

ON TARGET

THOMAS JEFFERSON NATIONAL ACCELERATOR FACILITY • A DEPARTMENT OF ENERGY FACILITY

Think through work;
be safe during this critical work period

Work starts on CEBAF
Center Addition

EH&S Manager discusses
importance of incident reporting

Have fun, learn physics
with geocaching

Poster session on Aug. 4
highlights summer intern research

Science and Technology Review Committee describes JLab's scientific program as 'truly outstanding'

Jefferson Lab's scientific program was described as "truly outstanding" by the review committee during the recent Science and Technology Review.

The Department of Energy conducted its annual S&T Review of the Lab, June 14-16. The purpose of the review is to evaluate the quality, performance and significance of Jefferson Lab's major activities in the context of the national nuclear physics program put forth by the Nuclear Science Advisory Committee's (NSAC) and the Department of Energy's long-range plans.

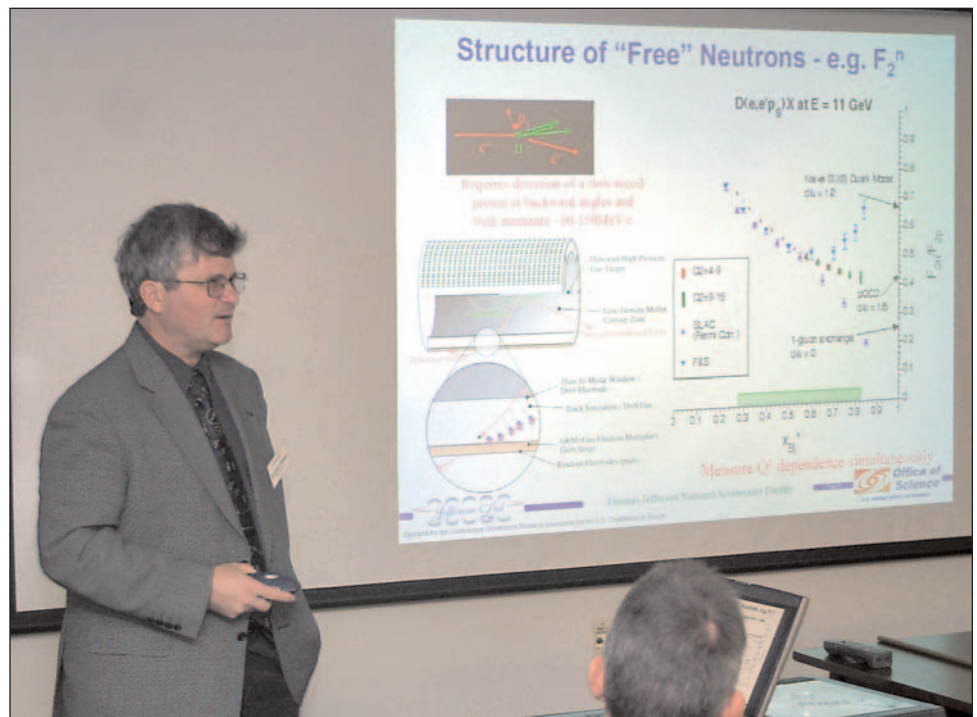
The review committee included senior DOE managers, senior staff from other DOE laboratories, and academic experts in hadronic physics and related fields of research. This year's

team was chaired by Brad Tippens, Program Manager for Medium Energy Nuclear Physics for the Office of Science Division of Nuclear Physics; Gordon Cates, University of Virginia; Gerry Dugan, Cornell University; Fritz Klein, University of Bonn; Richard Milner, MIT-Bates; Dieter Proch, DESY; Craig Roberts, Argonne National Lab; Thomas Roser, Brookhaven National Lab; and Uwe Wiese, University of Bern.

The tightly scheduled agenda included a wide range of briefings by senior Lab management, Users Group Chair Paul Stoler, and Program Advisory Committee Chair Berthold Schoch. It ended with a tour of the facilities. The reviewers heard about the Lab's nuclear physics research pro-

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Anthony W. "Tony" Thomas, Jefferson Lab's Chief Scientist and Theory Group head, briefed the Science and Technology Review committee on "Nuclear Physics and the Science of Emerging Programs" and on the Theoretical Physics program at JLab.



JLab undergoes annual S&T Review...

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gram, accelerator operations, accelerator R&D activities, applications of core competencies, the 12 GeV Upgrade, and status of the Lab's work for others (Spallation Neutron Source and Free-Electron Laser), to name just some of the briefing topics.

