Spring 2018
Undergraduate Research Apprenticeship Positions

-AREAS/CONCENTRATIONS FOR RESEARCH-

Evolutionary Anthropology
Archaeology
Sociocultural Anthropology
Global Health
Applied Math for Life & Social Sciences
Bioarcheology
Museums
Other
Multiple Areas/Concentrations

Students should be certain to check the Multiple Areas/Concentrations section as many opportunities are combined with one or more other concentrations or disciplines.
Research project title: Premolar Molarization in Haplorhine primates

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
Among fossil hominins, premolar form varies considerably, but is extreme in the robust australopiths, being highly molarized, approaching the molars in size and shape. This project investigates the relationship between premolar form and diet in primates with the goal of understanding this morphology in the fossil record. To do so, dental molds have been collected from over 500 individuals from 21 primate species. Premolar form will be quantified from three-dimensional models of casts created from these dental molds. Students involved in this project will assist in the creation and analysis of these 3D dental models. The student will gain experience using several programs utilized in the processing and analyzing of 3D models (e.g., Amira, MeshLab, R). The skills gained by participating in this project are useful not only for those who wish to continue in biological/evolutionary anthropology or bioarchaeology studying anatomical form, but also for those interested in pursuing various medical and allied health fields.

Student's duties:
Student will be responsible for creating three-dimensional virtual models of the postcanine (premolars and molars) dentition by scanning casts taken from a number of primate species. The student will also be responsible for some data entry and will gain experience with processing and analyzing 3D dental models.

Required qualifications or pre-requisites:
Students should demonstrate an interest in the project, possess attention to detail, be highly organized, and be able to follow instructions. Experience operating a computer is required (MAC and/or Windows operating systems, preferred). Preferred: GPA >3.0, introductory evolutionary anthropology course work (e.g., ASM104)

Project/internship location:
SHESC 365

Hours per week or days and times needed:
Approximately 5-10 hours per week. Schedule is initially flexible, but must be consistent once coordinated with the project supervisor.

Project supervisor:
E. Susanne Daly

Supervising faculty:
Contact information: Elizabeth.daly@asu.edu

Research project title: Three-dimensional digital image analysis of fossil hominin dental remains

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
While dental features have long played an important role in human origins’ research, most of this work has focused on permanent teeth. The deciduous dentition has received comparatively little attention. This study examines 2D and 3D dental data in order to conduct a comprehensive examination of the hominoid deciduous dentition, with an especial emphasis on Plio-Pleistocene hominins (Australopithecus, Paranthropus, and early Homo). This project will explore deciduous dental variation within and between groups and assess the systematic status of several isolated deciduous teeth whose affinities are uncertain. Data will be analyzed from a developmental perspective to gain a better understanding of the source of variation at macro- and micro-evolutionary levels, as well as to make inferences about the life histories of Plio-Pleistocene hominins.

Student’s duties:
The student will work alongside the faculty and postdoctoral supervisor to aid in the acquisition, processing, and analysis of 2- and 3-D images. In particular, s/he will be able:
- to process digital images using Adobe Photoshop or ImageJ (remove and format background, add scale, add template for GM analysis, rotate images, etc.).
- to collect two-dimensional coordinates for geometric morphometrics analyses, and linear/area measurements.
- to process micro-CT scans (cropping, segmentation of dental tissues, surface generation) and collect data using Amira and Geomagic software applications.

Required qualifications or pre-requisites:
Applicant will need to possess a basic knowledge of Adobe Photoshop and/or other imaging software. Knowledge of or interest in learning tooth identification and basic dental anatomical features. Interest in virtual anthropology.

Project/internship location: SHESC Rm 365, The Templeton Visualization Lab.

Hours per week or days and times needed: negotiable.

