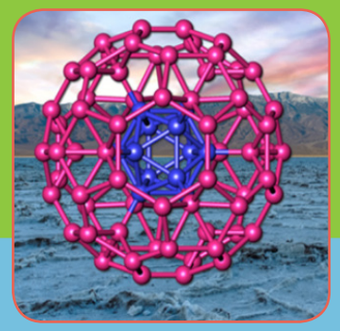
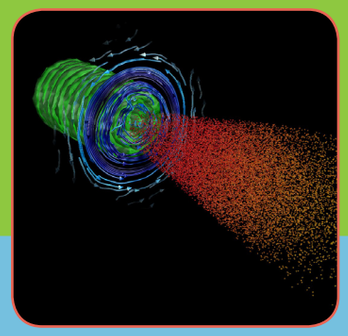
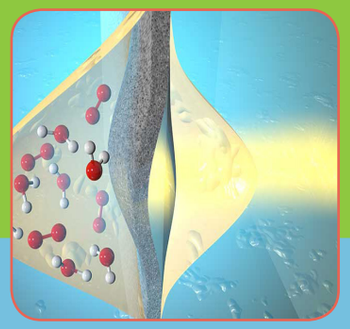
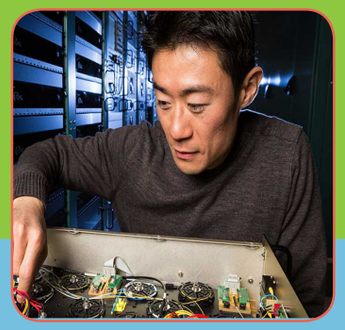
NEWSLINE

2013 YEAR IN REVIEW

LAWRENCE LIVERMORE NATIONAL LABORATORY

CONTENTS

January 2
February 4
March 6
April 10
May 14
June 16
July 17
August 20
September 22
October 25
November 27
December 31
Awards & Recognition 34

This issue of *Newsline* was produced by the Public Affairs Office. It represents a sample of the science and technology, operations and people highlights of the year. It is available on the LLNL website.

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Continuing a tradition of technological success

In 2013, Lawrence Livermore National Laboratory continued on its six decades of scientific and technical achievement for national security, energy, the environment and basic science.

Livermore technological innovation in such areas as high performance computing, micro-technology and energy also contribute to the nation's global economic competitiveness and quality of life.

Below is a month-by-month list of accomplishments in Science & Technology, People, Operations and Awards.

JANUARY 2013

Science and Technology

An international collaboration, including researchers from Lawrence Livermore National Laboratory, discovers that the Earth's core formed under more oxidizing conditions than previously proposed.
Read more

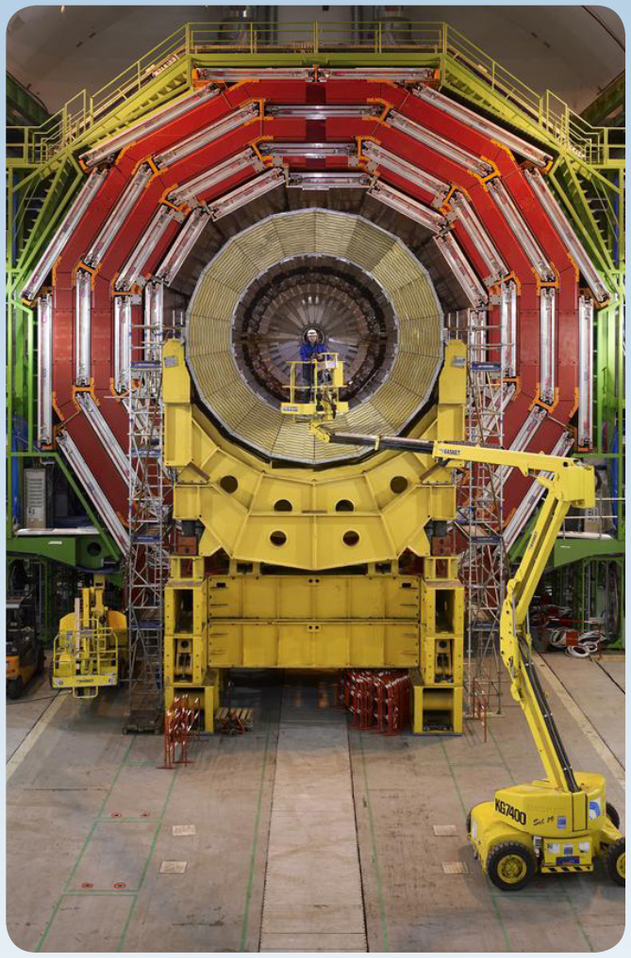
A new way of looking at a cell's surface reveals the distribution of small molecules in the cell membrane, changing the understanding of its organization.
Read more

In a study published in an edition of *Nano Letters*, the Laboratory's Mike Malfatti, Heather Palko, Ed Kuhn and Ken Turteltaub report on accelerator mass spectrometry measurements used to investigate the relationship between administered dose, pharmacokinetics and long-term biodistribution of carbon 14-labeled silica nanoparticles *in vivo*.
Read more

Quotables

"Rare earth metals and other critical materials are essential to manufacturing wind turbines, electric vehicles, advanced batteries and a host of other products that are essential to America's energy and national security."