At the closeout meeting, the review committee commended the Lab's experimental program and the Lab's ability to attract broad-based attention from the nuclear physics user community. They applauded the Lab's current efforts to determine the existence of the pentaquark and to develop an Excited Baryon Analysis Center (EBAC). They praised accelerator operations, and commended the Lab on the depth of machine (accelerator) maintenance performed during the Lab's recovery from Hurricane Isabel. They appreciated the demands placed on accelerator staff in meeting the beam requirements to run G-Zero in Hall C while simultaneously running Hypernuclear experiments in Hall A. And, they were delighted to note that internationally known theoretical physicist, Dr. Anthony W. "Tony" Thomas, had accepted the position as Jefferson Lab's Chief Scientist and leader of the Theory Group.

They commented positively on the Lab's work for the Spallation Neutron Source and noted that it was on track for completion at the end of March 2005; and they also spoke highly of the Lab's non-DOE funded, Free-Electron Laser program and the Lab's groundbreaking work in developing, testing and running energy-recovery linacs (ERLs).

They complimented Lab management and indicated that they were

pleased with the Laboratory's positive responses to recommendations from the 2003 S&T Review. Issues raised at this year's review included the ongoing need to support Lattice Quantum Chromodynamics (QCD) hardware, office space for the User community, the desirability of testing the performance of the 12 GeV Upgrade cryomodule as early as is feasible, and the need to actively pursue EBAC and a national SRF (superconducting radiofrequency) technology center.

While they noted that the Lab has historically had a good safety record, they voiced their concern over the Lab's year-plus trend of increased safety incidents. Referring to the Lab's Total Recordable Case (TRC) rate and Days Away, Restricted or Transferred (DART) case rate, the committee emphasized that safety needs to remain the Lab's top priority to ensure that incident frequencies decline.

In conclusion, Office of Science Associate Director of Nuclear Physics, Dennis Kovar, said he thoroughly enjoyed the review, and noted the Lab should be very proud of our 12 GeV Upgrade progress, and emphasized that everyone here must now focus on putting the Upgrade plan into place. While he acknowledged the many positive comments from the committee, he pointed out that for several of the compliments there were challenges that must be addressed — for instance, a plan of action must be developed to prevent any future, long-term power outages on the accelerator site (in light of the significant impact Hurricane Isabel had on Lab operations last year).

The review is an important part of Jefferson Lab's performance-based contract. Metrics from each DOE review are tracked, measured and reported. At the end of each year, DOE rates JLab, based on the combined results of Lab self-assessments, review results, and DOE appraisals. Areas of responsibility rated during this S&T Review included experimental research; theory; accelerator operations; work for others (Spallation Neutron Source and the Free-Electron Laser); staff and User community; the environment, health and safety program; and institutional management.

Members of the Science and Technology Review committee listen as JLab Assistant Director Allison Lung (far right) discusses experiments underway in Hall C during the committee's tour of the Lab.



Dear Colleagues:

Safety continues to be an area of concern at Jefferson Lab. While we have made some improvement, we have been troubled for many months with a steady stream of minor mishaps and near misses. Further, concerns surrounding some of these mishaps were compounded when individuals involved in the mishaps waited — sometimes days — before reporting the incident to their supervisor or going to Medical Services for first aid.

Let me reiterate that I care about the well being of everyone at Jefferson Lab. I want each of you to leave work each day in the same condition you arrived in that morning. Work-place safety is also critical in ensuring the success of the Lab's mission, and the continuing health of our organization.

To heighten awareness of safety here, management has taken several steps since late in 2003. Based on the most common types of mishaps to occur here, I requested the formation of committees to review: Electrical Safety, Materials Handling, and Personal Protective Equipment. These teams are headed up respectively by Dr. Smitty Chandler, Medical Services; Neil Wilson, Accelerator Division; and Allison Lung, Director's Office. These teams have assessed the state of Jefferson Lab programs and their related safety activities and will soon make recommendations to strengthen them.

Additionally, to ensure management's involvement in EH&S and assist in strengthening our safety culture, I've named the deputy director of each division to serve as that division's senior Environmental, Health and Safety officer — Dennis Skopik for the Physics Division, Andrew Hutton for the Accelerator Division, and Mark Waite for Administration.

The Office of Assessment regularly posts Integrated Safety Management System (ISMS) posters site wide; and updated safety statistics have become more visible across

internal communication media such as the Insider Intranet page, and the weekly On Target Briefs. I continue my safety walks in work areas across campus, and I sincerely appreciate the well-developed Accelerator Safety Meetings organized by Will Oren and attended by Accelerator Division staff before each accelerator maintenance down. The next meeting is scheduled for July 27 in advance of accelerator maintenance work for the August/September shutdown.

