Spring 2020
Undergraduate Research Apprenticeship Positions

-AREAS/CONCENTRATIONS FOR RESEARCH-

Archaeology
Bioarchaeology
Environmental Social Science
Evolutionary Anthropology
Geochemistry
Global Health
Linguistics
Museum Studies
Sociocultural Anthropology
Urban Planning

Students should be certain to review all positions as many opportunities are combined with one or more other concentrations or disciplines.

Highlighted positions can be completed remotely and by online students.
Research Project or Internship Title:
Anthropology Collections Practicum Research Apprenticeship

Academic Discipline:
Archaeology
Bioarchaeology
Museums
Anthropology
Sociocultural Anthropology

Project Description:
This hands-on internship is ideal for students who are interested in the possibility of working in museums and those who would like to gain experience with material culture collections (ethnographic, archaeological, physical anthropological, and archival). Interns will learn standard museum collections practices relating to the research, cataloging, and care of anthropological artifacts by working with the anthropology collections curated at ASU.

Most of the anthropological collections at ASU are curated by the Center for Archaeology and Society Repository and include material from the subdisciplines of archaeology, physical anthropology, and sociocultural anthropology. The majority of the collections are archaeological and were acquired in the course of systematic research at thousands of sites, primarily from Arizona and the Southwest.

Student’s Duties:
Students will be working closely with faculty, graduate, and advanced undergraduate supervisors in assisting with care and curation of Anthropology Collections. Please indicate your areas of interest on your application (you may choose more than one).

1) If students are interested in working with archaeological collections, they will gain experience with a variety of ceramic, lithic, groundstone, and ornaments recovered from archaeological excavations. These projects have associated archives including field notes, laboratory analyses, photographs, maps, and reports. The students will help to create permanent records in the catalog database. To do this they will learn how to catalog, categorize and describe artifacts, label, and photograph artifacts and objects. Transitioning artifacts to archival packing and preparing appropriate curation spaces are part of the activities.

2) If students are interested in working with physical anthropology collections*, they will gain experience with a variety of materials and will learn about these collections, the archaeological excavation collections that recovered these, and appropriate care and documentation for the collections. They will learn identification and documentation procedures while assisting with preparing and verifying the research catalog records. Transitioning collections into appropriate archival packing and storage materials will be included in these activities. *Osteology course preferred.

3) If students are interested in working with ethnographic, or archival records, they will gain experience with professional and research materials related to projects and collections. Students will learn the basic principles of sorting, inventorizing, arranging, describing, preserving, and re-housing historical and archival materials.

Required Qualifications or Pre-requisites:
There are no pre-requisites for this internship. This internship is ideal for students looking for ways to gain more experience in the field of anthropology through experience with material culture collections.
We are looking for students with the following personal qualities: punctuality, ability to commit to and keep a regular schedule, attention to detail in record keeping, a sense of curiosity, and a desire to learn.

Recommended qualifications: Strong writing and research skills, experience using Excel spreadsheets, and the ability to work with a team are highly recommended. If you have some skills in photography or previous experience in a museum or museum-like setting, or data entry, record keeping, be sure to mention that in your application.

**Project/Internship Location:**
SHESC curates Anthropology collections in three different buildings. A variety of collections are curated at each location and internship opportunities provide experience with a variety of materials. > Center for Archaeology and Society Repository (Alameda Building), 734 W. Alameda, Suite 120, Tempe, AZ 85282. Free parking available. Students should allow time in their schedules to get back and forth between CASR and campus for classes.

**Hours Per Week or Days and Times Needed:**
You can receive academic credit for this internship. If you can commit to 6 hours a week you will receive 2 credits; if you can commit to 9 hours a week you can receive 3 credits. You must commit to at least 6 hours a week to qualify for this internship. Acceptance of an applicant is also based on schedule coordination. Be sure to specify your days and hours of availability in your application. [M-F, 8-5, no evening hours, no weekend hours.]

