Natural Sciences

Position #3; *Amy Burgin*

Mentor name: Amy Burgin, Kansas Biological Survey, Environmental Studies and Ecology and Evolutionary Biology

Job/project title: Environmental Science Field and Lab Technician

Project description:

The Burgin Lab focuses on understanding current environmental issues affecting aquatic ecosystems, including nutrient pollution and associated algal blooms (water quality), carbon storage and global warming in wetlands and how microbes drive ecosystem processes. Students working in the lab gain exposure to a wide variety of projects, while focusing their skills on a particular area of interest. More information can be found at: https://burginlab.wordpress.com/

Project Overview: We seek assistance from a student in developing a project to measure greenhouse gases and water quality in soils and wetlands. We rely on field sample collection and lab analysis, but also emphasize technologically advanced monitoring options, including sensors (to measure temperature or water quality) and unmanned aerial vehicles (drones) to collect water. We use these methods to understand how water and soil chemistry vary in space and time.

Potential student tasks and responsibilities:

Tasks and Responsibilities: The student will partly work at the KU Field Station collecting water samples from Cross Reservoir for chemical analysis. The student will also assist with analyzing soils from restored wetlands (in KS and OH). Students will also assist with deploying and managing environmental sensors for recording water quality. The student will assist in developing protocols and training materials for analyses.

Student qualifications and characteristics:

Qualifications and Characteristics: Curiosity in the environment and interest in learning cutting-edge analytical skills. Ability to communicate clearly and follow instructions; attention to detail, particularly for keeping lab and field notes. Interest in spending time outdoors and collecting water and soil samples. Students interested in combining scientific training with video and website production are particularly encouraged to apply. While not required for working in the lab, please

highlight any skills you have pertaining to lifeguarding, boating or outdoor recreation. Please also note any skills related to technology, including video or audio production, website development or computer programming. Must be available for at least a 3 hour block within the 8-5 window.

Additional comments: Dr. Burgin is a first-generation college graduate who entered environmental science from an undergraduate research experience.

Position #5; *Bruce Frederick*

Mentor name: Bruce Frederick, Geology

Job/project title: Geoscience Lab Technician

Project description:

The Blum Lab focuses on improving our quantitative understanding of earth surface processes and their reflection in the sedimentary rock record. With particular focus on fluvial and coastal sedimentary processes, our students leverage a variety of geological, geographical and geophysical techniques to more accurately detail each stage of source-to-sink (S2S) clastic sediment transport from the world's mountains ranges to the sedimentary basins. In doing so, we set out to better characterize the geological response to both global climate and sea-level change.

Project Overview: Dr. Mike Blum and I are seeking assistance from a scientifically inquisitive student to develop internal lab protocol for the mining, storage, and illustration of pertinent S2S-related geological and geophysical data from a variety of publically-available internet databases. Our sedimentary geology lab relies heavily on well data acquisition and analysis to better comprehend the regional subsurface stratigraphy and geochronology, and would substantively benefit from an energetic, detail-oriented, quantitative scientific mind who might assist our team. Our geoscience research project field areas extend from Alberta to the Maritime Provinces of Canada, and from the Rocky Mountains to the Gulf Coast of the US.

Potential student tasks and responsibilities:

Task and Responsibilities: The student will primarily work at our lab at 323 Lindley Hall on KU Main Campus. The student will be responsible for collection, maintenance, and illustration of geological/geophysical well data from various US state and Canadian geological surveys. The student may also assist with the upgrade and maintenance of our current ArcGIS database and assist in the production of regional geologic cross sections, geospatial maps, and scientific figures for publication/presentation. Opportunities for field research trips may be made available depending upon amenable schedules.

Student qualifications and characteristics:

Qualification and Characteristics: Curiosity in the environment and the interdisciplinary study of the sedimentary rock record with a desire to gain experience on cutting-edge industry software. Ability to communicate effectively, follow instructions, and problem solve independently. Attention to

detail, with respect to maintaining accurate lab notes and database structure, is required. A genuine interest in nature, earth history, and scientific curiosity is critical. Students who work well with others, are interested in integrating with an energetic team of graduate students, and desire opportunities for field experience are also encouraged to apply. Hours are flexible M-F between 9am – 6pm, however 2-3 hour blocks of scheduled time are preferred. Prior experience with the MS Office suite, ArcGIS, Adobe Illustrator, and Petra is beneficial but not required.

Position #6; *Jennifer Gleason*

Mentor name: Jennifer Gleason, Ecology and Evolutionary Biology

Job/project title: Reproductive Biology of an Invasive Species

Project description:

Zaprionus indianus, a fruit fly native to India and Africa, has invaded the United States, first arriving in Kansas in 2012. The species is a pest of figs, causing economic losses. Very little is known about its reproductive biology, but our preliminary data indicate that the species has unusual courtship behaviors and egg laying patterns, at least in comparison to its closely related Drosophila species. In this project, we will investigate the courtship behaviors and determine the factors that affect male and female fecundity. The results will have implications for both the evolution of the species and control of the pest.

Potential student tasks and responsibilities:

To investigate the behavioral biology and the reproductive output of the flies, the student will maintain cultures of the flies, sort flies for experiments, and perform experiments. All experiments will involve manipulation of the flies or environmental variables. The student will be completely trained in the lab by lab personnel that have extensive experience raising the flies, thus no prior experience is needed. As the student becomes familiar with the flies and how they behave, there will be opportunities for the student to develop new hypotheses and then design and execute the experiments to test the hypotheses. In addition to specific experiments, the student will be expected to contribute to basic lab maintenance (such as making fly food) as all lab members are required to do.

Student qualifications and characteristics:

The ideal student for this project is excited to learn about evolutionary biology and animal behavior. The student will need to have a set schedule each week, though the exact schedule is flexible. The student must be available during regular working hours for at least three two-hour blocks a week, but fewer, longer blocks are good as well. The student must have attention to detail, be organized and be willing to ask questions. The student will need to do some problem solving and troubleshooting because the experiments to be done have never done before. The experiments are not technically difficult, but may require some thought, as well as trial and error, to be executed properly. The student will need to be persistent and not easily discouraged. The student will need to

communicate when roadblocks are encountered with all members of the lab so that the group can help troubleshoot experimental issues.

Additional comments: This project does not require any field specific knowledge or experience. All that is needed is a willingness to try and the ability to communicate with others.

Position *#9; Lena Hileman*

Mentor name: Lena Hileman, Ecology and Evolutionary Biology

Job/project title: Genetic studies of flower diversity

Project description:

Flowers that are adapted to specific types of pollinators (bees, birds, moths, wind) exhibit pollinator specific floral traits. For example, flowers adapted to hummingbird pollination tend to have long, tubular, red/orange flowers producing a large nectar reward, whereas flowers adapted to bee pollination often have short, tubular, blue/purple flowers producing a small nectar reward.

In the Hileman lab, we are studying closely related pairs of species where one species in the pair is adapted to bee pollination while the other species in the pair is adapted to hummingbird pollination. We are using genetic studies in these species pairs to understand how adaptation to hummingbird pollination evolves. For example, what types of genetic changes are important for flowers to adapt to hummingbirds as a pollinator? Do many genes have to change in function? Do some single genes that change function have a corresponding effect on multiple floral traits? As we gain insight into the answers to these questions, we will have a deeper understanding of how and why some evolutionary changes in nature happen so frequently and apparently so easily - for example, evolutionary transitions from bee to hummingbird pollinated flowers.

The open position is for an undergraduate to work on a large, ongoing project with a postdoctoral researcher and graduate student in the Hileman lab. The project is focused on a very large number (100s) of plants that are the offspring of crosses between bee adapted and hummingbird adapted parental species. The undergraduate will contribute to both general plant care and to characterizing specific floral traits found in this hybrid population. This characterization includes taking careful measurements of specific floral organs, and harvesting tissues for later genetic and developmental analyses. The student will work closely with the postdoctoral researcher and graduate student on these task, but will be able to gain independence. This independence will be in the tasks described above, as well as in opportunities for more independent research on flower development and plant genetics depending on the student's level of interest and motivation.

Potential student tasks and responsibilities:

General plant care will include transplanting, watering, fertilizing, pruning, monitoring for insect herbivores, and herbivore remediation as necessary.

Characterization of floral traits across 100s of plants derived from a cross between bee adapted and hummingbird adapted species. This will include harvesting flowers on the day they open, dissecting

flowers to photograph (with calibration) specific floral organs, measuring nectar volume, and placing correct tissues into correct solutions or freezing for later genetic and cellular analyses. We have a very specific protocol to follow for data collection.

Depending on student interest and level of commitment, characterization of floral traits may also include using morphometric software to collect measurement data from photo-documented flower traits, mounting floral tissue onto microscopy slides, and using a different set of morphometric software, coupled with microscopy, collect measurement data on individual cell size across floral tissues.

Student qualifications and characteristics:

The ideal student for this position:

1. is interested in plant genetics and/or flower diversification

2. is available multiple (2-3) mornings each week (1-2 hours between 9am-noon) for plant care and floral measurements/documentation; additional microscopy and/or computer-based data collection can be done other times during the day.

3. will be committed and reliable with the agreed-upon schedule

4. is careful and detail oriented

5. is eager to learn, comfortable asking for help/clarification, and generally enthusiastic about asking technical and/or scientific questions whenever clarification or curiosity requires

Position #11; *Elizabeth Koziol*

Mentor name: Elizabeth Koziol, Kansas Biological Survey and the Land Institute

Job/project title: Mycorrhizal fungi of the Tallgrass prairie

Project description:

The student will assist with research projects that investigate prairie plants and their associated belowgound mycorrhizal fungi. Generally, we are interested in plant-soil mutualisms and how microbes maintain plant community diversity and productivity. Our lab cultures fungi from old-growth prairie soils to include in novel prairie restoration experiments and in manipulative greenhouse experiments. Several of our lab members are also partnering with the Land Institute, where we are investigating the role of the soil microbiomes within perennial agriculture systems. Working on this project, a student would aid in assessing whether plant dependence on mycorrhizal fungi is changing with plant domestication.

Our lab recently relocated to KU from Indiana and our lab website has not transitioned to KU yet. However, our old Indiana webpage represents our reserach well.
http://www.indiana.edu/~beverlab/research.html

Potential student tasks and responsibilities:

The position will involve mainly laboratory work that will include isolating, identifying and quantifying fungal structures in the microscope, isolating root fragments for DNA amplification. The position will involve greenhouse work including experimental set up, monitoring, and plant and fungal harvesting. We also conduct field experiments that would involve monitoring plant community composition, weighing plant biomass, assessing soil properties, and the spread of fungal isolates.

Students will gain experience with the scientific method and lab techniques including plant propagation, fungal isolation, sterile technique, and many others. Many of our past undergraduate students have used their research experiences in our lab to conduct independent research projects and honors thesis projects in addition to going on to graduate school or medical school, to careers in industry as lab mangers and quality control technicians, and other diverse fields.

Student qualifications and characteristics:

The ideal candidate would be comfortable across a range of working environments, such as in field, dirt lab, greenhouse, and molecular laboratory settings. Our work is varied and the ideal candidate would work well across these varied environments. Knowledge of prairie species or mycorrhizal fungi is not necessary.

Our lab currently has two professors (Drs. James Bever and Peggy Schultz), four post-doctoral scholars, three graduate students, four undergraduate student helpers and a full time lab technician. Thus, the ideal candidate would work well with others. Additionally, we have a number of different research project interests that the candidate could participate on.

Previous lab experience is not required. We can start off students with basic tasks, such as weighing plant biomass, and gradually progress to more complicated tasks as a new student is able. However a willingness to learn new techniques and to operate in a sterile environment, such as a molecular space, is required.

We are primarily interested in students with blocks of time of 3 hours or more 2-4 days a week any time between 9-5 M-F.