Improving the safety culture here requires the commitment of each one of us. The primary ingredient for outstanding safety performance is the vigilance of each and every one of us as we go about our day-to-day work. That means we need to take the time to follow the five core functions of ISMS: work planning, hazard and risk analysis, establishing appropriate controls, performing work within guidelines, and providing feedback for improvement.

In the coming weeks we will be performing significant and varied maintenance on the accelerator, equipment installation work will be underway in all three experimental halls in preparation for the next round of experiments, and steady efforts will continue on the High Beta cryomodules being built in the Test Lab for delivery to the Spallation Neutron Source in Oak Ridge, Tenn. And most visibly, a large area adjoining CEBAF Center will be fenced off as construction for the CEBAF Center Addition begins.

These varied activities across the site require increased vigilance from all of us. As we enter this period of heightened activity, I ask each of you to pay more attention to your surroundings, carefully examine new tasks being assigned to you, re-examine work that you have become comfortable with, and talk with your supervisor about on-the-job safety. We have exciting and challenging work ahead of us. Jefferson Lab is fortunate to have a great work force; please, pay attention — stay safe, stay healthy.



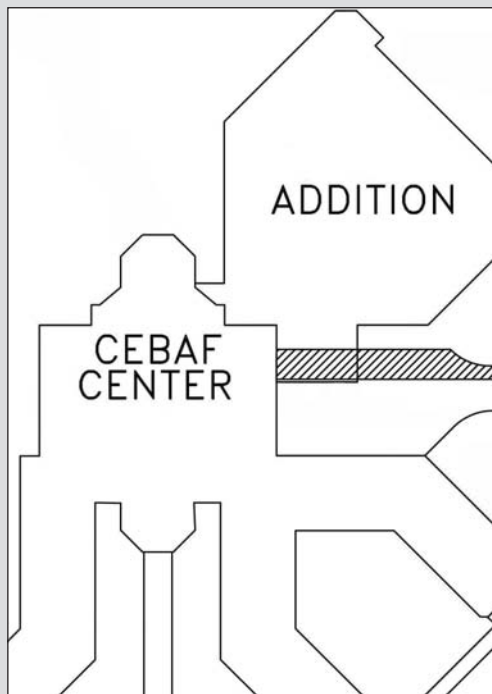
Christoph Leemann
Jefferson Lab Director

*Keep safety a
priority as we
enter period of
peak activity*

**From
the
Director**

CEBAF Center Addition

Contract awarded; work to start this month



This diagram shows the outline of the addition in relation to the existing CEBAF Center footprint.

by Judi Tull

The long-awaited addition to CEBAF Center took a big leap forward on June 7 when the \$7.3 million construction contract was awarded to Mid Eastern Builders, Inc., a company based in Chesapeake, Va. Work is scheduled to begin in July and to be completed within 16 months.

The three-story, 61,000 square-foot structure will adjoin the existing building at the northeast corner of the back atrium, nearly doubling CEBAF Center's size. The total cost, including furnishings and project management, will be \$10.5 million.

The addition will include office space for nearly 230 Lab staff members and Users who currently have offices in Trailer City, according to Rusty Sprouse, Director of Facilities Management. Instead of working in the aging Trailer City facilities, the Computer Center staff will be co-located near the hardware, in the planned 10,000 square foot Computer Center that will take up most of the space on the first floor of the addition. There's even a special fire-retardant vault for storing back-up tapes and room for anticipated hardware additions during the coming decade.

The CEBAF Center Addition will not only benefit the Computer Center; it will also provide improved space for Users, increase the number of conference rooms available, and provide space for the Office of Project Management and the Hall D team for the 12 GeV Upgrade. It's estimated that the addition will reduce energy costs by 20 percent over the existing outdated trailer space, and will allow for the demolition of 22,000 square feet of trailers.

Initial planning for the project began in December 2000 with a very basic concept for the addition, said Sprouse. Representatives from each department that will be housed in the addition were invited to meet as a team and provide input as the project advanced.

"We wanted to be sure to give the customers the opportunity to see how it all worked together," said Rebecca Yasky, Facilities Maintenance and Construction manager.

CEGG Associates, located in Virginia Beach, designed the addition using concepts and principles from the United States Green Building Council, a coalition that promotes buildings that are environmentally responsible and are healthy places to live and work in, she noted. The triangle-shaped addition will have glass on three sides, for instance, maximizing natural light for occupants. Other systems were designed with energy conservation and air quality in mind. Geothermal heat pumps were chosen because of their high energy and cost efficiency.