**Project Supervisor:**
Melissa Powell, Curator of SHESC Collections

**Supervising Faculty:**
Melissa S. Powell

**Contact Information:**
[melissa.powell@asu.edu](mailto:melissa.powell@asu.edu)
480-965-6957
Center for Archaeology and Society Repository
734 W. Alameda Drive, Suite 120
Tempe AZ 85282
Research project or internship title:
**ASU ADVANCE: Equity among Faculty**

Project description:
ASU ADVANCE is a social science project that examines how ASU's explicitly interdisciplinary environment affects the academic life course of faculty. We are particularly interested in how diverse faculty members build their careers in this context.

Student's duties:
- Assisting research associate with transcribing recorded faculty interviews on the interaction of interdisciplinarity and intersectionality in their careers.
- Assisting research associate with collecting and entering data about faculty, using the academic curriculum vitae in particular.
- Attending and assisting in research faculty on scheduled faculty interviews on the interaction of interdisciplinarity and intersectionality in their careers.
- Attending and contributing to research design and protocol meetings to ensure program goals are being met.

Required qualifications or pre-requisites:
- Familiarity with Microsoft Suite, especially Word and Excel
- Ability to work with minimal supervision
- Working knowledge of Google Drive

Project/internship location:
Matthews Center, 203WF, *flexible*

Hours per week or days and times needed:
Flexible; most work can occur on your own time.

Project supervisor:
J. Nalubega Ross

Supervising faculty:
Monica Gaughan

Contact information:
Dr. Monica Gaughan
School of Human Evolution and Social Change (SHESC)
Mail Code: 2402
Phone: 480-727-9973
Research project or internship title:
Cercopithecid primate dental morphology & dietary ecology

Academic discipline:
Evolutionary Anthropology

Project description:
This project is related to my broader dissertation research on the evolution of cercopithecid primates (African & Asian monkeys) and the processes that allow them to coexist today and in the past. Previously, I developed a model linking tooth shape and form with dietary behaviors in living monkey species. For this Research Apprenticeship, I am interested in gathering dental measurement data from fossil specimens in order to reconstruct the diets of extinct species and examine how they have changed through time.

Student’s duties:
Primary duties include scoring and measuring primate teeth from two-dimensional microphotographs. Additional duties may include labeling photographs, collecting supplemental data from the literature, and managing references. Students will be trained in the use of R statistical software for basic data analysis, and students who are interested in gaining more hands-on research experience will also be given the option to develop and present an independent project using these data.

Required qualifications or pre-requisites:
Students will ideally have taken an introductory-level (e.g. ASM 104) or higher biological anthropology class (esp. ASM 443 or ASM 452), but all interested applicants will be considered.

Project/internship location:
On campus (Tempe: Social Sciences Building)

Hours per week or days and times needed:
Students are asked to work 9 hours a week; exact days and times are flexible and we can discuss options to coordinate around your class and work schedules (including working remotely up to 6h/week).

Project supervisor:
Irene E. Smail

Supervising faculty:
Dr. Kaye E. Reed

Contact information:
iesmail@asu.edu
Research Project or Internship Title: Citizen Sociolinguistics: Piloting a novel methodology for capturing naturally occurring instances of small talk

Academic discipline: Sociocultural Anthropology
Linguistics/Linguistic Anthropology

Project description: Data Collection
We are testing a language data collection method that requires students to document natural instances of conversation that they overhear in public settings. Students will be assigned short language phrases (or words) to collect over a 4-6 week period of time.

First, students will need to do CITI (Human Subjects) training and receive their certificate (the class will provide all materials for this).

Second, students will do background reading on this particular method of data collection.
Third, students will do background reading on the particular kinds of language/phrases we are targeting.
Fourth, students will collect data for the majority of the semester/session, doing data entry and checks along the way.

For continuing students, the focus of Spring 2020 will be the cleaning, managing, and coding of data collected in Fall 2019. For new students joining in Spring 2020, data collection will remain the focus.

Required qualifications or pre-requisites: Current ASU student.
Access to a smart device (e.g., cell phone or tablet) for data entry. Access to a computer for course materials.