Project supervisor: Drs. Gary Schwartz and Alejandra Ortiz
Supervising faculty: Dr. Gary Schwartz

Contact information: Gary Schwartz: garys.iho@asu.edu  (480)727-8684
Alejandra Ortiz: aortizri@asu.edu  (480)727-7424
Research project title: Re-Assessing the Edge Damage Distribution Method with the Application of 3D Microscopy

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:

An important question regarding prehistoric human behavior is *when did humans begin to make and use complex projectile weapons?* Further, *how can we distinguish between bow and arrow, atlatl, hand-cast spear, and thrusting spear use in the archaeological record?* One method to investigate projectile point use is the edge damage distribution method, which entails microscopic examination of the edge in search of fractures and breaks. The edge damage distribution method has received criticisms for not including adequate evidence of “diagnostic impact fractures” that are traditionally used to characterize points as projectiles. Our goal is to re-evaluate the edge damage distribution and investigate whether it can be used to distinguish between projectile weapon systems (e.g., bow and arrow, hand-thrown spear, atlatl, and hand-thrust spears for a non-projectile comparison). Additionally, we will use 3D microscopy to measure DIFs created from various types of projectile weapons. 3D microscopy provides an advantage over traditional microscopy because it can quantitatively describe the surface of the projectile point by creating 3D digital elevation maps (DEMs) that can be used to define the morphology and dimensions of DIFs. Additionally, these digital scans can be used to acquire more precise measurements of DIFs than manual measurements. Applying a more detailed macrofracture approach in conjunction with the edge damage distribution method can help address the criticism of the methodology.

Student’s duties:

You will be expected to assist with data collection, experimental activities, and potentially data analysis with the Keyence VR3200 3D microscope.

Required qualifications or pre-requisites:

None.

Project/internship location:

SHESC

Hours per week or days and times needed:

Minimum of 6 hours per week.

Project supervisor:

John Murray
Supervising faculty:
Curtis Marean

Contact information:
John Murray: johnkurtmurray@asu.edu

Research project title: The Social Dynamics of Coalescence: Iroquoian Communities C.E. 1400-1550 in Southern Ontario

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
Between 1400 and 1550 C.E., Iroquoian communities in Ontario grew from an average size of a few longhouses, to more than 50 longhouses. This dramatic increase in village size came along with dramatic changes in regional social organization. For my dissertation, I am studying ceramic pots and pipes to better understand how these large scale regional changes are related to changing social relations among people who lived together in these communities.

Student’s duties:
This will be all hands-on lab work: sorting ceramic sherds, recording basic data, taking photographs, performing other basic analyses. May also need assistance with inventory and repacking of collection for shipment. Student will get to handle hundreds of pretty neat pottery and pipe sherds from Ancestral Wendat villages near what is now Toronto Ontario. These artifacts are on loan from Canada, so something you won’t normally get to see/work with at ASU.

Required qualifications or pre-requisites:
Attention to detail, patience. Familiarity with archaeology a plus.

Project/internship location: Alameda Repository (off campus – free parking!)

Hours per week or days and times needed:
Flexible hours and days but must be consistent once we agree on a schedule.

Project supervisor:
Sarah Striker, Ph.D Candidate SHESC

Supervising faculty:
Kostalena Michelaki and Michelle Hegmon

Contact information: Sarah.Striker@asu.edu
Research project title: Teotihuacan Mapping Project Data Entry and Analysis

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
In the 1960s, the Teotihuacan Mapping Project surveyed field-by-field across the entire city of ancient Teotihuacan, located north of modern Mexico City. The project recorded the locations of thousands of structures and made systematic collections of artifacts from the surface of each one. The following artifact analyses were varied in how far they got, with some artifact types completely analyzed, and others barely touched. At this time, we are completing data entry for several types of data that were recorded on paper forms but never entered into a computer format, including ground stone analyses, and information on the presence of ceramic workshops.

Student’s duties:
Students will be expected to complete data entry into computer databases, and to scan paper forms to pdf. Students may also perform basic analyses of the artifact categories that they are most interested in, such as mapping the spatial distributions of artifact classes, and checking whether artifact classes are correlated with ceramics from specific time periods, or with particular types of buildings.

Required qualifications or pre-requisites:
Completion of or current enrollment in ASB 222 or 223 required.
Previous experience with Access or other database programs, experience with GIS programs, completion of ASB 337, and the ability to read Spanish are not required. However, they are considered pluses and should be noted on your application.

Project/internship location:
SHESC 104 – Mesoamerican Archaeology Lab

Hours per week or days and times needed:
3-6 hours/week, times flexible.

