

***This is a guided template that will allow you to edit the F & E document for your proposal. You may edit and customize this document to fit your specific project. Any questions or concerns, contact cindy.brown@csbs.utah.edu ***

Facilities, Equipment and Other Resources

University of Utah

1. Office:

Here you will describe the office facilities and accommodations of the PI, CoPI, Post-doc and or Research Assistants on the project

PI and CoPI: In this section please provide information regarding the office accommodations and location for the principal investigator along with any computing equipment available in the office. If there is a conference room that will be used to meet with CoPI or others, please state that in this section. If your office is located near a Laboratory that will be used for research pertaining to the project, please note that here. **Example:** `` Dr. _____ and Dr. _____ have private offices in the Alfred Emery Building (AEB), and the Social & Behavioral Science Building (S BEH), respectively, in the College of Social and Behavioral Science. The investigators will meet weekly in a small conference room located in OSH and Dr. _____ has a secondary office in the Center for _____ studies located in Research Park with video conferencing capabilities that will be used for _____ component of the project. All offices are equipped with current phones and desktop computers, which are replaced according to a regular rotation schedule.”

Research Assistant / Post-Doc: In this section please provide information regarding the office accommodations and location of any graduate students or Post-Doctoral Fellows working on the project. **Example:** ``The graduate students budgeted for data mining and statistical analysis support will have shared graduate student office space in AEB with appropriate desktop computers. The Graduate students will also have access to computing facilities in AEB adjacent to their shared office where they will conduct their main duties for the project.”

2. Computer:

Here you provide a general description of the IT support and Computational resources used during the project

General IT Support: The University of Utah sponsors a central computing facility, and a network is in place to permit high-speed, interactive terminal access, file transfer, electronic mail, and connections to the University and worldwide databases. The administrative home of Dr. _____ is in the College of Social and Behavioral Science (CSBS). CSBS Computing provides integrated services to the Department of _____ and all other departments in CSBS and more than 16 other Programs, Centers and Institutes housed within the College. CSBS Computing is comprised of 5 professional staff responsible for maintaining and developing the IT services necessary for advanced research, collaboration and the academic missions of the college. CSBS Computing provides support services for roughly 2,000 workstations authorized to use the CSBS Network. All workstations on the CSBS network are managed for software updates, operating system updates and security. CSBS computing provides direct and remote help desk support and can implement data access and storage solutions including data encryption and off site access via a terminal server. The CSBS network is comprised of Sun servers and VMWare server farms and Cisco switches and routers. The network also provides access to shared team storage space. All storage is protected by incremental nightly backups and monthly full backups. Clones of the tape media are duplicated to verify functionality and then sent off site for disaster recovery. All data is encrypted prior to being written to tape.

Personal Workstations: All project members (graduate research assistants and postdoctoral fellow) will have their own computer workstations connected to the CSBS network. All data for the project will be stored on a secure server supported by CSBS Computing and when necessary data can be encrypted at rest or retained if lost.

If you are using additional computing resources, provide a basic description and the projects needs of said resource. See **examples** below

Center for High Performance Computing: Researchers at the University of Utah have access to the Center for High Performance Computing (CHPC). This resource provides large-scale computer systems, networking, and the expertise to optimize the use of these high-end computer technologies. CHPC facilitates advance research in academic disciplines whose computational requirements exceed the resources available in individual colleges or departments. Dr. _____ and the Research Assistants will use the CHPC to conduct _____ portion of the project. The Center has several large computational clusters and storage units that will be available to this project.

College of Social and Behavioral Science Computing: CSBS Computing provides managed IT services in support of education and research activities within the College of Social and Behavioral Science and the broader campus community. Services range from network infrastructure operations to desktop support and everything in-between. CSBS Computing aims to provide progressive IT service and support in a secure and effective capacity.

Software Development Center: the Software Development Center (SDC) is a joint effort across the University campus in order to find and develop promising University of Utah software projects, and to disseminate them to the public from one centralized source. The SDC provides software development infrastructure and support for facilitating the management, development, and distribution of software projects from across the University. It also provides access to software engineer professionals to work on complex computer software projects. This project will make use of SDC by _____ for the development of _____ software.

3. Laboratory and Research:

In this section write a description of a laboratory or facility that will be used during the project. See some **examples** below

College of Architecture & Planning

The Metropolitan Research Center

The mission of the Center is to conduct pioneering research that responds to pressing public issues by providing evidence used locally and nationally to improve decisions affecting the built environment and access to opportunity. <http://mrc.cap.utah.edu/>

Center for Ecological Planning & Design

The Center for Ecological Planning and Design at the University of Utah works closely with academic and community partners to shorten the pipeline between research and application. We apply principles of urban ecology, environmental planning, and design and engineering to generate sustainable solutions in planning for equitable, vibrant, and healthy human habitats. <http://cepd.cap.utah.edu/>

DesignBuildBLUFF

DesignBuildBLUFF is a graduate architecture program at the University of Utah focused on immersing students in hands-on cross-cultural experiences. We work in partnership with the Rural and Native Communities of San Juan County in the Utah Four Corners. <http://www.designbuildbluff.org/>

School of Dentistry

Baker Lab

The Baker lab's current interests concern the welfare of people who are unable to produce adequate saliva either due to genetics, autoimmunity, or side effects from treatments. A comprehensive approach to hyposalivation involves not just treatment, but also preventative aspects, which are both warranted and viable. As such, our lab currently works in the following areas:

- Salivary gland regeneration
- Resolution of inflammation
- Salivary gland tight junctions
- Effects of radiation treatment on salivary gland function
- Saliva substitutes

<https://dentistry.utah.edu/research/labs/baker/>

Fleckstein Lab

Dr. Fleckenstein's laboratory investigates receptor-mediated and subcellular mechanisms contributing to these deficits. Our research interests include neuropharmacology, neurochemistry, and aminergic transporters.

<https://dentistry.utah.edu/research/labs/fleckenstein/>

Pinzon Lab

The Pinzon lab focuses on dental materials, teaching, and research.

<https://dentistry.utah.edu/research/labs/pinzon/>

College of Education

Utah Education Policy Center

The Utah Education Policy Center (UEPC) is an independent, non-partisan University of Utah research center in the College of Education that bridges research, policy, and practice for Utah public schools and higher education. The UEPC seeks to inform and influence educational policy in Utah and the region to increase educational equity, excellence, access, and opportunities for all children and adults in Utah. <https://uepc.utah.edu/>

Office of the Director of International Initiatives

The Office of the Director of International Initiatives assists students, faculty, and staff who are interested in engaging in activities related to international programs and opportunities.