Project/internship location: Online students

Hours per week or days and times needed: Depending on units requested.

Project supervisor: Cindi Sturtzsreetharan

Supervising faculty: Cindi Sturtzsreetharan

Contact information: csturtzs@asu.edu
Research project or internship title:
Connections Research Project

Academic discipline:
Archaeology

Project description:
The Connections project researches the relations among prehispanic peoples in the U.S. Southwest and Mesoamerica, especially Northwest Mexico, focusing on the period 800-1540 CE. How and why did people move materials such as turquoise, macaws, copper bells as much as 3000 km, and share practices such as cranial and dental modification? What kinds of social relations explain these connections, and what role did Northwest Mexican groups play in the creation and maintenance of those relations? This specific project explores several dimensions of scarlet macaws (Ara macao) that brought them local significance to people living in the pre-contact U.S. Southwest and Northwest Mexico (SW/NW) between 900 and 1450 CE. It will examine the procurement and exchange of scarlet macaws and other rare, non-local, and utilitarian goods at three regional centers in the SW/NW: Pueblo Bonito (900-1150 CE) in northwestern New Mexico, Wupatki (1085-1220 CE) in north-central Arizona, and Paquimé (1200-1450 CE) in northwestern Chihuahua. Undergraduate students will retrieve and code data for the Connections database that will be used to test hypotheses about the procurement and exchange of scarlet macaws and other goods in the SW/NW.

Student's duties:
Retrieve and code data for the Connections database; Identify, obtain, and consult published and unpublished archaeological field reports; Independently code entries and participate in meetings to review and proofread entries with supervising faculty and co-workers; Work closely and maintain communication with co-workers to assure systematic input and quality control of data.

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 SW-Mesoamerican interaction; Ability to independently search for and systematically record information according to a structured format; Preference will be given to students who have completed ASB 222, 330, 335, or 337.

Project/internship location:
MCENT 206

Hours per week or days and times needed:
Nine hours per week for three course credits is preferred. Schedule is flexible.

Project supervisor:
Christopher Schwartz

Supervising faculty:
Ben Nelson

Contact information:
cwschwartz@asu.edu
Research Project or Internship Title:
Culture, Health, and Environment Laboratory Intern

Academic Discipline:
Global Health
Sociocultural Anthropology

Project Description:
The Culture, Health, and Environment Laboratory (CHEL) has several ongoing projects each semester that combine methods and theory from anthropology, public/global health, and sustainability. Primarily, our work focuses on the Global Ethnohydrology Study (GES), a transdisciplinary, multi-year, multi-site research project that examines cross-cultural perceptions of water issues in the context of globalization, urbanization, and climate change. Our work this semester will primarily focus on water sharing as a form of disaster response. CHEL's internship program operates each semester with approximately 15 undergraduate interns who work collaboratively with each other and graduate students in data management, analysis, and tool design. The program is designed to encourage students to return in subsequent semesters to develop more advanced research skills.

Student's Duties:
As a result of our many projects, students’ duties will vary. Each student will likely participate on more than one project within the lab. First time interns will begin with data entry and data quality management of the 2018 GES. Returning interns will be working on qualitative data coding of GES surveys. Other duties and projects may develop throughout the semester.

Required Qualifications or Pre-requisites:
There are no requirements or pre-reqs; we welcome interns at all stages of undergrad study. *Please indicate if you are fluent in languages other than English on your application. *Please indicate if you have any experience with analytic software (e.g., R, SPSS, SAS, MAXQDA, NVivo, UCInet) ** Please indicate if you are a returning intern on your application

Project/Internship Location:
SHESC 265

Hours Per Week or Days and Times Needed:
3 hours per week minimum (preferably in one time block). Exact times will be set around selected Interns.