Project supervisor:
Angela Huster

Supervising faculty:
Michael Smith

Contact information:
Angela.Huster@asu.edu
Research project or internship title: Connections Research Database

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
The Connections project researches the relations among pre-Hispanic peoples in the U.S. Southwest and Mesoamerica, especially Northwest Mexico, focusing on the period 800-1540 CE. By gathering information about interaction markers found in both of these regions we hope to answer the following questions:
  - How and why did people move materials such as turquoise, macaws, and copper bells as much as 3,000km?
  - Was the movement of these various goods linked to other cultural traits such as cranial and dental modification?
  - What kinds of social relations explain these connections?
  - What role did peoples of Northwest Mexico play in the creation and maintenance of those relations?
Interns have the opportunity to be a part of an engaging team of researchers in the US and Mexico, learn valuable research and data coding skills, and be exposed to research regarding numerous archaeological sites in the study regions.

Student’s duties:
- Retrieve and code data for the Connections Database.
- Identify, obtain, and consult published and unpublished archaeological field reports.
- Participate in weekly meetings to go over data and work through any issues
- Work closely and maintain communication with team members.

Required qualifications or pre-requisites:
- Background in the discipline of archaeology (field work, courses, or other analytical projects)
- Interest in the artifacts, raw materials, and symbols that constituted ancient SW-Mesoamerican interaction
- Able to independently search for and systematically record information according in a structured format
- Preference will be given to students who have completed ASB 222, 330, 335 or 337 and archaeological field experience

Project/internship location: SHESC 110

Hours per week or days and times needed:
Nine hours per week for three course credits is preferred. Schedule is flexible, but must fit with graduate students working on the project.
Supervising faculty: Dr. Ben Nelson, bnelson@asu.edu

Contact information: Brooke Hundtoft, bhundtof@asu.edu
SOCIOCULTURAL ANTHROPOLOGY

There are currently no Sociocultural-only opportunities listed at this time. Be sure to check the Multiple Areas/Concentration section for opportunities that may be combined with other disciplines.
Research project title: Assessing the food environment in Latin American countries

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:

Objective 1: The objective of this study is to conduct a systematic literature review of the association between the food environment (household, school, and community) and eating behaviors in Latin American populations.

Design: Systematic literature review with an open time frame using PubMed, PsychInfo, Web of Science, and SClelo. Inclusion criteria: written in English or Spanish; included measures of the food environment and food intake.

Setting: Latin American countries

Subjects: Children and adults

Student’s duties:

Apprentice will assist graduate student in conducting a literature review using databases to find research articles on food environment, eating behaviors, and Latin American populations. Student will use a combination of key terms in each database. Student will keep a detailed record of the total number of results per search, name of researchers, papers’ titles, and year of publication. Both apprentice and graduate student will review the results to identify articles that might meet the inclusion criteria. Apprentice will assist in extracting information from research articles, which will be used to write a publishable journal article.

Required qualifications or pre-requisites: Must be fluent in Spanish reading

Project/internship location: Tempe-Matthews Center

Hours per week or days and times needed: 8 hours per week (days of the week open for agreement between apprentice and graduate student)

Project supervisor: Jose B. Rosales Chavez

Supervising faculty: Megan Jehn

Contact information: Jose.rosaleschavez@asu.edu; Megan.jehn@asu.edu
APPLIED MATH FOR LIFE & SOCIAL SCIENCES
There are currently no Applied Math-only opportunities listed at this time. Be sure to check the Multiple Areas/Concentration section for opportunities that may be combined with other disciplines.

BIOARCHEOLOGY
There are currently no Bioarchaeology-only opportunities listed at this time. Be sure to check the Multiple Areas/Concentration section for opportunities that may be combined with other disciplines.

MUSEUMS
There are currently no Museums-only opportunities listed at this time. Be sure to check the Multiple Areas/Concentration section for opportunities that may be combined with other disciplines.

OTHER
There are currently no other opportunities listed at this time. Be sure to check the Multiple Areas/Concentration section for opportunities that may be combined with other disciplines.
MULTIPLE AREAS/CONCENTRATIONS

**Research project title:** “The ASU Project at Teotihuacan”

**Academic discipline**
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Other – Museums and public outreach

**Project description:**
ASU runs an archaeological laboratory at Teotihuacan, one of the largest and most important ancient cities of the New World. Dr. Michael E. Smith is currently the Director of the lab. For 2017-2018, I am looking for students to help with three kinds of activities: (1) Research on the housing and the burial offerings of Teotihuacan. There will be two or three student group projects to gather data from publications and reports to address wealth variation within Teotihuacan society. (2) Communications and outreach. We are exploring ways to better communicate the work of the lab and our student projects to the public. These include social media, improving our website ([https://teo.asu.edu/](https://teo.asu.edu/)), and fresh ideas about communication to the public. (3) Collections management and data archiving. We are organizing field and lab notes to be permanently archived, so that prior excavations can be written up.

