HAMPTON UNIVERSITY CAPABILITIES STATEMENT

CORPORATE CONTACT:

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DUNS NO.
003135068

CAGE CODE:
4W066

NAICS CODES:
541511
541611
541614
541690
541711
541712
541720
541910
561990
611710
712110
923110

SIC CODES:
0781
4731
7299
7371
8299
8412
8731
8732
8742
9411

GEOGRAPHICAL COVERAGE:

Physically located on the eastern seaboard within driving distance of the nation's capital, Hampton University has the capability to perform anywhere in the world

AREAS OF EXPERTISE:

- Accelerator Physics
- Accounting and Systems Analysis
- Atmospheric and Planetary Sciences
- Aviation and Unmanned Aircraft Systems
- Biotechnology
- Cancer Research and Treatment
- Community Based Participatory Research
- CRISPR/Cas
- Cyber Security
- Digital Media Innovation
- Drug Design and Drug Delivery
- Drug Information Services
- Education
- Genetics and Genomics
- Health Disparities
- Investment Portfolio Analysis
- Logistics and Supply Value Chain Management
- Medical and Biomedical Physics
- Medication Therapy Management
- Nanotechnology
- Next Generation Sequencing
- Nuclear Physics
- Particle and Nuclear Physics
- Proton Radiation
- Public Awareness Campaigns
- Public Policy
- Radio Broadcasting
- Transportation Management

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UNIQUE CAPABILITIES AND RESOURCES:

Proton Therapy Institute – This is the largest free-standing proton therapy facility in the world. The Hampton University Proton Therapy Institute (HUPTI) is a state of the art treatment, research, training, and educational facility that provides non-invasive and localized treatment of prostate, breast, brain, spine, head, neck, lung, GI and pediatric cancers. HUPTI features four treatment rooms including four gantries and one fixed-beam treatment and research room. Equipped with the most precise form of cancer treatment to date, HUPTI has the capacity to service up to 2,000 patients annually.

Center for Atmospheric and Planetary Research and Education – This Center leads three earth-observing satellite programs with a fourth satellite scheduled soon to launch as an attachment to the International Space Station. It has total mission responsibility for NASA's Aeronomy of Ice in the Mesosphere (AIM) mission, which analyzes polar mesospheric clouds, providing the basis for study of long-term variability in the mesospheric climate and its relationship to global change. The center has a broadcast weather antenna that captures real time images every hour, providing frequent updates to meteorologists, NASA Langley Air Force Base, the Department of Defense and the National Weather Service.

Cancer Research Center – A matrix organization comprised of investigators from the departments of Biology, Chemistry, Psychology, Sociology, Mathematics, Medical Physics and Pharmacy. This center fosters collaborative, transdisciplinary research and applies novel strategies to cancer research, leveraging expertise and resources across the University to contribute to the understanding of cancer disparities. Its core competencies include: Genetics/ Genomics; Genetic/Molecular Epidemiology; Next Generation Sequencing; Bioinformatics; Big Data analysis; Systems Biology; Functional Genomics; CRISPR/Cas; Gene Expression Analysis; Flow Cytometry; Statistical Analysis (R, SPSS, SAS); Epidemiology; Radiation Biology; Clinical-Translational Medicine; and STEM Education for Minorities and Women.

Information Assurance and Cyber Security Center – This Center is designated as a National Center of Academic Excellence in Cyber Defense Education by the National Security Agency and the Department of Homeland Security through 2021. It provides information assurance and cyber security program and curriculum development services, workshops, multidisciplinary research opportunities, and outreach to other HBCUs/MSIs and community colleges.

Center for Fusion Research and Training – This center conducts state-of-the-art research in the area of controlled thermonuclear fusion. The Center has collaborations with Columbia University, General Atomics and the Princeton Plasma Physics Laboratory. The Center's emphasis is magnetic confinement systems, especially the tokamak device and applications of nonlinear dynamics to the problems of fusion.