<https://education.utah.edu/research/programs/international-initiatives/index.php>

Center for the Advancement of Technology in Education

The Center for the Advancement of Technology in Education (CATE) focuses on the research and implementation of technology in education. It is operated through the College of Education at the University of Utah. The CATE provides resources to aid teachers, parents, and researchers in the understanding and application of educational technology. <https://cate.utah.edu/>

The University of Utah Reading Clinic (UURC)

The University of Utah Reading Clinic was created by the 1999 Utah Legislature to provide specific "direct services" to Utah educators and parents.

The goals of the clinic include:

Serving as a resource for parents by offering assessment and intervention to struggling readers and providing professional development to educators. <https://uarc.utah.edu/>

The University of Utah Educational Assessment and Student Support Clinic

The Educational Assessment and Student Support Clinic (formerly known as the Psychoeducational Clinic) serves children, adolescents, adults, and their families. In addition to assessment, our services include individual therapy services for adults, adolescents, children, students and non-students. <https://education.utah.edu/educational-assessment/>

PATH: Pathways for American Indians through Higher Education (PATHs)

The College of Education at the University of Utah is dedicated to creating pathways for American Indians that lead to educational excellence in a variety of education fields. Four departments and the Urban Institute for Teacher Education, offer preparation for teachers, leaders, counselors, and educational researchers. <https://education.utah.edu/about/diversity/Index.php>

University Neighborhood Partners

University Neighborhood Partners brings together the University and local communities and resources in reciprocal learning, action, and benefit – a community coming together.

<https://partners.utah.edu/>

College of Engineering

School of Computing- <http://www.cs.utah.edu/research/>

Department of Biomedical Engineering- <https://www.bme.utah.edu/research/resources-for-research/>

Department of Chemical Engineering- https://www.che.utah.edu/research/institutes_and_centers

Department of Civil & Environmental Engineering- <https://www.civil.utah.edu/research>

Department of Electrical & Computer Engineering - <https://www.ece.utah.edu/labs>

Department of Materials Science & Engineering- <https://mse.utah.edu/>

Department of Mechanical Engineering - <https://mech.utah.edu/#>

College of Health

List of Clinics and Labs - <https://health.utah.edu/clinics.php>

College of Law

Center for Law and Biomedical Sciences

New developments in the biosciences — genetics and personalized medicine, biomedical informatics, cognitive sciences, neuroscience, and beyond — pose tremendous opportunities to improve health, as well as baffling challenges to both law and policy. In the attempt to understand, assess, and improve health conditions for local, national, and global communities, the Center for Law and Biomedical Sciences focuses on contributing solutions to these new problem sets.

<https://www.law.utah.edu/research/center-for-law-and-biomedical-sciences/>

Wallace Stegner Center for Land, Resources and the Environment

The Wallace Stegner Center offers students one of the top 10 environmental and natural resources law programs in the United States. Modern society has the power to profoundly alter our natural

surroundings, from the carbon emissions of our fossil fuel-dependent economy, to the fragmentation of ecosystems through development, to the conflict over allocating scarce water resources,. Understanding the environment, how humans interact with it, and the tradeoffs and choices we face are some of the most crucial issues of the day.

<https://www.law.utah.edu/research/stegner/>

Environmental Dispute Resolution Program

The EDR Program's approach redefines the meaning of ADR. Usually thought of as an alternative to litigation, we use the term to mean Additional Dialogue Required—i.e., using mediation and other collaborative processes to create an opportunity for dialogue, mutual understanding, and respect in environmental and natural resource conflicts. This approach builds long-term relationships, and produces enduring and creative on-the-ground results.

<https://www.law.utah.edu/projects/edr/>

School of Medicine

Cores at the University of Utah are managed by either the Health Sciences Center (HSC-managed), the Huntsman Cancer Institute (HCI-managed) or the Main Campus (Main Campus-managed). Although managed separately, shared efforts campus-wide are coordinated by a committee with representation from each of these three entities, headed by the Vice President for Research.

<http://cores.utah.edu/>

College of Mines & Earth Sciences

Department of Mining Engineering

Laboratories are equipped to support research and educational instruction in rock mechanics, ventilation, geotechnical instrumentation, blasting, and mine systems design and simulation. In addition, department computer facilities are available for research in the above areas and for use in ore reserve estimation, mine planning, financial analysis, mine evaluation, and cost engineering. College-wide networking expands the computer capability to include workstations, access to other campus mainframe computers, and links to off-campus facilities.

PC Instruction and Design Lab -- 108 and 306 WBB

A networked computer lab has been added to the Department. Available software includes Windows, MS Office, WordPerfect, AutoCAD), and other software specific to mining research and classroom instruction.

Contact the Department Office for access information.

Rock Mechanics Laboratory -- 107 WBB

Testing of rock for strength and material properties (confined and unconfined), also permeability and dynamic properties. www.urockmechanics.com

Mine Aerosols Laboratory

Equipment is available for collecting dust samples and determining the size fractions of the samples.

IRECO Explosives/Fragmentation Laboratory

Equipment for measurement of detonation velocity of explosives and field equipment for measurement of environmental effects of blasting.

Mine Systems Research Laboratory

This facility provides construction and maintenance of instructional and research equipment. A well-equipped machine shop and a full-time technician provide resources to support the mining program.

Department of Geology & Geophysics

Center for X-Ray Powder Diffraction

Dissolved and Noble Gas Service Center

The research and services that are offered at the Dissolved and Noble Gas Service Center are based upon the usage of noble gases and their solubilities to infer the conditions and time at which precipitation and surface water runoff entered the groundwater system.

<https://noblegaslab.utah.edu/>

Electron Microscope Laboratory

The laboratory provides high precision quantitative non-destructive analysis of solid materials at the micron scale through electron beam X-ray spectroscopy. Our instrument is a Cameca model SX-50 electron microprobe equipped with four wavelength-dispersive X-ray spectrometers.

<https://probelab.utah.edu/>

ICP MS Metals Laboratory

https://www.earth.utah.edu/research_facilities/icp-ms-metals/index.php

Particle Light Scattering Size & Surface Charge Laboratory

https://www.earth.utah.edu/research_facilities/untitled.php

QEMSCAN Laboratory

Sample Preparation & Thin Section Lab

Strontium Isotope Geochemistry Laboratory

https://www.earth.utah.edu/research_facilities/research_facilities.php

Department of Atmospheric Sciences

Air Quality

Pollutants in the atmosphere lead to adverse air quality. To help policymakers and society in general devise effective means to improve air quality, knowledge of meteorology, emission strengths, and chemistry is required.