**Student’s duties, (1) Housing research:**
- Measure house sizes and analyze the spatial layout of residences.
- Work on GIS files for Teotihuacan and analyze spatial patterns at the city.
- Make comparisons among houses.

**Student’s duties, (2) Communications & outreach:**
- Help develop our social media activities on Twitter, Instagram, and other platforms.
- Organize publicity materials for the Teotihuacan website and work with the webmaster.
- Assemble and edit news stories and graphics from archaeologists working at Teotihuacan.
- Help organize mailing lists and publicity for fund-raising activities.

**Student’s duties, (2) Collections management & data archiving:**
- Help organize paper and digital files from the Teotihuacan Mapping Project.
- Coordinate catalogs and information relating to our lab at the site in Mexico.

**Required qualifications or pre-requisites:**
- Classwork or fieldwork experience in archaeology, or a related field.
- GPA > 3.0

**Recommended qualifications:**
- Experience working with archaeological data and projects.
- Good writing and editing skills; web design.
- Experience with museum outreach or other similar activity.
- Experience with computer graphics (e.g., Photoshop, scanning, Illustrator); or GIS.
- Reading knowledge of Spanish is a plus.

**Project/internship location:**
- Mesoamerican Archaeology Laboratory, SHESC-104

**Hours per week or days and times needed:**
- 6 to 12 hours per week. Times depend on the schedules of other project members.

**Project supervisor:**
- Dr. Michael E. Smith: mesmith9@asu.edu; Contact me for information.

**Research project title:** Isotopic Reconstruction of Breastfeeding Behavior in Ancient Peoples

**Academic discipline**
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

**Project description:**
Cross-cultural comparative study examining duration of exclusive breastfeeding, weaning age, and early childhood diets, measured isotopically in first molars. Study examines how diet and maternal time allocation impact breastfeeding behavior in archaeological populations practicing foraging, horticultural, agricultural, and pastoral subsistence strategies. The current focus is on agricultural populations in South America (Titicaca Basin and Moquegua Valley). Interns will also have the opportunity to work with other researchers and participate in a variety of other projects employing isotopic analyses.

**Student’s duties:**
Mechanical and chemical processing of human tissue samples (primarily teeth) for collagen extraction

**Required qualifications or pre-requisites:**
**Preferred (not required) coursework:** Intro to Archaeology (or equivalent), Human Evolution (or equivalent), Human Osteology AND/OR Bioarchaeology, General Chemistry (at the high school or college level)
Previous lab experience preferred, but not required

**Project/internship location:**
Archaeological Chemistry Laboratory at the School of Human Evolution and Social Change

**Hours per week or days and times needed:**
6-9 hours per week
Exact days and times to be arranged around apprentice and supervisor schedules

**Project supervisor:**
Dr. Alexandra M. Greenwald
Postdoctoral Fellow, Center for Evolution and Medicine

**Supervising faculty:**
Dr. Kelly Knudson
Director, Archaeological Chemistry Laboratory

**Contact information:**
Dr. Greenwald: alexandra.greenwald@asu.edu; Dr. Knudson: kelly.knudson@asu.edu
Research project title: Social Networks in a WWII Internment Center

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
One or two students are needed to help with the development of a database to track demographic data from a WWII Japanese Internment Center. This is part of a larger dissertation project using social networks to look at the development of community structures in the center. This is a great opportunity to gain experience working with archival documents and census data, and to learn more about historical archaeology and social networks.

Student’s duties:
You would be assisting in the collection of demographic data using a number of online resources that have been working to digitize archival documents. The project will require some independent decision making and problem solving. Your task would be using a previously identified set of online sources such as newspapers to find additional data on specific individuals and enter it into the database. This can sometimes involve detective work since there can be subtle variations in spellings or multiple individuals with similar names.

Required qualifications or pre-requisites:
A basic understanding of excel and previous use of google docs is preferred. Most important is an interest in history and willingness to think creatively about problems.