Safety will be a primary concern during the construction process, and has been the critical emphasis while necessary work to campus infrastructure has been underway over the last several months. A new road has been installed connecting Lawrence Road and the area adjacent to Trailer City; it will be limited to construction traffic while the addition is being built. The entire construction area has been fenced off, necessitating that the golf cart recharge area be moved to the other side of CEBAF Center to protect Lab employees and Users from potential construction hazards. Also, the Lab will hire a safety inspector on a term contract whose sole job will be to oversee the construction site, Sprouse said.

The wooded area between the Series 11 trailers and Lawrence Road has been cleared, and this area will initially be used as a construction lay-down area for materials. The geothermal heat pumps for the addition's air conditioning system will be installed there and the area will eventually be paved for additional parking.

The proximity of the construction to the existing building presents chal-

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lenges. “The addition won’t be ‘near’ CEBAF Center. It will be on top of it,” Sprouse noted. Pilings for the addition’s foundation will be drilled and cast-in-place, rather than driven, in order to reduce any potential damage to the existing building. Plywood will be installed over the atrium glass by the cafeteria in order to protect it, and the wood will be painted white on the inside to keep the atrium interior as bright as possible.

Several steps have been taken to ensure that the project will be of the highest possible quality. For instance, a building commissioning company has been hired to oversee all the installation and initial performance of electrical and mechanical systems before anyone moves in, and an independent testing group will be on board to certify aspects of the construction such as the pilings.

“We’ve tried to anticipate anything that could possibly go wrong,” Sprouse commented. “We’ve provided for multi-layered back-ups and inspectors. We’ve taken an integrated approach to the entire project.”

The plan for the addition has been a cooperative project from the beginning, he pointed out, including not only employees, Users and designers but also his department staff, and external reviews by people from other labs appointed by the Department of Energy to assess the viability of the project.

“The feedback we got didn’t find a lot of cuts that needed to be made because it was designed without a lot of frills,” he said. The project was determined to be a wise use of the taxpayers’ money.



This artist's rendering shows what the addition to CEBAF Center will look like upon completion.

Carter Ficklen talks about Lab safety

*Incident reporting
is critical to
learning valuable
lessons*



by Judi Tull

Carter Ficklen likes to quote George Santayana, a principal figure in Classical American Philosophy, when he's talking about the importance of reporting environmental and safety incidents at Jefferson Lab. "Santayana wrote that anyone who doesn't learn from history is doomed to repeat it," he said. "Incident reporting is critical so we can learn from those events and apply the lessons we learned."

As the Environment, Health and Safety Reporting Manager in the Office of Assessment, Ficklen is in charge of receiving reports on any safety or environmental incident that takes place at the Lab and then determining if the incident requires an additional report to the Department of Energy's Occurrence Reporting Program System (ORPS).

ORPS came into being in the late 1980s in an effort to improve timely notification to laboratory and DOE senior management of significant operational and EH&S events. With the advent of the Internet, posting incident reports is nearly instantaneous. "Now you can literally find out the next morning what's happened and where," Ficklen noted.

Ficklen stresses that anything out of the ordinary that happens during

the regular course of JLab business must be reported to a supervisor or sponsor immediately. "People who come to work here from other backgrounds where requirements are not as formal often don't understand, at first, how important this reporting is," he said. "The key here is letting your supervisor know about it, so he or she can make the determination as to what to do next. Don't just tell a co-worker about it."

When an incident takes place, an Incident Investigation Worksheet (Appendix 5200-T1 in the EH&S Manual) will be prepared by an immediate supervisor. The form includes a summary of what happened, witness statements, causes of the incident and follow-up actions taken or required and what lessons were learned. "We follow this process to make the work here go better," Ficklen said. "These reports are a way to pass on positive information as well as to share advice and cautions — within JLab and across the DOE labs."

Even incidents that do not rise to the level of DOE notification are important to report. They are used in the Lab's Lessons Learned program in order to continually improve safety performance — one of the central tenets of JLab's and DOE's Integrated

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“Safety is a part of everyone’s work responsibilities here,” Ficklen emphasized. “Everyone — physicist, engineer, technician, administrator, user, subcontractor and student — is expected to train appropriately and work safely on a daily basis. And, if someone should experience a mishap or near miss, report it to your supervisor immediately.”

Carter Ficklen
EH&S Reporting Manager



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Safety Management System. More information about JLab’s Lessons Learned is available on the Intranet at www.jlab.org/intralab/emergency/lessons/.

Depending on the degree of severity of an incident, injury or damage, the report will be passed along to DOE’s ORPS. Extreme emergencies would require the Lab to contact DOE within two hours.