Aerosol, Clouds, Precipitation & Climate

Clouds and aerosols simultaneously reflect sunlight and radiate heat, cooling and warming the earth. Precipitation is the lynchpin in the water cycle. Understanding these key processes requires studies ranging from the molecular to planetary scales.

Mountain Weather & Climate

Mountains, hills, and plateaus cover half of the world's land surface, contain half the global population, and affect half of the surface runoff. Knowledge of atmospheric processes in complex

terrain is vital for water resource management, transportation safety, renewable energy resources, tourism, and geophysical hazards.

[Global & Regional Climate](#)

Changes in climate have far reaching impacts on environment and society. Quantifying and understanding these changes requires sophisticated climate modeling on local to global scales.

[Numerical Modeling](#)

Numerical modeling becomes the mainstream of weather and climate research and prediction. Our research emphasizes model improvements, data assimilation, and predictability studies.

[Tropical Meteorology](#)

Tropical meteorology encompasses the most benign trade wind cumuli to the most destructive weather phenomena - tropical cyclones, as well as the major fluctuations such as Madden-Julian Oscillation (MJO).

College of Nursing

Emma Eccles Jones Nursing Research Center

The research efforts of College of Nursing faculty are supported by a team of professionals who specialize in pre-award and post-award support of extramurally funded research. Our team offers an array of services to faculty including project management of funding applications, budgeting support, assistance in managing forms and deadlines, funding searches, editing serviced, statistical consultations, and more. We embed our pre-award staff members with our RITe groups, collaborative groups of faculty who are working to grow extramurally funded scholarship in specific focus areas of research.

<https://nursing.utah.edu/research/emma-eccles-jones-research/>

College of Pharmacy

<https://pharmacy.utah.edu/>

College of Science

School of Biological Sciences

Facilities

The School of Biological Sciences provides access to a wide array of facilities/resources that enhance research and educational opportunities. Some of these are briefly described below with contact information and web links for additional information.

Research Facilities

DNA SEQUENCING FACILITY

An Illumina Genome Analyzer II (GAI) instrument is available for school and collaborative use. The GAI sequencer employs sequence-by-synthesis (SBS), high-throughput DNA sequencing to produce up to 20 billion bases of sequence data per run. The school's GAI is fully equipped for paired-end sequencing to detect structural variation in genomes or transcripts, as well as to facilitate de novo genome assembly. Associated equipment for constructing sequencing libraries from both genomic DNA and RNA samples is available, and two servers and a high-end desktop are available for processing, storing and analyzing data from sequencing runs. Software for genomic resequencing studies, alignment and quantification of transcribed sequences (so-called "RNA-seq"), and de novo read assembly is supported for end users. Contact: Dr. Colin Thacker

ADVANCED MICROSCOPY FACILITY AND ELECTRON MICROSCOPY CORE LABORATORY

The Advanced Microscopy Facility - external site and Electron Microscopy Core Laboratory - external site provide access to instruments, provides access to instruments for electron microscopy, light and fluorescence microscopy, and confocal microscopy, and is available to users from throughout the University. Preparatory equipment includes microtomes, an automatic tissue processor, a plunge freezing device, and a high pressure freezer. Training and help with problem solving is provided. Contact: David M. Belnap

Phone 801.585.1242

STABLE ISOTOPE RATIO FACILITY FOR ENVIRONMENTAL RESEARCH (SIRFER)

SIRFER is a university recharge facility focusing on high precision measurements of stable isotopes (H, C, N, O, and S) at natural abundance levels that is open for use by all researchers on campus. Stable isotopes are used as natural tracers and integrators of environmental processes, with applications in biochemistry, physiology, and ecology. Students are able to participate in both lecture and laboratory stable isotope ecology classes at the undergraduate and graduate levels.

For more information please visit the SIRFER - external site website.

GREENHOUSE FACILITY

The School of Biological Sciences greenhouses are located on the roof of the South Biology Building. Approximately 6400 square feet of space are available for plant cultivation, with environments ranging from desert to tropical conditions. Full service including watering, fertilizing, pest control, and repotting is available for a fee. In addition to plants used in research projects, the Biology Greenhouses also contain a collection of conservatory plants used for teaching and display.

Contact Christopher Morrow, 801-585-6838.

Field Sites

RIO MESA CENTER

The Rio Mesa Center is located on the Dolores River in southeastern Utah, about an hour north of Moab. The emerging foci of the center are broad, spanning from humanities and architecture to natural science interests. For biologists, this center provides an opportunity for long-term research on both riparian and desert ecosystem and a location for place-base field teaching opportunities. For more information visit the Rio Mesa Center - external site website.

Contact: Dr. Zach Lundeen, Station Manager

RED BUTTE CANYON

Red Butte Canyon Research Natural Area is located up the canyon, east of the University of Utah campus. This RNA offers a protected watershed for ecological research and study. For more information visit the Red Butte Canyon Research Natural Area - external site website.

Red Butte Garden located at the mouth of Red Butte Canyon on the edge of the University of Utah campus offers over 100 acres of natural and botanical gardens as well as hiking trails. For more information visit the Red Butte Garden - external site website. Contact: Dr. David Bowling

School of Biological Sciences Special Courses

STABLE ISOTOPE ECOLOGY SUMMER COURSE (BIOLOGY 7473/7475)

This intensive lecture and laboratory course treats the theory and practice of analyzing stable isotopes at natural abundance levels to address questions of ecological and environmental interest.

The course is taught during the last two weeks of June by fourteen leading experts. Like the instructors, the students come from all over the world. Enrollment is limited, and applications - external site are accepted through mid-February.

Contact Dr. Jim Ehleringer for additional information.

Other Facilities

BIOKIDS CHILD CARE AND PRESCHOOL

BioKids is a small, unique childcare and preschool program founded by School of Biological Sciences faculty in 1999. We provide a nurturing environment where children are encouraged to develop into caring, self-sufficient individuals. BioKids was awarded NAEYC Accreditation in 2006 (National Association for the Education of Young Children - external site). BioKids has two classrooms, one for children under the age of two and another for children ages 2-5. Because children generally remain at BioKids from infancy until they go to kindergarten, we have little student turnover and there is a waiting list for each of our classrooms. Biology faculty and staff have priority enrollment status and are placed at the top of the waiting list. For more information, please visit the BioKids - external site website.

