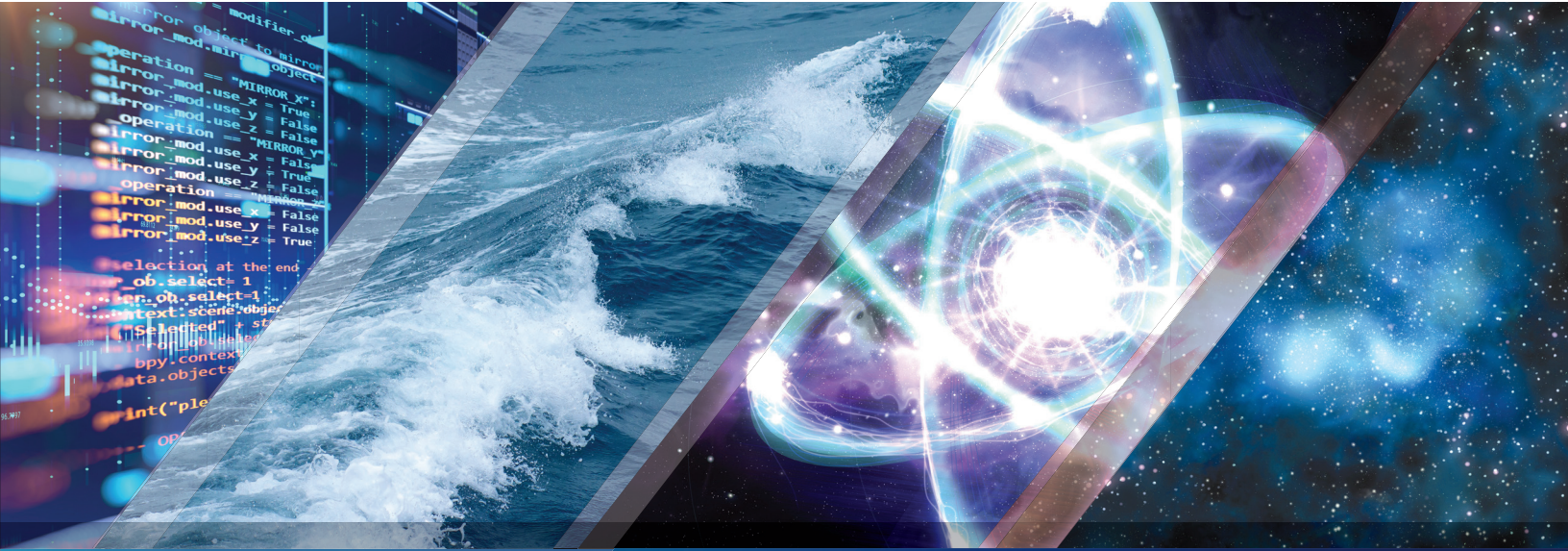


2018 ANNUAL REPORT



SURA *The Science of Collaborative Research*



SURA is excited to share with you our 2018 Annual Report, highlighting a number of accomplishment and initiatives that serve to advance “the science of collaboration.”

As a consortium of research universities, our successes rely on work and cooperation of faculty from member institutions, which realize the results of working together. Some of the high points from last year include:

- Successful operation of the Thomas Jefferson National Accelerator Facility, with the fully commissioned 12 GeV, \$338 million upgrade. As the lead partner of Jefferson Science Associates, SURA is proud of the “A” grade for “mission accomplishment” in science from the U.S. Department of Energy.
- Our solid partnership with Virginia, which continues to invest in the science and economic impact of Jefferson Lab. SURA’s now secured nearly \$7.5 million for planning funds to help attract the Electron Ion Collider as the next generation nuclear physics project for the Department of Energy.
- A coastal and environmental research program that now looks to coastal resilience as the key focus for bringing ocean researchers, modelers, social scientists and communities together to protect property and lives in our vulnerable coastal regions.

- An IT outreach program that broadens participation in the use of advanced computing services by researchers from under-represented groups, women, minority-serving institutions, and fields that have historically not made use of such services.
- An expanding NASA portfolio that recruits visiting scientists and sabbatical researchers to facilitate collaborations with the greater scientific community and operates research labs spanning a wide range of disciplines and technologies.

We share a sample of SURA’s work with a sense of pride in our successes, and a very deep appreciation to our members and stakeholders. Thank you for being a part of SURA, and for helping build the research base critical to our nation’s future.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry P. Draayer". The signature is fluid and cursive, with a long horizontal flourish extending to the right.

