# **RESOURCES & ENVIRONMENT (R&E)**

**USC/School of Medicine Basic “Boilerplate” Information for Sponsored Award Proposals**

*The following includes ‘boilerplate’ (basic) information about the University of South Carolina (USC) and the School of Medicine - Columbia (SOMC):*

* *Use only what you need*. *Include only the information that is pertinent to your proposal* (not the whole thing). Note that there is some information overlap between sections.
* Be sure to add specific department, lab, equipment, and collaboration information as needed for your proposal and edit out what is not relevant to it.
* Other USC units and external institutions/organizations should be able to supply you with their R&E information upon request.
* Overview and contact information about additional SOM centers and programs is at: <https://sc.edu/study/colleges_schools/medicine/index.php>

*Updated Summer 2024 (Arial 11 pt.)*

# **The University of South Carolina (USC)**

**The University of South Carolina (USC)** was established in 1801 and is a full-service, state- assisted research university that includes the 358-acre Columbia campus and seven regional campuses, with a total full-time student body population of more than 35,000 in Columbia and 50,000 overall. Located in the capital city of Columbia in the geographic center of the state, USC's main campus is part of a thriving metropolitan area of more than 800,000 inhabitants. USC offers a broad spectrum of educational opportunities with 14 colleges and schools that encompass 324 undergraduate and graduate degree-granting programs. USC confers 25% of all bachelors, graduate, and professional degrees awarded at institutions of higher education in South Carolina.

**USC Research Capacity.** In fiscal year 2024, USC was awarded over $300 million in extramural sponsored award funding, 72% percent of which was for research. USC is listed in the Carnegie Classification of Institutions of Higher Education as a Very High Research Activity University.

The University provides researchers with a full range of grant and contract-related services through its Sponsored Awards Management and Grants and Funds Management offices. USC’s Office of Research Compliance oversees the institutional review processes for human and animal subjects as well as disclosure and management of financial conflicts of interest and assists with scientific misconduct regulation and export controls.

**The SC SmartState Centers of Economic Excellence program** was established by the state's General Assembly in 2002 with $180 million of non-tax revenue funds generated from the South Carolina Education Lottery. These funds, along with legislatively mandated dollar-for-dollar matching non-state funds, provide support for hiring world-class researchers who serve as the endowed chairs of the SmartState Centers. The 51 Centers are grouped into six industry- focused Smart Clusters to facilitate engagement with business, students, potential faculty, and the public. Each Center includes one or more endowed chair, research infrastructure, technical staff, and sustainable funding sources. USC is home to 27 SmartState Centers, including 18 that are headquartered at USC's Columbia campus and eight within which USC actively collaborates working with other SC research institutions.

**USC Libraries.** Thomas Cooper, the University’s main library, is centrally located on the Columbia campus, and the School of Medicine library is a 15-minute drive from central campus. Both libraries maintain an extensive collection of health-related resources, including books,

journals, and indices. Access to online databases and full-text journals is available through the Thomas Cooper Library Web page.

**USC’s Division of Information Technology (DoIT),** under the direction of the Vice President for Information Technology and Chief Information Officer, oversees centralized and distributed computing and telecommunications services for academic, research, and administrative use to meet the needs of USC faculty, staff, and students. DoIT provides the USC community with computing, voice, and data communications, networking, data security, video transport, information technology training, Web services, customer support, desktop and server support, installation and maintenance of IT infrastructure, policies and procedures assistance, PC labs, software licensing and distribution, IT planning, applications development and support, and operational systems. The Columbia campus is covered by wireless service. USC has a licensing agreement with Microsoft that includes 5TB of secure cloud storage space for every faculty and staff member on OneDrive. Microsoft has signed legal agreements with the University that hold them liable for the security and protection of data stored on OneDrive. OneDrive provides USC researchers with the capability to share data and results with external partners by emailing them a link to securely download the data.

# **The School of Medicine – Columbia (SOMC)**

**The School of Medicine - Columbia (SOMC)** Based four miles from USC main campus on the Dorn VA Hospital campus, SOMC is one of 155 US schools of medicine fully accredited by the Liaison Committee on Medical Education of the American Medical Association and Association of American Medical Colleges. In partnership with Prisma Health, USC SOM has established a satellite campus in Greenville, SC where it is pursuing clinically-relevant medicinal programs and is developing a long-term plan for future expansion to include interdisciplinary graduate degree options that combine many disciplines of medicine with biomedical sciences, research initiatives, and public health based disciplines. The School’s mission is to provide an exemplary and affordable education for students and to push the envelope when researching new ways to advance health care, while also helping give South Carolina the best patient-centered care possible. The goal of SOMC is to advance medical knowledge and improve healthcare delivery by fostering an environment of excellence in education, research, and clinical practice. SOMC aims to develop compassionate, skilled, and ethical medical professionals who are committed to lifelong learning and dedicated to serving diverse communities. Through innovative research and collaboration, SOMC strives to address global health challenges and contribute to the advancement of medicine, biomedical sciences, and public health.