Department of Chemistry

NMR Facility

The Chemistry Department NMR facility supports university researchers with three spectrometers: 300 MHz, 400 MHz and 500 MHz. <https://chem.utah.edu/facilities/nmr/index.php>

Mass Spectrometry Facility

<https://chem.utah.edu/facilities/mass-spectrometry/index.php>

X-Ray Crystallography

The X-Ray Crystallographic Facility of the [Department of Chemistry](#) conducts X-Ray structure analysis of small-molecule organic or inorganic single crystals submitted primarily by the department. As an extension service, the facility also accepts sample submissions from other departments of the university, and from outside of the university campus.

The equipment available for X-ray Diffraction experiment include:

- Computer-controlled Nonius KappaCCD System
- Oxford Cryostream Variable Temperature Apparatus
- Computers for structure solution and refinement
- On-line searching facility for crystallographic ([CCDC](#)) through Marriott Library

Services:

- Advice on crystallization of diffraction quality crystals
- Mounting of crystals, include air, moisture and temperature sensitive samples
- Determination of crystal system, space group and unit cell parameters
- Accurate data collection at room or low temperature

- Data reduction and absorption correction
- Structure solution and refinement
- Preparation of high quality molecular plots
- Detailed report with tables of coordinates and molecular geometry
- On-line searching facility for crystallographic ([CCDC](#)) through Marriott Library

Optical Spectroscopy Lab

Our Optical Spectroscopy Facility, located in 1164 and 1204 in the Thatcher Building for Biological and Biophysical Chemistry, offers a wide range of analytical instrumentation for the characterization of a variety of organic, inorganic, biological and environmental samples. Our facility is a primarily a user-based facility whereby researchers are trained on the care and handling of the equipment. In addition to providing training for new users, our staff is available to help users in the design of experiments and the interpretation of results. Users can schedule time using our online scheduling system after passing mandatory training.

<https://chem.utah.edu/facilities/optical-lab/index.php>

Synthetic and Medicinal Chemistry Core

The USTAR SMC Core unites the expertise of academia and industry to accelerate small molecule discovery. The core provides synthetic chemistry, medicinal chemistry, and library screening services to investigators at the University of Utah and to industry partners.

The core supports advancing from small molecule target, to hit, to lead compound. Services include:

- Custom library development and synthesis
- Probe synthesis for target identification
- Scale-up of library hits for validation
- Scale-up of validated leads for in vivo or industrial applications
- API (active pharmaceutical ingredient) synthesis for clinical comparisons
- Custom synthesis of building blocks and intermediates

Read more about the USTAR SMC Core: [The U Launches New Team to Facilitate Drug Discovery](#)

For information and pricing, call Ryan Looper at 801-585-0408 or Paul Sebahar at 801-585-0590

<https://chem.utah.edu/facilities/synthetic-core.php>

Department of Mathematics

http://www.math.utah.edu/research/research_resources.php

Department of Physics & Astronomy

<http://www.physics.utah.edu/facilities/index.php>

College of Social and Behavioral Science

GIS Support: The Digitally Integrated Geographic Information Systems Technologies (DIGIT) Lab is an auxiliary facility of the University of Utah's Department of Geography. DIGIT operates within the University's research infrastructure and provides scientific and computational support for both theoretical and applied geographic information systems (GIS) analysis and application development. The DIGIT lab is networked to the CSBS network and will be available to project researchers. The ____ portion of the project will make use of this lab facility to conduct ____ computational analysis.

Geospatial Intelligence Research Lab (GIRL): The Geospatial Intelligence Research Lab works in all aspects of geospatial intelligence and human security. Our research in these areas includes theoretical constructs, quantitative and qualitative approaches, regional analyses, and geographic information technologies including Geographic Information Systems (GIS), remote sensing, and data mining. Geospatial Intelligence is defined for these purposes as the collection, processing, interpretation, analysis, and visualization of geographically referenced data in an effort to produce information deemed valuable for human security applications.

The mission of GIRL is to produce research based products that promote human security through understanding of geographic phenomena within the physical-human spectrum of our complex, ever-changing local-to-global environments. We research in areas of terrorism, crime, hate, vulnerability, disaster response, and other areas of human security.

Power Paleoecology Lab: Research in the Power Paleoecology Lab focuses on long term spatial and temporal scale ecosystem responses to environmental disturbance including: fire, climate change, and anthropogenic impacts. Current research projects include studies in alpine forests of the western U.S., Seasonally Dry Tropical Forest of Bolivia and the Caribbean, Tropical Rain Forest in Colombia as well as a new project in the highlands of Ethiopia.

We use a variety of techniques to document and explore modern and past ecosystem dynamics. We combine historical records, fossil pollen and plant macrofossils, diatoms, phytoliths, dung spores, micro & macrofossil charcoal analysis, stable isotopes ($\delta^{13}\text{C}$, $\delta^{15}\text{N}$, $\delta^{18}\text{O}$), and sediment geochemistry toward understanding the role of paleoclimate and ecological process through time and space.

The RED Lab: The University of Utah RED (Records of Environment and Disturbance) Lab was founded in 2003. The original renovations to create the RED Lab began fall 2003, with final completion occurring during the spring semester of 2004. The RED Lab was relocated to new space in Research Park in 2013. Research in the RED Lab focuses on reconstructions of past environments with a strong focus on studies that contain management applications. These projects include reconstructions of fire and vegetation regimes from, studying past bark beetle outbreaks in the mountain west, studies of desert wetlands (ciénegas), and human paleoecology.

Urban and Sustainability Research Lab: The Urban and Sustainability Research Lab has a broad coverage, including urbanization, development, inequality, health, land use, and sustainability, with an extensive use of GIS spatial analysis. Projects include urban expansion and spatial restructuring in China funded by Lincoln Institute of Land Policy, spatial inequality in China funded by the National Natural Science Foundation of China, amenity, pollution and housing prices in Salt Lake County, and physical activity and health in Salt Lake City.

The Utah Geo-Health Lab (UGHL): The Utah Geo-Health Lab was established in 2014. Research of the lab focuses on using GIS and spatial methods to investigate public health and environmental health problems. Current projects of the lab include smartphone-based mobility study (with support from the National Institute of Aging), access to healthcare (with supports from the National Institute of Minority Health and Health Disparities and the American Association for the Surgery of Trauma), neighborhood context analysis of health behaviors (with supports from the National Institute of Cancer and American Cancer Society), GIS-assisted air pollution exposure modeling (with support from the Natural Science Foundation of China), health consequences of agricultural pesticides exposure, and health disparities.