Position #12; Bruce Lieberman

Mentor name: Bruce Lieberman, Biodiversity Institute and EEB

Job/project title: Examination of the Diversity and Function of Early Animal Fossils

Project description:

Cambrian (~520 – 500 million years old) arthropods represent some of the earliest representatives of modern animals and comprise an extraordinary range of types and forms. In fact, several early arthropod groups hit the acme of their diversity in the Cambrian, relatively soon after they evolved. This project will focus on bivalved arthropod fossils from the Cambrian of Utah; these are enigmatic organisms that seem to represent early branching forms in arthropod evolution. Thus, enhancing understanding of these may provide key insights into the early evolution of the most diverse group of marine organisms alive today. Actual fossil specimens will be examined, and these are housed in the Division of Invertebrate Paleontology in the University of Kansas Biodiversity Institute (KUMIP), which happens to possess one of the largest collections of these fossils in the world.

In some cases, the two valves (which in overall shape somewhat resemble clam shells, although their structure and function was very different from these) are found associated with and surrounding the soft tissues of arthropods, such that their functions can be better interpreted. However, in many cases distinct valves are preserved without the arthropod that bore them. This complicates interpretation of function. It has been suggested that in some species these valves could be closed, and also allowed for swimming. Similar behaviors are seen in some modern crustacean groups. As of yet, however, this has not been tested in any detail.

The work proposed here aims to remedy that and expand our understanding of the life habits and behavior of these enigmatic bivalved organisms that lived during a key time period in the history of animal life. A student will be employed to measure the geometries of the Cambrian fossil valves, and thereby perform analyses to compare these with modern valves. Then in turn the student can ascertain in which species valves remained open in life position and also in which species could they be fully closed. Further, they can determine whether the valves could have functioned as anti-predator devices, and also the extent to which they show geometries compatible with what we see in modern bivalved crustaceans that swim.

Valves will be photographed and then a series of statistical analyses can be employed on the resulting valve outlines. Valves of modern crustacea will also be photographed for the purposes of statistical analysis and comparison. This work could result in a publication. The student will also assign longitude, latitude and error radius to the collection localities from where the bivalve fossils come from, in order to potentially identify patterns in their geographic distribution.

The results of this project will extend knowledge of the distribution and lifestyle of these distinctive Cambrian bivalved arthropods. Further, depending on the student interest, there is the possibility to extend the research such that specimens from other institutions beyond the KUMIP will be considered. Depending on progress and results, the student might be able to give a presentation at the KU Undergraduate Research Symposium and possibly the Geological Society of America Annual Meeting.

Potential student tasks and responsibilities:

• Taking high quality photographs of specimens that can be used for statistical analysis and publication

• Use various photo editing tools such as Adobe Photoshop and Illustrator

• Georeferencing fossil locations

• Possible taxonomic identification of Cambrian arthropod fossils

• Data entry

• Library research

Student qualifications and characteristics:

• Interest in Paleontology, Biology, or Geology

• Keen eye for details

• Self-motivated

• Interest in working in museum collections

Position #13; Terry Loecke

Mentor name: Terry Loecke, Kansas Biological Survey and Environmental Studies

Job/project title: Field and Lab Technician

Project description:

The Loecke Lab focuses on understanding how current environmental issues affect soil, air and water quality. Students working in the lab gain exposure to a wide variety of projects, while focusing their skills on a particular area of interest. More information can be found at: https://loeckelab.wordpress.com/

Project Overview: We seek assistance from a student in developing a project to measure greenhouse gases and water quality in soils and wetlands. We rely on field sample collection and lab analysis, but also emphasize technologically advanced monitoring options, including sensors (to measure soil oxygen and temperature or water quality), micro-computers and remote sensing. We use these methods to understand how water and soil chemistry vary in space and time.

Potential student tasks and responsibilities:

Tasks and Responsibilities: The student will partly work at a nearby field site collecting air, water, and soil samples for chemical analysis. The student will also assist with analyzing soils from restored wetlands (in KS and OH). The student will assist in developing protocols and training materials for analyses.

Student qualifications and characteristics:

Qualifications and Characteristics: Curiosity in the environment and interest in learning cutting-edge analytical skills. Ability to communicate clearly and follow instructions; attention to detail, particularly for keeping lab and field notes. Interest in spending time outdoors and collecting water and soil samples. Students interested in combining scientific training with video and website production are particularly encouraged to express interest in this position. Any skills related to technology, including website development or computer programming, would also be useful in this position. Must be available for at least a 3 hour block within the 8-5 window.

Position #15; *Minae Mure*

Mentor name: Minae Mure, Chemistry

Job/project title: research assistant

Project description:

To make a recombinant electron-transfer flavoprotein (ETF) from a soil bacteria, *N. simplex*. The student will learn basic techniques in molecular cell biology and biochemistry such as culturing bacteria, isolating genomic DNA, cloning a gene coding for ETF, expression of recombinant ETF using *E.coli,* and protein purification. The ultimate goal of this project is to develop an enzyme-based histamine sensor. Such as sensor can be used to examine the freshness of seafood and its product.

Potential student tasks and responsibilities:

To work closely with postdoctoral researchers in the Mure lab, keep good records and participate in lab group meetings.

Student qualifications and characteristics:

1) student is required to work at least three hours per day, two days per week.

2) student needs to communicate well with postdoctoral researchers and the PI. Good record keeping, organizing and time-management skills.

3) interests in cancer research and eager to learn new techniques and skills

Position *#18; Raymond Pierotti*

Mentor name: Raymond Pierotti, Ecology and Evolutionary Biology

Job/project title: Ecological Knowledge in Different Cultural Traditions

Project description:

Upon my arrival at KU in 1992 I worked with Haskell Indian Nations University where I developed a program and a set of courses that are now incorporated in an NSF sponsored native American Science Curriculum (this can be viewed at www.nativeamericanscience.org). My goal was to examine and establish the scientific credibility of knowledge traditions from a range of Indigenous cultures. I am now interested in expanding this work into other cultures, specifically African or Latin American cultures. This work will involve texts and traditional stories and knowledge from Africa and Latin America. I expect that students will work with me and that we will work to prepare research that could be publishable.

Potential student tasks and responsibilities:

Students will meet with me on weekly basis as we work with the various museum and library resources. Students will be trained on reading and reviewing materials so that they dig beneath the surface of accounts and stories to find materials that present insights into cultural traditions. We will work with librarians to support our literature searches.

Student qualifications and characteristics:

Students working on this project should have an interest in learning and examining language and culture from Africa or Latin America.

Position #19; Jennifer Raff

Mentor name: Jennifer Raff, Anthropology

Job/project title: Research assistant in the Laboratory of Biological Anthropology

Project description:

The genetics collections of the Laboratory of Biological Anthropology (LBA) represent an important research resource for the University of Kansas and collaborating institutions. The collections consist of hundreds of DNA samples from populations worldwide, collected over decades of fieldwork. To continue research with these collections into the future, they need to be assessed for DNA quality and their associated records digitized and incorporated into a database.

Potential student tasks and responsibilities:

During the first semester, students will work primarily on digitizing records associated with collections and entering information into a database. This will comprise approximately 4 hours/week. The remaining 3 hours/week will be spent undergoing laboratory methods instruction from a graduate student.

During the second semester, students will additionally begin working with the collections in the laboratory using a combination of techniques including: DNA quantification with qubit and nanodrop instruments, PCR amplifications of samples, gel electrophoresis, DNA sequencing and sequence analysis. These will provide preliminary results for larger projects for undergraduate independent research into multiple questions, including population history, health and demography.

Student qualifications and characteristics:

No specific prior background is needed, as we will provide training in laboratory methods during the first semester. Ideally, students interested in this position will be curious, have patience and an eye for detail, and be interested in questions about human history and genetics. The Raff lab is committed to fostering undergraduate research experience, so students who succeed in the Emerging Scholars Program may be welcome to continue pursuing research throughout the duration of their undergraduate experience at KU. This project would be ideal for a student intending a career in medicine or life sciences research.

Scheduling requirements: Students must be available for weekly training on Wednesdays from 10:00 am-12:30.

Position #22; Benjamin Sikes

Mentor name: Benjamin Sikes, EEB

Job/project title: Soil microbes and land use

Project description:

Our lab (https://bensikes.wixsite.com/sikesmicrolab) researches the ecology of soil microbes such as fungi and bacteria. Soil microbes are largely unknown (i.e. we have identified about 2% of the estimated soil fungi), but are critical in nature, agricultural, and even in their effect on our health. In natural and managed ecosystem these microbes recycle nutrients in the soil, form partnerships with plants that help the plants access these nutrients, and cause important plant diseases that reduce food security worldwide. The function and effect of these soil microbes often depends on the diversity and makeup of their communities. Several factors influence microbial community composition including: soil factors (i.e. water content or fertilizer in the soil), the intensity and frequency of disturbance such as tillage or fires, and the identity of the plant hosts they partner with or attack. Our research explores how these factors shape soil microbial communities and how these changes affect both plant hosts and ecosystems, both of which are critical to restore natural systems and increase crop production in agricultural systems.

Potential student tasks and responsibilities:

There are currently a number of projects underway in the lab: Prairie monoliths for restoration: we are moving large chunks of native prairie (intact with soil) to disturbed sites in an attempt to improve prairie restoration success. Fire – fungal feedbacks: in fire-dependent ecosystems (i.e. prairies) we are collecting soils before and after prescribed burns to understand how fire effects soil microbes and how these changes might alter fuels for the next fire. Soil microbial accumulation on perennial crops: We are exploring how perennial crops may harbor different soil microbes than normal annual crops and whether shifted microbes will affect the yield of these cutting-edge agricultural systems. Students will be exposed to multiple projects and have the opportunity to gain experience in the field, greenhouse, and lab. Duties may include but are not limited to: assisting with collecting data and specimens in the field, greenhouse experimental setup and plant growth assessment, collecting and washing root samples, lab isolation and culturing of fungi, and DNA isolation from both environmental and/or pure cultures.

Student qualifications and characteristics:

We are seeking individuals with an interest in plant and soil biology to help with setting up experiments and data collection. Both data collection and technical work requires the ability to follow instructions, pay attention to detail, and communicate clearly. We ask that interested individuals be available for three hour blocks of time between 8 am and 5 pm Monday through Friday.

Position *#23; George Tsoflias*

Mentor name: George Tsoflias, Geology

Job/project title: Kansas Earthquakes

Project description:

When we think of earthquakes we think of California. However, in the last five years we have seen a large increase in the number of earthquakes occurring in Kansas and Oklahoma. We believe that wastewater produced in oilfields that is subsequently injected underground can cause earthquakes. In this project we use a network of seismic sensors installed at Wellington (south central Kansas) to detect earthquakes, pinpoint their location and measure their magnitude.

Understanding better how those earthquakes occur can help us manage the potential for damages caused to property and danger to human life.

Potential student tasks and responsibilities:

No prior knowledge in earthquake research is needed. The student will work in a team with undergraduate and graduate students (2 or 3) and will learn the methods we use to analyze data for detection of earthquakes. The data is in digital form and it is handled by computer. Typical tasks involve downloading data from the network, reformatting data and reading it into the software for analysis, visual observation of the data, identification of earthquakes, analysis of earthquakes for determination of location and magnitude. In addition, we conduct monthly visits to the network at Wellington KS for routine maintenance. The student applicant will be involved in all aspects of the research as the other team members. Students spend most of their time at Moore Hall, Kansas Geological Survey, on West Campus.

Student qualifications and characteristics:

Interest in physical sciences and curiosity on how natural processes work and affect our lives. Detail oriented and organized. Ability to work well with others. This is a team project and our work depends on the work of others. Reliable, responsible and able to complete tasks within the timeframe agreed. Work hours are flexible, but overlap with other students is essential for communication and training.