**SOMC Degree Programs.** SOMC offers programs of study at the doctoral and masters levels. **Doctoral degrees** include Biomedical Sciences Doctor of Philosophy (PhD) which offers a Neuroscience concentration, Doctor of Medicine (MD), a **dual degree** MD/PhD program, and Doctor of Nurse Anesthesia Practice (DNAP). **Master degrees** include Master of Science (MS) in Genetics Counseling, MS in Physician Assistant Studies (MSPAS), Master of Arts (MA) in Counseling and Rehabilitation, and MS in Biomedical Sciences which offers two different concentrations – Applied Biotechnology and Health Professionals Sciences. The school offers one Certificate of Graduate Study in Psychiatric Rehabilitation Studies. While the School is fully accredited by the Liaison Committee on Medical Education of the American Medical Association and Association of American Medical Colleges, the DNAP, Genetics Counseling, MSPAS, and Counseling and Rehabilitation programs are accredited by their respective professional groups.

**SOMC Computing Security and Capacity.** The School of Medicine Office of Information Technology provides IT support for all the faculty, staff and students that are part of the SOMC campus. This includes desktop support, call center support, e-mail support, network support, web support data support, VOIP phone support, file server storage, audio visual support, print support. IT infrastructure/installation is secured, maintained and managed by the SOMC OIT system administrators. Microsoft Defender is used to provide endpoint security. Computers and laptops are encrypted with BitLocker. USCSOM manages their own Microsoft 365 tenant that falls under the same USC license agreement Microsoft.

{See the USC Office of Information Technology (DoIT) section above for additional information about USC-level computing security and capacity}

**SOMC Academic Departments.** The School is the home of 3 basic science academic departments: Pathology, Microbiology, and Immunology, Cell Biology and Anatomy, Pharmacology, Physiology, and Neuroscience. The School also contains 10 clinical departments: Family and Preventative Medicine, Internal Medicine, Obstetrics and Gynecology, Neuropsychiatry and Behavioral Science, Neurology, Ophthalmology, Orthopedic Surgery, Radiology, and Surgery. There are two program associated departments at the School: Physician Assistant Program and Genetics Counseling Program.

**SOMC Interdisciplinary Institutes and Research Centers.** In addition to its academic departments, SOMC houses multiple interdisciplinary research centers, including the Brain Health Network, Cardiovascular Translational Research Center, Center for Disability Resources, Clinical Skills Center, FoodShare SC, Institute for Cardiovascular Disease Research, NIH Center for Complementary and Integrative Medicine, NIH Center for Dietary Supplements and Inflammation, South Carolina Center for Rural and Primary Healthcare, South Carolina HIV Clinical Training Center, Simulation and Interactive Learning Center, Transnational Alliance for Genetics Counseling, and Ultrasound Institute.

**SOMC SmartState Centers.** SOMC is home to three SmartState endowed chairs who lead Centers of Economic Excellence within the School that focus on finding effective cancer drugs, regenerative medicine treatment approaches, and clinical stroke research– Cancer Drug Discovery, Regenerative Medicine, and Clinical Stroke Research. These centers involve post-doctoral scholars as well as graduate and some undergraduate students in their innovative, cutting-edge research activities.

**SOMC Faculty Offices.** Each faculty member has a private office with a printer and personal computer with Microsoft Office and additional software relevant to his or her teaching and research, Internet access, telephone, and general office support. Faculty members are furnished with additional office and laboratory space as needed for project support

**SOMC Research Support Capacity.** SOMC Office of Research serves as a collaborative focal point to foster research development and engagement within the SOMC, with disciplines across USC, as well as with our clinical partners, to support the development of clinical and translational research. The SOMC Office of Research’s mission is to strengthen people, programs, and infrastructure to support a culture of collaboration as well as programs to support research and our investigators. The following outlines the SOMC OOR’s key programs and support:

*Grant Development & Submission Support:* The SOMC OOR provides SOMC investigators comprehensive support for grant development and submission, enhancing the quality of faculty proposals through project planning, study design, and identifying funding sources. The team assists with crafting grant sections, preparing necessary documents, routing through internal systems, and coordinating with USC Sponsored Awards management. Additionally, they offer support in budget development and statistical analysis.

*Grant Peer Review Program:* The program is designed to refine grant proposals before they face the critical eyes of funding agencies. SOMC faculty submit their research proposal materials for pre-submission review and their proposal is then reviewed by a panel of experienced investigators. Investigators receive feedback tailored to elevate the proposal's overall impact and success rate, ensuring that researchers are equipped with the insight needed to refine and perfect their applications.