The Utah Remote Sensing Applications Lab (URSA): Remote sensing is the science of acquiring information about a place or a process without direct physical contact, and is used to measure the Earth's surface from satellites, aircraft, and drones. The Utah Remote Sensing Applications (URSA) Lab uses remotely sensed data to answer important scientific questions related to terrestrial vegetation, wildfire, and climate. We use a data from a variety of sensors, including multispectral, hyperspectral, LIDAR, and thermal infrared, to measure Earth system processes

Behavioral Economics and Political Science Computer Lab: The Behavioral Economics and Political Science Computer Lab is part of the NEXUS core in the Gardner Commons building. Opening in Fall 2019, the room will have 30 computer terminal stations which are partitioned from each other in individual carrels. The room can also be split in half via a partition for smaller group sizes and different experiments. There are also observation rooms on each side of the lab, which will have computer terminals and access to the camera system inside the room for researchers. This project will conduct ____ studies using the ____ facilities of the Behavioral Economics and Political Science Computer Lab.

Focus Group Room (Gardner Commons) The Focus Group Room is part of the NEXUS core in the Gardner Commons building. It holds approximately 12 people, and is used for opening new avenues of research with individuals of diverse groups. There is an attached observation room for researchers to gather data via a computer terminal, connected to the camera system inside the room. For certain activities a projection screen and whiteboard are also available as part of this room for studies.

John H. Short NEXUS Core: The John H. Short NEXUS Core is located on the third floor of the Gardner Commons building. This core space is comprised of collaborative open workspace areas, three research conference rooms with audio/visual projection capabilities and informal meeting space for researchers to conduct administrative meetings.

Wasatch Front Research Data Center: The Wasatch Front Research Data Center (WFRDC) is a member of the national network of Federal Statistical Research Data Centers (FSRDC), and serves the urban core of Utah, often called the Wasatch Front, as well as the state and the Intermountain region. The WFRDC is a secure research environment to be used by qualified researchers with approved projects where they can analyze restricted data collected by the U.S. Census Bureau and other federal statistical agencies. Major research institutions along the Wasatch Front, including the University of Utah, Utah State University, Brigham Young University and Departments within the Utah government are invited to propose RDC studies in demography, population health, economics, and geographic and spatial analysis. The WFRDC will also support approved projects that link selected data from the Utah-specific health data housed in the Utah Population Database to the restricted data in the FSRDC network.

Academic Writing Made Fun: Each year in June for the past 3 years, the lab has had a writing retreat at Cindy Berg's home. Collaborators from across the country fly in (e.g., Drs. Deborah Wiebe and

Debbie Palmer) for the 3-day event. Faculty, graduate students, and undergraduates are organized in teams around specific writing projects. The writing retreats allow the lab to work on multiple writing projects at various phases of completion (full drafts, partial drafts, ideas in progress). Our on-call statistician, Dr. Jon Butner assists with numerous state of the art statistical projects such as mediational HLM, latent class analysis, and SEM. Evenings find us trying some gourmet cooking or taking a hike in the beautiful Wasatch Mountains. Each year the lab sends out multiple papers completed or started at the writing retreat (last year we submitted one paper during the retreat). The retreat provides a high paced, intellectually stimulating, and exciting alternative to the typical lonely and solitary writing experience.

[Applied Basic Cognition Lab](#): Our lab supports students pursuing the Human Factors Certificate, senior thesis projects, and those who are interested in gaining research lab experience.

[Applied Cognition Lab](#): Our mission is to make our roads safer by reducing driver distraction, which has become an epidemic on our roadways. The laboratory at the University of Utah conducts state of the art research to better understand the impact of advanced in-vehicle technology on driver distraction. Some of the newer technologies have contributed to the problem of distracted driving, whereas other technologies are helping to solve the problem. The research at the center addresses three specific goals associated with the most prominent form of wireless communication, the cellular phone. First, we conduct scientific research that documents the effects of wireless communication and related technologies on driving performance. Second, we compare and contrast the increased risk associated with using these technologies to other real-world activities. Finally, we provide a theoretical account for why these technologies disrupt driving performance. The research conducted at the center will provide essential information for the development of public policies aimed at saving lives by reducing driver distraction.

[Applied Visual Attention Lab](#): Our research examines the consequences of attentional limitations on real-world tasks and the neural underpinnings of attention and memory. We use a mixture of methods (EEG, eye-tracking, behavioral performance) to investigate how these issues. Our research program includes studying experts, such as radiologists, in order to understand why errors are sometimes made. We are studying a variety of interventional approaches designed to reduce error rates in these sorts of applied tasks. We also study the neural mechanisms that underlie our ability to represent information using electroencephalograph (EEG). The capacity of visual attention is limited and we use a variety of methods to study the ramifications of this fact on behavior.

[CAN Lab](#): The objective of our lab is to examine how some children seem to thrive, while others succumb to the effects of early life stress. We study behavioral, physiological, and epigenetic factors to identify who may be particularly susceptible to the development of psychopathology. Ultimately, we expect to uncover sensitive developmental periods and individual traits that, when targeted for preventative intervention, will mitigate the negative health effects of early life stress.

[ConVExA Lab](#): Contextually Valid Executive Assessment (ConVExA) is a model developed in our laboratory with the goal of improving our ability to use measures for executive functioning for prediction of functional outcomes. The model posits that (a) the association between Executive Functioning (EF) and functional outcomes (e.g., instrumental activities of daily living, functional independence, medication management, driving ability, etc.) is moderated by certain contextual factors (e.g., sleep, pain, stress, life complexity) and/or certain individual-difference factors (e.g., demographics, personality, IQ etc.), whereas (b) the association between certain contextual and individual-difference factors and functional outcomes is mediated by EF.

[Developmental Adaptations, Stress, and Health \(DASH\) Collaborative](#): Developmental Adaptations, Stress, and Health (DASH) is a network of faculty at the University of Utah who collaborate in research and graduate training focused on understanding how childhood experiences, and

particularly levels of stress and support in and around the family, get “under the skin” to effect durable changes in biological systems involved in physical and psychological development. From a developmental programming perspective, these changes are not random; instead altered biological systems function to regulate development toward strategies that are adaptive under certain conditions. That is, biological embedding of psychosocial stress and support is a central mechanism through which the developing child becomes matched to current and expected future environments. DASH faculty study developmental adaptations to stress and their consequences for health and disease. Our central goal is to map the processes and mechanisms through which childhood experiences influence adaptive and maladaptive neural, physiological, and behavioral outcomes.