Project Supervisor:
Charlayne Mitchell

Supervising Faculty:
Amber Wutich and Alexandra Brewis

Contact Information:
cfmitche@asu.edu
Research Project or Internship Title: 
Differential Access and Socio-Economic Inequality at Teotihuacan

Academic Discipline:
Archaeology
Urban Planning

Project Description:
I am investigating patterns of social and spatial inequality at Teotihuacan, Mexico. Differential access to civic resources is a well-documented mechanism of socio-economic differentiation in historic cities and can be measured by analyzing movement within the built environment. Teotihuacan is an urban center located in central Mexico that was inhabited from approximately 300 BCE to 600 CE. The city was survey by the Teotihuacan Mapping Project in the 1960s and a map of the entire city was produced. Using this map, I am going to measure differential access at Teotihuacan by simulating movement pathways from residential structures to the great compound and the plazas of the sun, moon, and the feathered serpent pyramids. I aim to discover whether differential access to ceremonial spaces contributed to creating and maintaining social inequality at Teotihuacan.

Student's Duties:
For my project, I want to recreate the spatial layout of Teotihuacan as closely as possible. Therefore we would spend time searching for published maps of excavated parts of the city and then translating these paper maps into digital copies in a Geographic Information System (GIS). This process is known as georeferencing and digitization. This is the main duty that will be asked of you. Additionally, you would be involved in the creation of a street network for the city and running tests of movement along this network.

Required Qualifications or Pre-requisites:
Preferred that you have some experience in archaeology and/or GIS programs like ArcMap or QGIS.

Project/Internship Location:
SHESC 104 - Mesoamerican Archaeology Lab

Hours Per Week or Days and Times Needed:
At least 4 hours per week Monday through Friday.

Project Supervisor:
Anne Sherfield

Supervising Faculty:
Michael E. Smith

Contact Information:
asherfie@asu.edu
**Research Project or Internship Title:**
Global Impact Collaboratory

**Academic Discipline:**
Global Health  
Sociocultural Anthropology

**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 (i) for international development evaluations; (ii) for creation of an index to measure social support among resettled refugee women; or (iii) to answer questions around preeclampsia and recovery in obstetric settings in Phoenix.

**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:**
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.  
• Please indicate if you have worked in medical records, or quantitative data entry or analysis in your application.

**Project/Internship Location:**
SHESC 265

**Hours Per Week or Days and Times Needed:**
9 hours/week, 8 AM – 6 PM for building hours

**Project Supervisor:**
Dr. Roseanne Schuster

**Contact Information:**
roseanne.schuster@asu.edu
Research Project or Internship Title:  
**Global Impact Collaboratory - MCNH Systematic Review**  

Academic Discipline:  
Global Health  
Sociocultural Anthropology  

**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 support systematic literature review for research related to maternal and child health and nutrition.  

**Student’s Duties:**  
Interns will be trained on PRISMA methodology to conduct systematic literature reviews using databases and structured search terms. Interns will contribute to iterative modifications to the review protocol, screen literature, and categorize findings.  

**Required Qualifications or Pre-requisites:**  
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.  
  • Please indicate if you have worked in medical records, or quantitative data entry or analysis in your application.  

**Project/Internship Location:**  
Remote  

**Hours Per Week or Days and Times Needed:**  
9 hours per week; flexible  

**Project Supervisor:**  
Dr. Roseanne Schuster  

**Contact Information:**  
roseanne.schuster@asu.edu
Research project or internship title: Global Inequalities and Health

Academic discipline: Global Health
Social Anthropology

Project description: 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.

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). In the project, apprentices will gain experience in developing a codebook on worldwide ethnic disparities and finding information on ethnic inequalities in low- and middle-income countries around the world. It also will involve using excel and analysis software to analyze relationships between ethnic inequalities and health.

Required qualifications or pre-requisites: We are seeking motivated and meticulous apprentices who can work both independently and in a team.