Jerry P. Draayer
President and CEO

SURA’s mission is to advance collaborative research and education and to strengthen the scientific capabilities of its members and our nation.

Jefferson Science Associates, LLC



JSA Initiatives Fund Program

The JSA Initiatives Fund Program supports projects, initiatives, and activities that further the scientific outreach of Jefferson Lab. Funded annually by the JSA owners, SURA

and PAE Applied Technologies, the fund has provided \$5.7M to support over 330 projects since 2006. The majority of the funds benefit the lab's extended user community in ways that complement the lab's basic and applied research missions.

The 2018 program included 36 new awards totaling \$395K, with over \$685K of contributing funds from other sources, leveraging of dollars spent in the program. Over 60 percent of the awarded funds supported educational and outreach activities at the lab. The remaining funds went to support meetings, workshops, and conferences; and other lab and users initiatives and activities, including projects promoting the lab's diversity and inclusion efforts.



The IF Program provided funds for over 200 individuals to attend dozens of scientific workshops, conferences, and meetings. This support enabled students and young scientists to participate with the scientific community often through

formal presentations of their Jefferson Lab research. Funds were also provided to help defray the cost of travel for key speakers and presenters, for facilities and logistics support, and for publication of workshop proceedings.

Also supported by the IF funds, the Jefferson Lab Science Activities for Teachers (JSAT) Program provided sixty local fifth-, sixth- and eighth-grade science teachers with essential knowledge in the physical sciences and effective teaching methodologies. The 2018 curriculum in this award-winning program included interactive activities to enhance physical science instruction

and lectures on the applications of science in matter, atomic structure, energy transfer, force and motion, magnetism and electricity, waves and sound, simple machines, optics and the watershed cycle.

About 90 new elementary and middle school science teachers gathered at the Lab for Teacher Night. The "science-ed pep rally" combined networking, scientific door prizes and hands-on classroom activities and provided professional development for participants in the JSAT program. JSAT teachers also participated with the May Jefferson Lab Open House, offering science education activities and providing science education program information. The JSAT Program has received national, state, and local recognition and awards including Secretary of Energy Achievement Award, Business Honor Roll by the Virginia School Boards Association, and Teacher Programs That Work from the Virginia Math and Science Coalition.

Distinguished Professorship Awarded to Henderson



The SURA Governor's Distinguished CEBAF Professorship review committee – comprised of the presidents of the College of William & Mary, Virginia Tech, University of Virginia, Old Dominion University, and Virginia Commonwealth University – confirmed the appointment of Jefferson Lab director Stuart Henderson as a GDCP at Old

Dominion University. This followed ODU President John Broderick's notice that its Board of Visitors had approved the faculty position. In his letter of congratulations, Virginia Governor Ralph Northam praised Henderson's expertise and leadership. The GDCP/GCS program, in place since the mid-1980's, enables the Lab to attract distinguished, uniquely qualified individuals to join the leadership team. Henderson is the fourteenth individual to have been awarded GDCP or GCS honors.

Information Technology

SURA's IT Best Practices Guides

SURA is developing a growing list of IT best practices guides. In 2018 the SURA IT Steering Group released "Process and Procedures for Assessing Third Party Software & Service Providers". This document, produced by an the SURA IT Committee Cloud Vendor Assessment Working Group, is intended to be used by an institution's IT management team and IT security staff to assist in the development of a process for evaluating and managing cloud and third party vendor software and service providers with an emphasis on maintaining control of sensitive personal and institutional data. This guide joins the "IT Incident Response Plan Template" that provides guidance for integrating IT incident response procedures with institutional emergency management procedures.

NSF Funded XSEDE Outreach



Vital to the nation's ability to innovate and make breakthrough discoveries is the broad adoption of advanced computing and computational and data science. SURA's leadership of XSEDE's Broadening Participation program focuses on increasing the use of advanced computing services by a broader community of researchers including those from under-represented groups, women, minority-serving institutions, and fields that have historically not made use of such services. The incorporation of computational and data science into teaching and the adoption of advanced computing into research practices, builds capacity at MSIs and within new user communities. Engaging both researchers and institutions has allowed SURA to exceed our goals for attracting new users from underserved communities and support their persistent engagement with advanced cyberinfrastructure. As an XSEDE partner, SURA's activities in this area are funded by the National Science Foundation.