[DIADIC Study](#): The Diabetes Across Development in Couples study is a project for adults with type 1 diabetes and their partners to share their experiences and help others.

[Dynamic Vision Group](#): Our mission is to investigate Vision Sciences from a Dynamical Systems perspective. We are a multi-area group combining mathematics, rigorous experimentation, and advanced systems based data analytic approaches to come to understand the vision system.

[Executive Lab](#): Executive Functioning (EF) refers to those neurocognitive abilities that allow one to plan, select, and execute actions that are purposeful and adaptive, goal-directed and future-oriented, and socially informed ([Suchy, 2015, p. 10](#)). The Executive Lab undertakes projects that focus on improving our theoretical and clinical understanding of the construct of EF, its assessment, and its interface with motor and affective processes.

[Hidden Talents Lab](#): Work in the Hidden Talents Lab both challenges and complements the prevailing deficit model of social-cognitive development in harsh and unpredictable environments. This deficit model focuses on impairments in learning and behavior in children and adolescents who grow up under stressful conditions. We have argued that the deficit model captures a crucial part of reality, but is also incomplete because it critically misses how individuals developmentally form their cognitive skills and abilities to solve recurrent problems faced in their local ecologies. Further, certain responses to high-adversity contexts (e.g., steep future discounting), which are frequently conceptualized as dysfunctional, may be biologically adaptive, even if these responses are undesirable and something we would like to change. Research in the Hidden Talents Lab focuses on the enhanced social-cognitive skills and abilities that develop in high-adversity contexts and can be leveraged in education, jobs, policy, and interventions.

[Jon's Dynamical Systems Lab](#): Our research integrates systems concepts with quantitative innovations (statistical and methodological). Systems theory is essentially the study of change or how multiple components interact to form behavior that cannot be seen in its parts, but can be studied through its patterns in time. Systems theory is inherently interdisciplinary, sharing a language with mathematics, biology, physics, chemistry and more. Thus it has its own jargon. Additionally, many of the advanced approaches that fit a systems logic are designed in fields where a widget can be studied hundreds of thousands of times. Though we sometimes collect data in this manner, it is definitely not the norm for psychology. So we are actively exploring new directions that are both systems approaches and functional within psychological confines.

[Life-Span Development And Adaptation Lab](#): In the Life-Span Development Laboratory we examine how individuals across the life span together with close relationship partners adapt to their daily environments through joint cognitive, interpersonal, and emotional processes. We have found that individuals cope with daily problems frequently together, and that collaborative coping can facilitate cognitive performance, mood, and adherence to health regimens. We use a variety of methodological techniques including surveys, interviews, daily diaries, coding of interpersonal processes, and physiological measurements via both cross-sectional and longitudinal designs.

[National Center For Veterans Studies](#): The mission of the National Center for Veterans Studies is to engage in research, education, outreach, and advocacy to improve the lives of veterans, and better position these skilled, experienced and well-trained veterans for continued service that further advances American values, prosperity, and security. The NCVS is currently engaged in several studies focused on military and veteran mental health issues, including two large, military-funded clinical trials testing the effectiveness of brief interventions designed to reduce suicide attempts among active duty Soldiers. NCVS projects also aim to better understand the cognitive, affective, and behavioral processes that underlie suicide risk and trauma among military personnel, with the intent to identify protective factors that reduce suicide risk.

[READY](#): Regulating Adherence for Diabetes in Young Adulthood

[Research Network on Adaptations to Childhood Stress](#): We seek to develop a research network that investigates the attention, learning, memory, problem-solving, and decision-making strategies that are promoted by growing up under stressful childhood conditions, focusing on skills and abilities that can benefit at-risk youth.

[Risk to Resilience Lab](#): Our research focuses on the family processes that contribute to the development of/for protection against psychopathology. Dr. Kerig has long-standing interests in understanding and ameliorating the effects of interparental conflict, family violence, maltreatment, and parent-child discord. We are interested in the ways in which risk factors affect relationships among families members, such as in the study of parent-child boundary dissolution, as well as implications of these family processes for youths' own intimate relationships, such as in the study of dating violence. Studies going on in our lab at present focus on understanding the relationship between trauma and juvenile delinquency; investigating risk and protective processes for maltreated children; and studying the intersections among family dynamics, personality, and dating relationships in adolescence and emerging adulthood. We also have an abiding interest in the study of resilience--uncovering the protective factors that allow children to overcome the risks associated with family stress and trauma will help us to design intervention and prevention programs that are developmentally sensitive and effective in real-world settings.

[Social Development Lab](#): The Social Development Lab is jointly supervised by Drs. Monisha Pasupathi and Cecilia Wainryb. At our lab, we study how children, adolescents, and adults of various ages make sense of their own and others' moral transgressions, interpersonal conflicts, and other self-relevant experiences. We are interested in the developmental effects of both everyday events and conflicts - for example when friends disagree about what game to play - and more large-scale, societal events and conflicts - for example, when individuals are involved in violent political happenings of their country. We are also interested in understanding how close others, in particular parents, siblings, and friends, either support or hinder individuals' attempts to make sense of and integrate social and self-relevant experiences within their sense of self. We employ both developmental (e.g., narratives, structured interviews, and observations) and experimental designs, with an emphasis on quantitative approaches.

[Spatial Cognition And Navigation Project](#): THE SPATIAL COGNITION AND NAVIGATION (SCAN) PROJECT is an interdisciplinary collaboration that seeks to understand how navigational demands affect spatial cognition, and how these differ for men and women across the lifespan. Navigation requires good spatial cognition, but the links between navigation, mobility, and spatial ability are not well understood. Males have larger ranges than females in a wide range of societies and do better at some spatial tests, suggesting that differences in spatial performance may arise from differences in natural mobility patterns. We want to know whether this is so, why the mobility differences exist, and how mobility, navigational style and spatial performance are related. The adaptive arguments proposed in the evolutionary literature suggest that men gain greater fitness

benefits from large-scale travel, while the risks and costs of travel are greater for women, particularly women of reproductive age. We are therefore also measuring variables that reflect these fitness gains and risks, to test specific hypotheses that have been proposed to explain these patterns.