In the event of a serious incident, however, reporting should come secondary to taking immediate steps to treat an injury or reduce damage, Ficklen said. “Don’t hesitate to call 911. Respond to the emergency immediately by taking care of the problem. Call an ambulance or turn the power off. Don’t let concern for reporting keep you from doing what needs to be done immediately. No one in DOE or at JLab wants anyone to delay doing something in the first 15 to 20 minutes of a serious incident in order to minimize its effects.”

All events categorized as “mishaps” are reported to DOE. Some “near misses” must also be reported. A mishap is an event that is categorized as a reportable occurrence due to safety, environmental, or operational significance. A near miss is one in which those things might have hap-

pened, except for sheer luck. “If an incident occurs but there were two or more barriers in place to prevent damage or injury, it’s not a near miss,” Ficklen explained. Three of the past six reportable incidents at the Lab were near misses.

But, he reiterated, it’s up to a supervisor, not individual employees, to determine the nature of an incident. “Supervisors and managers are trained to use the chain of command to determine the next steps that should be taken,” he noted. “And we have a special 24-hour telephone number they can call if they’re ever in doubt about what to do next.” The number is found in the EH&S Manual and other places such as on the JLab telephone emergency cards and the ISM badge cards.

“Safety is a part of everyone’s work responsibilities here,” Ficklen emphasized. “Everyone — physicist, engineer, technician, administrator, user, subcontractor and student — is expected to train appropriately and work safely on a daily basis. And, if someone should experience a mishap or near miss, report it to your supervisor immediately.”

Catching up with Cachers

How Einsteinian physics is helping a hippo see the world



Doug Higinbotham, JLab Staff Scientist, annotates SavageHippo's travel log at an undisclosed location as he prepares to send the little purple hippo on the next leg of his adventure.



SavageHippo — Globe-trotting Geocache trinket and recent JLab guest.

by *Kandice Carter*

In a new trend that's taking the world by storm, amateur treasure hunters track down buried loot, searching for the "x-marks-the-spot" on a map like would-be Indiana Joneses. But they aren't studying obscure languages, traveling to distant lands or struggling through inhospitable territory in this search. Their adventures only require access to a computer, a Global Positioning System (GPS) device and a few local parks.

The trend is geocaching, and it's already a global phenomenon. In the game, players hide caches, usually waterproof containers filled with small trinkets, on public land. Then they list the cache's GPS coordinates, and a few extra clues to help hunters find it, on a web site like www.geocaching.com — the official web site of the sport.

Once they've found a cache, players take one of the treasures and replace it with an item they've bought or selected from another cache. Treasures range from the esoteric to the exotic: old spoons, foreign coins, stuffed animals and carnival-style plastic gizmos abound. Some of these prizes have registered tags, and their adventures are posted on the web for all to see.

One of these registered goodies, a little plastic purple hippopotamus named SavageHippo, recently visited JLab. Brad Sawatzky, a physicist at the University of Virginia and a JLab user, found SavageHippo at a cache site outside Charlottesville, Va., in February. "Other items at the site included small toys, pens, and magnets," Sawatzky says. "The hippo was a no-brainer. I had read about these things and thought it was a cool idea. I went to this cache on a whim one evening and wasn't aware one of these

little fellows had been dropped off there. I was excited to get it home and look up its travel history."

Sawatzky brought SavageHippo to Newport News and asked Doug Higinbotham, JLab Staff Scientist, to help him find the hippo a new home. During SavageHippo's visit to the Lab, the small fellow perused a few journals in the library, watched a Physics Fest presentation in the CEBAF Center auditorium, read all about Jefferson Lab on the permanent display boards and even took a turn at running the accelerator. Pictures documenting SavageHippo's adventures were posted on his very own web page at <http://www.geocaching.com/track/details.aspx?id=22336>.