Project/internship location: MCENT 203N

Hours per week or days and times needed: 3-4 hours

Project supervisor: Dr. Daniel Hruschka

Supervising faculty: Dr. Daniel Hruschka

Contact information: dhruschk@asu.edu
Research project or internship title:
Isoscapes (Isotopic Landscapes) in the Andes: Proveniencing Skeletons and Artifacts

Academic discipline:
Archaeology
Bioarchaeology
Physical Anthropology
Biogeochemistry

Project description:
The APU (Andean Paleomobility Unification) Project is a two-year examination of isotopic values and environmental conditions throughout the complex hydro-geological systems of the Andes. Baseline isotopic values of strontium and oxygen are being compiled for water, soils, flora, and fauna in the natural environment and from cultural features such as puquios (wells) to develop predictive isoscape models that will allow us to probabilistically assign archaeological skeletons or artifacts to likely places of origin. In addition to facilitating sample geolocation, the isotope data will be used in conjunction with climate and paleoclimate data to understand how prehistoric Andean societies adapted to periods of intense flood and drought cycles that may have impacted their water and food security.

The project has several components: 1) meta-analysis/mapping all bioarchaeological and environmental isotope data in the region (focusing on the oxygen isotope system and the water cycle in the fall of 2019); 2) pulling field data from summer 2019 collaborators into the database; and 3) isotopic analysis of summer 2019 field baseline data in the ACL and Keck Labs. In year 2, we will be creating isoscapes for the strontium and oxygen isotope systems based on the new baseline data points and sharing those with the public and in peer-reviewed journals. This project is a collaboration between the Archaeological Chemistry Laboratory and PI Beth K. Scaffidi, pursuant to support from the National Science Foundation.

Student’s duties:
The project needs 2-3 students with some experience in GIS or remote sensing to assist with data compilation, hydrological and ecosystem modeling, and geostatistical modeling. The APU project maintains raster and vector data on elevation and environmental variables in the Peruvian Andes, which now needs to be scaled up to include the entire range, at various spatial resolutions. The project has recently been granted access to 10,000 km2 of high-resolution time-series RGB/NIR data through the Planet’s Research and Educational Program, and the apprentice will be assisting with data organization, procurement, and pre-processing of this and other new data sources. Students will also be plotting isotope data and x, y coordinates from publications within and beyond anthropological sources. They will also help with testing the field data collection app and gain some experience in preparing and analyzing isotope samples, if desired. Finally, there will be opportunities for presenting research results at conferences, assisting with peer-reviewed journal submissions, and field data collection during the summer 2020 season.

Required qualifications or pre-requisites:
Students should have a working knowledge of GIS, chemistry, or osteology.

Project/internship location:
Archaeological Chemistry Lab.
Hours per week or days and times needed:
Tuesday/ Wednesday/ Thursday, Times TBD

Project supervisor:
Beth K. Scaffidi

Supervising faculty:
Kelly Knudson

Contact information:
beth.scaffidi@asu.edu
Research project or internship title: 
Managing Boom-Bust Cycle of Fracking in Appalachia

Academic discipline: 
Environmental Social Science

Project description: 
Appalachia has faced economic stress for decades, if not centuries. Beginning around 2010, hydraulic fracturing, otherwise known as fracking, became economically viable due to natural gas prices and technological advances in Ohio, West Virginia, and Pennsylvania. Since that time numerous counties have experienced tremendous fracking activity, but it is unclear how or whether these communities will be able to leverage the fracking boom to create more sustainable futures.

Student’s duties: 
The student will work with an interdisciplinary team to generate literature reviews, analyze data, and present results for professional and community audiences. The student will assist in interview transcription and coding.

Required qualifications or pre-requisites: 
None

Project/internship location: 
SHESC 265 or online

Hours per week or days and times needed: 
3-6 hours per week

Project supervisor: 
Abigail York

Supervising faculty: 
Abigail York

Contact information: 
Abigail.York@asu.edu
Research Project or Internship Title: 
Maternal predictors of infant development in wild olive baboons

Academic Discipline:
Evolutionary Anthropology

Project Description:
This project examines how maternal hormones and behavior influence infant development in a population of wild olive baboons in Kenya.

Student’s Duties:
Examine and measure photographs of wild infant baboons to estimate body size.

Required Qualifications or Pre-requisites:
Basic knowledge of computers, google drive, and spreadsheets. Experience with excel and google drive. Ability to do repetitive work, but with cute baboon photos!

