

LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: Dec. 7-14, 2009.

HOME concludes with record-breaking total



The Laboratory's Campaign for Helping Others More Effectively (HOME) raised \$2,026,151 this year. This amount represents the largest ever raised by employees during the HOME Campaign's 35-year history.

The HOME Campaign is one of the valley's most generous annual charity drives, and is a major community support activity for LLNL. The HOME Campaign benefits local nonprofit agencies and umbrella groups, improving and advancing the daily lives of neighbors across the Tri-Valley and Central Valley.

This year, the Lawrence Livermore National Security, LLC (LLNS) Board of Governors is once again matching employee contributions up to \$1 million. Therefore, the total amount with the matching LLNS contribution is more than \$3 million.

For more on the conclusion of the 2009 HOME Campaign, go to <https://newsline.llnl.gov/rev02/labNews/2009/dec/12.11.09-labNews.php#1>.

Aerogel tops KQED's list of most watched videos



What got listeners clicking this year?

In 2009 at KQED.org, Lab scientist Alex Gash led the way with his segment on aerogel, which looks like frozen smoke and is the lightest solid material on the planet.

Aerogel insulates space suits, makes tennis rackets stronger and could be used one day to clean up oil spills.

In the video, Alex Gash demonstrates some remarkable properties of this unique substance on "Quest," KQED-TV's locally produced science, nature and environment program.

To watch the show, go to <http://www.kqed.org/quest/television/view/776>. To see a list of other top videos, go to <http://www.kqed.org/support/membership/guide/popular.jsp>

"Best Science Photos" includes image from LLNL

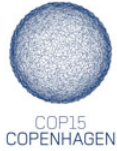


Tiny protein segments, called peptides, are shown on an atomic layer of a crystal structure in this simulation from the Lawrence Livermore National Laboratory

FOX News featured work from a recent publication in the *Proceedings of the National Academy of Sciences (PNAS)* by LLNL researchers Raymond Friddle and S. Roger Qiu along with colleagues from the Molecular Foundry at Lawrence Berkeley, the University of California, Davis and the University of Alabama.

The research highlights unprecedented resolution of crystal growth dynamics in the presence of peptides. The results have important implications for finding treatments of kidney stone disease using biomolecules, controlling the timing of mineral growth, and presents novel ideas toward understanding the physics of biomolecule adsorption to mineral surfaces.

Three LLNL researchers trek to Copenhagen



UNITED NATIONS
CLIMATE CHANGE
CONFERENCE
DEC 7-DEC 18
2009

Three Livermore researchers went to Copenhagen to participate in the 192-nation United Nations climate conference.

Principal Associate Director at Large Jane Long, Doug Rotman, program director of energy and environmental security, and atmospheric scientist Phil Duffy attended the meetings.

At Copenhagen, parameters will be set for a new climate change agreement. The United States and China, two of the world's biggest polluters, have set targets for reducing greenhouse gas emissions.

Long will be discussing geoengineering including points that stress how mitigation is the single most important strategy to deal with climate change. She will speak during a "Science, Research and International Governance of Geoengineering" side event on this Friday, Dec. 18.

Latkowski's LIFE in fusion energy recognized



Jeff Latkowski

Jeff Latkowski of LLNL's Engineering Directorate has been recognized by Fusion Power Associates (FPA) with an award of excellence for his leadership and contributions to fusion energy programs.

The 2009 Excellence in Fusion Engineering award from the nonprofit research and educational foundation cited Latkowski's work on the LIFE (Laser Inertial Fusion Engine) project, the Final Safety Analysis for the National Ignition Facility (NIF) and

contributions to the national High Average Power Laser (HAPL) program. HAPL is a national effort bringing together national labs, universities and industry to develop the science and technology for laser-driven inertial confinement fusion.

Latkowski received the award and delivered a talk on "LIFE: Laser Inertial Fusion-Based Energy" at Fusion Power Associates' 30-Year Anniversary Annual Meeting and Symposium, Dec. 2-3, in Washington, D.C.

For more, go to https://newsline.llnl.gov/_rev02/articles/2009/dec/12.11.09-latkowski.php

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:



Let it snow: A frigid storm last week brought snow to the Altamont Pass as well as the Livermore foothills.

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