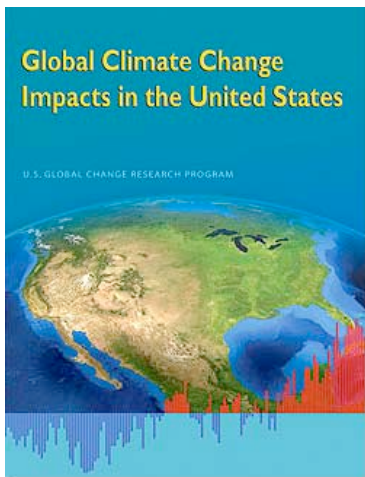


LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: June 15-22, 2009.

LLNL scientist contributes to national climate change report



Global warming already is occurring in the United States and the choices Americans make today will determine the severity of its impact in the future, according to a new report released last week.

Researchers representing 13 U.S. government science agencies, major universities and research institutes, including Lawrence Livermore National Laboratory, produced the study entitled "Global Climate Change Impacts in the United States."

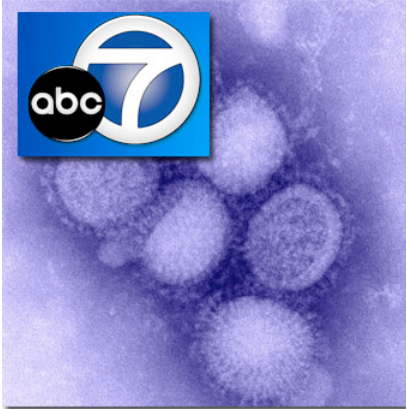
Benjamin Santer of LLNL's Program for Climate Model Diagnosis and Intercomparison was a lead author of the first chapter, "Global Climate Change."

"This part of the report explains why climate is changing and how we know that we are the ones causing it," Santer said. "Climate change is telling us a consistent story: Humans have had a pronounced effect on global climate."

The most comprehensive report to date on the likely national impact of global climate change provides current information on changes in temperatures, rainfall patterns and sea level, and also focuses on the regional and sectoral effects of these changes.

For more on the report, go to
https://publicaffairs.llnl.gov/news/news_releases/2009/NR-09-06-05.html

Computers decipher H1N1 genetic secrets



H1N1, also known as swine flu, may not be as virulent as first thought: It's just not in its DNA.

LLNL's Jonathan Allen, Tom Slezak and their team used computer models to look at 34 markers of historic flu pandemics, including the Spanish flu. They specifically studied the mutations that allow the virus to replicate efficiently in the upper and lower respiratory system.

What they discovered was astonishing: H1N1 possessed fewer than half the 34 markers of those historic pandemics, meaning the virus is half as virulent.

KGO TV recently featured the research. To watch it, go to http://abclocal.go.com/kgo/story?section=news/drive_to_discover&id=6864890

Local high school seniors receive Edward Teller Science Scholarships



Four local high school seniors from Livermore and Tracy have been awarded Lawrence Livermore National Laboratory's (LLNL) prestigious Edward Teller Science Scholarship.

The awards, instituted in 2004 in honor of the late Dr. Teller, renowned physicist and Lab co-founder, are given annually by the Laboratory to graduating seniors who excel in science studies.

This year's award winners from the Livermore Valley Unified School District are Amanda Johnston of Livermore High School and Alexa Danner of Granada High School. The Tracy Unified School District winners are Vatsal Jhalani of Tracy High School and Baljit Singh of West High School. Each receives a scholarship of \$1,500 toward a college education.

The awards were presented to each student by the LLNL's Science Education Program manager, Richard Farnsworth, at the high schools' awards ceremonies.

For more information, go to

https://publicaffairs.llnl.gov/news/news_releases/2009/NR-09-06-04.html

Oregon Public Broadcasting listens in on NIF



Oregon' Public Broadcasting series "Switch" focuses on energy and where it comes from including people with big ideas for the energy future.

The show recently interviewed the National Ignition Facility's Program Manager Ed Moses who discussed NIF's energy potential.

NIF is the world's largest laser housed in a 10-story building that will shoot intense energy at tiny targets of hydrogen fuel in BB-sized capsules, creating little controlled fusion reactions in the laboratory.

Moses said NIF is attempting to achieve proof of concept that you can get more energy out of the system than you put in.

"If you shoot the laser 10 times per second, you could make a power supply that is virtually limitless energy that is perfectly clean," he said.

To hear the whole interview, go to

https://publicaffairs.llnl.gov/news/lab_report/movies/OregonPublicBdCasting_EdMoses_0609.mov

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



Saving a life: Paramedic firefighters Jared Franchi and Lupe Salazar test the Lab-developed pneumothorax detector on LLNL engineer John Chang. Chang developed the technology that incorporates ultrawideband

(UWB) radar technology into a portable device to detect when air is trapped in the space between the wall of the chest cavity and the lung (also known as pneumothorax, which can cause death in minutes). The battery-operated detector is ideal for trauma situations where low weight, low power consumption, and insensitivity to acoustic and electromagnetic noise are critical.

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.

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