

Research Resources

Office of Research

Old Dominion University is classified by the Carnegie Foundation as having High research activity. Old Dominion's Office of Research works on behalf of faculty, staff and students to enhance and grow the University's research enterprise through strategic planning, infrastructure support, proposal development services for faculty and administrators, assuring research compliance, encouraging technology transfer, promoting applied research, and by facilitating opportunities for collaboration with local, state, and federal agencies, foundations, and industry sponsors of research. The office is led by the Vice President for Research and includes staff members who leverage a breadth of experience from both academic and private sector backgrounds. Sponsored research administration services, encompassing the range of pre- and post-award grant and contract administration, are provided by the Old Dominion University Research Foundation, a 501(c) 3 organization.

While most of Old Dominion's research activities and centers are housed within specific colleges, the ones that are the most diverse in terms of their research focus and/or scope are organized in the Office of Research. The Virginia Modeling, Analysis, and Simulation Center (VMASC), the Frank Reidy Research Center for Bioelectronics, the Center for Educational Partnerships (TCEP), and the Commonwealth Center for Recurrent Flooding Resiliency (CCRFR) are four such entities.

The **Virginia Modeling, Analysis, and Simulation Center (VMASC)** is a multidisciplinary modeling, simulation and visualization collaborative research center. With industry, government, and academic partners, VMASC furthers the development and application of modeling, simulation, and visualization as decision-making tools and promotes economic development through transferring its intellectual property into the commercial sector. Its core capabilities are: military modeling and simulation (primarily combat simulations), homeland security and homeland defense modeling and simulation, medical simulations including biomedical representations, social system modeling, transportation modeling, virtual environments for training, coastal resilience analyses, and use of big data in simulations. VMASC creates computer simulations and conducts program analyses to meet stakeholders' needs. Computer simulations provide the capability to: quickly and economically test theories and ideas; help visualize and understand complex situations; prioritize labor and capital investment opportunities; and reduce the risk inherent in business decisions. The research interests and capabilities of VMASC include: simulation methodologies, mathematical modeling, simulation inter-operability, verification and validation, distributed simulation, computer visualization, immersive virtual environments, human factors, social behavior, performance analysis, intelligent systems, decision support and collaboration methodologies, and modeling and simulation systems integration.

The **Frank Reidy Research Center for Bioelectronics (FRRCB)** is recognized as a leader in understanding the interaction of electromagnetic fields and ionized gases with biological cells and applying this knowledge to the development of medical diagnostics, therapeutics, and environmental decontamination. The center is part of an International Consortium for Bioelectronics that includes universities and research institutes from Japan, Germany, France and the United States. The objectives of the center are to perform leading edge interdisciplinary and multi-institutional research, recruit top faculty and exceptional graduate students, support regional, national and international programs, and increase external funding and institutional visibility. Research conducted at the FRRCB has attracted substantial federal agency support including multiple grants from the National Institutes of Health, Department of Defense, and the National Science Foundation. The FRRCB has expertise in pulsed power technology for biological and medical applications in the sub-nanosecond to the millisecond range and includes the design and modeling of pulse delivery systems. A wide range of research is conducted at the center including new cancer therapies, wound healing, decontamination, imaging, and cardiovascular applications. Old Dominion University is licensing proprietary FRRCB technology in medicine and biology.

The **Center for Educational Partnerships (TCEP)** establishes collaborative educational enterprises with schools and school divisions that support dissemination of proven practices, rigorous field trials of promising models, and development and testing of innovative research-based models in collaboration with Old Dominion University's primary educational partners.

TCEP focuses its efforts on the following activities:

- Developing broad-based partnerships with school divisions in the Hampton Roads area and greater Virginia.
- Serving as a conduit through which Old Dominion University will endeavor to make available the best local, state, national, and international resources to the primary partners to fulfill our mutual obligation to assure academic achievement, development of responsible citizenship, and self-fulfillment of the youth served by our partner schools.
- Pursuing selected inter-institutional and international educational partnerships that capitalize on identified areas of strength at ODU or enhance strategic relationships between these partners and the Hampton Roads community.