Project/internship location:
This is a great opportunity for non-traditional or online students since the project can be done completely online using google docs and Skype. If you prefer to work on campus my office is located in SHESC Rm. 104, Dr. Smith’s Lab

Hours per week or days and times needed:
2-5 hours a week depending on student schedule.

Project supervisor: April Kamp-Whittaker

Supervising faculty: Dr. Michael E. Smith

Contact information: akampwhi@asu.edu
Research project or internship title: Global Impact Collaboratory Intern

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
The Global Impact Collaboratory (GIC) partners with international development organizations to figure out how we know when development projects are actually “working” from the perspectives of the people on the ground they are meant to be helping. The GIC has implemented signature projects that feature the innovative application of social research methods for monitoring, evaluation, and learning of projects across a range of topical areas. We endeavor to provide the world’s best learning laboratory for training the next generation of development practitioners.

We are looking for undergraduate research interns to code qualitative interview and focus group discussion transcripts for our signature programs. There may be opportunity to work on future research within the Global Impact Collaboratory or in an allied research group after completion.

Student’s duties:
Interns will be trained on qualitative data analysis methods and the coding software MAXQDA. Interns will be expected to reach proficiency in coding and then go on to independently code transcripts of interviews and/or focus group discussions. Other duties and projects may develop throughout the semester.

Required qualifications or pre-requisites:
None
Preferred: SSH/ASB 100: Introduction to Global Health or ASB 102: Introduction to Sociocultural Anthropology
- Please indicate if you are fluent in languages other than English on your application.
- Please indicate if you have worked in the Culture, Environment, and Health Lab or qualitative data analysis in your application.

Project/internship location:
SHESC 265

Hours per week or days and times needed:
9 or more hours per week, during SHESC operational hours (8am – 5pm) for lab access.

Supervising faculty:
Dr. Roseanne Schuster

Contact information:
roseanne.schuster@asu.edu
**Research project title:** Assessment of Human Remains from the Wadi Halfa Mesolithic Archaeological Site

**Academic discipline**
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

**Project description:**

The project involves the human skeletal inventory and paleopathological analysis of burials from the Wadi Halfa Mesolithic archaeological site (10,000 – 5,000 BCE; 37 Individuals). The Wadi Halfa Mesolithic collection has recently been relocated to Arizona State University and the ongoing project is designed to prepare the archaeological material for future academic research.

**Student’s duties:**

Student responsibilities include the identification and reconstruction of human skeletal remains in a laboratory environment, the maintenance of human osteological data collection forms, data entry using either MS Excel or MS Access, and the scanning of literature material for the building of a reference database.

**Required qualifications or pre-requisites:**

The applicant should have completed ASM 104 (Bones, Stones, and Human Evolution) and ASM 341 (Human Osteology) with a letter grade higher than a C+.

**Project/internship location:** SHESC 302

**Hours per week or days and times needed:**

6 hours per week, starting the week of January 29th. Days available to complete weekly work hours are Tuesdays, Thursdays, and Fridays. Weekly schedule will need to be arranged with the project supervisor.

**Project supervisor:** Jason Crosby

**Supervising faculty:** Dr. Brenda Baker

**Contact information:** jasoncrosby@asu.edu
Research project title: Comparative mammalian sella turcica anatomy and its relationship to life history

Academic discipline:
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

Project description:
Compared to living mammals, it is much more difficult to study growth and development in non-living taxa. This project seeks to employ aspects of cranial anatomy to make inferences about one aspect of growth in non-living individuals. Many hormones related to growth and reproduction are produced by the pituitary gland, a soft tissue structure that is housed within a bony feature of the sphenoid bone called the sella turcica. Building upon the relationship between pituitary gland volume and postnatal growth rates in living mammals, this project tests whether sella turcica volume is similarly strongly positively correlated with postnatal growth rates in a range of humans and non-human primates.

Student’s duties:
The student will be responsible for loading CT scans into 3D visualization software (e.g., Amira, GeoMagic) and generating 3D models that will be used to collect linear and volumetric measurements of cranial structures. The student will gain experience generating and manipulating 3D models of both extant and fossil mammalian crania using software that is widely used in the life sciences, medical, and materials science fields. Depending on interest, there is also the potential for the student gain exposure to post-collection processing and statistical analysis in the programming language R.

Required qualifications or pre-requisites:
Student should be an upper-level student, preferably with an interest in biological anthropology, bioarchaeology, health, or biological sciences. Experience with osteology and a knowledge of cranial anatomy will be extremely helpful, but is not required.