Coastal & Environmental Research

Coastal and Ocean Modeling Testbed

In August, SURA concluded the fifth and final year of the NOAA Integrated Ocean Observing System (IOOS) Sponsored Coastal and Ocean Modeling Testbed (COMT), which was funded at just over \$1 million per year. The final report, detailing recent accomplishments and summarizing the major successes of the past five years were submitted to the NOAA IOOS office last fall. Additionally, a special issue of the Journal of Geophysical Research on COMT results was prepared by Rick Luettich of the University of North Carolina, who served as special editor for this publication. Finally, SURA completed an overview report to highlight collaboration, success stories, and lessons learned over the last 15 years from the SURA-led SCOOP and COMT programs and an annotated bibliography summarizing the products of SCOOP and COMT.



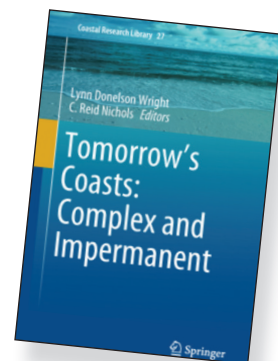
NOAA satellite GOES-16 geocolor image of Hurricane Irma as it passed over Cuba on its way to eventual landfall in South Florida. Irma was the largest Atlantic Hurricane to date.

NSF Coastal Resilience Initiative

SURA continues to promote a "consortium for coastal resilience" through a recent book, *Tomorrow's Coasts: Complex and Impermanent*, published by Springer Publishing company, released in June 2018. This book, promoted by SURA's Coastal and Environmental Research Committee, is a non-technical discussion of the causes and consequences of future coastal change for consumption not only by academics but also by planners, managers, and the public.

The primary goal of SURA's newest coastal initiative is to: Improve Understanding and Forecasts of Future Urban Inundation and Related Socioeconomic Vulnerabilities.

The intent is to create a suite of adaptive methodologies to facilitate effective long-range planning for future risks and threats. SURA plans to begin with a demonstration project in Southeastern Florida and have a funding proposal out for review in 2019.



Space Science & Technology

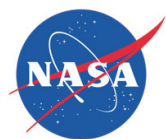
SURA Continues Collaboration with CRESST II

The Center for Research and Exploration in Space Science & Technology (CRESST II), a five-year, \$87.5 million cooperative agreement with NASA's Goddard Space Flight Center in Maryland, was awarded in March 2017 to the University of Maryland-College Park and its four partners: the University of Maryland-Baltimore County, Catholic University of America, Howard University, and SURA.

First created in 2006, this phase of the program facilitates collaborations between NASA researchers and space scientists from CRESST II partner institutions. Priorities are to carry out observational, experimental, and theoretical research in support of Goddard's Sciences and Exploration Directorate, including the study of the solar system, stars, galaxies, and the universe at large.

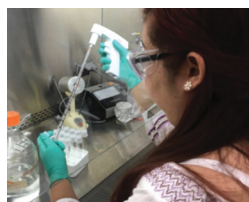
SURA is the lead institution in recruiting and attracting visiting scientists and sabbatical researchers to enable and facilitate NASA collaborations with the greater scientific community. SURA administers the CRESST II summer internship program; coordinates scientist program travel and consulting; and facilitates scientific colloquia, workshops, conferences, and other program support.

LASSO Contract at Kennedy Space Center



The Laboratory Services and Support Operations (LASSO) contract at NASA's Kennedy Space Center (KSC) operates and maintains a diverse set of operational and research laboratories that span a wide range of disciplines, including plant biology, geology, mechanical engineering, surface science, and material science. The total potential value of the contract is approximately \$69.4 million.

SURA is a subcontractor to AECOM on the LASSO contract and fills the role of involving academic researchers and other subject



matter experts in KSC's scientific research and engineering activities. SURA has developed a Master Agreement contract, which is available to all SURA member universities, to facilitate engagement of academic researchers in short-term research

with KSC. We expect multiple opportunities, such as sabbaticals and post-doctoral fellowships, in the future, especially in LASSO strength areas of plant biology, engineering, and chemistry.

Public Affairs

Commonwealth Support EIC Preparation

The Commonwealth of Virginia has invested nearly \$7M over the past four years to help Jefferson Lab contend for the next large nuclear physics



research facility expected to be sought by the Department of Energy – the Electron-Ion Collider (EIC). The most recent appropriation of \$500,000 was to establish JLab's Center for Nuclear Femtography.

