



Discover LLNL

The Community Newsletter of Lawrence Livermore National Laboratory ♦ ♦ ♦ Winter 2003

Super Science

LLNL's Public Affairs Office has a new program to show young people what the Laboratory is all about, and how to have fun with scientific discovery.

Since November, the Laboratory has been hosting local fourth and fifth grade classes to *Super Science*, a program designed for young inquiring minds.

With the Discovery Center as the focal point, students are guided through hands-on activities about earthquakes and energy, followed by experiments involving electricity, density and air pressure performed by Laboratory scientists.

All materials and presentations are reviewed and aligned with the California standards for fourth and fifth grade science, and visiting teachers are given information and classroom activities beforehand to assist them in preparing their students for what they will see and hear. As a follow-up, teachers return to the classroom with a packet of lessons and experiments that complement their visit.

"It is exciting to bring young students to the Laboratory. We hope the program will demystify the

Laboratory and science in general," said Karen Kiernan-Rodriguez, Manager of the Laboratory's Public Education and Outreach Program.

For more information on *Super Science*, contact Discovery Center coordinator Linda Lucchetti at 925-422-5815. ~



Super Science is designed for young, inquiring minds.

Homeland Security

Laboratory Director Michael Anastasio recently announced the formation of a new Homeland Security Organization at LLNL. This organization will provide support to the new federal Department of Homeland Security, and help the nation counter the threat of terrorist use of weapons of mass destruction.

LLNL has for many years provided the federal government with

analyses and expertise in the area of homeland defense. "During that time we have responded to a number of



national needs from Cold War weapons development activities to the post-Cold War world of stockpile stewardship and nonproliferation,"

said Director Anastasio.

This new organization will be headed by Dr. Wayne Shotts, presently associate director for the

Laboratory's Nonproliferation, Arms Control, and International Security directorate, in an acting capacity. It will focus on issues such as nuclear and radiological countermeasures, chemical and biological countermeasures,

border and transportation security, and emergency preparedness and response. ~

Home Campaign

For 28 years, LLNL employees have been involved in one of the Valley's most generous annual charity drives. Named "Helping Others More Effectively" or HOME, the campaign conducted from October through December raises funds for regional and local non-profit agencies as well as umbrella groups such as the United Way and Tri-Valley Community Fund.

For the fifth straight year, the

HOME campaign has set a new mark by topping \$1 million in giving, this year raising more than \$1.4 million.

HOME Campaign contributions help hundreds of different agencies tackle real-life issues including homelessness, early childhood development, health, education, and environmental quality, just to name a few. Laboratory contributors enable these agencies to



continue to serve local communities.

This year's HOME Campaign Chair Ted Michels thanked and praised LLNL employees for their generous donations which he said "will work throughout the year to improve the lives of thousands in nearby communities. "Once again, employees have shown that the Laboratory is more than a science and technology powerhouse, but also a caring neighbor who believes "HOME is where the heart is." ~

S C I E N C E • A N D • T E C H N O L O G Y • A T • L L N L

'First Light'

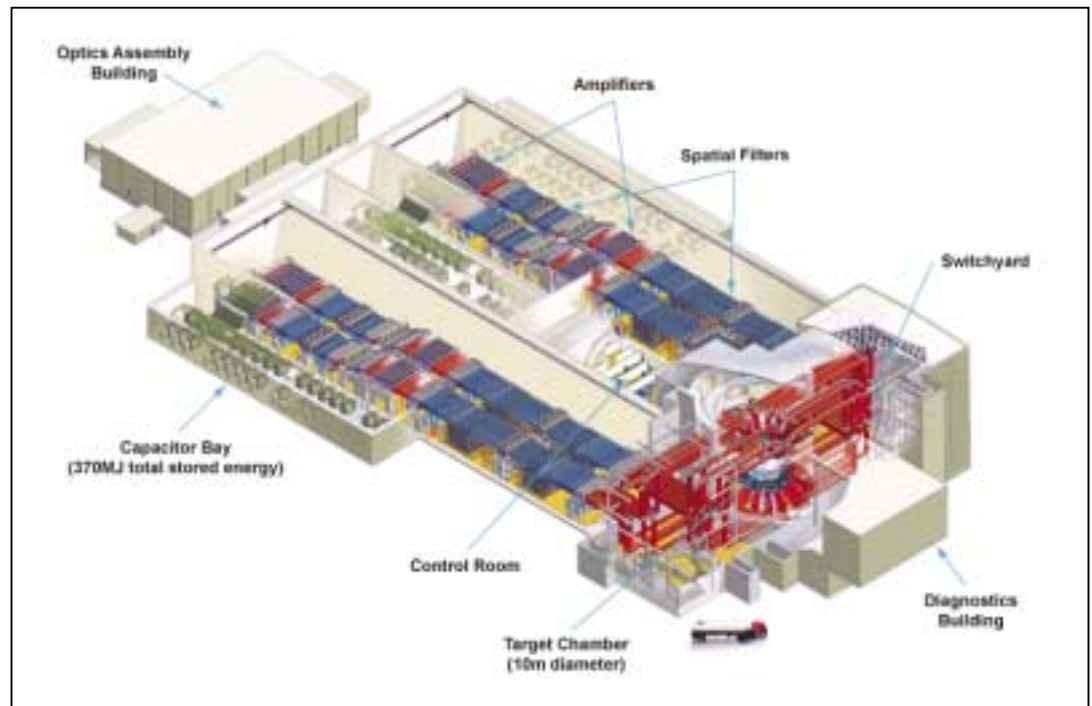
LLNL's National Ignition Facility (NIF) recently reached a major milestone with the activation of the first four of its 192 laser beams. The beams were powered up in a series of increasing energy test runs, culminating in the generation of more than 43 kilojoules of infrared light in a pulse lasting five-billionths of a second. This corresponds to a power of about eight trillion watts, or about 10 times the entire United States electrical generating capacity. Yet this represents only one percent of NIF's total energy capability when completed in 2008.

