Spring 2020
Undergraduate Research Apprenticeship Positions

-AREAS/CONCENTRATIONS FOR RESEARCH-

Archaeology
Bioarchaeology
Environmental Social Science
Evolutionary Anthropology
Museum Studies
Sociocultural Anthropology

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:
ARC-NAV: Arctic Robust Communities-Navigating Adaptation to Variability

Academic discipline:
Environmental Social Science

Project description:
The Arctic is warming on average twice as rapidly as the rest of the planet, which is leading to significant changes in sea ice to which local communities must respond. Beringia, a region of the Arctic encompassing US and Russian territory, is expected to experience some of the highest variability in sea ice conditions in the coming century. This project focuses on the question: how do we design better and more flexible governance and infrastructure to adapt to changing Arctic conditions? To answer this question, the team is taking a convergence approach to forecast potential changes in the Arctic sea ice environment and the impacts on social and ecological systems resulting from those changes and identify adaptive strategies to enhance resilience to those impacts. The project fully engages local and Indigenous communities and decision makers in the Arctic throughout the research process to generate information and models about critical hot spots of sea ice change relevant to local communities. This will help build local and regional governance capacity and allow the researchers to model and predict the robustness of communities to forecast changes.

Coproduction of knowledge between local and Indigenous communities and scientists and across US-Russia borders and disciplinary boundaries will be used to address four key research questions: 1) How do people understand and perceive changing sea ice, and how do they adapt to variability in ice conditions? 2) Where are the current critical hot spots of variability in sea ice, and where will they be in the future as the environment and communities change? 3) How will governmental and non-governmental organizations in the region navigate changing sea ice conditions and interact with communities to respond to their changing needs? and 4) What features of the existing, and potential, social-ecological systems are robust/fragile to forecast changes in sea ice? This project will document diverse narratives and critical policy challenges around biogeophysical changes and associated livelihood and economic opportunities/costs between and within communities through grounded ethnography and cultural consensus analysis. Satellite data will be used to highlight “hot spots” of sea ice variability and provide a starting point for community and stakeholders’ discussions of “change”. Interviews with governance actors will identify priorities and responses and generate spatially explicit policy networks. A multi-agent model will link these analyses and be utilized to explore the diversity of issues, projections of change, and fragility or robustness of communities and the infrastructure systems they rely on. Through this research, the project will derive new understandings of community and institutional responses to change, the impacts of spatial and temporal variability within a trend, and robustness-fragility trade-offs that can be applied to other regions as they navigate transitions around the globe in the Anthropocene.

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.

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:**
Human-environmental interaction and climate change in ancient Mexico

**Academic discipline:**
Archaeology
Environmental Social Science

**Project description:**
This project is focused on the analysis of plant remains from archaeological sites in Mexico. The analysis is done to understand how past groups interacted with the environment to develop subsistence strategies. Research involves the study of samples under microscope, the extraction of pollen from soil samples, as well as the systematic entering of data from published studies in ethnobotany and paleoecology into a relational database. These data will also be integrated with other archaeological datasets, and students will have the opportunity to analyze, digitize, and study other archaeological data (ceramics, lithics, etc.). Opportunities to work on other projects also exist.

**Student’s duties:**
Microscope analysis and identification of plant material
Databasing secondary data from scientific studies of plant use and climate change
Databasing analyzed archaeological and ecological primary data.

**Required qualifications or pre-requisites:**
Ideally intro courses in biology, anthropology and archaeology

**Project/internship location:**
SHESC 110

**Hours per week or days and times needed:**
At least 4 hours across Mondays to Wednesdays (and falling between 9 and 2). Apprentices must also be able to attend group meeting twice a month.

**Project supervisor:**
Dr. Chris Morehart

**Supervising faculty:**
Dr. Chris Morehart

**Contact information:**
Christopher.Morehart@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:
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:
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:
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:**
Article Digital Archive Project

**Academic discipline:**
Physical Anthropology

**Project description:**
Digitize printed journal articles to an online database system via scan and citation processes.

**Student’s duties:**
Organize printed physical anthropology articles by subject type, scan and categorize articles to a searchable online database system, and reduce the number of printed article copies to 3 or less.

**Required qualifications or pre-requisites:**
Familiar with Physical Anthropology subjects, must be detail-oriented, highly organized, trainable on the online digital database Bookends, and works well in a team atmosphere (collaborative, receptive to team suggestions, can communicate ongoing project objectives).