Social Sciences & Professional Schools

Position *#26*; *Glenn Adams*

Mentor name: Glenn Adams, Psychology

Job/project title: Cultural Psychology Research Group: Ecological Foundations of Love and Care

Project description:

The Cultural Psychology Research Group (CPRG) is a collection of researchers who are interested in the study of "mind in context": the idea that the foundation of mind is not limited to brain architecture, but also extends to structures for mental experience in everyday human ecology. Members of the CPRG conduct research on many topics: the relationship between historical knowledge and policy support, the experience of personal relationship in West African settings, and conceptions of family in Guatemala, to name only a few. The particular topic associated with this position concerns the comparative study of the cultural-psychological foundations of love and care among participants from West African and U.S. settings.

Potential student tasks and responsibilities:

The student will work on one project within this general research program, under the day-to-day supervision of Ph.D. student Darlingtina Atakere. The project will consist of 2 different investigations. One is a paper-and-pencil questionnaire study examining decisions about elder care by participants from West African (Ghana and Nigeria) and U.S. settings. The student will perform tasks related to entry and analyses of these data. The second investigation will be an interview study concerning beliefs about love and care among Ghanaian and U.S. participants. The student will perform interviews of U.S. participants, transcribe these interviews, and collaborate on design and implementation of a coding system for analyzing transcribed interviews. The student will present results of the work in a regular weekly meeting of the CPRG. We will encourage the student to present the work in the annual KU undergraduate research symposium or the annual KU Symposium for Undergraduate Psychology Engagement and Research. Besides work on research project, we expect the student to attend weekly meetings of the CPRG, for which I (Glenn Adams) serve as faculty supervisor. These meetings typically feature critical discussion of written work and/or (graduate) student presentations of research.

Student qualifications and characteristics:

The position requires no specific qualifications or characteristics beyond intellectual curiosity and a passion for learning how to do social science research.

Position #27; *Alesha Doan*

Mentor name: Alesha Doan, School of Public Affairs & Administration and Political Science

Job/project title: Project Diane

Project description:

Male– dominated professions and organizations have become increasingly gender integrated both voluntarily and with cultural, legal, and political pressure. In the U.S., limited gender integration into combat units in the US military has already started, and more is on its way. This represents a significant departure from traditional military policy, which is the basis of our research. Here we analyze barriers and potential benefits to gender integration in the U.S. Army Special Forces. Along with co-author Shannon Portillo, I am in the process of analyzing 24 focus groups with 198 men in Special Forces and women in Special Operations, and a large-scale survey. This project has already resulted in an academic publication as well as engaged scholarship. During the 2017-2018 academic year we will be working on a book project from these data.

Potential student tasks and responsibilities:

Students will assist with reference management for the book project. All participating students will be trained on reference management software. Students will also assist with basic data management, and may be asked to review coded data.

Student qualifications and characteristics:

Students must have strong communication and organization skills, but do not need prior experience with research. Our research team meets weekly to or bi-weekly throughout the academic year. Meetings function as time to check in (we work around group schedules), so students must be able to work independently.

Position #29; Robert Fiorentino

Mentor name: Robert Fiorentino, Linguistics

Job/project title: Examining the role of cognitive abilities in language processing in native speakers and in second language learners

Project description:

This project is a collaboration between two laboratories in the Department of Linguistics: the Neurolinguistics & Language Processing Laboratory and the Second Language Acquisition Laboratory. The project is co-supervised by Dr. Robert Fiorentino and Dr. Alison Gabriele. In a series of experiments, we examine whether adult second language learners are able to process language similar to native speakers. We also examine the factors that may explain variability in language processing, in both native speakers and learners. Our experiments use a range of measures, including behavioral reading studies and the brain-imaging technique EEG (electroencephalography).

Potential student tasks and responsibilities:

The student will assist in various tasks, including constructing stimuli, assisting in the preparation of experiments, data collection and data processing.

Student qualifications and characteristics:

We are seeking a student with the following qualifications:

1. Has strong organizational skills and is detail-oriented

2. Is available to work in blocks of 3 hours

3. Has some flexibility to work during weekdays and weekends

4. Is able to attend regular meetings with supervisors

5. Is comfortable learning new technology

Position *#31; Dola Gabriel*

Mentor name: Dola Gabriel, Work Group for Community Health & Development

Job/project title: Undergraduate Project Assistant/Undergraduate Research Assistant

Project description:

This position would assist in supporting community-level projects that promote positive change and improvement in addressing issues related to youth violence prevention, adolescent substance abuse prevention and positive youth development projects. Tasks may include supporting the administration and use of several web-based platforms including an online data reporting and evaluation system, the Community Check Box (CCB) Evaluation System and a shared online workspace, the Community Workstation. The CCB supports may also include reviewing and analyzing activities documented in the Community Check Box Evaluation System; collecting and reviewing data, graphs and maps; helping administer, analyze, and prepare data reports; and providing related technical supports including customizing online communication portals, and contacting community representatives as needed. The position also supports data collection and programs supports for a community-based youth development project, PLAY, which is supported through the research center in partnership with the Full Circe Youth Program at Edgewood Homes. Additionally, administrative and program development and communication supports will be provided to assist with the LEAD UP Youth Achievement Program The position also includes general office work, such as copying, filing, data entry, typing, editing, document production, phone answering, running errands, mailings, writing newsletters, internet articles and miscellaneous other duties as required. The Work Group provides the job training for all job duties.

Potential student tasks and responsibilities:

1.   Assist in reviewing data documented in the Community Check Box to evaluate efforts of community coalitions and programs

2.   Assist in collecting and reviewing data to support evaluation of community and youth program activities through the PLAY program.

3.   Provide administrative and program support to the LEAD UP Youth Achievement Program, including maintaining social media efforts, developing blogs, and supporting online communications with youth participants.

4.   Update and maintain online tools used to support evaluation efforts (e.g., Goggle maps).

5. Contribute to team research and writing efforts by helping to gather and review literature to support conducting literature review.

6. Participate in team research and project meetings.

Student qualifications and characteristics:

1. Student must be available to work in blocks of at least two hours.

2. At least a two semester commitment to work with the team

3. Interest in youth development, particularly with minority populations and groups,

4. This position requires excellent and accurate typing skills, excellent oral and written communication skills and the ability to complete projects independently with attention to detail.

5. Basic experience with general office work and use of Microsoft Office programs (e.g., Excel).

6. Attention to detail and ability to review and input data with accuracy.

7. Adaptability and flexibility to new tasks, settings, and opportunities. Willingness to learn new skills and work in new areas to support team efforts.

8. Ability to take initiative and work both as a team and independently based on the task.

Additional comments: Lead Up website:1) PLAY (https://chdprdaplayap.cc.ku.edu/index.php)and the LEAD UP Youth Achievement Program (https://www.myctb.org/wst/communityresearch/leadup/SitePages/Community%20Home.aspx).

Position #33; *Larry Hoyle*

Mentor name: Larry Hoyle, Institute for Policy & Social Research

Job/project title: Data documentation assistant

Project description:

When it comes to research data, just having a table of numbers is not enough. In order to make data usable they must be accompanied by information that describes the data. Consider the number "42". Is it the "Answer to the Ultimate Question of Life, the Universe, and Everything", Jackie Robinson's jersey number, the atomic number of molybdenum, or something else? Without this information it is not clear how to interpret the number. https://en.wikipedia.org/wiki/42_(number . Information (data) about data, in this case the number 42, is called metadata.

This project involves the development of a new version of a metadata standard called DDI (the Data Documentation Initiative). This structure for metadata allows for better searches for data, for software to be able to import data more easily, and for users to better understand the data. The standard provides a vocabulary for describing the kinds of information needed to describe a dataset well.

One of the main activities of the student on this project would be to help produce documentation for this metadata standard. The initial work would involve copying information about existing datasets into a type of outline or template that is defined by the standard.

Potential student tasks and responsibilities:

The first extended task of the student would be to help produce some examples of DDI version 4 structured metadata. The task would involve copying information from existing descriptions of known datasets into a type of outline or template that is defined by the new DDI version. It would involve learning some new concepts and vocabulary as well as learning to use a few software tools.

Student qualifications and characteristics:

This work will require the ability to pay careful attention to detail. An interest in, and a willingness to learn about, this notion of how data are described would also be important. Computer programming experience is not necessary, but would be useful.

We can offer a flexible schedule within our regular office hours.

Position #34; *David Jarmolowicz*

Mentor name: David Jarmolowicz, Applied Behavioral Science

Job/project title: Research Assistant

Project description:

Our research explores the reasons people make choices that aren't in their best interest. Why do people with addiction continue to use drugs, even after experiencing negative consequences? Why don't people exercise, even though it promotes health? Why do people have risky sex, potentially exposing themselves to STIs and unplanned pregnancies? To answer these types of questions, our lab uses methods from behavior analysis, psychology, and neuroscience with both human participants and animal models. Each semester, our lab completes 3-5 research projects. Recent projects have included

- assessing how drugs impact impulsive versus self-controlled choice in rats

- predicting college students' sexual risk and alcohol use

- improving long-term decision-making through exercise

- identifying neural correlates of problem gambling using fMRI

Potential student tasks and responsibilities:

Research assistants in our lab begin by completing simple tasks that are essential for conducting behavioral sessions: preparing data collection sessions on the computer, greeting human participants, and putting rats into experimental chambers. As students make progress, additional research activities can include data entry, data analysis, literature searches, substance administration, and helping develop experimental questions and study designs. The types of additional tasks and activities students undertake are determined by their interests and motivation.

Student qualifications and characteristics:

The ideal student for our research is reliable, can complete assigned tasks independently, and shows interest in human or animal behavior. A consistent schedule from week-to-week is required, but hours are flexible across weekdays and weekends. Participants must be willing to handle (friendly!) rats. No prior experience is necessary because we'll teach you what you need to know, but motivation is important! Previous research assistants in our lab have presented at conferences, won

KU Undergraduate Research Awards, and co-authored peer-reviewed papers. A car is helpful for some research activities, but not required.

Position #35; *Kathleen Lane*

Mentor name: Kathleen Lane, Department of Special Education

Job/project title: Lane Supporting School Success for K-12 Students

Project description:

This project involves being a part of fast-paced, highly-committed, productive research team dedicated to designing, implementing, and evaluating comprehensive, integrated, three-tiered models of prevention (see www.Ci3T.org to learn more about this exciting work).The team includes professors, project coordinators, doctoral students, masters students, undergraduates, and practitioners in local schools. Emerging scholars would help prepare materials for school-site teams to use in professional learning experiences dedicated to learning more about Ci3T – tiered systems of support to meet PK-12 students' academic, behavior, and social needs. In addition, emerging scholars would assist with behavioral screening studies including: research packet construction, data entry and reliability, and general office tasks.

Potential student tasks and responsibilities:

DUTIES:

20% - Materials preparation (e.g., power points, handouts, website development, and data-summary reports)

20% - Research packet construction

20% - Achenbach Teacher Report Form Computer Scoring

20% - Data entry and reliability

10% - Filing, organizing information, printing, scanning, and faxing

10% - Other duties as assigned

Student qualifications and characteristics:

REQUIRED QUALIFICATIONS:

1. Positive attitude and desire to learn

2. One-year experience with Microsoft Office including Word, PowerPoint, Excel, and Outlook

3. Experience with general office skills

4. Available during school hours (meaning when K-12 schools are in session)

PREFERRED QUALIFICATIONS:

1. Interest in education

2. Punctual, organized, and detail-oriented

3. Willingness to learn

Position *#36; Tracey LaPierre*

Mentor name: Tracey LaPierre, Sociology

Job/project title: Medical decision making, informal caregiving and grandparents raising grandchildren

Project description:

This job involves work assisting with three different research projects in different stages of development. The first project is about pregnancy decisions among women with chronic physical or mental health conditions. Data from focus groups will be used to inform the development of a quantitative survey that will then be administered to a small group of women to test and refine the survey. Audio recordings of the focus groups will also be reanalyzed looking at patterns of interactions between participants. Findings will be incorporated into a grant proposal to the National Institutes of Health (NIH) and written up for publication. A second project will investigate informal caregiving networks of older adults using data from a nationally representative sample that spans many years. Of particular interest are patterns in the composition of caregiving networks and factors that influence how they change over time. Findings from this project will be submitted to conferences and for publication. The final project is a follow-up study about grandparents raising their grandchildren. Grandparents who participated in a study in 2008 will be re-interviewed and new grandparents recruited for in-depth interviews exploring the experiences of grandparent caregivers and changes in relationships over time. Of particular interest are the dynamics surrounding legal, biological, and social relationships. The student assistant will receive human subjects training and bibliographic software training, and provide support for various stages of research including finding and organizing current research in these areas, facilitating the development and testing of survey questions, preparing interview data for analysis by transcribing audio recordings, and assisting with grant applications and preparing findings for dissemination through conference presentations and publications.

