

## SURA-IBM Partner on Grid Initiative

IBM UNIX-based systems are expected to double the current capacity of one of the nation's most innovative grid initiatives, uniting resources from 27 institutions in fifteen states, to increase dramatically its research capabilities – from modeling coastal storm surges to advanced genome sequencing. The SURAgid initiative is actively advancing collaborative work in grid computing to support research opportunities across the southeastern U.S.

The announcement by IBM and the Southeastern Universities Research Association (SURA) confirms a three year agreement under which IBM will provide SURAgid member institutions with hardware and software, collaborate on SURAgid projects, and work closely with university researchers to exploit the large-scale computing capability of the SURAgid. Initial deployments of IBM high performance computing systems acquired by Louisiana State University and Georgia State University are currently in process with an additional system planned for Texas A&M University in early Fall. The addition of these high performance IBM machines will increase SURAgid's compute capacity to about 10 trillion calculations per second – an amount that would take one person with a calculator about eight million years to perform.

SURAgid harnesses the power of heterogeneous computing systems located at multiple colleges and universities into a single, virtualized entity that enables researchers from participating institutions to run advanced scientific inquiries. The computing grid relies on grid middleware from Globus.org that allows disparate systems to work together, and is supported by high-speed network connections throughout the region, including the emerging National LambdaRail.

While the grid is used for multi-disciplinary research, one special focus will include study of coastal storm surges via the SURA Coastal Ocean Observing and Prediction program (SCOOP), funded by the National Oceanic and Atmospheric Administration and the US Office of Naval Research. According to the National Hurricane Center: "Storm surge is simply water that is pushed toward

the shore by the force of the winds swirling around the storm. This advancing surge combines with the normal tides to create the hurricane storm tide, which can increase the mean water level 15 feet or more. In addition, wind driven waves are superimposed on the storm tide. This rise in water level can cause severe flooding in coastal areas, particularly when the storm tide coincides with the normal high tides. Because much of the United States' densely populated Atlantic and Gulf Coast coastlines lie less than 10 feet above mean sea level, the danger from storm tides is tremendous."



*The joint SURAgid-IBM announcement was made August 11.*

"The addition of IBM UNIX systems not only provides a tremendous boost in compute capability, it enhances the ability of our scientists to collaborate across multiple universities and geographies," said Jerry P. Draayer, President & CEO of SURA. "Collaboration is at the heart of SURAgid's mission, just as it is at the center of scientific discovery and human progress."

SURAgid will implement IBM System p575 servers, each powered by 16 Power5+ microprocessors running at 1.9 GHz and is configured with 32 GB of memory.

"SURA is a leader in deploying grid technology to address vitally important challenges across a broad range of disciplines," said David Jursik, VP of deep computing, worldwide. "IBM's System p servers, combined with our research capabilities, will help accelerate SURA's mission on these important fronts."

SURAgid is a consortium of organizations collaborating and combining resources to help bring grid technology to the level of seamless, shared infrastructure.

## Eight JLab Fellowships Awarded by SURA

SURA has awarded eight fellowships to graduate students for research at the Jefferson Lab for the nine month academic year beginning September 2006. Seven students are enrolled in nuclear physics programs and one in free electron laser related research at these universities: Duke, Maryland (2 awards), MIT, South Carolina, Virginia Tech and William & Mary (2 awards).

Since 1989 SURA has annually awarded competitive fellowships to students from SURA member universities for research at the Jefferson Lab. SURA fellowships pay one-half the stipend of a graduate student at his/her home university (the university pays the other half) plus \$2,000 and a travel allowance of an additional \$2,000.

Nineteen applications were evaluated by the SURA Fellowship Selection Committee chaired by Thomas Clegg, University of North Carolina. "The overall quality of the candidates selected for these fellowships remains very high, which speaks well of the attractiveness of both JLab and its physics program for such high-quality student talent," stated Dr. Clegg.

## SURA Awards 2006 JLab Sabbatical Support

SURA has awarded supplemental financial support to Professor James Dunne for research at the Jefferson Lab while on sabbatical from Mississippi State University.

Since 1994 SURA has supported up to two faculty members each year from SURA members universities for up to 12 months while on sabbatical or research leave at JLab. SURA provides \$1,500 per month in living expenses to faculty who must relocate to the vicinity of the Laboratory while on sabbatical or research leave.

Applicants are evaluated for their contribution to their research efforts of the Jefferson Lab. There are three other faculty members currently still undertaking their sabbaticals at the Jefferson Lab. Dr. Dunne began his sabbatical in mid-July.

## Georgetown Hosts Meeting for SURA Board

The SURA Board of Trustees convened at the Georgetown University Conference Center on May 3 for its Spring 2006 meeting. After a full day of standing committee meetings, the Board took the following actions:

- ♦ Set the Fall 2006 Board meeting for November 9-10 in Washington, DC
- ♦ Recommended that the SURA Council of Presidents elect the Massachusetts Institute of Technology to another five year membership
- ♦ Approved the amendment of the bylaws to allow for the inclusion of an "audit committee financial expert" on the SURA Finance Committee
- ♦ Recommended the formation of an ad hoc committee to look at SURA membership categories
- ♦ Passed a resolution expressing continued support for the Jefferson Lab under its new contract, and electing Christoph Leemann as a corporate officer - Vice President for Jefferson Lab
- ♦ Passed a resolution endorsing the coastal research leadership team efforts to seek a governance model for the Integrated Ocean Observing System
- ♦ Passed a resolution endorsing continued growth and expansion of SURAgrid program

Additional details on the meeting can be obtained from SURA Executive Director and Corporate Secretary, Elizabeth Lawson, [elawson@sura.org](mailto:elawson@sura.org).