We are collecting data both in the field and in the lab. Because our cognitive abilities evolved to solve problems faced in the context of small-scale subsistence economies, our field sites include mobile, small-scale forager-farmer populations (the Hadza of Tanzania, the Shuar of Ecuador, and the Twe of Namibia), as well as urban residents of Salt Lake City. More sites may be added in the future. Our lab studies feature the development of virtual environments in which we can gain experimental control not possible in the field. It is an interdisciplinary effort, involving collaborators from Anthropology, Psychology, and Geography. The SCAN project launched in 2013 with support from the NSF program in Interdisciplinary Behavioral and Social Science Research.

[Spatial Transformations Experiment](#): Use of Spatial Transformations and Reference Frames is an experiment being conducted in the Visual Perception and Spatial Cognition laboratory at the University of Utah.

[Statistical Consulting](#): The Psychology Department's statistical consulting program is intended for graduate students, post-doctoral fellows, and faculty in the Psychology Department. We are not generally able to provide consultation for students and faculty from outside of the department; however, those decisions are made on a case by case basis. Undergraduate students, please note that the Psychology Department's statistical consulting service cannot be used to get help with course work or to provide tutoring. Statistical tutoring can be arranged through the ASUU Tutoring Center (<http://tutoringcenter.utah.edu/>). The Marriott Library also offers assistance getting started with different statistics programs (Stata, SPSS, SAS). Their statistics graduate TA is available in Marriott Library 2110S on Monday 9 - 11:30 am, Tuesday 8:30 am - 11:30 am, Thursday noon - 4 pm, Friday 8:30 - 11:30 am, or by appointment (email: mllib-statistics@lists.utah.edu).

[Systems 'N Coffee](#): Systems 'n Coffee is a bimonthly reading group committed to interdisciplinary research using Dynamical Systems Theory. The group is designed to welcome new and more experienced folks alike based on the premise that the best way to learn and understand systems theory is through shared insight. The result of the 2014-2015 year was the One Cup-L project. Feel free to see what we learned and utilize the code we generated!! To join, send Brian Baucom an email to join the list serve.

[Type 1 Diabetes ADAPT Project](#): The goal of the project is to understand how children and adolescents with Type 1 diabetes and their mothers manage diabetes. Adolescence is a problematic time for managing diabetes as the child may be trying to assert her independence, which may lead parents to be less involved in diabetes management. The study explores whether age differences in parental involvement in diabetes management relate to the child's autonomy development, and are reflected in the interdependence of mothers and adolescents in coping with the stressors related to diabetes. This project is funded by the National Institute of Diabetes & Digestive & Kidney Diseases (NIDDK). A 5-year longitudinal study was completed in 2010 and data analyses are continuing.

[University Of Utah Usability Lab](#): The University of Utah Usability Lab (U3LAB) is focused on improving the user experience (UX) of websites, software, applications, consumer products, and medical devices. If your product has an interface, the U3LAB can help you evaluate its effectiveness.

[Visual Perception And Spatial Cognition Lab](#): The ability to perceive our spatial surroundings is critical to tasks ranging from grasping nearby objects to complex navigation through an unfamiliar environment. Our group examines visual perception and spatial cognition with a multidisciplinary

approach involving psychology and computer science in the service of both basic and applied research goals.

We aim to understand the information and processes used in spatial behavior, with an emphasis on the computational analysis of visual cues for distance, the influence of representations of the self in perception of space, and the role of body-movement on spatial navigation. Many of these same issues are important to our applied work as well. This includes investigations of how to increase the effectiveness of computer graphics in conveying information about the three-dimensional world, investigating perception under low-vision conditions to aid in the creation of visually accessible environments for the visually impaired, and applying models of arousal and perception to clinical populations. A significant portion of our work involves immersive virtual environments, both to understand perceptual performance in these devices and to use them as a tool to approach basic research questions in perception and action.

Ancient DNA Lab: Research at the University of Utah Ancient DNA (aDNA) Laboratory is focused on the use of molecular genetic methods to evaluate population histories. Similar to the use of contemporary genetic data to infer population and evolutionary events that have structured modern genetic variation, aDNA research provides an explicit temporal scale to such historical and evolutionary reconstructions by examining patterns of genetic variation in prehistoric populations.

Our dedicated aDNA facilities include three physically separated locations for pre-PCR (cleanroom), PCR and post-PCR work, enabling us to ensure the rigorous aDNA contamination controls required in the field. Daily workflow is restricted in a clean room -> post-PCR lab direction and all supplies/samples are separated accordingly. Our [pre-PCR cleanroom](#) features three separate workrooms with HEPA filtered, staged positive pressured airflow, and built in UV lights. Each room is equipped with individual workstations, also with HEPA filtered airflow, UV lights, and dedicated pipettes and instruments, offering the highest quality control standards for aDNA analyses.

The University of Utah Archeological Center: The University of Utah Archaeological Center (UUAC) is a research and teaching arm of the Department of Anthropology. The Center's mission is to train the next generation of anthropological archaeologists, facilitate collaborative archaeological research and promote the understanding of archaeology and prehistory in the wider community. Originally founded in 1948 as the "Statewide Archaeological Survey," its mission was to investigate the prehistoric archaeology of Utah. It was renamed in 1978 and its mission broadened. The Archaeological Center now coordinates research that explores past and present human behavior from the perspective of evolutionary ecology.

The Archaeological Center is located in the Gardner Commons, in the central campus of the University of Utah. It includes a central analysis laboratory, the [Zooarchaeological Laboratory](#) (directed by Jack Broughton) and a [Stable Isotope Facility](#) (directed by Joan Brenner-Coltrain). The Center has two large laboratory rooms for teaching and research, a newly remodeled meeting and seminar room, a new artifact documentation station capable of high resolution photographs for morphometric studies, a small library that includes archives of local (Great Basin and Colorado Plateau) research records, a store of archaeological field equipment including high precision GPS units and excavation equipment, and office space for faculty and students. The Center is also home to the Zooarchaeological Laboratory (directed by Jack Broughton) and the Stable Isotope Facility (directed by Joan Brenner-Coltrain). UUAC researchers also work in the Red Lab (directed by Andrea Brunelle) and the Natural History Museum of Utah (with Tyler Faith, Lisbeth Louderback, and Duncan Metcalfe).

Molecular Ecology & Evolutionary Genetics Lab: Research in the U of U's Molecular Ecology & Evolutionary Genetics Laboratory focuses on the study of genetic variation in nonhuman primate

populations and the application of molecular techniques to problems in evolutionary and conservation biology. One major focus of our research is the evolution, reproductive and behavioral effects of major histocompatibility complex (MHC) genes in primates. Comparative studies of other mammals, such as foxes and seals, also take place in the lab. Some of our research involves the study of hormones such as cortisol and testosterone. We have international collaborations with scientists working in Europe, Africa, Southeast Asia, Chile, and Brazil. More locally, our collaborators are in Ob-Gyn and Psychology.