After the National Academies of Sciences (NAS) study released in July endorsed the concept of constructing the project, SURA intensified its work with Virginia policymakers to secure funds necessary for JLab to prepare a winning proposal and expand its science mission.

With initial estimates showing that such a construction project would increase Lab staff by 30 percent, lawmakers have supported this funding for both its scientific and economic development benefits.

User Group Advocacy Grows

SURA continues to engage with our fellow nuclear physics lab contractors in advocating for the Office of Science and nuclear physics funding. In April, SURA participated in the 6th Nuclear Physics Day on the Hill, with 102 users from 33 states holding 110 meetings with Hill member and committee, and DOE & NSF staff. Additionally, in December, SURA joined with Battelle to sponsor an EIC Users Group Capitol Hill Day to educate key members on the National Academies study endorsing the EIC. This resulted in a securing 34 users who participated in 42 congressional office visits.

Two Researchers Named SURA Distinguished Scientists

Two prominent researchers from SURA member universities were presented the 2018 SURA Distinguished Scientist Award: a physics and astronomy professor from Louisiana State University and a professor and curator at the Florida Museum of Natural History at the University of Florida.

Gabriela González, the LSU professor, was also the former spokesperson of the LIGO Scientific Collaboration, at which she's been a member since 1997. The Laser Interferometer Gravitational-Wave Observatory consists of two widely separated installations—in Hanford, Washington and Livingston, Louisiana—operated in unison as a single observatory. Pam Soltis of the University of Florida was also presented the award. A member of the National Academy of Sciences and the American Academy of Arts and Sciences, Soltis studies plant diversity, with emphasis on the origin and evolution of flowering plants, plant genome evolution and conservation genetics.

Consolidated Statement of Financial Position

ASSETS	2018	2017
Cash	\$ 3,462,745	\$ 1,982,226
Accounts receivable, net	22,822,546	24,073,234
Investments, net	21,684,611	21,507,181
Property Plant Equipment, net	1,051,037	1,036,166
Other Assets	428,245	560,066
Total Assets	49,449,184	49,158,873
LIABILITIES		
Accounts Payable and Accrued Expenses	\$ 19,529,833	\$ 20,387,373
Deferred Revenues	5,634,700	5,970,820
Deferred Rent	326,331	394,245
Other Liabilities	7,900,000	7,290,000
Total Liabilities	33,390,864	34,042,438
EQUITY		
NET ASSETS	\$ 16,058,320	\$ 15,116,435
Total Liabilities and Net Assets	49,449,184	49,158,873

Consolidated Statement of Activities

REVENUES	2018	2017
DOE Contract Revenues	\$ 167,033,560	\$ 158,037,054
DOE Management Fees	3,033,085	3,033,085
Grants Revenues	3,151,437	1,838,925
Commonwealth of Virginia Funding	2,335,426	1,355,196
Membership Dues	348,625	345,500
Other Revenues	1,835,118	1,637,509
Total Revenues	177,737,251	166,247,269
EXPENSES		
Salaries and Fringe Benefits	\$ 92,130,655	\$ 91,113,117
Operating and Other Expenses (1)	87,512,195	77,627,556
Total Expenses	179,642,850	168,740,673
Operating (Loss) Income	\$ (1,905,599)	\$ (2,493,404)
Non-operating Income from Investments	2,741,758	2,635,861
Changing in Unrestricted Net Assets	836,159	142,457

Note 1: SURAS consolidated operating expenses include as a cost of operations PAE's 40% share of JSA LLC's net income which was \$531,935 and \$946,839 in FY18 and FY17 respectively.

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The Southeastern Universities Research Association, Inc. (SURA) is a non-stock, non-profit consortium incorporated in the Commonwealth of Virginia in 1980 exclusively for charitable, scientific and educational purposes. The SURA membership is comprised of over 60 leading research institutions in the southern United States and Washington, DC. SURA's mission is to serve as an entity by which colleges, universities, and other organizations may cooperate with one another, government, and industry in developing and using laboratories and other research facilities, and in furthering knowledge and the application of that knowledge in the physical, biological, and other natural sciences and engineering.

SURA *The Science of Collaborative Research*

1201 New York Ave. NW, Suite 430
Washington, DC 20005 USA
202.408.7872 phone 202.408.8250 fax
www.sura.org