Project/Internship Location:
Can work remotely if they have a computer.

Hours Per Week or Days and Times Needed:
Flexible

Project Supervisor:
Sam Patterson

Supervising Faculty:
Joan Silk

Contact Information:
skpatter7@gmail.com
Research project or internship title:
Neanderthal Animal Exploitation in the Paleolithic

Academic discipline:
Archaeology

Project description:
The animal remains from Kobeh Cave and Kunji Cave, located in the Zagros Mountains of Iran, show evidence of mountain goat and sheep hunting by Neanderthals during the Middle Paleolithic. Neanderthal hunting and butchery behavior in upland mountainous environments remains unknown. This analysis will look at the frequencies of bone elements and species present in the animal assemblage to better understand how Neanderthals utilized animal resources.

Student’s duties:
Students will help classify fossil animal remains from a Pleistocene Neanderthal cave site. Through this, students will learn how to identify and code bones found at archaeological sites. Students will also learn to use a ArcMap, a GIS program, to draw fossilized animal bone fragments onto bone templates and aid in the archaeological analysis of Kobeh Cave.

Required qualifications or pre-requisites:
None

Project/internship location:
SHESC

Hours per week or days and times needed:
Minimum 3 hours per week.

Project supervisor:
Patrick Fahey

Supervising faculty:
Curtis Marean

Contact information:
bpfahey@asu.edu
Research project or internship title:  
Paleoclimate database management

Academic discipline:  
Geochemistry

Project description:  
The greater project that this apprenticeship is a part of is aiming to reconstruct past climates using speleothems (stalactites, stalagmites and flowstones) from caves in South Africa. The specimens are dated using uranium-thorium dating and stable isotopic compositions are used to reconstruct past climates and environments. Within this project we need help with the archiving of data and organization of a database for all stable isotope and dating information as well as sample images.

Student’s duties:  
Data management, entering data into Access and database setup and management.

Required qualifications or pre-requisites:  
Some experience with Access can help but is not required.

Project/internship location:  
SHESC Building/ASU Tempe Campus

Hours per week or days and times needed:  
4 hours /week – times are flexible, but may have to be arranged with other students.

Project supervisor:  
Kerstin Braun

Supervising faculty:  
Curtis Marean

Contact information:  
kbraun2@asu.edu
**Research Project or Internship Title:**
Research on Teotihuacan as an Ancient City

**Academic Discipline:**
Archaeology
Museum Studies

**Project Description:**
Teotihuacan was one of the largest ancient cities in the New World, and there is a long tradition of ASU research there (including an on-site lab holding collections from over 40 field projects). One of the initial projects in the 1960s, the Teotihuacan Mapping Project, recorded the locations of thousands of structures and made systematic collections of artifacts from each one. For whatever reason, this project left many of the analyses unfinished. 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, figurines and jewelry production), updating GIS files, and creating literature reviews of past work on particular artifact types. These studies are revealing important new information about life at the ancient city of Teotihuacan.

**Student’s Duties:**
Students will do both general data entry and data-checking, and background research on a related topic. 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 GIS 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. Once familiar with the site and datasets, students may develop individual research projects.

**Required Qualifications or Pre-requisites:**
Completion of or current enrollment in ASB 222 or 223 (or a higher-level archaeology class) required. Previous experience with Access or other database programs, experience with GIS programs, computer graphics, 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:**
3-9 hours/week, days and time flexible

**Project Supervisor:**
Dr. Michael E. Smith

**Supervising Faculty:**
Dr. Michael E. Smith

**Contact Information:**
mesmith9@asu.edu
Research Project or Internship Title:
Rise of the Aztec Empire: Drivers of Sociopolitical Expansion in Prehispanic Central Mexico, c.1428-1521

Academic Discipline:
Archaeology

Project Description:
In less than one century, the Tenocha-Mexica transformed from a subservient city state into an integrated imperial system that conquered much of Postclassic Mesoamerica. Yet longstanding questions remain about what caused the dramatic rise to power of the Aztec Empire. The goal of this project is to build an integrated database of the archaeological and ethnohistoric records to test rival hypotheses of Aztec expansion. I am looking for 2-3 enthusiastic students to assist me in the construction of this database by transcribing and coding archaeological and ethnohistoric data from scholarly works and historical documents. Students will record information on royal lineages, wars and conquests, ceremonies and religious offerings, tribute records, marriages and alliances, merchant ventures, market goods, price lists, excavated artifacts, and monumental architecture.