NIF is the largest laser system in the world. Occupying seven acres on the northeast corner of

the LLNL site, NIF will create conditions of extreme temperatures and pressures in small targets approaching those that occur in the center of stars and in exploding nuclear weapons. It will play a key role in the

National Nuclear Security Administration's (NNSA) mission to maintain the safety and reliability of the nation's nuclear deterrent without underground

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The National Ignition Facility at LLNL has reached a major milestone with the activation of the first of its 192 laser beams.

Discovery Center

LLNL's visitors center has a new look and a new name. The new Discovery Center is divided into three distinct zones representing the major areas of the Laboratory's mission: the Safety, Reliability and Performance of the U. S. Nuclear Stockpile; Homeland Security and the War on Terrorism; and Science and Technology in the National Interest. A unique video viewing area is also available inside a small replica of the National Ignition Facility target chamber.

Everyone is welcome at the Discovery Center. No badging is necessary.

It is located off Greenville Road at the Laboratory's East Gate Drive entrance.

Hours: Monday through Friday from 1 to 4 p.m.

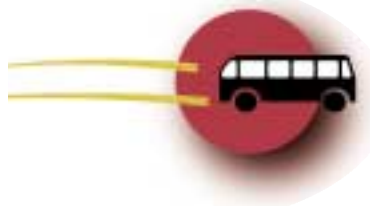
For further information, contact Discovery Center coordinator Linda Lucchetti at (925) 422-5815. ~



The Discovery Center has recently been redesigned to represent the major areas of the Lab's mission.

Take a Tour

The Laboratory's Public Affairs Office offers a tour of LLNL that includes stops at the Biology & Biotechnology Research Program, the National Atmospheric Release Advisory



Center, the Advanced Simulation and Computing Initiative building, and the National Ignition Facility which will soon house the world's largest and most powerful laser. The two-hour tour is offered Tuesdays and Thursdays

starting at 9 a.m. U.S. citizens must register at least two weeks in advance. Non-U.S. citizens must register at least sixty days in advance. Special tours can be arranged for groups of eight or more with two weeks' advance notice. All tours are free.

For more information on the tour program go to www.llnl.gov/pao. ~

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nuclear testing.

As the only NNSA facility that can achieve fusion ignition with energy gain, NIF will be important for understanding the performance of nuclear weapons as well as inertial fusion energy production for future energy security. NIF experiments will also allow researchers to make

advances in other fields such as materials science and astrophysics.

In addition to this major technical progress, the NIF Project is proud to have now completed two years and over 2.5 million hours without a lost workday injury. This achievement is even more noteworthy because it took place during an intense period of construction, assembly and installation activities.

In the coming year NIF's laser beams will be transported, converted to ultraviolet laser light, and focused to the center of the 10-meter diameter, one-million pound target chamber. Soon after experimental diagnostic systems will be commissioned and the first experimental capabilities will begin to be demonstrated in support of the Stockpile Stewardship Program, basic science, and inertial fusion energy research. ~

Spotlight on Science

Mark your calendars for LLNL's popular Community Science Lecture series, 'Spotlight on Science,' which continues in the New Year with talks in January, February and March.

For more information on 'Spotlight on Science' go to <http://www.llnl.gov/llnl/06news/Community/lecture.html> or call 925-422-4599.

• **January 23:** David M. Seaborg, son of Nobel prize-winning chemist Dr. Glenn Seaborg on "The Current Status of Evolutionary Biology". 7 p.m. in the Livermore High School auditorium, 600 Maple St.

• **February 20:** Wayne Morris with Wackenhut Services, Inc. on "Protecting What's Ours: The Loss of U.S. Technology to Competitors." 7 p.m. at the Amador High School Playhouse in Pleasanton, 1555 Santa Rita Rd.

• **March 27:** Dr. Tammy Jernigan with LLNL's Physics and Advanced Technologies directorate on her experiences as a NASA astronaut and International Space Shuttle participant. 7 p.m. in the Livermore High School auditorium, 600 Maple St.



Wayne Morris

Discover LLNL is a publication of the Public Affairs Office at Lawrence Livermore National Laboratory.

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Lawrence Livermore National Laboratory is a Department of Energy, National Nuclear Security Administration laboratory managed by the University of California.



"Ensuring national security and applying science and technology to the important problems of our time."

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