Potential student tasks and responsibilities:

Student tasks and responsibilities may include updating literature searches, scanning and downloading research articles, entering data from research articles into a bibliographic software program, pulling information out of research articles, organizing research articles by key variables, transcribing focus groups and individual interviews, and comparing variable measurement across surveys. Toward the end of the program the student assistant will be encouraged to think of their own research question that might be answered with the data available to them from these projects

and be given the opportunity to collaborate on a proposal or conference presentation related to their ideas.

Student qualifications and characteristics:

This position requires strong organization, writing and typing skills. The student must be comfortable working on multiple projects. A love of puzzles, self-motivation to seek answers, being a fast learner, and personal or professional interest in the subject matter is preferred. This position would be ideal for someone who wants to learn how to investigate complex social dynamics and their relationships with health and well-being using a variety of methodological approaches.

Position #39; Cecilia Menjivar

Mentor name: Cecilia Menjivar, Sociology

Job/project title: Depictions of Immigrants and Immigration in the Media: A Comparison of State-Level Contexts

Project description:

The aim of this project is to analyze how the printed media (e.g., newspapers) depict immigrants and immigration in two states, one (Arizona) that has passed several immigration laws to restrict immigrants' access to social goods and the other (New Mexico) that has not passed similar laws. The states are comparative but differ in some important respects, such as media depictions of immigrants and immigration.

The data for the project consist of 10 years of newspaper articles from the two major newspapers in Arizona and New Mexico, which are being coded for whether they represent immigrants and immigration in a positive, negative, or neutral way. The project primarily codes text but it will also code images and photos. The student would assist in coding articles and images that have appeared in these newspapers during this time period, and would work under the supervision of a doctoral student who is primarily in charge of coding.

Potential student tasks and responsibilities:

The student's responsibilities would be:

(1) assisting in content coding

(2) assisting in data management of large amounts of qualitative data.

(3) transferring clipped articles from the Arizona Republic and Albuquerque Journal into a shared folder or analytical software system. This task would involve downloading each saved PDF individually out of the saved articles.

In sum, the student would be assisting in the creation of a data base for social science research of media and immigration.

Student qualifications and characteristics:

The student would need to be very attentive to detail, meticulous and organized. In addition, the student needs to be very responsible and work well with others because a doctoral student as well as a professor are involved in the project. It would be a plus if the student is interested in this topic.

Position *#40; Utako Minai*

Mentor name: Utako Minai, Linguistics

Job/project title: How do young children interpret the meaning of 'hard' words?

Project description:

The Developmental Psycholinguistics Laboratory, a research laboratory in the Department of Linguistics, is conducting studies on preschool-age children's understanding of 'hard' words (words whose meaning is abstract, such as "every", "some, "no", and "only"). While children's interpretation of such words is known to be often different from that of adults in a number of domains, research to date has suggested that children are able to comprehend 'hard' words in certain circumstances, despite the abstractness of their meaning. Our studies investigate the similarities and differences between children and adults in a range of aspects of meaning comprehension, particularly focusing on the meaning of 'hard' words. This line of research provides a window through which one can view the development of language comprehension abilities, increasing our understanding of how a child becomes a mature native speaker of a language.

Potential student tasks and responsibilities:

If you join our project as an undergraduate research assistant, you will be expected to commit to following duties:

1.   Assisting in the recruitment of study participants, by contacting local preschools, community institutes and businesses, and making announcements via social media

2.   Assisting in scheduling experiments

3.   Assisting in data collection, either at off-campus research sites (e.g., local preschools) or at the lab

4.   Assisting in data organization (e.g., entering data into a database)

5.   Other general duties assisting in lab management/administration, such as printing, photocopying, checking email, and checking office supplies

Student qualifications and characteristics:

We are seeking a student who is enthusiastic about this type of research. We are particularly looking for a student who:

1. Is able to comfortably and confidently interact with young children (having previous experience in interacting with children, such as volunteer work at child care facilities, would be a plus)

2. Is able to work independently

3. Is responsible and reliable

4. Possesses the basic knowledge of Microsoft Word, Microsoft Excel and some Social Networking Systems (e.g., Facebook)

5. Has access to a car (preferred but not required)

Position #41; *Sanako Mitsugi*

Mentor name: Sanako Mitsugi, East Asian Languages and Cultures

Job/project title: Research assistant

Project description:

At a dining table, when you hear your friend saying, "Will you pass me...," you immediately start looking for salt and pepper. Why can we sometimes guess what other people are about to say? The KU East Asian Language Lab conducts research to understand what helps us make predictions in communication. We are interested in finding out whether this predictive ability can be acquired when you learn to use a foreign language. Prospective findings could have applications for language educators and those interested in communication and comprehension. The Emerging Scholar will assist with preparing and conducting language experiments and with scoring and managing the results and data.

Potential student tasks and responsibilities:

- Assisting with preparing data collection materials, such as scanning and organizing picture images and editing audio files (i.e., slicing recorded sentences and adjusting timings).

- Assisting with administering language tasks and interviews to KU undergraduate students who are learning an East Asian language.

- Scoring the language tasks and entering data (i.e., typing responses from interviews into a computer file) and coding data (i.e., reviewing the interview responses and categorizing them into types).

- Completing tasks to support a faculty mentor's work on project-related scholarly articles (e.g., identifying online articles, scanning materials, assisting with the bibliography).

- Possibly learning how to work with an eye-tracking system to collect data in the Spring.

Student qualifications and characteristics:

The position would be ideal for a student who is interested in the field of cognitive psychology or foreign language learning. We are looking for a student who is able to work in 2–3 hour block at a time. As we deal with millisecond-level timing data, it is crucial that the student be highly organized,

with a strong attention to detail. In addition, the student needs to be responsible and to have good communication skills

Position *#42; Edward Morris*

Mentor name: Edward Morris, Applied Behavioral Science

Job/project title: Digital Scholarship: Changing the Future of History

Project description:

At the University of Kansas, the College of Liberal Arts and Sciences has four divisions, one of them for the Social and Behavioral Sciences. One of this division's departments is Applied Behavioral Science (see http://absc.ku.edu/). Its mission is to understand and improve the human condition through a science of behavior and its application (e.g., autism, truancy, organizations).The name of the science and its application is behavior analysis (see, e.g., www.abainternational.org).

In 2016, the department established a Center for the History of Behavior Analysis. Its director – Professor Edward K. Morris – was then conducting research on the influence of the first "behaviorist" (J. B. Watson) on the founder of behavior analysis (B. F. Skinner). This required his finding what Skinner wrote about Watson line-by-line in over 250 publications. The task was impossible, but he had an idea: Create a searchable database of Skinner's publications. He wrote a grant to complete four tasks: (a) update Skinner's bibliography; (b) build a hard-copy collection of his publications; (c) digitalize the collection; and (d) make it searchable by keywords (e.g., Watson, biology, humanism, peace). The grant was awarded by the Society for the Experimental Analysis of Behavior (http://jeabjaba.org/) and is underway. The four tasks will be among the students' tasks.

The project is limitless. Once Skinner's database has been created, the Center will put it on a website and charge modest fees for searching it. This will fund the creation of other databases, for instance, of the field's predecessors, significant contributors, and KU faculty members. This will advance the quantity and quality of scholarship in behavior analysis locally and internationally by reducing the time and effort spent hand-searching publications and reducing those searches' errors. This will change the future of history.

Potential student tasks and responsibilities:

The students' tasks will be to (a) update the bibliographies of historically significant behavior analysts; (b) build hard-copy collections of their publications; (c) digitalize the collections; (d) make the collections searchable by keywords; and (e) put the collections on the Center's website and monitor their use.

Student qualifications and characteristics:

Students must be organized and resourceful in conducting on-line searches and willing to learn about scholarly databases (e.g., Google Scholar), digital file manipulation (e.g., Photoshop), and website management (but not coding). The work schedule is flexible: (a) several one- to two-hour bocks of time a week between 9:00 and 5:00, but consistent across weeks; (b) at least one face-to-face meeting a week with the Center's director; and (c) background reading in behavior analysis.

Position #43; *Noelle Nelson*

Mentor name: Noelle Nelson, School of Business

Job/project title: Company Reactions to Twitter Activism Against Breitbart

Project description:

In recent months, the political climate has started to have serious ramifications for businesses. Whereas companies used to be able to stay out of political conflict, consumers are more and more demanding that companies 'pick a side'. For example, when Uber sent drivers to JFK airport during the taxi strike of President Trump's travel ban, consumers began to boycott the brand. Importantly, this boycott was successful in part because consumers used social media, and the hashtag #DeleteUber, to spread the word and encourage the market to boycott the ride service.

We are interested in studying these kinds of political activism toward companies. The current political environment has created a unique situation where consumers are demanding a political stance from the brands that they use, and many questions surround this activism and company response. For example: What affects whether a company responds to consumer pressure? How fast do companies respond? Does the company's size matter? What kinds of consumers affect this change?

To begin to study these questions, we will focus on the recent development concerning advertising in the right-wing media outlet Breitbart News, which has been linked to several political conspiracies. A special Twitter account (Sleeping Giant) was created to alert companies to their ads being placed in Breitbart News, in the hopes that consumers would identify such ads, and tag the company and the activist account. Many companies have already pulled their advertising from Breitbart in response to consumer pressure on social media.

We plan on obtaining a large dataset from Twitter that includes any tweet related to this recent phenomenon. By combining these data with information about each of the 1600 companies involved, we will be able to answer many questions about the relationship between consumer activism online and company response.

Initial work on this project will include working with large datasets and doing research on companies so that all the data necessary for our analysis can be matched with the original Twitter data.

Potential student tasks and responsibilities:

Students involved in this project will conduct searches into several sources that contain information about the companies affected by this phenomenon, as well as matching up company information

with the companies mentioned in the Twitter data. This will likely also involve working with large data sets and data sources. Students will learn how to transform data into usable information and about any relations we uncover in the data obtained.

Student qualifications and characteristics:

Some of the characteristics we prefer in student workers are attention to detail and creative problem solving. Additionally, the students should be self-starters – able to independently figure out solutions but also able to follow instructions. Much of the work will be done independently, and then reported to the researchers. Attention to detail is essential.

Finally, we prefer a student who is inherently interested in the topic of politics and how it affects business. This is a new and exciting time in business, and we are happy to involve a student who is curious about these developments.

Position *#16*; *Lauren Norman*

Mentor name: Lauren Norman, Anthropology

Job/project title: Assistant zooarchaeologist

Project description:

The Cape Espenberg Birnirk Project (CEBP) is a collaborative archaeology project that is investigating the origins of the ancestors of modern Inupiat in Arctic Alaska. The historic and modern Inupiat populations are direct cultural and genetic descendants of the Thule culture that existed from AD 1200-1750. One of the biggest questions in Arctic archaeology is the origin of the Thule culture. The current hypothesis is that Thule arose from the Birnirk, a cultural group that existed in northwest Alaska from AD 8000-1300. However, archaeologists have only excavated a few sites, and none in the past 50 years. The location of Cape Espenberg has a discrete, undisturbed Birnirk site. In the summers of 2016 and 2017, an archaeological field crew has been excavating two houses at the site to answer the question of Inupiaq cultural origin. A major part of this project is the identification and analysis of faunal (animal) remains from the houses. By using comparative skeletal material at the Biodiversity Institute, a zooarchaeologist is able to determine which animals Birnirk people targeted for subsistence, what the environment was like at the time of occupation, and what technologies the Binirk people employed to hunt these animals. The student would work on the preliminary identification and analysis of these bones.

