**FACILITIES AND OTHER RESOURCES**

**Kent State University**

**Kent State University**, located in Kent, OH, is an eight-system campus, doctoral-granting public institution that enrolls approximately 42,000 students and offers more than 300 academic programs at the certificate, associate, bachelor, master, educational specialist, and doctoral levels. Kent State is the region’s first-choice public university and is the largest public multi-campus system in Ohio. Through a strong commitment to personalized attention in education, more than half of all classes have fewer than 20 students and more than 90% have fewer than 50 students. Kent State is proud to have nearly a quarter million graduates worldwide and generate nearly $2 billion for the local economy annually. Kent State is advantageously placed between two large urban cities: Cleveland and Akron. This location helps to attract students from diverse socioeconomic backgrounds, resulting in a large representation of first-generation students to attend an institution of higher education.

Kent State ranks alongside other leading universities designated as very high research activity institutions by the Carnegie Foundation. The university is aggressively building its research and education programs in healthcare and public health through significant new investments, as well as forming strong partnerships with regional medical institutions such as Cleveland Clinic Foundation, University Hospitals and Northeast Ohio Medical University. Kent State is home to the Liquid Crystal Institute (R). Created in 1965, Kent State's Liquid Crystal Institute is the most comprehensive research and educational center in the field of liquid crystals. The applications of breakthrough findings at the institute have had an impact on the world, from liquid crystal display (LCD) televisions to computer monitors to new electronic devices, like the iPad. Kent State is also home to Kent State University Centennial Research Park, a 41,000-square-foot facility that houses high-tech companies and is the home to the FlexMatters Accelerator, a broad, public-private high-technology collaboration designed to produce the next generation of advanced materials and promote economic development. Kent State has Ohio's first and only accredited aviation flight program and is authorized by the Federal Aviation Administration (FAA) to offer the only degree program in air traffic control. Kent State has received three Ohio Center of Excellence designations in the categories of Cultural and Societal Transformation, Biomedicine & Healthcare, and Enabling Technologies: Advanced Materials and Sensors. The university also has been recognized as one of the "Great Colleges to Work for" by The Chronicle of Higher Education.

The Division of Research and Sponsored Programs (RASP) is charged with supporting grant funded research activities at Kent State. It expert staff helps investigators at each step of award activity, including pre-award grant preparation and in post-award administration of funds. RASP also leads a series of activities with the goal of increasing the number and quality of grant applications, including both live and web-based training sessions, funding mechanisms for pre-submission review of applications, and numerous programs for the ethical conducti of research.

Kent State boasts a twelve-story, 1.6 million volume library that includes a microfilm collection containing over a million items. The Kent and regional campus libraries have access to the online catalog, KentLINK, which provides access to over 2.5 million volumes, as well as the holdings of 79 other OhioLINK libraries. OhioLINK also offers access to more than 100 licensed research databases, including WorldCAT, as well as to over 1 million academic journal articles. Cooperative agreements with software companies provide access to statistical programming and analysis packages (e.g., the current versions of SPSS, SAS, dBase), word processing, and graphic display programs.

**The Department of Psychological Sciences** is located on the Kent campus. The Department of Psychological Sciences is a complex unit that serves over 1000 majors and over 70 graduate students. There are 23 tenure-track faculty with active research labs, including an AAALAC approved Animal Research Facility. The Department is housed within Kent Hall and the Kent Hall Annex, both three stories tall and connected by a walkway, house many operations that include: offices for faculty, postdocs, graduates, and staff, multi-room research laboratories with customized features such as kitchen units or wet labs, the Animal Research Facility, the Psychological Clinic (see clinical resources below for additional information), computer labs with applicable software, and technology-equipped classrooms. The Department’s graduate program offers PhD's in both Clinical and Experimental Psychology. The Clinical Program has been continuously accredited by the American Psychological Association since 1968. Current department faculty have federally funded research programs in all areas of the field, including development, assessment, health psychology, traumatic stress, and psychopathology. The Department of Psychological Sciences highly values scholarly productivity and grantsmanship. The faculty is internationally recognized for their research and strives to increase scholarly productivity and reputation, both nationally and within the University. The department is ranked by NSF as one of the “Top 100 Psychology Faculties” in federal research expenditures