*Biostatistical Support:* The SOMC OOR provides essential biostatistical support to SOMC faculty and students, enhancing research quality and efficiency through personalized consultations, statistical analyses, and data management strategies. The biostatistics team assists with designing analysis plans, power analyses, data interpretation, and providing insights for meaningful research conclusions.

*SOMC Bridge Funding Program:* The SOMC Bridge Funding Program aims to support ongoing research projects during temporary funding gaps. The program provides up to $50,000 per year for a maximum of two years to sustain research momentum, retain talented faculty, and generate preliminary data essential for securing future funding. Applications require a detailed research description, past funding details, future funding plans, and a budget outline. Selection is based on fund availability, potential for future funding success, research significance, and alignment with the institution's priorities.

*The Emerging Physician Scientist (EPS) program:* The EPS program fosters the growth of early-career physician scientists through 15 months of didactic education, practical training, and mentorship in clinical and translational research. It provides funding for pilot projects, prioritizes interdisciplinary and health equity-focused research, and enhances grant development skills to support extramural grant applications.

*The Transformative Research Seed Grant Initiative:* This initiative fosters collaborative research between university faculty and clinical partners, aiming to innovate healthcare services and biomedical science. It supports pioneering projects that lay the foundation for extramural funding, with successful applicants expected to demonstrate a clear pathway to future grants and share their findings widely.

**Intra-University Collaboration.** SOMC closely collaborates with the five other schools and colleges of health-related professions that form USC’s Health Sciences Division, including the Arnold School of Public Health, College of Nursing, College of Pharmacy, College of Social Work, and the more recently established School of Medicine-Greenville, which was fully accredited in 2015. Investigators from these academic units are actively involved in interdisciplinary research, training, community engagement, and service activities with SOMC faculty members.

**Extra-University Collaboration.** SOMC intimately collaborates with extra-university entities to provide comprehensive research and learning opportunities. SOMC has a long history of collaboration with the **Columbia VA Health Care System** (Wm. Jennings Bryan Dorn VA Medical Center). The Columbia VA has an active research and development program committed to enhancing health care for veterans. To further their research mission, the Columbia VA and the South Carolina Center for Rural and Primary Healthcare have developed a partnership to foster research collaborations across our institutions and assist Columbia VA researchers with: pre-award grant submissions assistance, statistical and data analytic support for pilot projects and pending submissions, and educational resources for grant submissions and management. Since 2020, SOMC has partnered with **Prisma Health** to encourage the development and implementation of innovative health care delivery models, medical devices, digital health applications, and treatments for diseases as well as to provide SOMC students with direct access to clinical medicine training. Specifically, Prisma Health and SOMC collaborate on a number of opportunities, including intellectual property patents and technology transfer support, operations development, cybersecurity, institutional insights, and strategic planning – all towards the shared goal of furthering research and innovation towards improving treatments and health care delivery.

**Health Sciences South Carolina.** (HSSC) was founded in 2004 as the nation's first statewide health data and research collaborative whose mission is to transform South Carolina's public health and economic well-being through research. Its members include the state’s largest research-intensive universities (the University of South Carolina, the Medical University of South Carolina, and Clemson University) and the state’s largest healthcare systems (AnMed Health, McLeod Health, MUSC Health, Prisma Health, Self Regional Healthcare, and Spartanburg Regional Healthcare System). HSSC also provides financial support to South Carolina’s SmartState Centers of Economic Excellence that are led by world-class researchers. Research conducted in these centers is leading to new products and services with the potential to improve public health while creating economic development opportunities and new jobs in the state.

