Facilities & Other Resources – Oregon State University

Environment – Contribution to Success
The facilities and other resources available to the PIs and Co-Is at Oregon State University and xxx (e.g., other institutions of higher education; with off campus Extension faculty in xx Oregon counties involving xx rural communities) include everything needed to undertake and complete the proposed research project successfully.

FACILITIES

OSU Laboratories in the College of Public Health and Human Sciences: *Include if applicable*. Dr. X has access to XXX (any applicable research labs). *For reference, information at this link is being revised, but some details may be relevant to your application – we anticipate updates: http://health.oregonstate.edu/research/labs but do not include any links in your proposal document.*

Animal: *Include if applicable. For reference as you write this section, here is a link describing the Laboratory Animal Resources Center (LARC) but do not include any links in your proposal document: http://oregonstate.edu/dept/larc/ and for OSU IACUC http://research.oregonstate.edu/iacuc*

Clinical: Not applicable.

Computer and Office Support: Necessary computing capability and software are available for the project. Oregon State University (OSU) provides faculty and students with access to a wide variety of computer services/resources throughout the University, including: a central computer account enabling access to the Internet, electronic mail, secured server space which is backed-up in a secured location daily, and access to a central Unix computer system. Computer hardware and standard software packages are supported by the University's Community Network (CN). CN provides computer system security assessments, data backup systems, and secure storage options for restricted information (including password protected folders and data encryption) and a 24-hour hotline for immediate IT support. Shared file space is available to any unit that needs a network location to store and share files. The servers are backed up daily and backups are maintained for six months for restoration purposes. All of the computer resources and services described above will be available to the project. The College of Public Health and Human Sciences (where Drs. xx and xx are located) has a dedicated computer technician to help faculty with all computer-related needs. The CPHHS-Stats server is a resource provided to CPHHS staff and faculty that allows a separate space for the storing, processing, and review of research data. The server was recently migrated from a physical server to a virtual machine hosted in IT Infrastructure Services infrastructure. The server is accessed via a remote desktop session. The Operating System is Windows Server 2012 R2 with Virtual Hardware: 3 CPUs and 12 GB memory, 70 GB OS partition, 1 TB data partition. The software currently installed includes Microsoft Office 2016, Stata, SAS, Stat Transfer, Epidata, and Mplus. The server sits in a firewalled subnet, and only permitted inbound ports are approved for remote desktop and file sharing access. A managed Symantec EndPoint Protection client is installed for AV/AS protection. The server is a terminal server, and users must originate in permitted IP address ranges, or be connected through Oregon State University's VPN client for off-campus access. As of December 2012, the server had more than 600 GB of free space available, with ample storage capacity to house data for the proposed study. In addition to the two GB of personal network file space provided to OSU employees, the College provided an additional four GBs of shared network file space that can be set up as restricted password protected space limited to project staff. Dr. XXX maintains file space on the restricted server that provides access limited to his/her project staff. Dedicated computers and printers necessary to and of direct benefit to a research project that are not used for other projects or other university business are paid for from grant budgets. Dr. XXX currently provides some things, but new additional items and services will be needed for this project. In addition to computer resources and services, Information Services (IS) provides telephone equipment support. As part of Oregon State University's state-wide role, audio, video and web conferencing and collaboration tools are provided to the Oregon University System institutions, all State agencies, and a growing list of community colleges, county government, healthcare networks and non-profit organizations. OSU has a Zoom site license, a web collaboration tool effectively giving all staff/faculty their own account to host conferences (screen sharing, audio/video conferencing, file sharing, IM chat, etc) with the ability to bring in standards-based video conferencing (i.e., Polycom or Cisco

room-based video system) endpoints into the Zoom session. The combination of technology and communication supports, computer and server resources, and software licenses contributes to the potential for success by assuring both efficient data handling and optimal communication among members of the research team. This combination of computer and server support, software and technology contributes to the potential for success by assuring both efficient data handling and optimal communication among members of the research team.