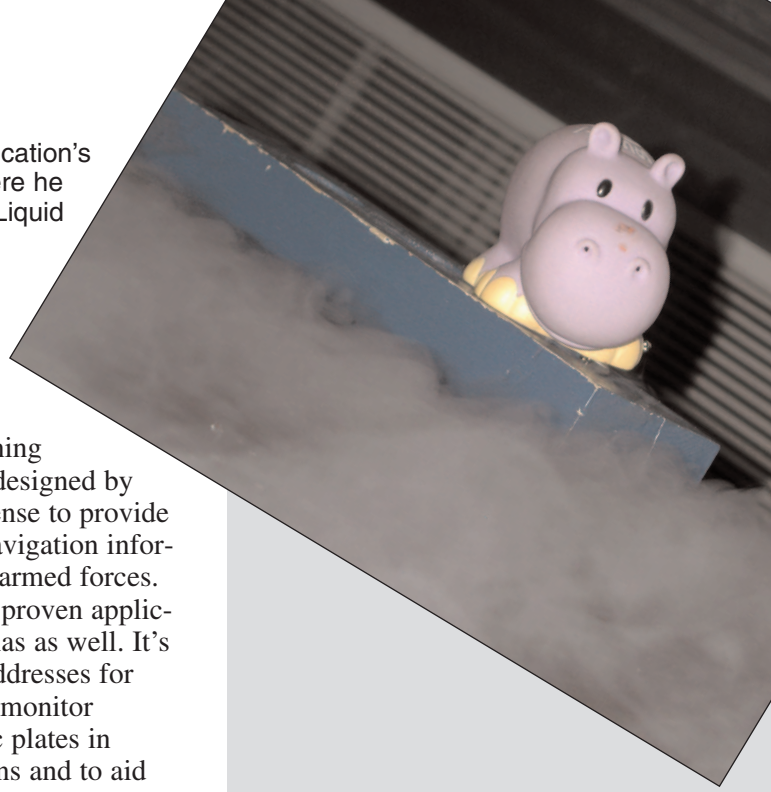
The sport of geocaching has attracted thousands of would-be treasure seekers, including a few physicists at JLab. Geocaching is based on serious technology originally made possible by physicists studying Einstein's theory of gravity.

Einstein theorized that large objects in space (like stars) warp the fabric of space-time — kind of like how a person sitting on a trampoline will create an indentation in the fabric. As a spacecraft or even light passes near a star, it may fall into this indentation, curving its path. If light has enough energy, it can exit the indentation, but it will have lost some of its energy in doing so.

If scientists could study light that had passed near a star and lost energy due to this warping effect and compare it to light from the same source that had not passed near a star, they could confirm Einstein's theory. But to do this, they needed a very accurate way to measure time. To this end, scientists developed the atomic clock.

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SavageHippo attended one of Science Education's Physics Fest events for school children. Here he watches water vapor condense during the Liquid Nitrogen Demonstration.

