunday 9:00 am-12 pm | Exam | |
| Sunday 2:30-onward | Free afternoon | |
| Week 2 (Mon-Sun) | | |
| Monday | Day off | |
| Tues – Sun 6:15 am – 3:00 pm | Excavation | |
| Sunday after 3:00 pm | Free afternoon | |
| Weeks 3-4 (Mon-Sun) | | |
| | Students will pick maximum of three field methods (4 days/field) to get trained | |
| Monday | Day off | |
| Tues – Sun 6:15 am – 3:00 pm | Field methods to choose 3 out of 9 (Conservation-restoration, geophysics, geoarchaeology, paleoenvironment, photogrammetry, archaeometry, anthropology, information systems) | |

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|------------------------------|---|
| Tues – Sat 5:00 pm – 6:00 pm | Discussion session on how field methods employed at EFSG have been shaping the research questions / lectures by specialists |
| Tues – Sat 6:00 pm – 7:30 pm | Lab work |
| Sunday after 3:00 pm | Free afternoon |

REQUIRED READINGS

PDF files of all mandatory readings will be provided to enrolled students via a shared Dropbox folder. Students are encouraged to download and/or print readings prior to traveling. Course participants are expected to be prepared to engage the discussions led by facilitators, all of whom will be looking for compelling evidence that students have read and thought about the assigned readings prior to the scheduled day on which they are first discussed.

Arikan, B., Mohr, F., Bürgi, M. 2020. “Exploring the Common Ground of Landscape Ecology and Landscape Archaeology Through A Case Study from Eastern Anatolia, Turkey.” **Landscape Ecology** 36 (8):2295-2315 [DOI:10.1007/s10980-020-01128-z]

Arikan, B., Balossi-Restelli, F. ve Massi, A. 2016. “Comparative Modeling of Bronze Age Land Use in the Malatya Plain (Turkey).” **Quaternary Science Reviews** 136: 122-133 [DOI:0.1016/j.quascirev.2015.12.013]

Barton CM, Ullah I, Bergin SM, Mitsova H, Sarjoughiand H. 2012. Looking for the Future in the Past: Long-term Change in Socioecological Systems. **Ecological Modeling** 241:42–53

Bean, G.E. 1989. *Lycian Turkey*. Ernest Benn, London

Düring, B. 2011. *The Prehistory of Asia Minor from Complex Hunter-Gatherers to Early Urban Societies*. Cambridge University Press, Cambridge

Eslick, C. 1992. *Elmalı-Karataş Vol1: The Neolithic and Chalcolithic Periods. Bağbaşı and Other Sites*. Bryn Mawr, PA

Gates, C. 2020. *Locus-Lot System: Guidelines for Archaeological Excavations*. Bilgin Yayınevi

Özgen, İ, Baughan, E., and Ünlü, E. 2021. Hacimusalar Höyük in the Early Bronze Age, **American Journal of Archaeology** 125(4): 603-638

Özgen, İ, and Baughan, E. 2016. “Hacimusalar Höyük/Choma: A Regional Center in Northern Lycia from the Early Bronze Age to the Byzantine Era.” In N. Çevik (ed) *Lukka’dan Likya’ya: Sarpedon ve Aziz Nikolas’un Ülkesi*, 318-335, YKY, İstanbul

Redman CL. 2005. Resilience Theory in Archaeology. **American Anthropologist** 107(1):70–77

Redman CL, Kinzig AP. 2003. Resilience of Past Landscapes: Resilience Theory, Society, and the Longue Dureé. **Ecology and Society** 7(1):14

Warner, J.L. 1994. *Elmalı – Karataş Vol.2. The Early Bronze Age Village of Karataş*. Bryn Mawr, PA

RECOMMENDED READINGS

Butzer, K. 1982. *Archaeology as Human Ecology. Method and Theory for a Contextual Approach*. Cambridge University Press, Cambridge

Çevik, N. 2015. *The Book of Lycia*. AKMED Press, Antalya

Dincauze, D.F. 2000. *Environmental Archaeology. Principles and Practice*. Cambridge University Press, Cambridge

Faulseit, R. K. 2016. *Beyond Collapse. Archaeological Perspectives on Resilience, Revitalization, and Transformation in Complex Societies*. Center for Archaeological Investigations No. 42, Southern Illinois Press, Carbondale.

McIntosh, R.J., Tainter, J.A., and McIntosh, S.K. (eds). 2000. *The Way the Wind Blows: Climate Change, History, and Human Action*. Columbia University press, New York

Mitchell, S., Wagner, R., and Williams, B. 2022. *Roman Archaeology in a South Anatolian landscape: The Via Sebaste, The Mansio in the Döşeme Boğazi, and Regional Transhumance in Pamphylia and Pisidia*. AKMED Press, Antalya

Moran, E. (ed). 2019. *The Ecosystem Concept in Anthropology*. Routledge, London

Pişkin, E. and Marciniak, A. (eds). 2020. *Environmental Archaeology*. Springer, London

Tainter, J.A. 1988. *The Collapse of Complex Societies*. Cambridge University Press, Cambridge

PART II: TRAVEL, SAFETY & LOGISTICS

NOTICE OF INHERENT RISK

Traveling and conducting field research can involve risk. The IFR engages in intensive review of each field school location and programming prior to approval. Once a program is accepted, the IFR reviews each program annually to make sure it still complies with all our standards and policies, including those pertaining to student safety. Participants should also take every reasonable step to reduce risk while on IFR programs, including following the safety advice and guidelines of your program director, being alert to your surroundings and conditions, letting someone know where you will be at all times, and assessing your personal security.