Office: The CPHHS Square Footage Spreadsheet, by room number, can be found here: http://health.oregonstate.edu/research/grant-application-resources. The OSU personnel named in this proposal are housed in xxx Hall. Dr. x's office is approximately 120 square feet and located on the x floor of xx Hall. Dr. x has a desktop computer and printer and a conference table for meetings. Co-Is (xx and xx) have offices that are approximately 120 square feet and located on the xx floor in xx Hall that have desktop computers, printers and conference tables for meetings. Additionally, xx Hall provides access to two Canon copiers/scanners, laser printers, fax machines, and conference meeting rooms. There are xx conference rooms available. All research staff will be equipped with a personal workspace that includes a computer and access to community printers, copiers, and scanners.

CPHHS Off-Campus Extension Facilities

CPHHS Health Extension and County Extension Service Unit Facilities: CPHHS faculty, staff and students are committed to enhancing the well-being of populations through a portfolio of Health Extension outreach and public health practice programs, which includes Extension Family and Community Health (FCH), 4-H Youth Development (4-H), Supplemental Nutrition Assistance Education (SNAP-Ed), Expanded Food and Nutrition Education Program (EFNEP), and Team Oregon Motorcycle Safety Programs. CPHHS Health Extension programs are an "expressway to communities" that helps students engage in learning beyond the classroom and enables researchers to share discoveries that improve lives and communities. All Health Extension programs emphasize community-based solutions to health and human development issues, illustrating a natural fit for integrating research, education, and Extension within a statewide network working toward a healthier Oregon. In total, CPHHS Extension's off campus infrastructure is represented by a physical presence in each of Oregon's 36 counties. Each site houses local Extension faculty, providing office space, computers, phone lines, and meeting spaces adequate to engage local people in programs and conduct research activities.

Computing: All sites (OSU main campus and OSU County Extension units) have the ability to conference via phone, email, or web-based modalities. Ballard Hall, Milam Hall, and the Hallie Ford Center in Corvallis and the OSU Extension FCH offices in all counties have Polycom systems, and project partners can easily meet via Polycom and other teleconferencing systems.

CPHHS On-Campus Extension Facilities: The CPHHS Extension programs on campus occupy approximately 3,400 square feet of space in Ballard Hall. Extension personnel and programs have adequate administrative support services, fax machines, copiers, scanners and related equipment to be used during and to help manage the proposed project. CPHHS faculty, staff and students are committed to enhancing the well-being of populations through an academically integrated portfolio of Public Health Extension outreach and applications, which includes FCH and 4-H programs that emphasize community-based solutions to health and human development issues. CPHHS Extension serves as an "expressway to communities" that helps students engage in learning beyond the classroom and enables researchers to share discoveries that improve lives and communities, illustrating a natural fit for integrating research, education, and Extension within a statewide network working toward a healthier rural Oregon and beyond.

OTHER RESOURCES - Intellectual/Collaborative Resources:

Oregon State University (OSU) was founded in 1868 and is the state's Land Grant University, one of only two land, sea, space and sun grant institutions in the United States. As Oregon's leading public research university, OSU is the only university in Oregon to hold both the Carnegie Foundation's top designations for research institutions and its prestigious Community Engagement classification. OSU's Strategic Plan III for 2019-2023 includes a focus on **Preeminence in Research, Scholarship and Innovation.** This focus builds on the University's core public outreach and collaborative research strengths, scholarship and innovation of its

faculty, graduate and professional education, and OSU's relevant and enduring national and international partnerships. Oregon State received more than $471 million in competitive research grants and contracts in FY2022. Funding was received from state and federal governments, businesses and foundations for research on a wide range of projects in natural resources, health, engineering and science across the state and around the world. OSU's impact reaches across the state and beyond. With 11 colleges, 15 Agricultural Experiment Stations, 35 county Extension offices, the Hatfield Marine Sciences Center in Newport, OSU-Cascades in Bend, OSU has a presence in every one of Oregon's 36 counties, with a statewide economic footprint of $2.06 billion. Collaborations take advantage of shared missions, joint research, and mutual efforts to advance OSU's excellence in high quality research, teaching, including post-doctoral education, and service. Oregon State welcomes a diverse student body of over 33,000 students from all 50 states and more than 100 countries ***(For NSF applications make sure to remove any mention of quantifiable dollars)***