**SOMC Core Facilities.** The School contains three core facilities which are equipped with state-of-the-art resources to aid students and principle investigators in processing, imaging, and design for research projects. The **Viral Vector Core** is a full service facility with more than a decade experience in the production of viral-based platforms for gene delivery including lentiviral vectors and adeno-associated vectors. This core provides service for researchers both intramural and extramural to USC, interested in utilizing viral-based method of gene delivery. In addition to design, cloning and vector production, customer are provided with resources critical for understanding of the biological aspects of the vector technology. These vectors are suitable for both in-vitro and in-vivo studies and are insured with robust quality control including guarantee of purity and safety. The **Instrumentation Resource Facility (IRF)** provides innovatory biomedical instrumentation to USC investigators and students, and seeks to facilitate the expansion of science through use of these technologies. The IRF houses more than 50 pieces of state-of-the-art biotechnological equipment to fully support the research and teaching mission of all USC campuses. Available technologies are vast, ranging from single cell and molecular level analysis to whole animal imaging. Additionally, the IRF maintains a full range of ancillary equipment available for sample preparation, image enhancement, and data analysis. Services include histological processing, confocal imaging, electron microscopy, light and live cell microscopy, flow cytometry and cell sorting, small animal imaging, molecular analysis, image analysis, poster printing, and product ordering. The IRF also provides instrument training for students and investigators. The **Healthcare Evaluation Systems and Technological Informatics Archive (HESTIA)** is a centralized clinical data center used for storing, managing, and analyzing data collected from clinical trials, medical studies, patient records, and other healthcare related sources. It serves as a repository for diverse types of medical information, including patient demographics, medical history, laboratory results, imaging data, and treatment outcomes. HESTIA plays a crucial role in advancing medical research, improving patient care, and driving innovation by providing a centralized platform for managing and analyzing clinical data. The key functions of the core to (1) provide a secure environment for clinical data, (2) organize and manage data efficiently, ensuring data integrity, accuracy and compliance with HIPPA (Health Insurance Portability and Accountability Act), (3) integrate data from multiple sources that enables comprehensive analysis and insights across diverse populations and diseases, (4) provide tools and resources for analyzing the data including statistical analysis, machine learning and Artificial Intelligence algorithms, and data visualization techniques, (5) provide robust security to protect patient data, (6) ensure compliance with university, state, federal, and industry standards governing the collection, storage, and use of clinical data.

**SOMC Postbaccalaureate Research Education Program (PREP).** The SOMC PREP provides a year of post-baccalaureate training to minority or disadvantaged students who have indicated a desire to enter graduate school with the aim of obtaining a PhD degree in the Biomedical Sciences. The program is fully funded by the NIH and offers students an annual stipend of $32K. In the last five year funding period of USC PREP, 88% of PREP Scholars received offers from prestigious graduate schools. This program allows PREP Scholars to experience biomedical research and demonstrate their abilities as researchers. In addition, they will have the opportunity to show their ability to do well in graduate level coursework. It is anticipated that the Scholars' laboratory research experience and graduate coursework will not only ensure their acceptance into a graduate program, but will also shorten the time needed to complete a Ph.D. by about a year.

**Student Opportunities for Academic Achievement Through Research.** The SOAR program is a full-time eight-week summer program that enables USC SOMC medical students to work closely with faculty mentors, exploring basic science, translational, or clinical research, or projects focused on health care quality or patient safety, or educational research. Students and mentors apply for participation in the fall, followed by a selection and matching process that aims to align students' interests with mentors' expertise. This model fosters a supportive environment where students and faculty can apply their knowledge and skills.

**SOMC Medical Library.** The Charles S. and Donna H. Bryan School of Medicine Library serves as the School of Medicine's information gateway to over 280,000 electronic journals, over 1,300 electronic textbooks, over 95 biomedical databases and more. The Library’s print collection consists of more than 42,000 volumes. The mission of the School of Medicine Library is to provide exemplary library and information services to support the education, research and patient care programs of the School of Medicine, and to provide high quality health information to the people of South Carolina. Access to online databases, full-text journals, and other resources is available through the Charles S. and Donna H. Bryan School of Medicine Library web page.

**SOMC – Prisma Health Continuing Medical Education.** The USC SOMC – Prisma Health–Midlands Continuing Medical Education Organization delivers high-quality educational experiences to physicians. This organization facilitates continuous professional development for physician learners, enabling them to realize their potential throughout their careers and positively impact patient care and well-being. Faculty development programs support the teaching efforts at our affiliated institutions. The organization is accredited with commendation by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. Competence and performance are enhanced across the ACGME/ABMS general competency areas by fostering a positive impact on patient outcomes, meeting regulatory and institutional requirements, and stimulating life-long learning. Collaborators include School of Medicine faculty, Prisma Health, community-based clinicians, hospital-based clinicians, quality improvement offices, institutional leadership, professional associations and health-related state agencies. This organization assists School of Medicine faculty members by providing programs, consultative services and resources to develop the knowledge and skills necessary to succeed in academic medicine. Professional development support is offered for teaching, research, clinical quality improvement and leadership, addressing the full scope of academic work as we strive for excellence

**SOMC Animal Facilities.** All university animal facilities are organized under the Office of the Vice President for Research and operated by the USC Department of Laboratory Animal Resources (DLAR). There are three USC animal facilities located in Columbia (including one on the SOM campus) encompassing approximately 45,000 square feet of space and capable of housing species ranging from zebrafish to swine. DLAR provides daily husbandry and veterinary care to all USC animals. The animal care and use program is accredited by AAALAC Internation, is registered as a research facility with the USDA, and has a letter of assurance on file with the NIH Office of Laboratory Animal Welfare.