The **Commonwealth Center for Recurrent Flooding Resiliency (CCRFR)**, a full partnership between ODU, the Virginia Institute of Marine Science, and William and Mary, was established in 2016 by the Virginia General Assembly. The center engages the expertise, resources, and intellectual vibrancy of the partner institutions in support of building resilience to recurrent flooding and sea level rise. The center serves, advises, and supports Virginia by conducting interdisciplinary studies and providing training, technical and non-technical services, and policy guidance in recurrent flooding resilience to the Commonwealth and its local governments, state agencies, industries, and citizens. Recognizing that flooding impacts the entire Commonwealth, the CCRFR works throughout Virginia by supporting short- and long-term projects within cities, in regions or throughout the state. Faculty are currently engaged in research that will provide cities and counties with localized subsidence data, build risk communication strategies within stakeholder groups, increase resilience within the tourism industry, map flood hazards in western Virginia, and test resilience strategies. The CCRFR is committed to working with partners across the Commonwealth and aims to leverage and enhance existing resilience strategies in Virginia.

Research and Enterprise Centers

The University has established a number of research and enterprise centers: <https://www.odu.edu/impact/centers> (<https://www.odu.edu/impact/centers/>). Please check the web pages of the Office of Research <http://www.odu.edu/research> (<http://www.odu.edu/research/>) and those of the individual colleges for information regarding centers in specific areas.

Research Policies

The Office of Research is responsible for regulatory oversight of research involving human subjects, animal subjects, and biological materials. Students intending to conduct research in these areas should be aware that approval from a relevant committee (i.e. IRB, IACUC, IBC) may be required before the research can be initiated. The Office of Research also provides oversight and guidance regarding Responsible Conduct of Research, Conflicts of Interest, and Export Controls.

Students engaged in scientific research or other scholarly activity at Old Dominion University should also be aware of the University's Policy, Procedures and Timeline for Responding to Allegations of Misconduct in Scientific Research and Scholarly Activity. The policy can be found in its entirety in the Board of Visitors manual section on Research Policies at <http://www.odu.edu/about/policiesandprocedures/bov> (<http://www.odu.edu/about/policiesandprocedures/bov/>).

Innovations Commercialization

Students who are self-sponsored and did not use significant resources of Old Dominion University own their inventions. Only students who receive compensation through sponsored research, tuition/fee waivers, scholarships, assistantships, or other financial arrangements and/or make

substantial use of University facilities in developing proprietary ideas or technology are covered by Old Dominion University's Policy on Intellectual Property. This policy covers the ownership and use of copyrighted works, inventions, and any other form of intellectual property. In those cases where the University has a vested interest in intellectual property, the policy specifies how inventions are disclosed, evaluated for protection and commercialization, and how any revenues derived will be distributed between the inventor/author and the University. The policy can be found in its entirety at: <https://www.odu.edu/research/innovations-commercialization> (<https://www.odu.edu/research/innovations-commercialization/>).

Students who used significant resources of Old Dominion University could be offered exclusive licenses at very attractive terms. Please call the Office of Research for more details at 757-683-4027.

Research Foundation

The Old Dominion University Research Foundation is a separate, private, not-for-profit corporation chartered under the laws of the Commonwealth of Virginia in 1965. The foundation serves as the fiscal and administrative agent to manage research and sponsored programs for Old Dominion University. The foundation's purpose is to promote the education, research, and public service objectives of Old Dominion University by encouraging, advancing, fostering, and conducting research and sponsored programs in engineering, the physical and life sciences, the humanities, education, and all other branches of learning.

The foundation is the contracting agent for University research grants and contracts with external funding agencies. In fiscal year 2016, the Research Foundation received \$47.3 million in awards for research and sponsored programs. Research and sponsored program activity for fiscal year 2016, measured by amount of expenditures, totaled \$50.5 million for projects sponsored by federal, state, and local government agencies and a variety of corporations and private foundations.

Technical direction of a sponsored program remains the responsibility of the principal investigator. The foundation supports the University and assists investigators by providing a broad range of administrative and technical support services. Among these services are: financial administration, budget preparation and monitoring, financial compliance guidance, proposal preparation and submission assistance, project payroll and human resources, financial reporting, technical reporting support, procurement, and equipment inventory control.