The Division of Health Sciences has been part of OSU's Strategic Alignment since it was formed in 2009 and includes the Colleges of Pharmacy, Gary R. Carlson College of Veterinary Medicine, and the College of Public Health and Human Sciences. New and ongoing collaborations between our colleges take advantage of shared missions, joint research, and mutual efforts to advance our excellence in teaching, research and outreach.

The College of Public Health and Human Sciences (CPHHS) is a Council on Education for Public Health (CEPH) accredited School of Public Health and the fourth largest college at OSU. The College's mission is, "through integrated education, research and outreach, we advance scientific discovery and implementation of ideas to improve population health and prepare the next generation of globally-minded public health and human sciences professionals. As part of a land-grant university, we connect our science to the policies and practices in communities to increase people's quality of life and capacity to thrive." CPHHS includes two schools, the School of Biological and Population Health Sciences and the School of Social and Behavioral Health Sciences, and four collaborative Research Centers: Hallie E. Ford Center for Healthy Children and Families; Center for Healthy Aging Research; the Moore Family Center for Whole Grain Foods, Nutrition and Preventive Health; and the Center for Global Health. CPHHS received over $43.3 million in sponsored awards in FY 2022. CPHHS provides administrative service to all faculty. Dedicated full-time staff is available for grants management, technology, and facilities support. The OSU Extension Service has over 100 years of outreach at Oregon State University and includes to community stakeholders across the state in Family Community Health Program and 4-H Programs. Faculty have significant expertise in identifying community needs and community evaluation.

School of Biological and Population Health Sciences links individual biology and behavior to population and environmental health to better understand how environmental and behavioral factors, including food and nutrition, physical activity, water, pollution, carcinogens, biohazards, etc., influence the development and progression of biological disease. Applying the quantitative methods of epidemiology and biostatistics allows for better understanding of the causes of population-level disease, as well as methods of intervention and prevention. Undergraduate programs of study include Kinesiology and Nutrition. Graduate programs of study include MAPE in Adapted Physical Education, MATRN in Athletic Training, MPH in Biostatistics, MPH in Physical Activity; MPH and PhD concentrations in three options (Environmental and Occupational Health, Epidemiology, and Global Health); and MS and PhD concentrations in two programs (Kinesiology, Nutrition). The school has access to a number of laboratories and facilities including: Biomechanics Lab (2,009 sq. ft.), Bone Research Lab (694 sq. ft.), Physical Activity and Disability Lab (196 sq. ft.), Human Performance Lab (590 sq. ft.), Instructional Analysis Lab (659 sq. ft.), and a Sports Medicine and Disabilities Lab (2,028 sq. ft.). Dr. xx is an Assistant Professor of xxx in the xxx Program, which focuses on xxxx. Drs. Xx and xx are xx Professors in the xxxx Program.

School of Social and Behavioral Health Sciences strives to advance understanding of the social and behavioral determinants and consequences of health and to promote health throughout the life course. We aim to integrate developmental, prevention, translation and policy sciences in an effort to improve health and well-being through research, teaching and public health practice. Undergraduate programs of study include: Human Development and Family Sciences with three options (Child Development; Human Development and Family Sciences, General; and Human Services); Public Health with two options (Health Management and Policy, Health Promotion and Health Behavior). Graduate programs of study include: MPH in Health Systems and Policy, PhD in Health Policy, MS and PhD in Health Promotion and Health Behavior, MS and PhD in

Human Development and Family Studies, and the Program on Gerontology. This school has access to various laboratories and facilities including two child development labs (each 1,212 square feet) and The Hallie E. Ford Center which is dedicated to Healthy Development and Lifestyles Research. Dr. xx is an Assistant Professor of xxx in the xxx Program, which focuses on xxxx. Drs. Xx and xx are xx Professors in the xxxx Program.

