



CADRE is located at SRI's new Shenandoah Valley facility in the beautiful Blue Ridge Mountains of Virginia, about two hours southwest of Washington, D.C.

INTERPLAY OF RESEARCH AND TRAINING

Research and training of undergraduate, graduate, and post-doctoral fellows is an integral part of the Center's activities. Student interns and post-doctoral fellows will form the bulwark of the Center's workforce, and key staff members of the Center will hold adjunct faculty appointments at nearby James Madison University (JMU). They will conduct joint research and training projects with JMU students and faculty, and they will present lectures on topics of mutual interest at JMU and other Virginia academic institutions. Faculty from these institutions will be invited to spend sabbaticals at the Center to conduct research and training of students. Thus, student training and their participation in research—be it in biotechnology, exploring alternate forms of energy, nanotechnology or public policy—are integral to the efforts at SRI Shenandoah Valley.

ABOUT SRI INTERNATIONAL

SRI International is one of the world's leading independent research and technology development organizations. Founded as Stanford Research Institute in 1946, SRI has been meeting the strategic needs of clients for more than 60 years. The nonprofit research institute performs client-sponsored research and development for government agencies, commercial businesses, and private foundations. In addition to conducting contract R&D, SRI licenses its technologies, forms strategic partnerships, and creates spin-off companies. SRI is based in Menlo Park, California, in the heart of Silicon Valley.

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Center for Advanced Drug Research (CADRE)

Independent research institute SRI International has established the Center for Advanced Drug Research (CADRE) at SRI Shenandoah Valley in Harrisonburg, Virginia. CADRE will advance the state of the art to improve the productivity of the pharmaceutical industry, help our nation respond to bioterror threats, and develop life-saving treatments for neglected and orphan diseases.

The CADRE mission is the creation of new diagnostics, therapeutics, and vaccines for infectious and neglected diseases and for biodefense. The Center combines SRI's well-established expertise in drug discovery, computational biology, and preclinical development with a new proteomic laboratory to develop these solutions.

Advances in the study of genomics and our understanding of how genes influence both life and death have transformed biomedical research dramatically in recent years. Many questions remain, however, both around the technologies required to further advance our use and understanding of these data, and how best to apply this information to produce future healthcare products. Continued exposure of students, fellows, faculty, and staff to real-life laboratory problems is essential if we are to have the desired impact on healthcare in our lifetimes—eliminating the suffering and death due to diseases that are treatable or preventable.

In particular, CADRE will focus on proteomics—the study of the proteins that make up living organisms, including infectious agents—to fill in gaps in our understanding of the biological systems critical to infection, recovery from infection, and defense against infection. This new understanding, facilitated by both *in vitro* laboratory experiments and *in silico* computational biology, can then be applied to detecting and treating diseases such as influenza as well as discovering effective countermeasures against bioterror threats.

Specifically, our work will evolve into three distinct program areas. Researchers will

- Conduct proteomics studies of host-pathogen interactions, initially focusing on intracellular pathogens such as the flu virus, the West Nile Virus, the dengue virus, plague bacterium, and parasites such as hookworm, leishmania, and malaria
- Mine SRI's and others' biological databases to help identify and characterize novel markers and potentially therapeutic molecules
- Conduct structural biology studies to design novel therapies and diagnostics

The scientific research at CADRE is focused on the detection and treatment of infectious disease and countermeasures to bioterror threats.