Potential student tasks and responsibilities:

Students would work with the zooarchaeologist to organize, separate, and identify faunal material. In the beginning, students would look at fragmented archaeological materials and would separate the bone from wood, charcoal, stone, pottery, and other miscellaneous objects. Under direct supervision, the student would learn the identifying characteristics of bone in relation to other materials. As the student learned more about bone identification, they would start to categorize the bones into marine and terrestrial mammals, and then into different animal species. As the student progressed, they would also learn how to identify modifications of the bones, such as burning, cut marks, gnaw marks, and weathering. The student would be introduced to the working relational database where they would enter their observations.

Student qualifications and characteristics:

A highly organized student who has keen attention to detail is necessary for this position. The student should have interest in either archaeology, anthropology, or zoology. Days and times for this position is flexible. The student should be able to meet for at least 2 hours at a time on a regular weekly schedule. The schedule will be set up in the first meeting for the semester with the zooarchaeologist who is supervising them.

Position *#19; Jennifer Raff*

Mentor name: Jennifer Raff, Anthropology

Job/project title: Research assistant in the Laboratory of Biological Anthropology

Project description:

The genetics collections of the Laboratory of Biological Anthropology (LBA) represent an important research resource for the University of Kansas and collaborating institutions. The collections consist of hundreds of DNA samples from populations worldwide, collected over decades of fieldwork. To continue research with these collections into the future, they need to be assessed for DNA quality and their associated records digitized and incorporated into a database.

Potential student tasks and responsibilities:

During the first semester, students will work primarily on digitizing records associated with collections and entering information into a database. This will comprise approximately 4 hours/week. The remaining 3 hours/week will be spent undergoing laboratory methods instruction from a graduate student.

During the second semester, students will additionally begin working with the collections in the laboratory using a combination of techniques including: DNA quantification with qubit and nanodrop instruments, PCR amplifications of samples, gel electrophoresis, DNA sequencing and sequence analysis. These will provide preliminary results for larger projects for undergraduate independent research into multiple questions, including population history, health and demography.

Student qualifications and characteristics:

No specific prior background is needed, as we will provide training in laboratory methods during the first semester. Ideally, students interested in this position will be curious, have patience and an eye for detail, and be interested in questions about human history and genetics. The Raff lab is committed to fostering undergraduate research experience, so students who succeed in the Emerging Scholars Program may be welcome to continue pursuing research throughout the duration of their undergraduate experience at KU. This project would be ideal for a student intending a career in medicine or life sciences research.

Scheduling requirements: Students must be available for weekly training on Wednesdays from 10:00 am-12:30.

Position #45; *Shannon Portillo*

Mentor name: Shannon Portillo, School of Public Affairs & Administration

Job/project title: #13percent

Project description:

For over 40 years now, the lack of gender equity and representation in Chief Administrative Officer positions in local government has been an issue that scholars and practitioners of the profession have examined and attempted to solve via task forces, committees, and symposium. In more recent years the movement for balanced representation in local government has taken to social media. #13Percent is a hashtag movement that has become a popular form of communication between mostly women who are practicing scholars and professionals in local government. This research project utilizes the relatively new lens of social media to explore the issue of gender balance in local government. In addition to data collected from social media, we will interview practitioners in local government and professional organizations regarding social equity and social justice at the local level. The goal of this project is to discover whether social media is used as an outlet for expressing thoughts and sharing uplifting messages or if is being used to suggest structural changes that could help solve the problem of gender inequality. To explore this topic, we have collected data in the form of tweets using the hashtag #13percent. Students will help us continue analysis of tweets as well as analysis of interview data. Ultimately, the project aims to work towards increased social equity within local government.

Potential student tasks and responsibilities:

Students would assist with basic data coding and data management. This may include inputting codes into our data management software and compiling coded quotes for specific writing projects. Additionally, they may be asked to assist with reference

management. We use Zotero for reference management. Students do not need experience with the software, as they can attend training through the library. Finally, depending on the number of students, and progress with the project, students may assist with interview transcription and analysis.

Student qualifications and characteristics:

Students must have strong communication and organization skills, but do not need prior experience with research. Our research team meets weekly to or bi-weekly throughout the academic year.

Meetings function as time to check in (we work around group schedules), so students must be able to work independently.

Position *#46*; *Emily Rauscher*

Mentor name: Emily Rauscher, Sociology

Job/project title: When Does Money Matter for School Achievement?

Project description:

This project seeks to identify which types of school funding might hold the most potential to improve equality of academic achievement (test scores) by income and race. School funding types include money from state, local, or federal sources, as well as funding to improve facilities. Most research looks at the relationship between the amount of funding and student achievement. But funding may matter more for low-income or minority students. In addition, school districts distribute the various types of funding differently, with state funding often explicitly aimed at increasing equality. Therefore, state funding could be a powerful tool to improve equality in academic achievement.

Your work would help double-check data accuracy and locate key articles and books relevant to this project. The work will likely be boring or tedious at times.

Potential student tasks and responsibilities:

Potential tasks and responsibilities include: 1) Double-checking accuracy of data, particularly that data from various sources were correctly linked. This will involve tedious comparisons of columns of data to be sure the same school districts are represented in each row. I will create the columns of data for you. Your task would require quick or alert eyes that notice differences between one column and another. 2) Learning how to use KU Libraries and Google Scholar search tools for academic sources. 3) Conducting searches of academic literature using those tools to locate academic articles and books that are relevant to the project. 4) As your expertise progresses over the year and depending on interest, writing short reviews of these academic articles and books could be a possible task in the Spring semester.

Student qualifications and characteristics:

Qualifications and characteristics that could help you on this project include: quick or alert eyes that notice differences; attention to detail; the ability to focus despite boredom; interest in or curiosity about inequality, education, or social science.

Position #47; *Derek Reed*

Mentor name: Derek Reed, Applied Behavioral Science

Job/project title: Behavioral Economics of Indoor Tanning: A Framework for Tanning Addiction?

Project description:

This project entails the development of a new simulated marketplace approach to assessing indoor tanning beliefs and motivations. Our laboratory is working with world-renowned laboratories in the areas of behavioral addiction and risky health decisions, including labs specifically focused on indoor tanning and skin cancer. The team of labs seek to create a simulated "purchase task" to assess whether extreme motivation for indoor tanning can be classified as an "addiction." The student assistant will assist in all aspects of study (consulting with us on student perspectives on indoor tanning, creating visual stimuli for the surveys, creating surveys, analyzing data, etc.). We aim to first validate the task by assessing a large number of KU undergraduate students. Once validated, we will focus our research on individuals reporting excessive indoor tanning tendencies. Research assistants will be invited to participate in web and tele-conferences with other labs, as well as joining our teams at conferences to present the work.

Potential student tasks and responsibilities:

Student assistants will:

Provide college-aged perspectives on wording the task.

Consult with research labs at KU and elsewhere for identifying tanning-specific language and images for use in the surveys.

Identify high quality images related to tanning to include in surveys.

Interact with researchers (at KU and elsewhere).

Assist in cleansing datasets as data arrive.

Assist in preparing data for analysis.

Assist in data analysis and graphing of data.

Assist in creating posters and presentations.

Accompany the lab to conferences to present data.

Work closely with the laboratory director and doctoral students.

Student qualifications and characteristics:

We seek students that must be available for a two-hour lab meeting each week, as well as five hours of lab time each week (flexible scheduling).

We seek students with specific experience or knowledge of indoor tanning.

We seek students with creative visual design skills/interests to help create visual stimuli for our tasks.

We seek creative and outgoing students that are active members of our team, as well as active participants in broader collaborations.

We seek students whom are comfortable learning new computer skills and interested in learning advanced computer tasks.

We seek students with interest in addiction, consumer behavior, economics, health/medicine and/or decision making.

We seek students with professional demeanor since they will be collaborating and communicating with scientists around the country.

We seek students interested in obtaining graduate degrees and/or research experiences.

Position #48; *Sarah Robins*

Mentor name: Sarah Robins, Philosophy

Job/project title: Creating a memory error catalog

Project description:

This a project about memory errors. Lots of recent work in psychology and neuroscience shows that our memory can be faulty and in many surprising ways. For this project, we'll be reviewing the extensive scientific research on these errors, with the aim of creating a taxonomy of all of the different kinds of errors that exist. This scientific review is actually part of a project in philosophy (particularly philosophy of mind) where the professor is attempting to give an account of the nature of memory (how it works, what it's good for, etc.). Getting clear on all the ways that memory can go wrong is a very important part of that overall project.

Potential student tasks and responsibilities:

(With guidance and training), the student would be expected to search scientific databases for relevant research articles and archive articles that meet our criteria using bibliographic software. The student is also expected to read articles and write summaries of interesting findings. Depending on student preferences, much of this work can be done independently and during flexible hours. I expect that the student and I will have regular meetings (a few times a month) to talk about the findings and brainstorm ideas about how to classify the findings of the studies - and possibly even discuss the kinds of studies that should be done in the future to help improve memory error classification.

Student qualifications and characteristics:

The ideal student for this position would have interest in the cognitive sciences (especially psychology and neuroscience) and also interest in theoretical or philosophical issues. Familiarity with conducting scientific experiments and/or reading scientific articles would be great, but is not required. Curiosity about theories of science or theories of the mind would be a real benefit - and could help to ensure that the student could be engaged with the project long term. Schedule for this position can be flexible, but will require a student who is self-motivated and an independent worker.

Position *#49; Kathryn Saunders*

Mentor name: Kathryn Saunders, Life Span Institute & Applied Behavioral Science (courtesy)

Job/project title: Computerized instruction for early reading skills: The alphabetic principle

Project description:

The overall goal of the research program is to develop computerized instruction to develop the early reading skills of phonemic awareness and the alphabetic principle. Phonemic awareness is recognizing that spoken words are made up of smaller sounds, and that the same sounds in different combinations form different words. The alphabetic principle is the concept that, when the same sound occurs in different words, it is represented by the same letter. A child who can sound out words is demonstrating both of these skills. Many children have difficulty learning to sound out words. The goal of this project is to develop procedures that teach the alphabetic principle receptively (via a spelling-like task), as a stepping-stone to the more-difficult skill of sounding out words. The procedures are based on state-of-the-art basic research, and data are quite promising. Children who do not sound out words can be taught do demonstrate the underlying skills of phonemic awareness in a receptive, computerized task. Participants are typically developing nonreading children, and children with autism and/or intellectual disabilities.

Potential student tasks and responsibilities:

Because the procedures are computerized, the student can begin helping to conduct sessions independently after a few days of supervision. As soon as they are able, students will begin learning to use Excell to summarize and graph data. Because we use single-subject research designs, and we are working on an instructional sequence, meaningful data can be generated for individual participants on a weekly basis, and the student will present the data at lab meetings. Opportunities to write are available.We also will read relevant, primary-source articles. If the student participantes for the academic year, he/she is very likely to be named as an author on at least one conference-presentation poster.

Student qualifications and characteristics:

The student should have 90-minute blocks of time on most weekdays. Lab meetings are scheduled based on the current schedules of lab members.

Attention to detail and an interest in data are critical. Ability to work one-to-one with children is required. The project is an excellent example of translational research, and has both basic research

and application components. It could be of interest to students who are interested in cognitive development, education, special education, and/or applied behavioral science. (And, of course, reading in particular.)

Position #51; *Michael Vitevitch*

Mentor name: Michael Vitevitch, Psychology

Job/project title: Language and Music Cognition

Project description:

We are trying to understand how people understand and produce spoken language. We do so by studying naturally occurring speech errors and by doing laboratory-based experiments (or simple tasks that tell us how the language system is built). Given the similarities between language and music we sometimes use non-speech stimuli such as music to induce auditory illusions that also give us insight into how the language system is built. We then use mathematical techniques from network science to map out how the words you know might be organized in memory such that they can be quickly and easily retrieved from memory (or not).