The Hallie E. Ford Center for Healthy Children & Families, established with an $8 million endowment, promotes a holistic, interdisciplinary approach to research and outreach**.** The Center building was commemorated September 2011 and has 19,000 square feet of research, meeting, and office space. The mission of the Center is to promote healthy children and families by facilitating high quality research, translating research into practice, and building the capacity of families, service providers and communities. The Center is organized into four research cores devoted to the following areas: Healthy Development in Early Childhood, Healthy Development for Youth and Young Adults, Healthy Lifestyles and Obesity Prevention in Children and Families, and Parenting and Family Life. The organizational structure of the Center includes the Endowed Director, an Outreach Coordinator, and four Core Directors. Core Directors are tenured faculty members who provide leadership to work groups comprised of multidisciplinary teams of faculty with compatible research interests.

The Center for Healthy Aging Research (CHAR) was established at Oregon State University in 2005 as one of Oregon State University's strategic investment initiatives to advance the study of aging and to promote healthy aging for older adults throughout the nation. The Center for Health Aging Research plans, coordinates, and conducts collaborative, multidisciplinary studies designed to optimize the health and well-being of aging individuals and their families. Building on Oregon State's distinguished Program on Gerontology, its outstanding Extension programs, and the University's rich research resources, a vital community of scholars has emerged to explore aging in all its facets. Our faculty includes many of Oregon State University's finest scientists who collaborate in the study of aging from differing perspectives and disciplines. Researchers affiliated with the Center are organized into four interrelated, interdisciplinary cores: Diet and Genetics Core, Musculoskeletal Core; Population, Social, and Individual Health Core; and Gerontechnology Core. In addition, the Center supports a human subject registry, known as the "LIFE Registry," which allows Oregon residents over 50 years of age to participate in and learn about healthy aging research. The Center community is committed to expanding, translating, and disseminating knowledge of the science of aging. From collaborative research to engaging colloquia, students experience the science of aging in an interdisciplinary context. As a vital part of Oregon's land grant university, the Center delivers the practical implications of research findings to citizens through Extension specialists and field faculty.

The Moore Family Center for Whole Grain Foods, Nutrition, and Preventive Health was established with a $5 million gift from Bob and Charlee Moore, founders of Bob's Red Mill Natural Foods, for the College of Public Health and Human Sciences. The center builds on the college's research on nutrition, childhood obesity and related topics, and promotes healthy eating throughout Oregon. In addition to small computer labs, Milam Hall also contains a Food Classroom Lab, a Food Teaching and Demonstration Lab, and a Food and Diet Studies Lab. The gift provides endowments for the center's director and an additional professor, along with two programmatic funds to support the center's research and outreach, including a fund focused on childhood obesity. This enhances the college's current efforts to develop, deliver and evaluate effective public health obesity prevention strategies for schools and communities. A final portion of the gift allowed the university to renovate the food research laboratory in Milam Hall, where faculty and students study whole grain foods and ways to promote healthy eating behavior.

The Center for Global Health was founded in 2014 with a mission to bring the Oregon State University community to the world, and bring the world to the Oregon State community. The center serves as a platform to connect faculty and students with a range of international partners to develop innovative approaches to promote equitable population health around the world.

The Center for Global Health facilitates expertise across the OSU community to conduct research, initiate health development programs and projects, and develop innovative education and training programs in

collaboration with international partners and communities. Efforts are especially directed at strengthening the capacity of partner communities across the world to promote community ownership of equitable and sustainable health development. While the center is focused on health development, the work is founded on an interdisciplinary approach to promote the health and general well-being of our partner communities.