## New IT Positions at SURA

SURA is currently looking for qualified candidates to fill two open positions: IT Application and Outreach Specialist and IT Infrastructure Specialist. Interested candidates are invited to submit resumes to [jobs@sura.org](mailto:jobs@sura.org), noting in the subject line the position for which the applicant wishes to be considered. Detailed job postings can be found on the front page of the SURA website at [www.sura.org](http://www.sura.org).

## SCOOP UPDATE: NSF Project Grant, Open Geospatial Consortium, Conceptual Design

The National Science Foundation will continue its support of the Marine Metadata Interoperability (MMI) Project through 2009. Philip Bogden, acting director of the SCOOP (SURA Coastal Ocean Observing and Prediction) Program, is one of five principal investigators associated with the grant supporting marine research. It aims to promote metadata practices and services that support interoperability such as improved transport protocols, content standards and vocabularies, and other tools.

Co-principal investigators in ocean science technology from the Monterey Bay Aquarium Research Institute (MBARI), Texas A&M University (TAMU), Woods Hole Oceanographic Institute (WHOI), and the University of California, San Diego (UCSD) are also contributing to the expansion of the MMI.

## SURA Joins Open Geospatial Consortium & Earth Science Information Partners

SURA recently became a member of two important organizations that support improved technologies for ocean science.

The Open Geospatial Consortium (OGC) is a member-driven, non-profit voluntary consensus standards organization that is leading the development of geoprocessing interoperability. Its membership includes government agencies, universities, and private industry. Their trademark products adhere to a process from problem identification and testing to implementation.

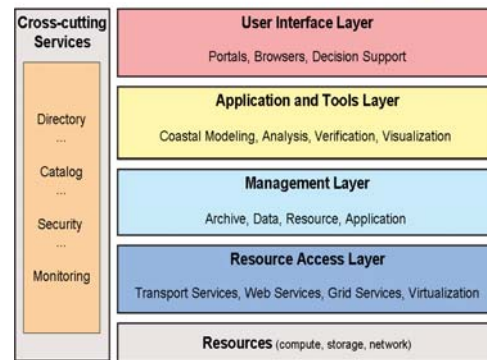
The Federation of Earth Science Information Partners (ESIP) is a network of researchers and associated groups that collects, interprets and develops applications for satellite-generated Earth observation information. The ESIP Federation is dedicated to providing the most up-to-date, science-based information to researchers and decision-makers who are working to address the environmental, economic and social challenges facing our planet.

SCOOP team member Helen Conover from the University of Alabama, Huntsville (UAH) attended the July, 2006 ESIP Technology Workshop and made a presentation on Enabling Coastal Research and Management with Advanced IT. The presentation emphasized SURA's SCOOP Program, and the components of the architecture in development by SURA universities.

## SCOOP Initiates Conceptual Design Project

Bogden is also leading a conceptual design team that will characterize and document the existing and target Service Oriented Architecture for the SCOOP Program.

### SCOOP Architecture Diagram



The project has five primary objectives: 1) to describe the system for planning purposes; 2) to market the SCOOP program; 3) to provide input for SCOOP-wide publications; 4) to provide material for review by two proposed advisory committees; and 5) to describe SCOOP for the purposes of pursuing funding.

Last summer, funding provided by NOAA and ONR allowed the SCOOP team to provide real time wave and water level predictions with model-data comparisons during Hurricane Katrina. This summer's hurricane season provides an opportunity to refine and test the system and upgrade the archive and catalog components. The OpenIOOS testbed is experimenting with a new user interface, available through: <http://scoop.sura.org>.

## SURAgriD to Conduct Summer Scope Survey

As part of ongoing outreach in the SURAgriD program, SURA will be conducting a survey this summer, including all SURA members, to more completely understand the scope of grid applications and deployment throughout the region. This work is being conducted under a grant from the NSF SGER (Small Grants for Experimental Research) program.

The survey will provide a more complete understanding of the breadth and depth of advanced science and research applications and identify those that could benefit from access to resources or regional collaboration through SURAgriD. The information gathered in the survey will benefit both SURAgriD and SURA members, in both the short and long term:

- ♦ Survey data will provide direct input into SURAgriD's current infrastructure development and deployment, helping it to become an essential research and education tool for SURA members and their collaborators.
  - ♦ The exercise of completing the survey can uncover new or potential applications and areas for collaboration within the campus itself.
  - ♦ All respondents will receive the full set of data at the end of the survey, useful for benchmarking institutional progress as well as increasing awareness on campus of the availability and value of SURAgriD
  - ♦ Information from the survey will be compiled in a final report, which will be shared with all SURA members in order to increase awareness of the current state of grid activities across the membership and the potential for regional-scale project and proposal development.
- Please watch for the arrival of this survey, which will be sent to SURA Vice Presidents for Research at or near the end of summer and copied to campus representatives that are already actively involved with SURA IT, HPC, or SURAgriD.