**Project/internship location:**
Institute of Human Origins, SS103

**Hours per week or days and times needed:**
6 hours per week. A permanent schedule will be created and adhered to throughout the semester once student and project needs are addressed.

**Project supervisor:**
Dr. Bill Kimbel, IHO Director

Back up supervisors:
Lindsay Mullen, Program Manager
Julie Russ, Assistant Director

**Supervising faculty:**
Dr. Bill Kimbel

**Contact information:**
Aubree Morrissey
Email: Aubree.Gold@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:
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:
Exploring Kalahari Bushman Social Networks over Time

Academic discipline:
Sociocultural Anthropology

Project description:
In 1974 Polly Wiessner conducted study of Kalahari bushman social networks tallying all exchange partners in their networks. This gave a picture of how people were connected over a vast area of some 200 by 200 km. At the time Kalahari Bushmen in the sample we reliving largely by hunting and gathering. She made an inventory of all possessions of each person in the sample and recorded how or from whom they got the time and details on the maker or giver. This gave a picture of how goods traveled along networks and wealth inequalities. She repeated the study in 1997 and again in 2018-19 as Bushmen were settling down to a less mobile life in villages and engaging in a mixed economy of hunting and gathering, occasional wage labor, gardening and small stock raising and receiving food from government programs. Life style, subsistence activities and demographic factors changed considerably as did extent and configurations of networks, leading to emergent social inequalities in a previously egalitarian society. The goal of this project is to work up the recent data to understand changes.

Student’s duties:
Help with data entry, coding and analysis. There will also be a component of library research on the topic of generosity in hunter-gatherers. The work could lead to an honors thesis.

Required qualifications or pre-requisites:
Good typist, knowledge of excel and interest in hunting and gathering societies.

Project/internship location:
On Tempe campus.
School of Human Evolution and Social Change.
145 West Hall.

Hours per week or days and times needed:
9 hours

Project supervisor:
Prof. Polly Wiessner

Supervising faculty:
Prof. Polly Wiessner

Contact information:
Polly Wiessner
Tel 801-897-4050
Email: Wiessner@soft-link.com
Research project or internship title:
Salado Ceramics in the Phoenix Basin

Academic discipline:
Archaeology
Museum Studies

Project description:
We are seeking student researchers to assist with a study of ceramics from several Hohokam sites in the Phoenix Basin. After ca. 1300 CE, a new and distinctive pottery type, Salado polychrome, appeared in the Phoenix Basin and became part of the late Classic period Hohokam ceramic assemblage. Numerous models have been proposed to account for the causes, meanings, and implications of the adoption of this pottery, but a lack of empirical data has precluded rigorous testing of these models for the Phoenix Basin. This study aims to build an understanding of Salado ceramic production and distribution, vessel form, attributes, and assemblages, and change through time, in order to establish the data necessary to evaluate previous ideas and propose new explanatory models for the Salado pattern in the Phoenix Basin. This study works with archival data, documents, and museum collections. The work will involve digitizing paper records, compiling and entering data from multiple site excavations, creating digital maps, and performing ceramic analysis and experimental work.

Preferred applicants should possess basic computer skills and an interest in archaeology and archaeological data. Experience with ceramic materials, spreadsheets, databases, data entry, and working with a GIS would be a plus, though students lacking this experience should not be discouraged. Students will be trained in all necessary tasks. Students would also have the opportunity to use project data for research (term paper, thesis, or conference presentations) alone or in collaboration with the project supervisors.

Student’s duties:
1) Work from archival records to build a database of archaeological ceramics from Phoenix Basin Hohokam site excavations. (Scanning documents, data entry, database management)
2) Work from archival records to digitize site features in a GIS. (scanning maps, digitizing features)
3) Assist in ceramic attribute analysis. (working with museum collections)
4) Assist in experimental work with ceramic materials.

Required qualifications or pre-requisites:
Preferred applicants should possess basic computer skills and an interest in archaeology and archaeological data. Experience with ceramic materials, spreadsheets, databases, data entry, and working with a GIS would be a plus, though students lacking this experience should not be discouraged. Students will be trained in all necessary tasks.

Project/internship location:
SHESC 154, ASU Tempe Campus

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

Project supervisor:
Caitlin A. Wichlacz

Supervising faculty:
Dr. Matthew Peeples

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

**Academic discipline:**
Archaeology  
Bioarchaeology  
Physical Anthropology  
Biogeochmistry

**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:
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