For reference, if your proposal includes OSU faculty affiliated with other research centers and institutes at OSU, be sure to include Facilities & Resources info about those centers/institutes. General information about each is located at this link FYI http://research.oregonstate.edu/research-centers-and-institutes-osu

The Center for Quantitative Life Sciences (CQSL, renamed July 1, 2021, formerly the Center for Genome Research and Biocomputing) facilitates genome-enabled and data-driven research in the life and environmental sciences at OSU and across the state. It provides services in biocomputing, bioinformatics, genomics, functional genomics and transcriptomics, and imaging and image analysis. Major equipment includes the Illumina HiSeq2000, Illumina MiSeq, and Roche 454 Jr sequencing platforms, an ABI PRISM® 7500 FAST qRT-PCR instrument, an Agilent Bioanalyzer 2100, a Zeiss LSM 510 META confocal microscope, a 1728 processor biocomputing cluster with > 1 Pb storage, 10 Gbps network connectivity, and three 1 Tb memory servers. It employs three full-time laboratory staff and four full-time bioinformatics and biocomputing staff. All equipment and bioinformatics support is available for microbiome research. The Center offers leadership, training and services to faculty, staff and students through expert staff, core laboratories, computational facilities, seminars and technology workshops, and conferences. It also provides a focal point for researchers to establish contacts, initiate collaborations, and apply new technologies in their own laboratories.

Research in the CQLS and faculty affiliate laboratories seeks to improve health, better utilize natural and agricultural resources, understand our global environment, and develop new bio-based products and energy sources. Over 120 OSU faculty, holding primary appointments in academic departments of the Colleges of Agricultural Sciences; Engineering; Forestry; Pharmacy; Science; Veterinary Medicine; Public Health and Human Sciences; or Earth, Ocean and Atmospheric Sciences, are affiliate members of the Center.

The CQSL employs a full and part-time team dedicated to administration, biocomputing and bioinformatics, and the Core Facilities Lab. The team includes (Dr. Kathryn Higley,Interim Director; Dr. Denise Hynes, Program Director of Health Data & Informatics; Dr. Brent Kronmiller, Assistant Director of Bioinformatics and Data Science; Dr. Edward Davis, Bioinformatics Analyst; Dr. Andrew Black, Bioinformatics Trainer; Mr. Chris Sullivan, Assistant Director for Biocomputing; and two computational scientists, Mr. Matthew Peterson and Mr. Ken Lett; 4 Core Lab Technicians; and an Operations Manager). This staff has extensive expertise in DNA sequence analysis, including genome sequencing, RNAseq and genotyping-by-sequencing; biological databases; bioinformatics applications; and software development. The CQLS encourages researchers to invest in computational hardware that will be integrated into the overall fabric of the infrastructure. The CQLS computational staff work together with the individual researchers to find and build computational hardware that is optimized to answer the questions posed by the research work it supports.

The overarching goal of the CQLS Bioinformatics and Biocomputing group is to facilitate biological research through the use of computational tools. Services provided by the Bioinformatics and Biocomputing group include: processing of high throughput DNA sequence (HTS) data; provision of data management software including tools and procedures for analysis and distribution of HTS and biological imaging data; setup, optimization, maintenance and backup of the research computers owned by investigators and housed in the CQLS server room; access to grid computing resources on the CQLS cluster or on external clusters; maintenance of an in-house graphical user interface (Easy Terminal Alternative; ETA) that facilitates access to and pipelining of command line software; access to virtual servers with web and database services; training of investigators in programming and use of bioinformatics software; hosting a large variety of in-house and commercial bioinformatics tools; statistical consultation, experimental design and analysis; and collaborative research.