Student’s Duties:
Students’ primary duties are to become familiar with published sources and standardized codebook methods to record information using Microsoft Office software. Students will be required to come to the lab weekly to record data and meet with supervisor.

Required Qualifications or Pre-requisites:
Applicants need high-level reading comprehension, written and verbal communication, and time management skills to be successful. Some familiarity with Microsoft Word and Excel is required. Students with experience in Microsoft Access, GIS software, database software, or open-source programming languages are encouraged to apply. Self-motivated students with an interest in the research area are desired (e.g. archaeology, ancient Mesoamerica, the Aztecs, ancient history, ethnohistory, other ancient state-level societies, etc.).

Project/Internship Location:
Mesoamerican Archaeology Lab, SHESC 104

Hours Per Week or Days and Times Needed:
Approx. 5 hour per week commitment. Flexible campus working hours. Exact meeting times TBD.

Project Supervisor:
Rudolf Cesaretti

Supervising Faculty:
Michael E. Smith

Contact Information:
Rudolf.Cesaretti@asu.edu
Research Project or Internship Title:
Strontium isoscapes in southern Africa to reconstruct hunter-gatherer social networks

Academic discipline:
Archaeology
Bioarchaeology
Analytical chemistry

Project description:
This research program focuses on using plant and ostrich eggshell samples to create an environmental chemistry model for isotopes of the element strontium on the landscape. The downstream objective is to determine the geographic origin of human and animal remains from South Africa, Namibia, and Botswana archaeological sites by comparing the chemistry of enamel, bone, and shell to what the model predicts will occur in a given location. But it all starts with data collection for the model, which entails washing plant samples with deionized water to remove dust, and burning of the plant samples to ash in a laboratory furnace. These initial processing steps will take place in the Archaeological Chemistry Laboratory (ACL) in SHESC, under the supervision of Dr. Andrew Zipkin and ACL director Prof. Kelly Knudson. A second aspect of laboratory work for this project focuses on preparation of ostrich eggshell for strontium isotope analysis. Shells are photographed, cleaned using a rotary tool abrasive and sonic bath, and drilled to collect precisely weighed amounts of powder for analysis. Both plant and shell samples are then further prepared using standard wet chemistry techniques (acid dissolution, centrifugation, and multiple dilution steps) before senior personnel begin instrumental chemistry.

Student’s duties:
Lab note taking, washing lab glassware, operating an analytical balance, operating drying ovens, operating hot plates, and furnaces, operating a centrifuge, operating an electric rotary tool (Dremel), making solutions/dilutions of acids, pipetting solutions, working in a clean lab environment, and assisting in method development. After completion of one semester as an intern, interested and qualified students may have the opportunity to learn more advanced techniques and conduct original research.

Required qualifications or pre-requisites:
None but previous experience in a chemical laboratory is preferred. Previous coursework in chemistry, biology, and/or geology is useful.

Project/internship location:
Archaeological Chemistry Laboratory - SHESC

Hours per week or days and times needed:
6 hours/week: ~2 hours per day 3 x per week. Lab work is usually in the afternoon from 3-5 PM but can be scheduled for as early as 1 PM.

Project supervisor:
Dr. Andrew Zipkin

Supervising faculty:
Prof. Kelly Knudson

Contact information:
andrew.zipkin@asu.edu
**Research Project or Internship Title:**
Understanding the genetic architecture of human dentition

**Academic discipline:**
Bioarchaeology
Evolutionary Anthropology

**Project description:**
The student will help with a large scanning project of human dental casts. The casts are scanned and photographed and will eventually be loaded to a research infrastructure website.

