

# LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: June 22-29, 2009.

## LLNL to bring 'green power' to Hawaii



**Annemarie Meike, business development executive in LLNL's Industrial Partnerships Office; Mike Gleason (second from the left), the president and CEO of the Arc of Hilo; Mark Sueksdorf, LLNL department head for Project Management, Engineering and Construction; Marj Gonzalez, LLNL leader of the National Security Field Experience Initiative; and Larry Ferderber, LLNL chief of staff**

The Arc of Hilo and Lawrence Livermore National Laboratory are teaming up to process local food products with cutting-edge "green" energy technology.

Mike Gleason, president and CEO of The Arc, a nonprofit organization that provides employment training and job placement for people with disabilities on the big island of Hawaii, signed an agreement last week in California with LLNL Director George Miller.

Under the pact, The Arc and Livermore -- a government-owned, privately-run research facility -- will use the 18,000-square-foot former Miko Meat building as a processing plant where local farmers can develop value-added food products, such as fruit leather, jams and natural sweeteners, Gleason said.

For more go to [http://www.hawaiitribune-herald.com/articles/2009/06/25/local\\_news/local01.txt](http://www.hawaiitribune-herald.com/articles/2009/06/25/local_news/local01.txt)

## ***New York Times* highlights carbon capture in China**



**The post-combustion capture pilot plant at Huaneng Beijing Co-Generation Power Plant is designed to capture up to 5,000 tons of carbon dioxide. Credit: China Huaneng Group**

Less than five years after Chinese scientists first agreed to work to capture carbon dioxide from power plants and store it underground, the landscape is markedly different. China's first near-zero-emissions coal plant won state approval this month. Two other pilots are in the works, including one in inner Mongolia that could be the largest sequestration project in the world. Conferences on carbon capture in China now routinely feature high-level government and industry leaders.

The National Development and Reform Commission recently green-lighted the country's largest power producer, Huaneng Group, to build China's first commercial-scale integrated gasification combined cycle (IGCC) power plant. Julio Friedmann, head of LLNL's carbon storage program, said the 250-megawatt plant is planned in three phases and could ultimately capture 5,000 tons of CO<sub>2</sub> per day.

To read more, go to <http://www.nytimes.com/cwire/2009/06/22/22climatewire-a-sea-change-in-chinas-attitude-toward-carbo->

[94519.html?scp=1&sq=A%20Sea%20Change%20In%20China%27s%20Attitude%20Toward%20Carbon%20Capture&st=cse](http://www.technologyreview.com/energy/22849/)

## MIT's *Technology Review* ignites with NIF



The Laboratory will soon attempt to start self-sustaining fusion reactions using the world's largest laser system, the National Ignition Facility. If it works, it could be a first step on the road to abundant fusion power.

The NIF target chamber is a sphere 10 meters in diameter with 48 burnished-aluminum ducts that together house 192 separate laser beams, in which each beam on its own is one of the world's most powerful, says Bruno Van Wonterghem, operations manager at NIF. Together they deliver 50 to 60 times the energy of any other laser.

Experiments to create nuclear fusion in the Laboratory are expected to begin next year.

To read more, go to <http://www.technologyreview.com/energy/22849/> and to see videos, go to <http://www.technologyreview.com/video/?vid=355> and <http://www.technologyreview.com/video/?vid=353>

## LLNS kicks off annual community gift program



Lawrence Livermore National Security, LLC (LLNS) is kicking off its annual community gift program to benefit local and area non-profit organizations for 2009.

The program provides up to \$100,000 in funding to support organizations addressing science, technology, engineering and/or mathematics (STEM) education, community-service and philanthropic needs in communities having a large population of Lawrence Livermore National Laboratory (LLNL) employees. Nonprofit California educational institutions, IRS-qualified 501(c)(3) organizations, and government agencies serving Alameda, Contra Costa and San Joaquin counties are eligible to apply. Gifts will be awarded in amounts from \$1,000 to \$20,000.

Established in 2008, the program received more than 140 applications for grants in its first year. Twenty applications were selected for awards, the majority of which served children in the Tri-Valley and San Joaquin County, with a focus on science and math education and cultural arts. The gift program is funded through the LLNS management and does not come out of the Lab's budget.

More information on LLNS and its community gift program is available on the <http://www.llnslc.com/> For an application, go to <http://www.llnslc.com/communityGiving/gifts.asp>.

### **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



**A whole lotta shaking:** Dylan Rood, an LLNL Lawrence Scholar working at the Lab's Center for Accelerator Mass Spectrometry, is studying new dating methods within the realms of geochronology -- surface exposure dating -- that can determine the age of sediments and landforms. This is used to investigate features offset across the San Andreas Fault (SAF) at Sanborn Park in the southern Santa Cruz Mountains, an area where the slip rate is poorly known and earthquake hazards are high due to the proximity to the heavily populated San Francisco Bay Area.

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LLNL is managed by Lawrence Livermore National Security, LLC, for the U.S. Department of Energy's National Nuclear Security Administration.

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.

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