The CQLS's biocomputing infrastructure includes a distributed service architecture, a large compute cluster, a secure network and climate controlled server space. Data for this study will be analyzed using AZURE secure cloud. The current architecture contains:

• >1 petabyte redundant storage
• 1728 processor cluster
• 3 Dell PowerEdge 910 servers with 1 Tb memory each
• 10 Gbps network backbone
• 10 Gbps network for HTS and Backup file servers
• 10 Gbps access to campus-wide science DMZ and internet2
• 1 Gbps network for all nodes
• 80 kVA Uninterruptible Power Supply (UPS)
• 120 kW building generator
• 17 ton of air handling

The Oregon State University Libraries consist of the Valley Library on the main campus and the Guin Library, a branch service library located at OSU's Hatfield Marine Science Center in Newport, Oregon. OSU has two other libraries that serve faculty and students, the OSU-Cascades Library at the OSU Cascade campus in Bend, Oregon and the McDowell Veterinary Library located in the Carlson College of Veterinary Medicine. In 1999, a $47 million library expansion project was completed, and the library was then awarded "Library of the Year" by the American Library Association. The Valley Library is the first academic library in the nation to receive the honor, awarded particularly to institutions whose reach extends beyond their immediate community. OSU Libraries has nearly 2 million volumes, adding approximately 23,000 monographs annually and purchasing approximately 39,000 current serials. Recognizing the desire of students and faculty to have 24×7 access to information, the Libraries is rapidly shifting from a print collection to a digital one. OSU students and faculty have 24x7 access to information in digital format as OSU Libraries continue to shift from print to digital collections. The Libraries provide access to more than 360 databases and 68,975 unique electronic journals. OSU Libraries is a member of the Orbis/Cascades Alliance which gives OSU students and faculty access to the collections of 39 academic libraries located throughout Oregon, Idaho and Washington, enabling leveraged buying power, providing opportunities to increase OSU's digital presence, and enhancing services and programs related to interlibrary loan and scholarly communication in a timely and efficient manner. The Government Information and Maps Collection offers an extensive collection of U.S. and Oregon documents and maps. A distinguished research collection, the Ava Helen and Linus Pauling Collection, is housed in the Special Collection and Archives Research Center. In addition to collections that support the OSU curriculum and research, OSU Libraries and Press Research Data Services provides guidance and support for all aspects of the research data lifecycle, from planning your data management strategy during the proposal phase through preserving your data at the conclusion of your project. ScholarsArchive@OSU is Oregon State University's digital repository for research, scholarship, and historical records. Any member of the OSU community can contribute to ScholarsArchive@OSU. The repository provided universal access to content to anyone in the world with an internet connection.

OSU Commitments to Diversity: The Office of Institutional Diversity (OID) was formed in 2017 and plans, leads and implements, in collaboration with university partners, institutional change actions and initiatives to advance diversity, equity and inclusion throughout all facets of Oregon State through the framework of social justice. The Office of Equal Opportunity and Access (EOA) serves as the University's Title IX and Americans with Disabilities Act/Section 504 coordinating office; is responsible for overseeing compliance with civil rights and affirmative action laws, regulations, and policies; provides leadership, guidance, and training in these key areas to promise and ensure equitable and inclusive environments for all Oregon State University community members. OSU has seven Cultural Resource Centers (Asian & Pacific Cultural Center, Centro Cultural Cesar Chavez, Ettihad Cultural Center, Lonnie B. Harris Black Cultural Center, Native American Long House Eena Haws, Pride Center, and Women's Center). The Office of Diversity & Cultural Engagement (DCE) consists of several programs and seven Cultural Resource Centers (CRCs) provide students and faculty with opportunities to engage in transformative learning experiences and advance scholarly research and personal academic goals. In addition to supporting the cultural centers, DCE programs include the Arts and Social Justice Living Learning Community, American Indian Initiatives, Asian and Pacific Islander American Student Services, Casa Latina/o de OSU, Cross-Cultural Mentoring Program, LGBTQ Outreach & Services Office, Integrated Learning for Social Change, and Ujima Education Office. Other diversity resources include the Center for Latina/o Studies (CL@SE) and Disability Access Services with partners that foster and support the aims of DCE. OSU actively engages in recruiting and retaining a diverse workforce and student body that includes members of historically underrepresented groups. The proposed research will support diversity by xxx.