Potential student tasks and responsibilities:

Students will: read related research articles that will be discussed at regular lab meetings, be trained in the ethical treatment of human subjects, prepare materials for experiments and other research projects, assist in collecting and analyzing data, and assist in the presentation of the findings.

Student qualifications and characteristics:

Students should have: a 2-3 hour block of time available at least once a week, careful attention to detail, good organizational skills, good interpersonal skills, basic experience with computers and various software packages (e.g., Word, Excel, calendars), and an interest in language (e.g., intending to major in PSYC, LING, SPLH, Music, or some other field related to sound, acoustics, etc.).

Position *#52; Xan Wedel*

Mentor name: Xan Wedel, Institute for Policy & Social Research

Job/project title: Data Assistant

Project description:

Curiosity Wanted! The Institute for Policy & Social Research (IPSR) brings together social scientists from a broad range of disciplines to pursue and conduct research at the international, national, regional, state, and local levels. IPSR is also a repository for Kansas data and a coordinating agency in the U.S. Census Bureau's State Data Center network. As such, we are looking for a student to assist in locating, collecting, transforming, and visualizing a wide variety of demographic and socio-economic data. Student will learn how to identify reliable data sources, advanced Microsoft Excel techniques, and potentially GIS or other data visualization tools to bring data to life.

Potential student tasks and responsibilities:

Tasks will involve searching for and capturing data from known internet sources and occasionally utilizing Google to search for specific data. Data will be downloaded or copied to Microsoft Excel where it will be cleaned, formatted, and at times transformed for use in the Kansas Statistical Abstract (http://ipsr.ku.edu/ksdata/ksah/), Kansas Data Archive (http://ipsr.ku.edu/ksdata/ksah/portal.shtml), or other research project.

Student qualifications and characteristics:

No experience necessary. Ideal candidate is organized, detail oriented, and able to work independently during office hours.

Engineering

Position #56; *Belinda Sturm*

Mentor name: Belinda Sturm, Civil, Environmental, and Architectural Engineering

Job/project title: Fate of microplastics in wastewater and biological treatment of wastewater

Project description:

Microplastics (plastics <5 mm) have become a major and growing global pollution problem. Water resource and recovery facilities (WRRFs) have been described as a point of source of microplastic contamination in water bodies. Through a preliminary study performed with high school teachers through an NSF Research Experience for Teachers (RET) grant, we have obtained preliminary data and estimates of microplastics discharge from wastewater treatment plants through effluent discharge and biosolids land application. The mass majority of microplastics are entrained within activated sludge and ultimately released to the environment through biosolids. We hypothesize that biofilm or fixed film systems with high EPS content will capture more microplastic. We will test this hypothesis by sampling full-scale WRRFs with a variety of treatment systems (with and without primary treatment and secondary treatment as suspended versus biofilm systems). We will also determine the effect of EPS on microplastic adsorption and retention efficiency within lab-scale and pilot-scale reactors and compare conventional and aerobic granular sludge processes for microplastic adsorption. Studies will also determine whether microplastics released into receiving water bodies form biofilm communities that are niche differentiated from activated sludge and serve as carriers for non-native communities into aquatic systems. Lastly, the environmental fate of microplastics land applied as biosolids will be tested in field plot studies at the KU Environmental Field Station. Based on the results, a holistic approach for microplastics management in WRRFs will be proposed.

Potential student tasks and responsibilities:

Collection of wastewater samples from full-scale wastewater treatment plants

Digestion of wastewater samples to extract micro plastics

Student qualifications and characteristics:

undergraduate taking Chem 150 or 135 or 175, pursuing an engineering degree or environmental science

Humanities

Position *#60*; *Katie Batza*

Mentor name: Katie Batza, Women, Gender, and Sexuality Studies

Job/project title: HIV/AIDS Historical Archives Research Assistant

Project description:

I am working on a book that examines the medical, political, and social responses to the HIV/AIDS crisis in the Heartland region (Kansas, Nebraska, Iowa, and Missouri) from 1981-1996. The purpose of the project is to explore the ways that the experiences within the Heartland shaped national AIDS policy and Lesbian, Gay, Bisexual, Trans*, and Queer (LGBTQ) political goals in the late twentieth century. The Emerging Scholar will help find primary archival sources for this project by reading through local newspapers from within the heartland region, and then scanning and cataloging all HIV/AIDS related stories. These newspaper articles will be a major evidence source for the book.

Potential student tasks and responsibilities:

Potential tasks and responsibilities include: receiving training from the library staff on how to work with historical periodicals and on how to scan and catalog documents using the bibliographic program Endnote. With this training in place, the student will then begin methodically reading through the wide array of regional newspapers held at the Watson Library from cities and small towns throughout Kansas, Nebraska, Missouri, and Iowa, identifying, scanning, and cataloging all AIDS related materials. As the student gets more comfortable with this task, there also may be a chance to work within personal and organizational archives held at the Spencer Library on campus.

Student qualifications and characteristics:

This job requires patience and curiosity because it is similar to detective work. The student must also be organized, attentive to detail, and methodical and will receive training to help hone these skills. Interest in HIV/AIDS and/or the LGBTQ community will be very helpful as will an interest either in History or Women, Gender, and Sexuality Studies. We will meet regularly to discuss your findings, progress, and for general supervision and mentoring. Beyond these regular meetings, the scheduling for student work is only confined to the Watson Library hours of operation. I will occasionally join you in the library to work together.

Position *#62; Stephen Egbert*

Mentor name: Stephen Egbert, Geography and Atmospheric Science

Job/project title: Historical record data specialist

Project description:

This project is part of a long-term effort to transcribe historical records relating to Native American land policy in the late 1800s and early 1900s. The transcribed records will become part of a public online database and will be used in a geographic information system (GIS) to analyze patterns of land holding and family relationships.

Potential student tasks and responsibilities:

Major tasks will include data transcription, entry, and analysis. Using photographs of original handwritten records, the Historical Record Data Specialist will transcribe the handwritten records of land allotments and family relationships into an Excel spreadsheet template in preparation for analysis and linking to an online database.

Student qualifications and characteristics:

Ability to use MS Excel for data entry.

Ability to read and transcribe cursive handwriting.

Job or other experience demonstrating attention to detail.

Availability for weekly team meetings and updates.

Additional comments: An interest or background in Native American history and policy will be a plus.

Position *#63; Maryemma Graham*

Mentor name: Maryemma Graham, English

Job/project title: Transnational Belonging: Race and Writing Beyond the US Borders

Project description:

Following upon my last book, Mobile and Entangled Americas (2016), in my next project, I want to develop a new paradigm for exploring American writing. Typically, we look at the expatriate experience (white American writers to England or African American writers to Paris) as the major waves of writing beyond US borders. But my research through the years has identified a much larger pool of writers and writing that operate transnationally, i.e. characterized by multi-positional identities as a result of working/living in and belonging to different geographic locations as well as the way in which writers cross borders in their work. While it is customary to understand that in our global economy, books, ideas, culture, and writers migrate just as capital does, I argue that for different sets of reasons, writers individually or as part of a community of artists, have engaged in a set of transnational practices reflected by their conscious and successful efforts to escape control and domination, oppression and proscription within the US. This transnational belonging is fundamentally different from the way in which expatriates like Henry James and Ezra Pound saw Europe and especially England as places that cultivated the "high arts" and preferred that association. The term "transnational belonging" I use to describe individuals and groups who find comfort in the experience of mobility, who give new meaning to the experience of migration and immigration (continuous or singular) and whose work is constantly questioning totalizing boundaries and essentialist identities. Transnationalism defines their existence just as it accounts for much of their cultural production. Often the central factor is race (a socially constructed identity applied to one group in relation to another) or racism (a set of practices, historically protected by law, that separates and maintains power and privilege of one group by denying the same to another). For more than three decades, we have been collecting and mapping writing beyond US borders as part of our recovery work at the Project on the History of Black Writing. As we begin to make this work more digitally available, my task as a scholar is to develop a body of critical work that helps to inform how we read and understand those works from transnational writers. Conventional readings of black or white literature no longer hold for us. For example, interpreting Langston Hughes through his experiences in China allows us to look at his work in relationship to Lu Hsun, his contemporary in China. Hughes lived comfortably in the French and Spanish speaking countries (where he served as a major translator of works into English) but he also traveled to Russia. Malmo, Sweden was the home of a large community of writers, musicians and artists who lived and worked closely together, all expatriates from the US. So far we have recovered the work of two writers from this community, but are in touch with the families, libraries and repositories housing most of this work that was not published or circulating in the US. The group is distinguished by its

intersectionality and interdisciplinarity: the visual arts, poetry, music and narrative writing operating in tandem. Hawaii, before it became a US state in 1959, also became a place of belonging to several writers from the Midwest, notably Frank Marshall Davis from Arkansas City, Kansas. The US military experience prompted many Americans to remain outside US territories at the end of their tour of duty, keeping their distance from American segregation. There are also writers who migrate to the US, like Edwidge Danticat, for whom the transnational experience is sharply defined.   Even for a writer like Toni Morrison, living in Paris for a period of her life --a little known fact--created a sense of belonging out of which her well known work could emerge. While some of these writers are well recognized, many of them did not opt for joint publication in the US and are thus part of the lost legacy that remains to be uncovered and examined.

Potential student tasks and responsibilities:

1. Communicating through phone, email and Skype

2. Finding books in library and on Interlibrary loan.

3. Setting up and monitoring Instagram account

4. Developing historical timelines for individual and groups of writers/artists

5. Developing a database for each writer (biographical information, publications, contacts, etc)

6. Drawing maps

Student qualifications and characteristics:

1. Willingness to spend time in library, internet researching, and web-based resources

2. Experience with spread sheets, power point, social media and Skype

3. Ability to organize information and pays good attention to detail

4. A detective sensibility: looking for and following leads

5. A second language would be a valuable (but not necessary) asset: French, German, Chinese, Japanese, Russian

6. Three hours blocks of time for several days a week.

7. Willingness to travel away from campus if necessary

8. Comfortable talking to strangers on the phone.

9. Willingness to ask questions when something is not understood clearly.

10. Willingness to accept constructive criticism.

Position #65; *Rhonda Houser*

Mentor name: Rhonda Houser, KU Libraries

Job/project title: Overlaying Historical Maps on a Modern Globe

Project description:

This project involves transforming digital, historical maps into GIS layers and making them available to wider audience. GIS stands for geographic information systems, and is a way to organize and explore geographic information using software and layers of data. Layers represent real-world features such as schools, businesses, tornado paths, soil types, stream networks, and other location-based data (introductory video: www.youtube.com/watch?v=oMUGp0rGf7I).

The work involves georeferencing historical maps of Kansas towns (background: https://lib.ku.edu/sanborn-maps). This means using GIS software to place the maps in real geographic space, essentially assigning latitude and longitude.

The job will be mostly hands-on computer work, and will include plenty of training, and regular discussions with a mentor to go over progress, ideas, questions, and so on. Georeferencing and related work are not difficult to perform or understand, once the student gains basic knowledge of the process and software. Some tasks may be repetitive, but each map is interesting and unique.

This project helps document the history of towns and cities in Kansas, and how buildings, roads, and neighborhoods have changed over time and space. The maps are a rich resource for studying and teaching architecture, genealogy, history, urban geography, and more. The student will help make a valuable contribution!

This will be an excellent opportunity for the student to learn about the utility and power of GIS data and software. The field of GIS is growing quickly and these skills are useful in a wide range of areas, from archaeology to ecology to journalism and more. The job will also provide exposure to basic concepts of mapping and geography. Skills learned may be used in other classes, and ultimately in the workplace.

The student will learn best practices in managing digital files that can be immensely helpful in classes and daily life. The student will also learn about the history and layout of Lawrence, as maps cover the older downtown and residential areas.