Project/internship location: SHESC Room 365 (Visualization Lab)

Hours per week or days and times needed:
Hours and days/times are flexible, but about 5 hours (or more if desired) per week.

Project supervisor: Amanda McGrosky

Supervising faculty: Dr. Gary Schwartz

Contact information: Amanda McGrosky, amcgrosk@asu.edu
Research project title: Digital Data Management and Curation with tDAR (the Digital Archaeological Record)

Academic discipline
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other: Digital Data Management and Curation

Project description:
Students will work with faculty and professional staff of the Center for Digital Antiquity (DA) on the organizing, editing, and building of digital data collections in tDAR (the Digital Archaeological Record). tDAR is an international digital repository for archaeological and cultural heritage data and information. It contains nearly 400,000 records of documents, images, data sets, and other kinds of digital files on these topics.

Student’s duties:
Students will assist faculty and staff in locating paper and digital copies of archaeological reports, images, and other kinds of data relevant to tDAR content; digitizing paper documents; processing digital materials (e.g., checking for file corruption, redacting confidential information, as necessary, converting files to appropriate archival formats, etc.); uploading reports to tDAR; and, creating administrative, substantive, and technical metadata about each digital file. In addition, students will work with the DA technology team to assist in testing the tDAR software and other research tools being developed or used by DA for digital data research.

Required qualifications or pre-requisites:
Coursework in basic archaeological information, methods, and theory, as well as an interest in information management.

Project/internship location:
Hayden Library, Tempe Campus

Hours per week or days and times needed: 8-10 hours per week

Project supervisor: Leigh Anne Ellison

Supervising faculty: Francis P. McManamon

Contact information: Leigh Anne Ellison, laellison@digitalantiquity.org, (480) 965-1593
**Research project title:** Building the Digital Archive of Huhugam Archaeology in tDAR

**Academic discipline**
- [ ] Evolutionary Anthropology
- [x] Archaeology
- [ ] Sociocultural Anthropology
- [ ] Global Health
- [ ] Applied Math
- [ ] Bioarchaeology
- [ ] Museums
- [x] Other: Digital Data Management and Curation

**Project description:**
Students will work with faculty and professional staff on the Digital Archive of Huhugam Archaeology project at the Center for Digital Antiquity (DA). The internship will involve the development of a comprehensive repository of digital archaeological reports about Huhugam archaeology. In addition to locating and compiling the reports, the project is also using digital humanities methods to apply natural language processing tools to improve exploration of the corpus of materials.

**Student’s duties:**
Students will assist project staff in locating paper and digital copies of archaeological reports, digitizing paper reports, processing digital materials (checking for file corruption; redacting confidential information as necessary; converting files to appropriate archival formats; etc.); and, uploading report files to tDAR and drafting administrative, substantive, and technical metadata about each digital report. In addition, students will work with the technology team to assist in the development of the natural language processing tool.

**Required qualifications or pre-requisites:**
Coursework in archaeology (southwest archaeology preferred), and an interest in information management.

**Project/internship location:**
Hayden Library, Tempe Campus

**Hours per week or days and times needed:** 8-10 hours per week

**Project supervisor:** Leigh Anne Ellison

**Supervising faculty:** Francis P. McManamon

**Contact information:** Leigh Anne Ellison, laellison@digitalantiquity.org, (480) 965-1593
**Research project or internship title:** Internship in the Laboratory for Culture Change and Behavior

**Academic discipline**
- Evolutionary Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other

**Project description:** Research apprentices will contribute to two ongoing projects at the Laboratory for Culture Change.

**Global Inequalities and Health.** This project explores how various forms of social and economic inequality around the world shape health risks and create health disparities. A major focus of the project this year is to characterize ethnic and caste disparities across a range of low-income countries and analyzing the consequences of such disparities for health and well-being in diverse contexts.

**Assessing Household Wealth in Low- and Middle-Income Countries.** Household wealth is one of the most important predictors of health and well-being. However, there is little consensus on how to assess wealth in low and middle-income settings. We will be conducting a global review of how wealth is assessed in diverse cultural settings.

**Student’s duties:** Weekly attendance at one-hour lab meetings. Completion of weekly lab activities and preparation for lab meetings (2-3 hours + 1 hour lab meeting).

