LIVERMORE LAB
REPORT

A weekly review of scientific and technological achievements from Lawrence Livermore National Laboratory, July 23-27, 2012

THE POST MAN ALWAYS RINGS TRUE

Dick Post

At 93, Dick Post is waiting for the world to catch up to his brain.

And in a few years, the world just may do that. In 1973, Post, a retired Lab physicist who still works four days a week, wrote a research paper discussing how flywheels could be used to store energy. At the time, no one thought it would work.

But Post didn't give up. In just a few years, an array of hundreds of flywheels could be used to store energy from wind or solar sources.

"That makes a difference to me," Post quipped. "I'd like to see something I do put to practical use while I'm still around."

To see the full story, go to NBC Bay Area.

ON THE MOVE

Mobile-lab testing can yield results in several hours, compared with traditional testing that can take a few days to process and return results. ***Photo by Sean M. Haffey /U-T San Diego***

A series of white trailers and trucks sat in the California Highway Patrol parking lot earlier this week at the Otay Mesa Port of Entry, one of the busiest commercial ports along the U.S.-Mexico border.

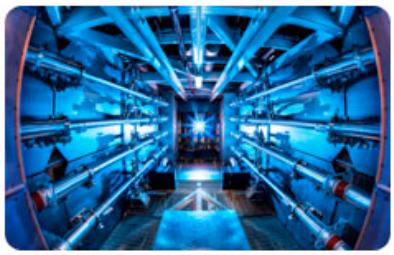
The mobile laboratories belong to the Food and Drug Administration and the Lawrence Livermore National Laboratory. Both groups' units have been funded with national security money from the Department of Homeland Security to test U.S.-bound agricultural imports for various contaminants and pathogens.

The importance of having mobile units is twofold. One, it cuts down on lab time from 24 to 30 hours versus three to four days if a sample was sent to one of the laboratories. And the units also could be mobilized in case of a large-scale emergency such as Hurricane Katrina.

While the FDA is ensuring food entering the country is safe, Livermore is testing the inspection of produce for bio-threat agents such as anthrax.

To read more, go to 10 News.

CNN Tech AT ANY INSTANT IN TIME



The preamplifiers of the National Ignition Facility are the first step in increasing the energy of laser beams. *Photo by Damien Jemison/LLNL.*

Imagine a record-shattering laser beam that, in a single shot fired, has generated more power than the United States does at any single instant. It's sort of a lab-based game of automatic one-upmanship where researchers fiddle with incredibly complex, painstakingly calibrated machinery to produce unprecedented results -- then outdo them.

That's what the National Ignition Facility -- home to the world's largest laser -- did when it pulled the trigger on 192 beams of optically amplified, electromagnetic radiation-emitting light, all fired within a few trillionths of a second of each other, to deliver 500 trillion watts (or terawatts) of "peak power" and 1.85 megajoules of ultraviolet laser light.

In a nutshell, 500 terawatts outpaces the entire U.S. for power used at any instant in time, and that 1.85 megajoules amounts to roughly 100 times what any other laser produces regularly.

To read more, go to CNN.

VENTURING INTO THE SUPER

NNSA Administrator Tom D'Agostino presents Mike McCoy with the first NNSA Science and Technology Award. *Photo by Jacqueline McBride/LLNL*

Michel McCoy, whose pioneering work in high performance computing established Lawrence Livermore as a world-renowned supercomputing center, was honored last week with the National Nuclear Security Administration's Science and Technology Award.

McCoy received the award for "16 years of dedicated and relentless pursuit of excellence" from NNSA Administrator Thomas D'Agostino to a standing ovation from colleagues.

Calling High Performance Computing (HPC) "the lifeblood of NNSA science and technology," D'Agostino said McCoy's leadership in HPC "has had a global impact."

"Mike McCoy is an example of the difference one individual can make on a team," D'Agostino said. "You have to have a leader who knows how to pull things together and to make tough decisions. That leader is Mike McCoy. If it wasn't for Mike, this would be a very different place."

To read more, go to the Web.

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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