**Student’s duties:**
3D scanning dental casts, 2D image acquisition, image processing and editing, quality control checks.

**Required qualifications or pre-requisites:**
Prior experience with dental anthropology preferred.

**Project/internship location:**
SHESC 302

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

**Project supervisor:**
Andrew Seidel

**Supervising faculty:**
Chris Stojanowski

**Contact information:**
cstojano@asu.edu
Research Project or Internship Title:
Urban sustainability in the deep past: How long did cities and neighborhoods survive?

Academic Discipline:
Archaeology
Other – History

Project Description:
This project is the initial stage of a longer transdisciplinary project that will consider, “Why did some cities and neighborhoods persist for long periods, while others did not?” We will assemble archaeological and historical data on premodern and modern urban trajectories around the world, and try to determine what factors favored long-term survival or persistence. In spring 2020, we will focus on two databases on past settlements: one from the Basin of Mexico and one from the Roman Empire. This project will contribute to scientific research on urban sustainability and resilience, using systematic, quantitative data from archaeology and history.

Student’s Duties:
• Help us locate archaeological and historical cases for analysis.
• Help us assemble conceptual and methodological works.
• Enter data into project databases.
• Contribute to exploratory data analysis.

Required Qualifications or Pre-requisites:
• Classwork or fieldwork experience in archaeology, history, sustainability or a related field.
• GPA > 3.0
• Experience working with archaeological or historical data and projects.
• Experience with computer graphics (e.g., Photoshop, scanning, Illustrator); or GIS.
• Knowledge of elementary statistics.

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

Supervising Faculty:
Dr. Michael E. Smith

Contact Information:
mesmith9@asu.edu
Research project or internship title:
3D Dental Topography and Tooth Wear of Primate Molars

Academic discipline:
Bioarchaeology
Evolutionary Anthropology
Physical Anthropology

Project description:
Many primates rely on their molar teeth to break food into smaller particles to facilitate digestion. The function of these teeth is therefore critical to survival of individual animals, but how do primate teeth maintain their function as the teeth become increasingly worn? Does molar tooth wear affect all primates equally or do tooth shape and diet play important roles? Can 3D scanning improve our understanding of how the shape of teeth changes over the course of an animal’s lifespan?

This project seeks to answer these questions by using a blue-light surface scanner (Identica Hybrid) to create 3D models of primate upper and lower molar teeth and using these models to measure surfaces of teeth associated with shearing, crushing, and grinding functions. Changes in these functional surfaces will be measured across teeth at varying stages of wear to determine whether primates maintain certain tooth functions throughout their lives, and whether the functions that are maintained differ in species with varying diets.

The sample for this project focuses on the Old World monkeys and apes, which share a last common ancestor 30 million years ago and have evolved very different dietary strategies and dental morphologies. This project will scan and measure the teeth from a sample of the living species, as well as a sample of fossil ancestors of Old World monkeys and apes that were collected from sites in East Africa dating between 28 and 15 million years ago.

Student’s duties:
The student will be trained in how to use the Identica Hybrid 3D surface scanner to create models (“meshes”) of teeth. They will also be trained in how to crop, edit, and take 3D measurements from these meshes using a variety of 3D visualization software programs, including Amira, Meshlab, GeoMagic and GRASS GIS. For interested students, introductory training in analysis using the statistical programming language R can be provided. These programs are used in many fields, including archaeology, geography, geology, and design. A basic understanding of how to use 3D visualization programs can be a useful skill for students with a wide variety of interests.

Required qualifications or pre-requisites:
Previous experience with 3D scanning or GIS is preferred but by no means is a requirement.

Project/internship location:
SHESC Room 365

Hours per week or days and times needed:
3 days per week (flexible), 2 – 3 hours per scanning session
Project supervisor:
Ellis Locke

Supervising faculty:
Dr. Gary Schwartz

Contact information:
Ellis Locke
ellis.locke@asu.edu