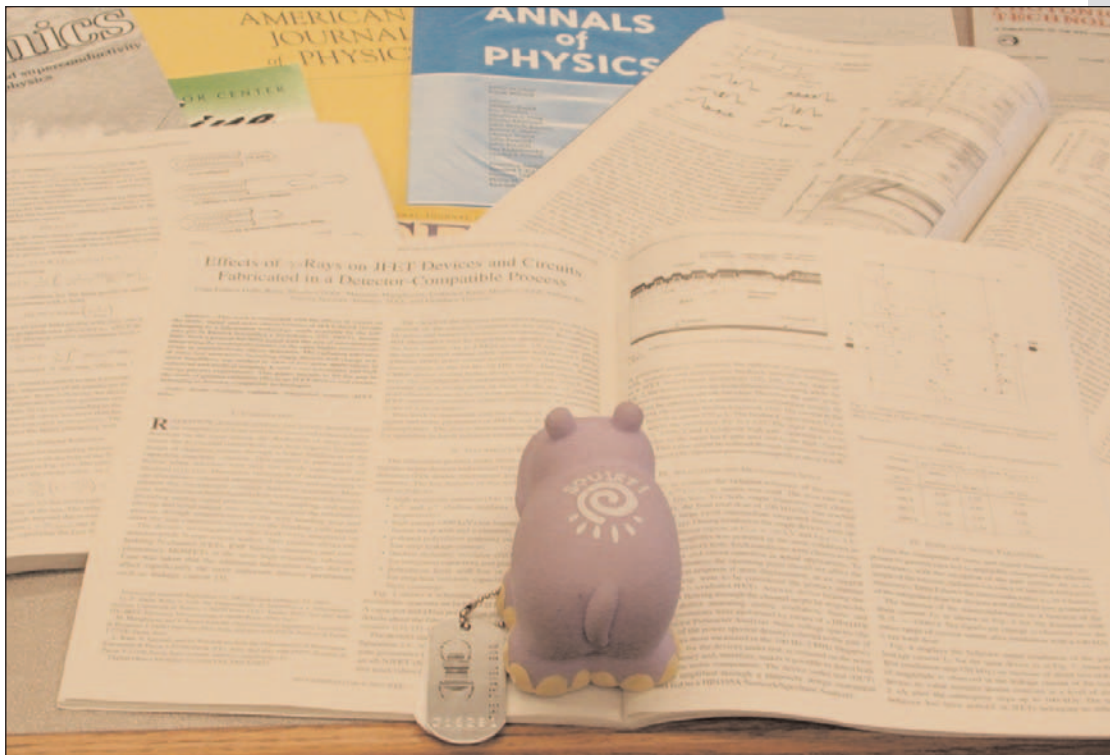


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Atomic clocks are the backbone of GPS technology. All 24 active global positioning satellites have atomic clocks on board that keep time to within a billionth of a second. These satellites send out a standard radio signal that can be read by a GPS receiver. Receivers measure how long it takes for the radio signals from at least four different satellites to reach it. It uses this information, along with satellite time and position information and relativistic corrections, to accurately triangulate its position to within 20 feet.

The Global Positioning System was originally designed by the Department of Defense to provide precise targeting and navigation information for the nation's armed forces. But the technology has proven applicable in many other arenas as well. It's now used to pinpoint addresses for emergency vehicles, to monitor Earth's shifting tectonic plates in earthquake-prone regions and to aid the journey of a little purple hippo who wants to see the world.

For more information on the science behind GPS technology visit www.jlab.org/~saw/.



According to www.geocaching.com, there are more than 95,000 registered caches in 202 countries, with nearly 150 caches within a 50-mile radius of JLab.

The adventurous hippo even took time to peruse physics periodicals to learn about JLab physics research. Some time later the little critter was found on his side in a dazed state!



Milestones for May/June 2004

Hello

Peter Bosted, Hall C Physicist,
Physics Division

Kahanawita Dharmawardane, Hall C
Post Doctoral Fellow, Phy. Div.

Jim Stroud, Director of Human
Resources, Administration Div.

Goodbye

Philip Cole, Staff Scientist, Phy. Div.

Mina Nozar, Post Doctoral Fellow,
Phy. Div.

Anndrea Plamp, Technician/Drafter,
Accelerator Div.

Tong Wang, Post Doctoral Fellow,
Accel. Div.

Ruth Woodward, Post Doctoral
Fellow, Accel. Div.

Tom Hassler becomes VEMA president

Tom Hassler, JLab's Emergency Management Manager from 1987-2002, and now a casual employee, was sworn in as the new president of the Virginia Emergency Management Association (VEMA) during the organization's annual conference, March 16-19, in Williamsburg. Hassler, a Certified Emergency Manager (CEM), was sworn in as VEMA President at a March 18 luncheon at the Williamsburg Marriott.

The Virginia Emergency Management Association promotes and supports the goals of saving lives and protecting property during times of emergencies and disasters in Virginia. VEMA is a voluntary organization of more than 200 professional emergency managers of locale, state, federal, charitable, and private organi-

zations. For more information about VEMA, visit www.vemaweb.org/.

Hassler's JLab supervisors, Andrew Hutton and Steve Suhring, attended the luncheon to see Hassler's induction as association president. Tom said he was very grateful for the support JLab has given him over the years, which has made this opportunity possible for him.

SURA/JLab recognizes Fellowship recipients

The SURA (Southeastern Universities Research Association)/Jefferson Lab Fellowship program evaluation committee recently finished reviewing 23 proposal applications. Eight fellowships have been awarded to graduate students at SURA universities for research at Jefferson Lab. Awardees will begin their research at the Lab in September 2004 and are:

- Alvin Kiswandhi, Florida State University
- Hovhannes Grigoryan, Louisiana State University
- Yingchuan Li, University of Maryland
- Peter Monaghan, Massachusetts Institute of Technology
- Richard Thomson, North Carolina State University
- Clarisse Tur, University of South Carolina
- Herry Kwee, College of William & Mary
- Bryan Moffit, College of William & Mary

Branko Vlahovic receives North Carolina award

Branko Vlahovic, Physics professor, NCCU (North Carolina Central University), received this year's Max Garner Award. The award, established in honor of former North Carolina Governor Max Garner, is awarded annually to one or two prominent

scholars among the 16 institutions that make up the University of North Carolina system. It recognizes faculty for outstanding research and teaching performance during the previous years. This is the first time science faculty has ever been recognized with this honor at NCCU. This [recognition] is the outgrowth of Vlahovic's scholarly activities over the years, beginning with a joint appointment at JLab in 1997, notes Kinney H. Kim, NCCU Physics professor.

The NCCU Physics program is producing annually at least four or five minority graduates with a B.S. degree in Physics, which is among the highest in the nation as well as within the UNC-system institutions, according to Kim.

SURA/JLab wins minority business award

The Virginia Minority Supplier Development Council (VMSDC) at its Tidewater Regional general-membership meeting recognized the Southeastern Universities Research Association/Jefferson Lab with the Corporate Cup award for April 2004.