The Department of Psychological Sciences has a number of internal resources designed to facilitate faculty and student research. These include: the **Applied Psychology Center**, a non-profit organization within the Department of Psychology whose mission is to foster applied research addressing important social problems; the **Initiative for Clinical and Translation Research**, a University-wide health research initiative charged with facilitating interdisciplinary research teams comprising a PI from Kent and a PI from one of our partner institutions (Summa Health System, Cleveland Clinic, Akron Children’s Hospital, etc.); the **Coordinating Center for Advanced Quantitative Studies**, an interdisciplinary university-wide organization housed in Kent Hall that coordinates the development and application of advanced statistical techniques. Word processing and statistical analysis software (Mplus, SPSS, SAS, JMP, R, EQS, AMOS, etc.) and the services of a computer technician are also provided by the Department of Psychological Sciences; the **Science of Learning and Education Center (SOLE).** A major mission of the SOLE Center is to foster evidence-based reform of STEM education, health education, and literacy as well as to improve achievement and retention for KSU students and for K-12 students in the surrounding community. The SOLE Center is aimed at meeting a number of different objectives largely pertaining to developing bench-to-bedside models for education research, which involve supporting cutting-edge research in the laboratory, in the classroom, and in the field; and, the **Psychological Clinic,** which serves as a training site for the development of clinical skills among graduate students in clinical psychology and supports applied research by providing access to client populations and facilities for research purposes. The newly renovated clinic includes 7 dedicated treatment rooms, a playroom, a conference room, administrative offices and a waiting room/receptionist secretary area. Secure digital video equipment and two-way mirrors are available in therapy rooms. Finally, the Department also has **Wet Lab** space, located within a >1000 sq ft research facility that has dedicated space for aliquoting, isolating and storing urine, blood, and saliva samples prior to transporting for analysis. The lab contains four freezers (including two with ultralow capabilities), in addition to a refrigerated centrifuge, and ice machine.

**Laboratory:**

Dr.INSERT YOUR NAME has dedicated laboratory space (approximately XXX square feet) in the NAME OF YOUR LAB on the Kent State main campus in Kent, OH. The laboratory consists of a large room with three separate workspaces equipped with desktop computers for a postdoctoral research associate, graduate students, and undergraduate research assistants. Two adjoining rooms serve as office space for a postdoctoral research assistant and graduate student. Experiment creation, data collection, data coding and analysis, data storage, and laboratory meetings and reading groups occur in this space. The Department of Psychological Sciences allows faculty to request additional lab space on an as-needed basis.

**Clinical:**

* **Can use info from above, collaborating sites, etc**

**Animal:**

A complete 9,500 square foot climate controlled AAALAC approved facility for rats and mice can also be found in the Kent Hall Animal Research Facility. This laboratory is molecular biology wet lab space optimized for performing numerous varieties of mRNA, DNA, protein manipulation and analyses as well as microscopy, and contains all the necessary equipment and accessories required for cell culture, virus production (except ultracentrifuge) and stereotaxic rodent surgery. In addition, there are three (70 square foot each) dedicated behavioral rooms that are separately optimized for different behavioral analysis of rodents, including fear conditioning, passive-avoidance, social defeat stress, elevated-plus maze, open-field activity tests and social interaction tests. The laboratory also has considerable refrigerator and freezer space available to accommodate the requirements of this proposal, including multiple ultralow freezers.

