

# LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: Aug. 3-10, 2009.

## National labs take first step to open campus



Lawrence Livermore and Sandia national laboratories took a step closer to collaborations with outside industry and academia with the Livermore Valley Open Campus (LVOC) concept.

The National Nuclear Security Administration (NNSA), which oversees the Department of Energy nuclear weapons labs, late last week signed off on the project.

The LVOC, which would create a shared space between the two adjacent labs, is in keeping with NNSA's vision for increased scientific interaction and collaboration across the nuclear security enterprise.

Open access to the LVOC by the international science community would directly support the advancement of Sandia's Hub for Innovation in the Transportation Energy Community (HITEC), promote key LLNL programs such as the National Ignition Facility (NIF) and its high-energy density research, increase the profile of NNSA in the region, expand the high-tech "footprint" of the Bay Area and establish the Livermore Valley as the high-tech anchor in the East Bay.

To read more, go to

<http://sanfrancisco.bizjournals.com/sanfrancisco/stories/2009/08/03/daily73.html>

## Save the Planet tackles CO2 capture



Separating carbon dioxide (CO<sub>2</sub>) from its polluting source, such as the flue gas from a coal-fired power plant, may soon become cleaner and more efficient.

A researcher at Lawrence Livermore has developed a screening method that would use ionic liquids -- a special type of molten salt that becomes liquid under the boiling point of water (100°C) -- to separate CO<sub>2</sub> from its source, making it a cleaner, more viable and stable method than what is currently available.

Worldwide, there are major efforts to reduce CO<sub>2</sub> emissions from burning fossil fuel, but before it can be sequestered, it must first be separated from its source, a step known as "capture." This new technique could significantly enhance the efficiency of the CO<sub>2</sub> capture process.

To read more, go to [http://www.savetheplanetnews.com/common/news-save-the-planet.php?news\\_id=14591&start=0&category\\_id=108&parent\\_id=108&arcyear=&arcm onth](http://www.savetheplanetnews.com/common/news-save-the-planet.php?news_id=14591&start=0&category_id=108&parent_id=108&arcyear=&arcm onth)

### **Miller discusses energy technologies**



## **Director George Miller, left, speaks with Clean Skies correspondent Tyler Suiters.**

LLNL Director George Miller recently participated in the Council on Competitiveness' Western Energy Summit to examine the ways that more clean energy sources could be developed.

Held at NASA Ames Research Center, the summit panelists included representatives from venture capital firms, solar companies, an oil company, national labs, two University of California campuses (UC Davis and UC Santa Cruz) and a number of other organizations.

During the discussion, the moderator, Tyler Suiters, chief correspondent of Clean Skies News television, asked whether the nation's Department of Energy national laboratories could help fill part off the void left by cutbacks at once-powerhouse industrial research labs, such as Bell Laboratories.

George Miller, LLNL's director, and Arun Majumdar, the associate director for energy and environment at Lawrence Berkeley National Laboratory (LBNL), indicated that they believe the national labs can help fill this void.

"In many respects, these institutions are truly remarkable already," Miller said. "In the recent R&D 100 awards competition, the DOE won more than 40 of the 100 awards, and our Laboratory won eight of them. Almost all of these institutions have an incredible ability to go from fundamental basic science to a deployed idea very rapidly. This is their strength."

To see the Clean Skies News video, go to <http://www.cleanskies.com/videos/george-miller-talks-energy-security>

## **Lab researcher rides seismic wave to French Alps**



**Seismologist Artie Rodgers (left) describes earthquake models to colleagues.**

For one LLNL seismologist, there will be a whole lotta shaking come January.

Artie Rodgers, who received a Fulbright Scholarship this year, will be heading to Grenoble, France to study the relationship between topography and seismology with computer modeling.

While at Laboratoire de Géophysique Interne et Tectonophysique (LGIT), Université Joseph Fourier, Rodgers, who is the Lab's seismology group leader, will be using computational models of earthquakes and explosions to determine how free-surface topography impacts ground motion.

Current computer models of ground motion generally do not account for surface topography. However, when the wavelength of the waves is similar to the size of hills and valleys, there can be strong effects on the ground motions, such as strengthening, weakening or conversion of one wave type to another.

Rodgers will be in Grenoble from January through June and will take an extra month to conduct seismology work in Turkey.

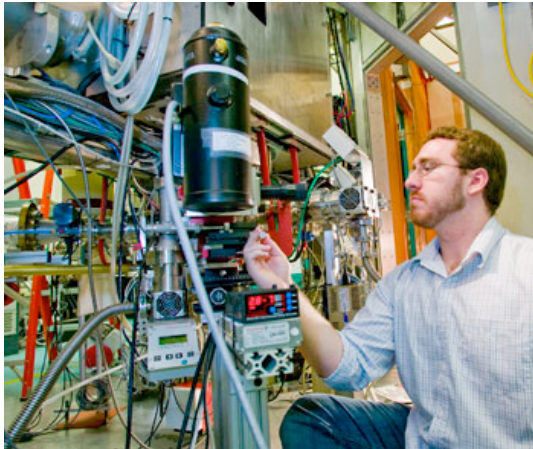
To read more, go to [https://newsline.llnl.gov/\\_rev02/articles/2009/aug/08.07.09-fulbright.php](https://newsline.llnl.gov/_rev02/articles/2009/aug/08.07.09-fulbright.php)

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## NEWSLINE

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### Photo of the week:



'Ion' physics: California State University summer intern Chad Gillis adjusts the Electron Beam Ion Trap (EBIT), a machine first developed at LLNL, to investigate the fundamental properties of highly charged ions.

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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.

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