National Resilience Initiative Network – The School of Architecture represents the Mid-Atlantic region in this coalition of organizations that help local communities prepare for and adapt to natural challenges related to sea level rise.

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Partnership to Enhance General Aviation Safety, Accessibility and Sustainability (PEGASAS) – The Department of Aviation is a partner in the Federal Aviation Administration (FAA) Center of Excellence for General Aviation. We are currently performing research to reduce the number of runway incursions at commercial airports. Runway incursions are one of the primary runway safety concerns in the flying community.

Skin of Color Research Institute – This Institute conducts basic research regarding cutaneous diseases that uniquely or disproportionately affect people with skin of color and the biology of skin of color. It emphasizes translational research in discovery of molecular underpinnings for the disproportionable prevalence of aggressive melanomas.

SELECT CURRENTLY FUNDED GRANTS AND CONTRACTS
Hampton University has a diverse portfolio of extramurally-funded research and other scholarly activities. The total extramural support for FY 2015-2016 was $25M. Listed below are select currently funded grants and contracts.
✓ Samuel Massie Chair of Excellence in Professorship in Environmental Disciplines. (1997 – 2017, $2.1M) *Department of Energy*
✓ The Problem of Heat Deposition on Divertor Tokamak (2001 – 2017, $1.3M). *Department of Energy*
✓ Homoclinic Tangles in DIII-D Tokamak (2004 – 2017, $1.9M). *Department of Energy*
✓ The Hampton University Undergraduate Research Experience in Fusion Science and Related Areas for Minority and Female Students (Current Year, $246K). *Department of Energy*
✓ Hampton University Veterans Education Transition for Success (HU-VETS) (2013-2017, $1.4M). *Department of Health and Human Services (DHHS)*
✓ Hampton University First In The World Partnership (2014 – 2018, $3.5M). *Department of Education*
✓ Aeronomy of Ice in the Mesosphere (AIM) (2003 – 2020, $120M). *NASA*
✓ Enhancement of Capabilities in Education and Research Using Lidar and Other Techniques for Environmental Measurements (2016 – 2017, $417K). *Department of Defense*
✓ Advance Center for Laser Science and Spectroscopy (2011 – 2017, $5M). *National Science Foundation*
✓ Selected Problem Nuclear/ High Energy Physics (1997 – 2017, $2.2M). Department of Energy

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✓ HBCU-RISE Hampton University: Advanced Physical Modeling and Simulation for 21st Century Scientists (2014 – 2018, $1M). *National Science Foundation*
✓ Hampton University Biomedical Research Training Initiative (2014 – 2019, $1.5M). *National Institutes of Health*
✓ Cybersecurity Research Grant: Intelligent Secured Programming and Cloud-based Computing System (2015 – 2017, $187K). *National Security Agency*
✓ The Hampton University Regional Transdisciplinary Collaborative Center (2013 – 2018, $13.5M). *National Institutes of Health*
✓ CyberCorps: SFS: Hampton University Graduate Education and Training Scholarship in Information Assurance (HU GETS-IA, 2013-2017, $2.3M). National Science Foundation
✓ Workforce Preparation through Computing Scholarship (WE-Prep-CS, 2014 - 2020, $622K). National Science Foundation

SELECT PREVIOUSLY FUNDED GRANTS AND CONTRACTS:
✓ BNNT Growth in a Fluidized Bed Reactor (2013 – 2016, $1.1M). *Department of Defense*
✓ Lower Atmospheric Research Using Lidar Remote Sensing (2011 – 2016, $2.5M). *Department of Defense*
✓ Center for Advanced Medical Instrumentation (2001 – 2007, $400K). *Department of Energy*
✓ Hampton University Health Disparities Reduction Project (2002 – 2005, $690K). *National Institute on Minority Health and Health Disparities*
✓ Minority Institutions Technology Support Services IDIQ (1999 – 2005, $1.5M minimum order). *Department of Defense*