

# LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: Dec. 14-21, 2009.

## Biden meets with LLNL director



Last week, Vice President Joe Biden was briefed on the state of the nation's nuclear weapons stockpile by Laboratory Director George Miller as well as the directors of the other two national security laboratories.

Energy Secretary Steven Chu, Deputy Energy Secretary Dan Poneman, National Nuclear Security Administrator Tom D'Agostino, and officials from the departments of State and Defense also were present. The briefing was provided by Miller, Mike Anastasio from Los Alamos National Laboratory and Tom Hunter from Sandia National Laboratory.

For more, go to <http://thepage.time.com/readout-biden-nuclear-meeting/> and [http://www.politico.com/politico44/perm/1209/just\\_checking\\_5b7b036f-9f78-4f79-affc-446f02d3e54b.html](http://www.politico.com/politico44/perm/1209/just_checking_5b7b036f-9f78-4f79-affc-446f02d3e54b.html)

## Laboratory radiation technology is hot at ABC



## **Morgan Burks**

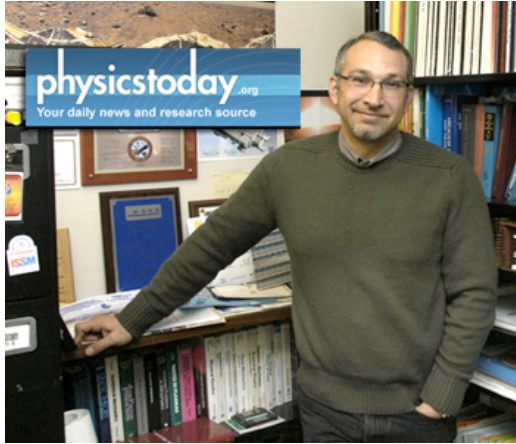
When NASA's Messenger satellite flew by Mercury, it used the smallest, most accurate radiation detector ever made. And now, it will be used on Earth to detect smuggled nuclear material.

The high-resolution gamma-ray detector, developed at the Laboratory, fits in the palm of your hand and is able to distinguish between dangerous nuclear materials such as uranium or a harmless medical source.

Having a handheld device is critical so it can be used in emergency situations such as at border crossings or shipping ports where suspected dangerous nuclear material may be transported.

To view the video clip, go to  
[https://publicaffairs.llnl.gov/news/lab\\_report/2009/dec/kgotv.nuke\\_detector\\_13dec2009.mov](https://publicaffairs.llnl.gov/news/lab_report/2009/dec/kgotv.nuke_detector_13dec2009.mov)

## **Physicist Omar Hurricane wins prestigious E.O. Lawrence Award**



## **Omar Hurricane**

LLNL Physicist Omar Hurricane has been named a winner of the Department of Energy's prestigious Ernest Orlando Lawrence Award.

Hurricane is being honored for his work in national security and nonproliferation at the National Nuclear Security Administration's Lawrence Livermore National Laboratory.

The award honors mid-career scientists and engineers for exceptional contributions in research and development supporting the Department of Energy/National Nuclear Security Administration and its mission to advance the national, economic and energy security of the United States.

Hurricane is a program element leader dealing in thermonuclear secondary design in the Weapons and Complex Integration (WCI) directorate.

For more, go to <http://blogs.physicstoday.org/wht/2009/12/llnl-physicist-omar-hurricane.html>

## **A miracle light may help solve the energy crisis**



**An artist's rendering of the NIF target.**

Next year not only marks the 50th anniversary of the laser, but it also will see the launch of laser technology's greatest challenge: creating an inexhaustible supply of clean, carbon-free energy using the National Ignition Facility.

In 2010, LLNL scientists will take lasers to a new level, trying to produce energy by imitating the way the sun creates the light and heat that support life on Earth.

"Creating star power in the laboratory," is how Ed Moses, director of the National Ignition Facility, describes the system.

The scientists will use a combination of 192 powerful lasers to generate the extreme heat and pressure that are needed to force hydrogen atoms to fuse. The combination loses a tiny bit of mass, which turns into a huge quantity of energy.

Fusion experiments are scheduled to begin in 2010.

To read more, go to <http://www.kansascity.com/437/story/1631684.html>

***Livermore Lab Report takes a break***

**LAWRENCE LIVERMORE**  
**REPORT**

The *Livermore Lab Report* will be taking a break for the winter holidays. Look for a new edition to appear Jan. 11.

### Latest Newsline available



Newsline provides the latest Lab research and operations news. See the most recent issue at <https://newsline.llnl.gov>

### Photo of the week



**Light bright:** Lab employees took part in the Brighter Holidays effort to help brighten up the holiday season of families in need. Seventy-five families from Livermore, Tracy, Modesto and Ceres were sponsored by employees throughout the Lab. The effort was organized with the help of local school districts. Employee donations of gifts and toys are being delivered to the families this week.

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LLNL applies and advances science and technology to help ensure national security and global stability. Through multi-disciplinary research and development, with particular expertise in high-energy-density physics, laser science, high-performance computing and science/engineering at the nanometer/subpicosecond scale, LLNL innovations improve security, meet energy and environmental needs and strengthen U.S. economic competitiveness. The Laboratory also partners with other research

institutions, universities and industry to bring the full weight of the nation's science and technology community to bear on solving problems of national importance.

To send input to the Livermore Lab Report, send e-mail <mailto:labreport@llnl.gov>.

The Livermore Lab Report archive is available at:  
[https://publicaffairs.llnl.gov/news/lab\\_report/2009index.html](https://publicaffairs.llnl.gov/news/lab_report/2009index.html)