



Virginia State University

Capabilities Statement

DUNS: 074744624
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CAGE: 0XRD4

ABOUT US

Virginia State University (VSU) is a Carnegie R2 Historically Black College and University (HBCU) and 1890 Land-Grant institution committed to advancing education, research, innovation, and community engagement. VSU conducts multidisciplinary research that addresses national priorities in health, agriculture, manufacturing, cybersecurity, data science, and economic development. Our expertise spans biotechnology, genomics, multi-omics, bioinformatics, artificial intelligence, advanced manufacturing, public health, social data analytics, environmental science, and computational research. Through collaborative partnerships with government agencies, industry, healthcare organizations, and community stakeholders, VSU develops innovative, data-driven solutions that improve health outcomes, strengthen communities, accelerate workforce development, and address complex societal challenges.

RESEARCH AND TECHNICAL CAPABILITIES

<u>Data Science, Artificial Intelligence, Advanced Manufacturing, and Cybersecurity</u>	Artificial intelligence and machine learning for biomedical, health, manufacturing, and scientific applications; Deep learning for medical imaging and advanced computational analytics; Biological sequence analysis, genome assembly, annotation, and multi-omics analytics; Automated manufacturing process optimization; AI-enabled experimental data analysis; Cybersecurity solutions using multimodal clustering and authorship analysis; IIoT and smart Manufacturing
<u>Biotechnology, Genomics, and Translational Life Science Research</u>	Genomic, transcriptomic, methylomic, and multi-omics research; Epigenetic mechanisms linking environmental exposures and cancer; CRISPR-based technologies for therapeutic development; Virus evolution, recombination, and computational evolutionary genomics; Biomarker discovery, biosensor development, and molecular diagnostics
<u>Public Health & Community Engagement</u>	Community-engaged translational health research; Population health research integrating biological, behavioral, and environmental factors; Digital health technologies, wearable sensors, and mobile health platforms; Community health literacy, prevention, and intervention initiatives; Customized data analytics, dashboard development, program evaluation, and decision support
<u>Advanced Diagnostics, Materials, and Scientific Instrumentation</u>	Rapid diagnostic technologies and biosensor development; Advanced materials research for health and environmental applications; Nuclear detection systems and scientific instrumentation; Environmental monitoring, analytical chemistry, and laboratory method development
<u>Interdisciplinary Collaboration</u>	Multidisciplinary teams integrating life sciences, engineering, computational science, chemistry, public health, agriculture, and social sciences; Partnerships with federal, state, local, industry, and nonprofit organizations; Undergraduate and graduate research workforce development and experiential learning

CENTERS AND LABS

Center for Biotechnology, Genomics, and Bioinformatics

Center for Outreach and Treatment Through Education and Research

Trojan Center for Emerging Engineering Research

Public Health Institute

VSU Nuclear Science Lab

Center for Social Data Analytics

PAST PERFORMANCE

United States Department of Agriculture

National Science Foundation

National Institutes of Health

Virginia Department of Health

NAICS CODES

611310, 611710, 541715, 541720,

541690, 5411711/541714

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