## Nominating Committee Begins Deliberations

Nominating Committee Chair, Stephen Wallace, University of Maryland and Past SURA Board Chair, will soon convene the Committee, including Trustees Priscilla Hancock, The University of Alabama; John Noftsinger, James Madison University; Mohammad Karim, Old Dominion University; David Ernst, Vanderbilt University; Elizabeth Lawson, SURA Executive Director and Corporate Secretary (non-voting) to fulfill the charge of the Committee.



The 2006 Nominating Committee will be responsible for:

- Proposing to the Board of Trustees for election a slate of Committee Chairs, including those for the 2007-09 term. The current Committee Chairs include:
    - ♦ Jefferson Lab, June Matthews
    - ♦ Coastal Research, Carolyn Thoroughgood.
    - ♦ Information Technology, David Lambert.
    - ♦ Development, Jim Siedow
    - ♦ Finance, Donald Lehman
    - ♦ Relations, Andrew Sorensen
  - Reviewing and making recommendations to the Board for Committees' proposed membership for:
    - ♦ Information Technology Committee Steering Group
    - ♦ Jefferson Lab Committee Steering Group
    - ♦ Development Committee Steering Group
  - Reviewing and making a recommendation to the SURA Board of Trustees for a proposed candidate to fill the slot of the Special Trustee to the Finance Committee ("audit committee financial expert")
- Trustees interested in providing input to the Nominating Committee may contact Elizabeth Lawson ([elawson@sura.org](mailto:elawson@sura.org)).

## JSA Board Holds Organizational Meeting

The newly-formed Board of Directors of the Jefferson Science Associates, LLC, (JSA) management and operating contractor for the Jefferson Lab, met in June, shortly after the transition of the SURA contract with the Department of Energy to JSA. JSA, comprised of SURA as its majority owner and administrative member, and Computer Sciences Corporation / Applied Technologies as its minority owner, was formed in late 2005 to compete for the ~\$90 million annual contract to manage and operate the Department's nuclear physics research facility.

The JSA Board includes SURA-appointed Directors: Thomas Appelquist, Professor of Physics, Yale University; John Casteen, President of the University of Virginia; Jerry Draayer, President and CEO of SURA; William Harvey, President of Hampton University; June Matthews, Jefferson Lab Committee Chair; and Ernest Moniz, former Under Secretary of Energy. The CSC/ATD-appointed Directors include: John Gordon, former Administrator of the National Nuclear Security Administration; Lawrence Hare, President of CSC/ATD; Jeffrey Purnell, Chief Financial Officer of CSC/ATD; and William Silvey, President of the Bionetics Corporation. Christoph Leemann, jointly appointed by the owners as the President of JSA and the Director of Jefferson Lab, serves on the Board as a non-voting member. Peter Bjonerud is the Treasurer and Elizabeth Lawson is the Secretary.

The Board unanimously adopted a Consent Agenda, approving and/or acknowledging the actions taken by JSA in the organization of the company and in the transition of the contract from SURA. Questions regarding the organizational meeting or the Consent Agenda may be addressed to the Secretary at [elawson@sura.org](mailto:elawson@sura.org).



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*The Southeastern Universities Research Association (SURA) is a consortium of over 60 leading research institutions in the southern United States and the District of Columbia established in 1980 as a non-stock, nonprofit corporation. SURA serves as an entity through which colleges, universities, and other organizations may cooperate with one another, and with government and industry in acquiring, 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. For more information, visit [www.sura.org](http://www.sura.org).*

## SURAFund: A New Seed Stage Funding Opportunity for University Startups in the Southeast

The Southeastern Universities Research Association (SURA) has established a new initiative to increase the amount of seed capital available to its member universities. The new initiative called SURAFund matches venture capitalists with innovations from SURA's 62 research universities.



The pilot phase began with an open solicitation in March 2006 to all SURA universities. At the close of the solicitation in late April, over 41 business plans were submitted, representing 25 different SURA institutions in 15 states.

SURA worked exclusively with venture capital firm DFJ Mercury in Houston on the pilot phase of this program. Jointly, SURA and DFJ Mercury reviewed the plans, conducted due diligence, and are considering making investments in several of the startups.

Although the pilot phase is still underway, based on a very positive response from startups, universities, and investors, the decision was made to move forward with the full program in Fall 2006.

Target areas include nanotech, biotech, information technology and communications. Every quarter, eligible startups (i.e., new ventures associated with a SURA university) submit business plans of no more than five pages to SURA. SURA conducts initial review and categorization of submitted proposals, then conducts due diligence on all plans of interests. Funding ranges from \$100,000 to \$500,000. For details, contact Matt Thomas ([mthomas@sura.org](mailto:mthomas@sura.org)) or see [www.sura.org/surafund](http://www.sura.org/surafund).