In addition to the above, Faculty in the Department of Psychological Sciences also have shared access to all the core facilities in the Biological Sciences Department at Kent State University, which contains an additional 13,900 sq ft. research laboratories, an attached 6000 sq. ft research greenhouse (the second largest research Herbarium in Ohio), 4 core facilities (below) and one of Kent’s two animal vivarium (below). These resources extend the capabilities of researchers and include:

Our **Bioimaging core facility** contains an Olympus FV300 Confocal Microscope, Olympus FV1000 Confocal

Microscope, Olympus IX71 Fluorescence Microscope, Olympus IX70 Fluorescence Microscope, Nikon Diaphot

microscope, Nikon Optiphot microscope, ISS Fluorescence Correlation Spectrophotometer with Inverted

Microscope, Jobin Yvon HR800 Raman Spectrometer with Inverted Microscope, Varian Unity/Inova 500MHz

NMR spectrometer with 3D scanning probe, and multiple fluorescence microscopes housed in individual

research laboratories.

The **Genomics Core facility** contains an Affymetrix GeneChip (ProteinChip) microarray system, Applied

Biosystems 7000 SDS Real-time PCR, Arcturus Autopix Laser Capture Microscope, Two Beckman CEQ 8800

Genetic Analysis System (16 capillary) GeneQuant Pro Spectrophotometer, Typhoon Phosphoimaging System, Fuji Phosphoimaging System, a Becton Dickinson Facscaliber Cell Sorter and Flow Cytometer. Our Cell/Tissue handling facility includes 8 cell incubators, cryogenic storage tanks, 8 ultracold freezing units, 2 Leica CM1850 cryostats, and multiple Cell/Tissue Culture Hood (x3) (most researchers have their own cell culture hoods as well). Several common use centrifuges, including ultra-centrifuge, are housed in common space.

A **Proteomics Core Facility** is shared with the Department of Chemistry and includes a Genogrinder,

multiple thermocyclers for large-scale DNA/RNA/protein isolation and analysis, FPLC Chromatographic

System, Agilent 2100 Bioanalyzer, Turner Biosystems 20/20n Luminometer, and a Fuji LAS3000

Chemiluminescence Imaging System. The Department’s Bioinformatics, BioVisualization and Computational

Core Facility contains a 16 node PSSC Beowulf clusters for genomic and proteomic data analysis, a 6 terabyte

disk array and dedicated research server for bioimage storage, and a 3D stereo immersive classroom, shared

with the Chemistry department, with a Fakespace PowerWall stereoscopic projection system for viewing and

analyzing complex chemical and biomedical images.

The **Behavioral Core Facility** maintains extensive equipment for behavioral testing of animal models.

Within the department are eleven walk-in Environmental Chambers for housing behavioral experiments that

require chronic controlled conditions, with each chamber capable of housing 60 large to 100 small rodents.

Several small rooms adjacent to the Vivarium are available for conducting acute behavioral studies. Five

computerized animal activity monitoring systems, each capable of monitoring multiple chambers, are used for

studies in various areas of neuroendocrinology and behavioral neuroscience. Other behavioral assessment

equipment includes computer monitored maze systems (elevated plus maze, Morris water maze, etc.), open

field arenas, running wheels, treadmills, equipment for in vivo microdialysis including 2 dedicated HPLC

systems, Minimitter systems for body temperature recording, acoustic startle and prepulse inhibition systems,

video cameras for recording behavior. Surgical facilities housed in the Vivarium include stereotaxic

apparatuses for site-specific intracranial or intraspinal implants or lesions.

The **Biological Sciences Department** houses a variety of equipment for to support a wide range of

cell/molecular research needs. These include a Biosafety Level 3 Training Laboratory that is a fully functioning

level 3 containment laboratory used to train a growing workforce on the procedures The **Biological Sciences Department** houses a variety of equipment for to support a wide range of cell/molecular research needs. These include a Biosafety Level 3 Training Laboratory that is a fully functioning level 3 containment laboratory used to train a growing workforce on the procedures and practices of a level 3 facility, using level 1 and level 2 surrogate organisms and other materials that mimic level 3 organisms as well as support microbiological research, especially that related to human disease. The lab houses an Olympus IX fluorescence microscope, Cepheid SmartCycler (16 chamber real time PCR thermocycler), Thermo refrigerated centrifuge, bacteriological and CO2 incubators, 3 class-2 biological safety cabinets, a “pass-through” Century

sterilizer, 96-well plate washer, 96-well format spectrophotometer, PCR thermocycler, gel electrophoresis

equipment, Optimax UV/VIS spectrophotometer, AMX integrating controller providing local and remote

control of 6 cameras, 3 microphones and a DVD recorder (in the lab) for monitoring activity in the lab. The