The IFR does not provide trip or travel cancellation insurance. We strongly encourage participants to consider purchasing this insurance, as unexpected events may prevent your participation or cause the program to be canceled. Insurance is a relatively small cost to protect your educational investment in an IFR program. When comparing trip cancellation insurance policies, make sure the policy covers the cost of both airfare and tuition.

We do our best to follow a schedule of activities, methods training, and programming as outlined in this syllabus. However, this schedule can be easily disrupted by unforeseen circumstances, including weather, revisions by local permitting agencies, or conditions onsite. While this schedule represents the intentions of the program, adaptability is an intrinsic part of all field research, and necessary alterations to the schedule may happen at any time.

If you have any medical concerns, please consult with your doctor. For all other concerns, please consult with the program director and staff.

PROGRAM SPECIFIC FIELD CONDITIONS

Elmalı is a high altitude plain (>1000 m above sea level) and it can get hot (37-38 degrees C), but it cools down during the night. There is almost no moisture and it rarely rains. Potentially, you may encounter snakes, scorpions, and other venomous animals when you are excavating, although we have never had an incident, sturdy boots are required and students should exercise caution.

VISA AND PERMIT REQUIREMENTS

Students enrolling at EFSG will participate in academic and scientific research, which requires research visas from Turkish embassies or consulates before arriving in Turkey. Please consult the website for detailed information: <https://www.mfa.gov.tr/general-information-about-turkish-visas.en.mfa>. Paperwork to expedite your visa procedure will be provided by the Director.

Due to the legal requirements in Turkey, EFSG has to finalize the list of applicants for each calendar year by December of the preceding year. For example; if you are applying to participate at EFSG in the summer of 2024, your name has to be in the list by December 10, 2023. There are no exceptions to this rule! Each applicant will be subjected to extensive background checks after the visa application. The visa process may take 3-5 months. Citizens not from the USA are asked to check the embassy website page at their home country for specific visa requirements.

STUDENT HEALTH

An IFR field school is designed to provide safe, positive, and constructive experiences for participating communities, students, and researchers. We are committed to protocols and practices that support the health and well-being of all involved in our field school projects, including the members of the community in which these projects take place.

We recommend that students adopt best-practices for arriving in a good state of health to protect themselves and their peers' readiness to set about the work of the field school. A thriving field camp environment is a constant exchange of energy, patience, effort, respect, and service. Arriving healthy is every student's first act of service — their first opportunity to behave in a way that respects the safety and wellness of one another.

IFR programs follow the health requirements and guidelines of local health authorities. You may also wish to consult recommendations from the US Centers for Disease Control at:

<https://wwwnc.cdc.gov/travel/destinations/list>

TRAVEL (TO AND DURING THE PROGRAM)

Natural disasters, political changes, weather conditions and various other factors may force the cancellation or alteration of a field school. IFR recommends students only purchase airline tickets that are fully refundable and consider travel insurance in case a program or travel plans must change for any reason. General information for this program is below, but keep in mind we will discuss any updated travel information and regulations during the required program orientation, which could affect travel plans.

Most inbound transatlantic flights arrive at Istanbul Airport (code: IST) t. You will have a connecting flight from Istanbul Airport to Antalya International Airport (code: AYT), which usually takes about one hour. Under normal circumstances you will clear customs at Antalya and leave the Airport from the International Arrivals Gate. The Project Director will meet you outside the Gate. The trip from the Airport to the excavation house at Elmalı takes about 1,5 hrs. The Program has a vehicle to transport students to/from the site. There are direct flights to Antalya International Airport from most European cities.

If you missed your connection or your flight is delayed, please call, text or email the field school director immediately. A local emergency mobile phone number will be provided to all enrolled students.

ACCOMMODATIONS

The Excavation House is a three-story structure with a large yard in the front. It is situated at the center of Elmalı in a residential neighborhood. The building was originally designed to function as a large townhouse for one family. When it started to function as an excavation house in 2002, an industrial kitchen was added. Three rooms have four bunkbeds each with foam mattresses. Former kitchens on the first and the second floors of the excavation house have also been converted to bedrooms, each holding one bunkbed. There is a shower/restroom on each floor. There are also four showers and two restrooms on the ground floor. Please be considerate of others when using these facilities. Two study rooms may accommodate approximately 12 students. We also have outdoor study areas. All rooms have proper ventilation (windows, balconies) and lighting. There are no curtains, please use shutters that cover each window and balcony door. We hire help to clean high traffic areas in the Excavation House daily and to

clean bedrooms three times a week. There is an on-site washing machine, but only line-drying. Students will share responsibilities keeping the excavation house clean, including rotating cleaning duties.

The cost of all meals is included in the program fee; however, students will be responsible for purchasing their own meals if they choose to travel on Sunday evening and Monday. Food will not be served at the Excavation House on Sunday (dinner) and Monday (breakfast and lunch, but the kitchen is open to students during these times. Alternatively, you may visit one of many restaurants in the town. Monday dinner is a communal event and the team is expected to be present at the dinner table. We are providing halal Mediterranean cuisine and we can accommodate a vegetarian diet. Due to our limited staff, we cannot accommodate Vegan, Kosher, or other types of restricted diets.

EQUIPMENT LIST

- Sturdy work boots
- Hat: wide-brimmed hats are usually best for outdoor working conditions
- Sunscreen
- Daypack/backpack
- Any medication you need and prescription medication to last for the duration of the field school
(**Important:** if you take prescription medicine, you are allowed to bring the sufficient dose/amount of medication with you provided that you carry your prescription with you during travel.)
- Water bottle, at least 1 liter
- Marshalltown Pointing Trowel - 5" x 2"
- Pocket knife (Swiss army knives work well)
- Sunglasses with UV protection
- Insect repellent
- A laptop computer with wireless capabilities that can run Microsoft Office or OpenOffice and Q-GIS
- A usb flash drive