Osteological Reference Collection: The Osteological Reference Collection housed in the Zooarchaeology Lab represents the complete-skeleton holdings of the Natural History Museum of Utah (NHMU). The collections originated and developed during decades of field surveys undertaken by faculty and students of the University of Utah. They continue to grow through ongoing research and associated collecting.

Human Osteology Lab: The Osteological Laboratory houses the human osteological reference collection and paleoanthropology cast collection. The human osteological reference collection includes complete and fragmentary skeletal remains and is primarily used for teaching. Courses utilizing the collections include Human Osteology, Forensic Anthropology, and Paleoanthropology. The lab also houses anthropometric equipment, chiefly for field use.

Population Genetics Lab: This lab studies molecular adaptations and human demographic history. To this end, it builds quantitative theory, statistical methods, and computer software. We are interested in the history of human population size, in admixture with archaic hominins, and in recent adaptive evolution in the human species.

Range Creek Field Station: Visit <https://nhmu.utah.edu/range-creek> for more information on the Range Creek Field Station.

Archaeological Center Research Facility (ACRF): The Archaeological Center Research Facility (ACRF) is a stable isotope research laboratory located in

the Anthropology Department at the University of Utah. Our primary focus is stable isotope analysis and accelerator radiocarbon dating of skeletal hard and soft tissues for ecological, archaeological, forensic and paleontological applications.

We provide stable carbon, nitrogen, oxygen and sulphur isotope analysis as well as calibrated accelerator radiocarbon dating on a wide variety of organic materials for the University of Utah research community as well as researchers at other institutions, both national and international.

Zooarchaeology Laboratory: Research at the University of Utah Zooarchaeology Laboratory involves the analysis of archaeological and paleontological vertebrate faunas to understand the complex and long-standing relationships between past people and animal populations. More specifically, Jack M. Broughton and his students have engaged in research involving hunter-gatherer paleoecology and prehistory, especially the analysis of human-and climate-induced change in past faunal landscapes, and their implications for related aspects of human behavior, historical ecology, and modern conservation biology. Quantitative applications of foraging theory models to faunal records in western North America constitutes the core of the empirical work in the lab.

Biological Anthropology Lab: The University of Utah's Biological Anthropology Laboratory (BA) is a fully equipped facility dedicated to ancient DNA and morphometric research. Approximately a quarter of the 1080 square foot laboratory houses student office space and the rest is a functional molecular lab. Standard molecular biology lab equipment at BA includes a spectrophotometer, incubators, 2 freezers (-20), refrigerator, centrifuge, microfuges, and electrophoretic equipment. A separate room (250 sq. ft.) at the opposite end of the building has a HEPA filtered air source, is positively pressurized, has three HEPA filtered and UV lighted PCR workstations and is dedicated to

PCR prep. To prevent cross-contamination, a third room on a separate floor houses three thermal-cyclers. A separate lab is devoted to skeletal or forensic analysis. This project will conduct _____ studies using the _____ facilities of the BA laboratory.

College of Social Work

Center on Mindfulness and Integrative Health Intervention Development (CMIIND)

The Center on Mindfulness and Integrative Health Intervention Development (C-MIIND) was established in May 2017 at the University of Utah with the following mission: develop, test, optimize, and disseminate mindfulness and other integrative health interventions by translating discoveries from basic bio-behavioral science into solutions for health and society.

<https://socialwork.utah.edu/research/c-miind/>

Utah Criminal Justice Center

The Utah Criminal Justice Center is a collaborative partnership between the University of Utah and the Utah Commission on Criminal and Juvenile Justice that supports interdisciplinary research, teaching, and training in the areas of criminal and juvenile justice.

<https://socialwork.utah.edu/research/ucjc/index.php>

Social Research Institute (SRI)

The Social Research Institute (SRI) provides research, training, and implementation facilitation that assists agencies and programs to provide effective social services to children and adults.

<https://socialwork.utah.edu/research/social-research-institute/index.php>

Center for Research On Migration & Refugee Integration (CRMRI)

The Center for Research on Migration Refugee Integration aims to advance the science and practice of effective two-way integration informed by an understanding of the global context of the immigration phenomenon and the lived experiences of newly arriving populations.

<https://socialwork.utah.edu/research/crmri/index.php>

Other Facilities

PEAK Health and Fitness: PEAK Health and Fitness is a clinic of the College of Health at the University of Utah. PEAK provides workshops and seminars, health assessment and fitness testing, nutrition services, continuing education opportunities, and fitness classes for University of Utah employees. Particularly relevant to this study is the health assessments and fitness testing provided by PEAK. These assessments and tests include maximal oxygen uptake (VO₂max) via an open-circuit spirometer, body composition using Bod Pod, and other tests such as cholesterol/glucose, and resting metabolic rate testing.

Center for Clinical and Translational Science: The Center for Clinical and Translational Science (CCTS) at the University of Utah oversees the Study Design and Biostatistical Center, consisting of over 40 statisticians, epidemiologists, and quantitative health scientists. The SDBC offers consultation to researchers regarding biostatistical and methodological issues, including sample size and power calculations, methodological design and planning, grant submission assistance, data analysis and interpretation, and advice regarding optimal use of statistical software. This project will make use of consulting services from CCTS in advising the study design of _____ part of the project.

4. Library:

University of Utah: The University's network of libraries includes the J. Willard Marriott Library, the Eccles Health Sciences Library, and the S.J. Quinney Law Library. The library system includes world-class resources, user-focused services, expert and responsive staff, and technology-rich and inviting physical locations. The main library of the College of Social and Behavior Sciences, the J. Willard Marriott Library, employs over 250 full-time staff, holds over 3.5 million volumes (paper and electronic), and houses a Knowledge Commons area with roughly 300 computers and 356 software programs available for faculty and student use. The main library of the College of Social and Behavior Sciences, the J. Willard Marriott Library, is located in close proximity of the PI's and CoPI's offices at _____.

5. Animal:

NA (If you are using animals in this project then description of animal facilities must be included, otherwise leave blank (NA))

6. Other Equipment

****In this section you may add special equipment used for the project in the same style as previous sections****

Name of Other University or Institution

*****Here you may add resources and facilities of participation institution following the same style and format as above*****