The Tidewater Regional Office presents this award to a corporation or agency that has shown continual commitment to minority business development, and has been nominated by minority companies. This is the fourth Corporate Cup award received by SURA/JLab over the last two years.

Lab earns HRSD gold award for excellence

On April 28 Jefferson Lab earned the Hampton Roads Sanitation District (HRSD) Gold Pretreatment Excellence Award for 2003. "This award recognizes HRSD Permittees with an exemplary compliance record who have been subject to compliance requirements for a full calendar year, were not in significant non-compliance, and who were not subject to any adminis-

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trative penalties, according to Ronald Johnson, HRSD chief of Industrial Waste.

Further, he adds, "Recipients of these awards have demonstrated a commitment to environmental excellence... it is with great pleasure that we recognized and honor your environmental excellence."

In response to the award announcement, Jim Turi, JLab's Department of Energy Site Officer manager, wrote a letter to Lab Director Christoph Leemann saying, "Jefferson Lab is one of the relatively few major facilities in the Greater Hampton Roads area to receive no technical or administrative violations during CY 2003. This illustrates a commitment by Jefferson Lab management and staff to actively pursue environmental excellence."

The Gold Award requires a perfect compliance record — no administrative or technical violations. Carter Ficklen, EH&S Reporting Manager, and Bill Rust, Facilities Management, represented Jefferson Lab at the April 28 awards luncheon held in Virginia Beach.

Poster Session planned to highlight summer intern projects, research

Everyone on site is invited to the Science Education Summer Intern Poster Session scheduled for Wednesday, August 4, from 11:30 a.m. to 1:30 p.m. in the CEBAF Center lobby. The 27 participants of the High

School Summer Honors Program, the Science Undergraduate Laboratory Internship, and the Pre-Service Teachers program will be on hand with posters they developed based on their work or research projects.

They are conducting the poster session in order to share what they've learned during their summer JLab experience.

JLab hosts middle school Science Bowl...

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coordinator. "The students were very excited and a little nervous; they did a great job. Likewise we had fantastic support from 18 volunteers who worked as rules judges, moderators, scorekeepers, timekeepers, and scientific judges for the competition. The event went very nicely. We are already anticipating a larger number of schools participating next year, and we have scheduled the 2005 Middle School Science Bowl for Saturday, March 19 and the High School Science Bowl for Saturday, Feb. 12," Tyler noted. (Science Bowl volunteers may want to

note these dates on their calendars!)

The Middle School Science Bowl series is sponsored by the Department of Energy — like its high school counterpart. Each team is made up of one or two coaches and four students with a fifth team member as backup. Regional winners go to Golden, Colo., to compete in the national competition, which is held annually in June.

The academic competition is a fast-paced question-and-answer contest where students answer questions about earth science, physical science, life science, math, and general science.



Congratulations Will Oren!

Will Oren, Accelerator Division, received the JLab recreational biking crew's Golden Sprocket Award for 2003. Since 2001 the award has been given annually, based on the loosely formed group's series of Wednesday lunchtime sprints and time trials – run over the local Kiln Creek loop. Anywhere from a dozen to nearly two-dozen riders show up for the noon-hour rides with the summer-time Wednesdays devoted to the sprint/time trial series. Some individuals ride seasonally while others ride year round.

JLab hosts its first-ever middle school Science Bowl

Jefferson Lab has hosted the Virginia Regional High School Science Bowl a number of times since 1993. Starting this year, JLab hosted its first ever Middle School Science Bowl.

The event took place in CEBAF Center on April 23, and included teams from six middle schools representing Newport News, Norfolk, Virginia Beach and Williamsburg. Finishing in first place and undefeated during the daylong academic competition was Brandon Middle School, Virginia Beach, coached by Sandy Jackson. Taking second place was James Blair Middle School, Williamsburg, coached by Lisa Horrell. And earning third was Huntington Middle School, Newport News, coached by Kurt van Deusen and Adrian Wilson.

This was a great opportunity, said Jan Tyler, JLab's Science Education program manager and Science Bowl

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Pictured, left to right, are the winners of the first-ever Virginia Regional Middle School Science Bowl: Nick Garcia, T. J. Berry, Shaun Sutherland, and Matthew Samson and their coach Sandy Jackson. The eighth graders represented Brandon Middle School at the national middle school competition held recently in Golden, Colo. The nationals include the science bowl and a hydrogen fuel-cell car race in which all 16 regional winning teams compete. Brandon finished in fourth place in the car race.



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