This early component of the project will help lay groundwork for a larger effort to georeference the statewide collection. We will make the resulting 'GIS-ready' maps, available in formats for GIS users and the general public.

Work location is Watson Library, one of the main campus libraries, likely in the GIS & Data Lab. The student will have a dedicated workspace with a high-power computer to use. The student can work a total of seven hours per week, sometime within Monday-Friday, 8am-6pm.

Potential student tasks and responsibilities:

•   Go on field trip to Spencer Research Library to take a gander at original maps

•   Search for other similar projects at U.S. universities or historical societies

•   Search for articles on georeferencing Sanborn maps

•   Go through GIS tutorials to learn the basics of GIS data and software

•   Use image editing software to convert original images to smaller size and appropriate format (possibly)

•   Use Paint to clip out maps that include multiple / inset maps (possibly)

•   Use ArcGIS software to georeference maps

Student qualifications and characteristics:

•   Communicates well (verbally and listens), is reliable, diligent and organized

•   Interested in maps, GIS, history, historical maps

•   Curious and creative; like to learn new things

•   Comfortable working with computers, software and digital files

•   Has working knowledge of Windows computers

•   Able to locate and manipulate digital files (delete, rename, copy, etc.)

•   Can do basic tasks in spreadsheet software such as MS Excel, and in word processing software such as MS Word

•   Ability to use (or interest in learning) basic image editing software is a big plus

•   Persistent and enjoys the challenges and rewards of solving problems, willing to ask for help

Additional comments: Mentor will train and provide continuous feedback and assistance on project, including step-by-step directions.

Position *#66; Jonathan Lamb*

Mentor name: Jonathan Lamb, English

Job/project title: Digital Search Specialist

Project description:

I am seeking Emerging Scholars to assist me with the digital archival research on my new book project. This project, titled _Bookish Words_, uses digital and library archives to explore how the material features of books created a set of conceptual, rhetorical frameworks in early modern England. When writers described the world "in folio," they did so because the folio's size, relative to other formats, had acquired a particular signifying function: the world is large as folios are large. Italic font signified differently than roman; a scientific book bore recognizable qualities that distinguished it from a book of poems. These symbolic values, in turn, supplied writers with a vocabulary of expression, from which arose uses that still have currency today.

Bookish Words shows how the language of the printed book became so firmly installed in the English cultural vocabulary that a great variety of writers could casually use the book as a metaphor. It will reveal how books served early modern writers as both objects and modes of address—as tools for thinking and writing. Each chapter explores how particular physical qualities of the book served as a reservoir of metaphors, concepts, and expressions; together the chapters describe how early modern writers employed the language of the book, and how that language organized human experience. In chapter one, book size serves as an evaluative measure for ideas; the ensuing chapters survey punctuation as a marker of distinction and hierarchy (2), typeface as a sign of religious affiliation (3), title pages as exemplars of deception and false promises (4), prefaces and dedicatory epistles as ways of conceiving of life and death (5), and finally the materials of ink, paper, and binding as metaphors for the practice of writing (6).

Potential student tasks and responsibilities:

Emerging Scholars who work with me will be involved in searching the digital archive for various uses of bookish words and recording those uses in a database. This isn't as easy as it sounds: the student(s) who work with me will learn how to query a dataset of 2 billion words using special queries and the Python programming language. Although I will train students on these Advanced Search capacities and provide them a sense of what to look for and how, students will have the freedom and flexibility to solve the various problems that hinder the research process. At the end of their time as Emerging Scholars, students will be proficient in advanced searching and data analysis. Here are some examples of the kind of queries the Emerging Scholars will perform:

- Basic lexical searches ("big book," "book of Nature")

- Proximity searches ("volume" near "time")

- Collocations (words that appear in a certain proximity with "page")

- Linguistic forms and parts of speech ("book of [NOUN]," "X is not X")

Student qualifications and characteristics:

I am seeking students who are interested in books, in the past, and in digital search. Students with a willingness to confront complex linguistic problems with computational solutions will be particularly interested. Moreover, students who want to pair study in the humanities with computer science will find themselves right at home. Students interested in this position should be well organized, attentive to detail, and comfortable with the English language and computers. Students who work with me will be free to work from home. By the end of the academic year, I hope to have produced a huge database of uses of bookish words.

Position #67; Elizabeth MacGonagle

Mentor name: Elizabeth MacGonagle, Kansas African Studies Center

Job/project title: Migration Stories Research Assistant

Project description:

The Kansas African Studies Center at KU is engaged in a project that collects and promotes various stories about migration involving Africans in Midwestern communities. This humanities-based research about recent African immigration in the US received initial funding in 2016 from the National Endowment for the Humanities as part of their Humanities in the Public Square program. The initiative seeks to offer moving stories about individuals of African descent who contribute to America's diversity. The student scholar will be mentored by the Center's Director (Prof. Liz MacGonagle) and also work with the Assistant Director (Mackenzie Jones, a full-time staff member) to become familiar with current research and issues related to immigration, particularly to the Midwestern region. The project will benefit from the talents of a student scholar who will help to analyze and promote stories of recent migrants and their American-born children that will be featured on the project's website at www.migrationstories.ku.edu   One main goal of the project is to offer a tool kit for high schools, colleges, and universities wishing to engage their students and communities in this issue through "conversation." This position provides an opportunity for research in the humanities and social sciences, and calls for creative thinking about how to present resources to students, teachers, and the general public. It also allows for collaboration with KU's Center for Latin American and Caribbean Studies on the shared goal of enhancing our national narrative about immigration.

Potential student tasks and responsibilities:

Tasks will grow in difficulty and responsibility as the student gains a familiarity with the project and available resources related to stories of migration. Throughout the year the scholar will work with Prof. MacGonagle and Center staff to collect and analyze research materials that will be relevant for the development of appropriate resources related to stories of migration. The student will supplement existing source material gathered previously by conducting humanities-based research and developing mini-projects related to the theme of migration stories under the guidance of Prof. MacGonagle. These might include video vignettes from migrants or host community members; a photo essay; a podcast, a lesson plan, or an annotated bibliography. We look forward to benefiting from a student's perspective and learning more about how particular resources might resonate with youth and K-16 audiences.

Student qualifications and characteristics:

We are seeking a student scholar interested in the development of knowledge and the development of new perspectives through the power of stories. This research position requires organization, motivation, and creativity. Strong writing skills and the ability to produce relevant and polished written materials are necessary. Attention to detail is also important. Other skills such as website design, graphic design, or creating and editing videos, podcasts, or blogs are preferred, but not required.

Additional comments: An openness to discussing the contested dialogue surrounding immigration and citizenship is needed.

Position *#68; Isidro Rivera*

Mentor name: Isidro Rivera, Department of Spanish and Portuguese

Job/project title: Digitalization and Development of Digital Repository of Materials and Resources for Research in Medieval Iberia

Project description:

This project seeks to create a digital repository of visual materials and resources for research in Medieval Iberia that would be incorporated into a digital humanities project sponsored under the auspices of <i>La corónica</I> and Johns Hopkins University Press / Project Muse. This phase of the project will consist of digitizing resources and participating in the organization of the materials.

Potential student tasks and responsibilities:

Student will be responsible for:

a Work with research materials

b. Assist in organizing materials

c. Digitize documents, transparencies, slides, and photographs

d. Use a slide scanner and digital software (training will be available)

e. Assist in the tagging and preparation of the digital media

f. Work with the Medieval Iberia research group to coordinate digital projects

Student qualifications and characteristics:

Qualifications:

a. Willingness to engage in digital humanities research and learn about medieval Iberian culture, language, and literature

b. Have superior organizational skills with the ability to work independently and responsibly within the humanities

c. Able to attend research meetings and training sessions as needed

d. Willingness to work within a research group with graduate students and professor

e. Be available for 2-hour blocks of time during the week

Position #48; *Sarah Robins*

Mentor name: Sarah Robins, Philosophy

Job/project title: Creating a memory error catalog

Project description:

This a project about memory errors. Lots of recent work in psychology and neuroscience shows that our memory can be faulty and in many surprising ways. For this project, we'll be reviewing the extensive scientific research on these errors, with the aim of creating a taxonomy of all of the different kinds of errors that exist. This scientific review is actually part of a project in philosophy (particularly philosophy of mind) where the professor is attempting to give an account of the nature of memory (how it works, what it's good for, etc.). Getting clear on all the ways that memory can go wrong is a very important part of that overall project.

Potential student tasks and responsibilities:

(With guidance and training), the student would be expected to search scientific databases for relevant research articles and archive articles that meet our criteria using bibliographic software. The student is also expected to read articles and write summaries of interesting findings. Depending on student preferences, much of this work can be done independently and during flexible hours. I expect that the student and I will have regular meetings (a few times a month) to talk about the findings and brainstorm ideas about how to classify the findings of the studies - and possibly even discuss the kinds of studies that should be done in the future to help improve memory error classification.

Student qualifications and characteristics:

The ideal student for this position would have interest in the cognitive sciences (especially psychology and neuroscience) and also interest in theoretical or philosophical issues. Familiarity with conducting scientific experiments and/or reading scientific articles would be great, but is not required. Curiosity about theories of science or theories of the mind would be a real benefit - and could help to ensure that the student could be engaged with the project long term. Schedule for this position can be flexible, but will require a student who is self-motivated and an independent worker.

Position *#69; David Roediger*

Mentor name: David Roediger, American Studies, History, African and African American Studies

Job/project title: Antiziganism in U.S. History

Project description:

I am beginning a project on the place of anti-Romani racism (antiziganism) in the U.S. law, policing, and popular culture as an under-investigated component of what is now called racial profiling and of immigration restriction in the U.S. Romani (often miscalled "gypsies") people had long been present in the U.S., they arrived in greater numbers after the abolition of Romani slavery in Romania in 1864. Their presence was very much noted in debates over the Fourteenth Amendment and more generally on civil rights and race in the post-emancipation U.S. Regularly vilified as European but not "white," as a "criminal race," and as a threat because of a "nomadic" style of life, their movements and occupations were fiercely regulated.

Potential student tasks and responsibilities:

The initial phase of this project is based on research in databases that have digitized millions of printed pages from the nineteenth and early twentieth century. See, for example http://ebooks.library.cornell.edu/m/moa/ and http://quod.lib.umich.edu/m/moagrp/ . Such databases record all uses of "gypsy" and "gypsies" in major U.S. periodicals and books from the period. The Lexis legal database is similarly searchable for mentions in litigation. The student would learn, from me and from a graduate research assistant, to do the searches and to summarize the content of the sources unearthed, year by year. We would meet regularly to discuss patterns emerging and when to summarize, as opposed to printing out, the source.

Student qualifications and characteristics:

Ability to conduct simple computer searches, to read sources (including court cases) carefully, to take effective notes on attitudes and practices towards Romani people expressed in the documents, and to convey a sense of patterns of such usages. Care in record-keeping is also necessary.

Position #70; *Misty Schieberle*

Mentor name: Misty Schieberle, English

Job/project title: Rare Books Studies Research Assistant

Project description:

When 17-18th century college students weren't writing papers or studying, what did they do with their time? This Digital Humanities project investigates a unique rare book in the Spencer Research Library that collects the intellectual efforts and amusing writings of Oxford students who procrastinated by composing original poetry about duck hunting; arguing over the best liquors for a dinner party; devising a polite "recipe for love"; mocking their Oxford professors' pretensions; and making their own interpretations of other writers' texts. The handwritten book in question will be the subject of a digitization and transcription project, which will include historical research and annotations to explain antiquated references to modern readers. Your job will be to aid in the beginning of this research project; our overall goal will be to present a digital edition of the book with notes and materials that will help our readers better understand the interests and writings of our authors in their original context and in a way that is meaningful for 21st-century readers.

Potential student tasks and responsibilities:

Tasks that will be required (with guidance from mentor but with increasing independence over the year):

1.   Assist in the scanning of pages from a rare book.

2.   Read and transcribe the handwritten pages into a Microsoft Word or GoogleDoc document (the writing is all in English; some texts are translated from short, sometimes scandalous Latin poems - for which modern English translations exist, too).