Department also maintains a support lab containing a walk-in 37°C incubator for cultures, Steris-Amsco

Century autoclave, large (chromatography) refrigerator, refrigerator/freezer, microwave, dishwasher,

waterbaths, spectophotometer, microscopes, and a separate media preparations room. Individual faculty

members also share a variety of equipment such as a Class 2 laminar-flow hood for microorganism

containment, a refrigerator (4°C), -20 and -80°C freezers, three bacteriological incubators, electrophoresis and

immunoblot systems, Genesys 10 spectrophotometer, cell harvester, Spectronic 501 spectrophotometer, dual

chamber stationary water bath, shaking water bath, IEC MP4 refrigerated centrifuge, microfuge, Olympus

Fluorescence & Polarizing microscope with CCD camera, Beckman J2-HS centrifuge, Bausch and Lomb 1001

UV spectrophotometer, two New Brunswick hybridization incubators, Nikon Labophot-2 microscope with

epifluorescent unit, Bio Rad CHEF II electrophoresis system, Labconco centrivap, Forma biohazard cabinet,

Nikon dissecting microscope, Bio Rad 3000 and 200 power supplies, Bio Rad Electroporator, Millipore

Tangential filtration apparatus, Market Forge autoclave, Virsonic sonicator, Fotodyne transilluminator and gel

documentation system, MJ Research thermocycler, BioRad D-Code system for DGGE, and three Phipps and

Bird paddle stirrers for microcosms, a selection of centrifuges, pumps, heating baths, stirrers, shakers,

electrophoresis gel rigs, colony counters, and micropipetters, anaerobe chamber, rotating cell culture systems

and 8 slow turning lateral vessels for use with these systems.

Kent State maintains two large AALAC-approved Animal Vivariums. The **BSCI Bioscience Animal Facility**

located in Cunningham Hall contains 14 animal holding rooms (approximately 3000 ft2) suitable for housing

knock-out/transgenic rodent animal models and other species and all requisite infrastructure for animal

breeding and maintenance. The surgical suite is approved for small animal survival surgery. The Biological

Sciences department also houses the Kent State University/Oak Clinic Consortium for Multiple Sclerosis

Research in 1000 ft2 of dedicated research space that complements the 10000 ft2 of laboratory space at the

Oak Clinic.

**Computer:**

KSU maintains a computer refresh program and offers faculty members a new computer for their own use and another for their lab every four years, independent of any research funding. Dr. INSERT YOUR NAME has a PC desktop computer and laptop in the office for DESCRIBE RELEVANT STUDY ACTIVITIES (e.g. create experimental stimuli, conduct literature reviews, analyze data, and write manuscripts. ADD ANY OTHER USEFUL INFO HERE – LAPTOPS IN THE LAB WITH SPECIALIZED SOFTWARE, ETC. The Department of Psychological Sciences has secured Wifi Internet access as well as access to a secure server stored behind a locked door in the University Library for daily data backup.

Faculty members in the Department of Psychological Sciences have access to excellent administrative

support such as assistance with grants administration from Ida Cellitti and technical computing support

from Michael Menyes, Lead IT User Support Analyst.

**Office:**

Each faculty member has dedicated office space in Kent Hall in the Department of Psychological

Sciences on Kent State’s campus. Dr. INSERT YOUR NAME faculty office (XX square feet) is equipped with

bookshelves, filing cabinets, a desktop and laptop computer, a scanner, printer, telephone, and desk and

office chairs for research-related meetings.

**Other:**