Depending on the project, students gain experience in data collection through interviews and other methods (experiments, pile sorting, free-listing, surveys), as well as an understanding of how such data gets analyzed and presented (with optional hands-on experience of using the analysis software). Students also may gain experience conducting systematic literature reviews. Other possible duties: pre-testing interview protocol, short survey dissemination, literature review.

**Required qualifications or pre-requisites:** We seek highly motivated students with a strong work ethic and attention to detail. Experience using Excel preferred.

**Project/internship location:**
Matthews Center 203N.

**Hours per week or days and times needed:**
3-4 hours per week. Lab meeting dates to be announced.

**Project supervisor:** Dr. Daniel Hruschka

**Supervising faculty:** Dr. Daniel Hruschka

**Contact information:** Dr. Daniel Hruschka, dhruschk@asu.edu
**Research project or internship title:** What can Twitter Teach us About Natural Hazards Risk?

**Academic discipline**
- [ ] Evolutionary Anthropology
- [x] Archaeology
- [x] Sociocultural Anthropology
- [x] Global Health
- [ ] Applied Math
- [ ] Bioarchaeology
- [x] Museums
- [ ] Other

**Project description:**
We are interested in using data from Twitter to better understand how people talk about the risks of natural hazards. Specifically, we will be identifying “risk signals” for three natural hazards: hurricanes, wildfires, and tornados, using Twitter data from Jan 1 2016 – Dec 31st 2017. This data was collected as part of the Socio-Environmental Data Explorer project sponsored by the National Socio-Environmental Synthesis Center (SESYNC). Using machine learning and text analysis we will categorize Tweets for each hazard. In order to do this we will need to qualitatively code several hundred Tweets as either informative (sharing 'objective' descriptive information) or interpretive (sharing 'subjective', speculative, or opinionated information). Once we have these Tweets coded by a human we will use those results to train a computer to do the same thing. Ultimately, we want to see if it will be possible to train the computer to do this with an acceptable degree of accuracy.

**Student's duties:**
Primarily the student will help code Tweets for different risks as either interpretive or informative. In addition, the student will have opportunities to learn both qualitative and quantitative techniques including, how to create code definitions in a codebook, and how to automate content analysis using basic machine learning. The student will also be supported in pursuing their own research questions using social media and risk event data.

**Required qualifications or pre-requisites:**
No previous experience or expertise is required.

**Project/internship location:**
ASU Tempe campus, with the option of doing most work remotely.

**Hours per week or days and times needed:**
Flexible, can participate for a commitment of anywhere from 3-20 hours per week. Can be discussed and decided in advance with the research supervisor.

**Project supervisor:**
Paul Chakalian

**Supervising faculty:**
Dr. David Hondula

**Contact information:**
paul.chakalian@asu.edu (please include study title in subject line)
Research project title: Escaping the boom-bust cycle: Identifying sustainable governance strategies for shale-dependent communities

Academic discipline
- Physical Anthropology
- Archaeology
- Sociocultural Anthropology
- Global Health
- Applied Math
- Bioarchaeology
- Museums
- Other Environmental social science

Project description:
How can economically marginalized, resource-dependent communities mitigate adverse impacts of booms and busts, or even leverage booms and busts to their advantage? This question is particularly salient for many rural American communities buoyed by the recent shale drilling boom, but which now—facing a hydrocarbon glut and low, stagnant oil and gas prices—are experiencing rapid losses in employment, income, and population, among other problems. Rapid growth of an extractive industry (a “boom”) can provide communities with economic benefits, but often brings problems such as environmental degradation, infrastructure damage, and crime. Typically the boom ends abruptly; in this “bust,” economic gains tend to dissipate, often leaving the community no better off than before—and, in some cases, worse. By employing a mixed-method approach involving content analysis, social network analysis, and statistical modeling, we will explore how communities tackle challenges of governing boom-bust (BB) cycles in Appalachia.

Student’s duties:
- Assist in developing literature review, finding articles, adding to bibliographic database, helping develop a survey instrument, developing database of secondary data, and analyzing survey and secondary data.

Required qualifications or pre-requisites:
- Experience reading and summarizing social science literature.

Project/internship location:
SHESC

Hours per week or days and times needed:
5-10 hours per week

Project supervisor:
Emma Laurens

Supervising faculty:
Abigail York

Contact information:
Abigail.york@asu.edu