3.   Identify terms and topics to look up in historical dictionaries and databases that will help readers interpret the Oxford students' writings (e.g., "buxom" does not mean what it used to!).

4.   Research historical topics raised in the book's items, e.g., what general education topics Oxford students studied, what texts were the students imitating, and (if there is student interest/ability) what forms/genres the writers used.

5.   Build a bibliography of resources for studying and analyzing the book and its contents.

6.   Begin to theorize about the point of some of the entries, the kinds of writers that produced them, and the purpose of the volume as a whole.

7. Meet regularly to discuss progress with mentor and other collaborators.

Student qualifications and characteristics:

The successful applicant for this position is excited to learn about the random musings of youths from centuries ago, comfortable reading cursive with some instruction in deciphering early handwriting, and able to conduct basic research into words used, facts about the time period, and topics raised by using library databases and other scholarly resources, in Spencer Research Library and elsewhere. Being organized and attentive to detail is essential. The student will be required to perform some of the research in the Spencer Research Library during its hours (items cannot be checked out), but otherwise, the exact schedule for work is flexible.

Students with interests in English Literature, History, and Classics (Latin) may find this work professionally useful, but all interested parties are welcome to apply. This project does not require any particular field-specific knowledge or experience, just curiosity. Applicants should simply be willing to try and have enthusiasm for detective work.

Position #71; *Paul Scott*

Mentor name: Paul Scott, French & Italian

Job/project title: Cross-cultural comparison of TV zombies

Project description:

I'm working on an article comparing the cultural specificities of several recent TV shows about zombies, including: The Walking Dead (USA); In the Flesh (UK); The Returned/Les Revenants (France); Glitch (Australia). These TV shows within the past 7 years represent the mainstream penetration of the zombie genre and its definitive separation from cult-movie status. Some critics have linked this to widespread anxieties in the West since 9/11, given that the genre deals with an apocalyptic event for humankind and that it has peaked markedly since 2001. My study, initially an article but potentially a book-length project, is founded on the basis that there is more to the recent popularity of the genre than this factor, particularly since it has enjoyed TV success in different countries and continents. At the same time, the shows have modified some of the classic markers we associate with the genre and the project looks at common sources, shared influences, and reciprocal references between these different shows, situating the TV zombie more within a science-fiction context than a zombie theme. The project will be the first extensive cross-cultural comparison of zombie shows.

Potential student tasks and responsibilities:

The student would become familiar with at least two of the zombie TV shows and would be tasked with compiling a list of similarities and divergences between them in an Excel spreadsheet (location/characters/plot/nature of zombie/danger of zombie/novelties from classic zombies). The student would also be responsible for locating reactions to the shows in the form of TV reviews, blog entries, and social-media content and building up a bibliography of these references, since it is important for the project to consider the impact of these shows.

Student qualifications and characteristics:

Ideally, the student would have an interest in and/or knowledge of science-fiction and horror (movies, video games, TV). The nature of the research is flexible and can be completed over the student's leisure hours but I would expect availability for an hour once a week to discuss findings and sources. The student's work is complementary to my own research. While mine concentrates on scholarly sources, the task of finding online reactions and reviews will be crucial in considering the

popular reception of these shows and drawing out conclusions about their impact, a factor that is largely ignored in dealing with TV shows. I would anticipate providing feedback to the student over the course of the semester during our weekly meeting about how their findings fit in with my own research, therefore explaining the process of finding and using sources and strategies of research. These meetings would therefore be two-way exchanges.

Position #72; *Kapila Silva*

Mentor name: Kapila Silva, Architecture

Job/project title: Historic Urban Landscapes of Asia

Project description:

The advising professor has expertise in cultural aspects of architecture, urbanism, and historic preservation, and is currently preparing a book proposal for an edited volume in Historic Urban Landscapes in Asia. This volume brings chapters from the Middle East, South Asia, Southeast Asia, and East Asia, written by authors experienced in these areas and their urban heritage. The volume addresses critical issues in balancing the preservation concerns with development needs in historic cities in Asia, based on several case studies.

Potential student tasks and responsibilities:

Students will be primarily responsible for the construction of an archival data base on the topic, locating and retrieving relevant published sources for this book project. Students' tasks include (a) the consultation with the advising professor; (b) conduct search for locating relevant research materials (books, articles) in campus libraries, archives, e-journal data bases, and the web, using specific keywords; (c) scanning/photocopying of selected sources; (d) taking notes or preparing abstract summaries of articles collected; (e) constructing the archival data base using Endnote software; and (f) preparing certain illustrations (maps, diagrams, charts, etc.) using software such as Photoshop and Illustrator. Students will meet regularly with the advising professor to discuss the research, suitability of materials located, and preparation of the data base and illustrations.

Student qualifications and characteristics:

Good general computer skills, communicative ability, and punctuality are vital. Students who take initiative, are organized, and have attention to detail will thrive in this task. Students who are interested in learning global cultures, Asian history and historic places, and issues in managing cities will certainly enjoy this project.Tutorials on graphic design software and how to do archival search will be arranged to prepare the students for their assigned tasks.

Position #73; *Luciano Tosta*

Mentor name: Luciano Tosta, Spanish and Portuguese

Job/project title: The Unlettered City: Human Geography, Subalternity, and Spaces of Oppression in Iberian and Latin American Literature and Film

Project description:

I am working on a book manuscript entitled "The Unlettered City: Subalternity and Spaces of Exclusion in Latin American Film and Literature." It discusses representations of marginal(ized) subjects such as prostitutes, homeless people, vagrants, transvestites, beggars, and street children in public spaces in Iberian and Latin American cities. I analyze these portrayals by focusing on how the spaces that they inhabit transform life and perceptions of the ideal Iberian and Latin American city. This project is theoretically informed by the fields of postcolonial and subaltern studies in connection to scholarship in architecture, demography, and urban geography, with an emphasis on the urban experience. The project is still in its very early stages.

Potential student tasks and responsibilities:

The students will locate Spanish, Portuguese, Spanish American and Brazilian films and literary works in which such "marginal(ized)" characters are portrayed. They will conduct bibliographical research on these works and authors/directors,, as well as on specific Iberian and Latin American cities such as Lisbon, Madrid, Barcelona, Buenos Aires, Mexico City, Rio de Janeiro, and São Paulo. They may also scan articles to digital format, and read some of the works in order to identify major themes. The students will research critical scholarship on cities, and particularly on urban sites, and notions such as space, place, and mobility. The students are also expected to help proofread professor's draft chapters or essays written for conference presentations. They will discuss each step of the research with the professor, including manuscript submission.

Student qualifications and characteristics:

The ideal emerging scholar would have an interest in literature and cinema, as well as in urban and architectural studies, and in social issues. Knowledge of Spanish and Portuguese is not necessary, but certainly a plus. Students in humanities, social sciences, or art and architecture desired. Proficiency with computer applications such as Microsoft Office suite, especially Microsoft Word. Expert user of the World Wide Web. Experience with academic writing a plus. Organization and

attention to detail a must. Familiarity with MLA or Chicago Style desired. Must be available for three mandatory weekly meetings with professor.

Art &
Architecture

Position #74; *Joe Colistra*

Mentor name: Joe Colistra, Architecture

Job/project title: Smart Cities Housing Lab

Project description:

I need a student to work with me in assembling product literature, specifications, and drawings of multifamily housing layouts and components for use in developing a prototype design. The focus is on affordable housing, senior housing, HUD housing policy, smart cities, building technology, prefabrication.

Potential student tasks and responsibilities:

Organization of literature review, assembling product literature and samples, ordering products.

Student qualifications and characteristics:

1.) architecture major preferred; 2.) attention to detail and organization is critical

Position #75; *Sarah Gross*

Mentor name: Sarah Gross, art

Job/project title: studio assistant

Project description:

The project encompasses beginning several artistic inquiries working towards a large solo exhibition. My spatial installation generally uses repetition and modular construction to construct ceramic artwork that references architecture, bricks, and tiles. Components often number in the hundreds and an assistant will provide me with learn the skills to see a large-scale project through from research and development to completion and gallery set-up. We will begin with technical material testing including clay and glaze samples, and move through the refinement of the idea and production phase of a piece.

Potential student tasks and responsibilities:

Tasks will begin with mixing clay and glazes, recording and organizing test results such as working properties, texture and color of materials. Depending on the method of production the student will learn various mold-making and casting processes, glazing and/or painting, kiln loading, and will be expected to assist in the packing and shipping of artwork to out-of-state exhibitions. Other tasks will include maintaining an organized workspace and assisting with moving and photographing work. Due to the nature of my work many tasks are repetitive and hands-on. You will get dirty.

Student qualifications and characteristics:

Experience is not necessary but this position requires attention to detail, organization, initiative taking, and the ability to remember and follow instructions with great care. Students with an interest in the visual arts and especially ceramics will be given valuable experience that will benefit their pursuit of a serious art career. A regular and reliable schedule is required to fit blocks of time to meet and go over tasks.

Additional comments: Please provide examples of experience that qualify you (organization, seeing repetitive tasks through to the end).

Position #76; *Margaret Jamieson*

Mentor name: Margaret Jamieson, film and media studies

Job/project title: film production intern

Project description:

American Communion is a documentary project that examines the transformation in experiences, representations, and invocations of US combat veterans over the past five decades, and explores how this evolution has shaped a political culture of persistent global war. American Communion brings these issues sharply into focus in a spirit of scholarly inquiry combined with critical empathy, melding intimate portraits of veterans of the US-led conflicts in Vietnam, Iraq, and Afghanistan, with deep analysis of cultural and historical shifts and contradictions in American beliefs about and practices of war making. This documentary project is a multi-part, episodic project. Principal photography is completed, and the post component is underway. The in-progress edit can be found at: https://vimeo.com/58955960

Potential student tasks and responsibilities:

Film and media research, identifying and downloading relevant archival material, carrying through as an editorial assistant, labeling media, pulling clips for editing and preview, helping organize and promote test screenings with the on-campus veterans and military associations. Some production assistance as required and as skills allow.

Student qualifications and characteristics:

Student qualifications would ideally include: an interest in documentary film, attention to detail, some data entry skills and the ability to work independently.

All the skills and requirements could be learned, including archival research, media research, basic video download and capture,

An interest and facility in film and media. Basic research skills, basic data entry, moderate media handling skills.

Position #72; *Kapila Silva*

Mentor name: Kapila Silva, Architecture

Job/project title: Historic Urban Landscapes of Asia

Project description:

The advising professor has expertise in cultural aspects of architecture, urbanism, and historic preservation, and is currently preparing a book proposal for an edited volume in Historic Urban Landscapes in Asia. This volume brings chapters from the Middle East, South Asia, Southeast Asia, and East Asia, written by authors experienced in these areas and their urban heritage. The volume addresses critical issues in balancing the preservation concerns with development needs in historic cities in Asia, based on several case studies.

Potential student tasks and responsibilities:

Students will be primarily responsible for the construction of an archival data base on the topic, locating and retrieving relevant published sources for this book project. Students' tasks include (a) the consultation with the advising professor; (b) conduct search for locating relevant research materials (books, articles) in campus libraries, archives, e-journal data bases, and the web, using specific keywords; (c) scanning/photocopying of selected sources; (d) taking notes or preparing abstract summaries of articles collected; (e) constructing the archival data base using Endnote software; and (f) preparing certain illustrations (maps, diagrams, charts, etc.) using software such as Photoshop and Illustrator. Students will meet regularly with the advising professor to discuss the research, suitability of materials located, and preparation of the data base and illustrations.

Student qualifications and characteristics:

Good general computer skills, communicative ability, and punctuality are vital. Students who take initiative, are organized, and have attention to detail will thrive in this task. Students who are interested in learning global cultures, Asian history and historic places, and issues in managing cities will certainly enjoy this project.Tutorials on graphic design software and how to do archival search will be arranged to prepare the students for their assigned tasks.