



## *The Science of Collaborative Research*

SURA is a consortium of over 60 research institutions, primarily in the Southeastern U.S., established in 1980 to design, build and operate what is now Thomas Jefferson National Accelerator Facility – a U.S. Department of Energy national laboratory. We now operate the lab through Jefferson Science Associates (JSA) – a joint venture with Pacific Architects and Engineers (PAE). SURA also facilitates collaboration with government agencies and researchers to advance information technology, to foster better understanding of coastal and environmental phenomena, and to promote scientific discoveries that impact our lives.

### ***Contractor of Jefferson Lab for DOE***

In 1983, SURA was awarded the contract to build and run this nuclear physics research lab in Newport News. In 2006, SURA partnered with CSC, a \$16 billion global IT services company, to form JSA, through which we serve as majority and administrative partner. With a \$100 million budget, the Jefferson Lab currently employs nearly 750, attracts over 1,300 researchers from all over the world, and is completing a major, \$338 million accelerator upgrade. The lab creates over 2,200 jobs in Virginia and 4,700 jobs nationally, and its innovation and technology has spawned over 120 U.S. patents. Over one-third of all nuclear physics Ph.D.'s awarded nationally are based on Jefferson Lab research. We also operate the SURA Residence Facility to accommodate the lab's national and international researchers.

### ***Promoter of Photon Science & Technology***

The lab's superconducting electron-accelerating expertise was used to design and build a laser of unprecedented power and versatility – tunable in the UV and Ultrared wavelengths. Built with a \$5 million contribution from Virginia, the lab's Free Electron Laser offers unique capabilities for defense, basic research and manufacturing. Detector technologies, developed from the accelerator's experimental program, have been deployed in commercial medical imaging equipment and are subject of applied plant pathology, national security and energy research. By gaining the initial state investment in the mid-'90's, and with continued support, SURA has helped leverage over \$120 million in additional research.

### ***Community Builder in Information Technology***

When high-capacity computer resources were a recognized need by the mid-'80's, SURA met the challenge and built "SURAnet" with support from the National Science Foundation. This network allowed large-scale collaborations among SURA-affiliated scientists, and helped develop Internet communications standards and telecommunications protocols. After SURAnet outgrew its primary mission, the board approved its sale in 1995. SURA went on to facilitate creation of multiple regional optical network groups, and in partnership with AT&T, helped shape the current national research and education (R&E) network landscape. Today, that same community has fostered development of SURAGrid, a community focused on improving access to high performance computing systems. Other initiatives include minority institution outreach as part of NSF's Extreme Science and Engineering Discovery Environment program and the AtlanticWave, an international R&E peering service providing improved connectivity to Europe and South America.

### ***Collaborator for Coastal-Ocean Observation***

After initial research supported by the Office of Naval Research, SURA was awarded a \$4 million contract from the National Oceanic and Atmospheric Administration to develop a Coastal Ocean Modeling Testbed. With continued NOAA support, the objective is to improve the precision of computer models that forecast chronic issues in the Atlantic and Gulf regions – such as flooding from storm surge and seasonal depletion of oxygen in shallow waters. SURA has convened over 20 academic, federal agency and private sector partners in the U.S. and abroad in executing this high-impact federal effort.

### ***University Convener***

Beyond these specific activities, SURA promotes collaboration beyond our now international membership, aggressively seeking out new opportunities. We also work in concert with other innovation advocates to support research with the Administration and Congress. And our Board of Trustees meets twice a year in engaging forums and presents two SURA Distinguished Service Awards annually. Contact SURA about opportunities for membership.