–David Danielson, assistant secretary for Energy Efficiency and Renewable Energy



U.S. scientists, including researchers at Lawrence Livermore, play a significant role in advancing the theory of Higgs field and in discovering the particle (Higgs boson) that proves the existence of it. The research received the Nobel Prize in physics this year. The Compact Muon Solenoid detector is used for experiments to discover the Higgs boson.

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The Department of Energy launches a research hub that focuses on solutions to the domestic shortages of rare earth metals and other materials critical to U.S. energy security.
Read more

A consortium of scientists, including Lawrence Livermore's Gary Eppich of the Chemical Sciences Division, determine that the Sutter's Mill Meteorite is the most pristine sample yet collected of the rare Carbonaceous-Mighei chondrite (CM) class of meteorites.
Read more

Lawrence Livermore researchers develop a new simulation capability to model a classic plasma configuration.
Read more

People

Not one to be the center of attention, Tommy Smith, the Lab's Strategic Diversity Program director, is the focal point when many friends, co-workers and those whose lives he has touched gather to show their appreciation, affection and say goodbye as he retires after 35 years.
Read more

The Lab hosts a special speaker who is well known across the site — Tommy Smith, former Strategic Diversity Program director, recently retired after 35 years of service. In his introduction of Smith, Bill Goldstein, acting deputy director for Science and Technology, notes that Smith has "embodied the teachings of Martin Luther King Jr. in his own life and his work, and has made an impact on the direction of this Lab."
Read more

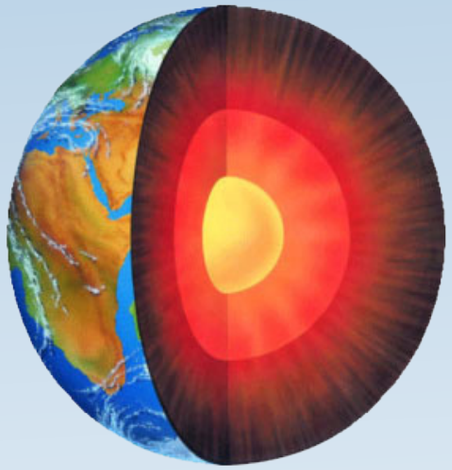
Bill Goldstein, acting deputy director for Science and Technology, is featured in a profile in the online publication of *Research Media Ltd*.
Read more

Erik Stenehjem, director of LLNL's Industrial Partnerships Office (IPO) for the past five years, takes a new job in a faraway place — the Kingdom of Qatar, north of Saudi Arabia.
Read more

Quotables

"It is awe-inspiring to work with such rare and interesting samples. The Sutter's Mill meteorite contains material that pre-dates our sun, so these samples represent quite an impressive history. Meteorite studies provide valuable insight into the early history of the solar system, and it was a pleasure to play a small role in one such study."

Gary Eppich, Chemical Sciences Division scientist



An international collaboration including researchers from Lawrence Livermore has discovered that the Earth's core formed under more oxidizing conditions than previously proposed.

University of California President Mark Yudof announces that he plans to step down in August, citing health issues.
Read more

State Sen. Ellen Corbett, representing District 10 in the East Bay, visits the Laboratory with members of her staff.
Read more

Operations

Representatives from LLNL, Lawrence Berkeley National Laboratory and Livermore-based state Innovation Hub i-GATE, take part in a panel discussion on "The Role of the Research Labs in Our Regional Economy" at the Contra Costa USA business forum in Concord.
Read more

LLNL launches a Bring Your Own Device (BYOD) program. BYOD allows employees the convenience of using their personal cell phone for official business.
Read more

The installation of an AT&T cellular antenna and associated hardware to provide cellular coverage to the General Services Area of Site 300 is completed.
Read more

The Laboratory explores the idea of launching a Laboratory Craigslist — an internal, self-service online listing of loanable or excess equipment — to improve how employees manage the reuse of property.
Read more

Quotables

"This is such an outstanding place. It is a place where we work on dreams."

— Tommy Smith, former Strategic Diversity Program director

FEBRUARY 2013

Science and Technology

Lawrence Livermore National Laboratory highlights its expertise in fusion energy and space exploration when the American Association for the Advancement of Science holds its annual meeting.
Read more

The U.S. Department of Energy announces that its support for a decade of revolutionary research at LLNL and other national labs has contributed to the creation of the first ever retinal prosthesis — or bionic eye — to be approved in the United States by the U.S. Food and Drug Administration for blind individuals with end-stage retinitis pigmentosa.
Read more

A report issued by the National Research Council highlights the significant impact of developments in inertial fusion energy and recommends priorities for future research in this area.
Read more

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From left: Supervisor Scott Haggerty, Alameda County Board of Supervisors; and Eric Duoss, Engineering, discuss additive manufacturing.

An international team including LLNL scientists definitively measures the spin rate of a supermassive black hole for the first time.
Read more

After a two-year process, the Laboratory is recertified as a facility that can analyze samples collected during inspections under the Chemical Weapons Convention.
Read more

A Lawrence Livermore team works to improve lithium-ion battery performance, lifetime and safety.
Read more

People

Director Parney Albright selects William Goldstein as deputy director of Science and Technology. Goldstein had been serving in an acting capacity since September 2012.
Read more

In a letter to Department of Energy employees, Secretary Steven Chu highlights the tremendous progress of the last four years, and announces his decision not to serve a second term as secretary.
Read more

Operations

Lawrence Livermore National Security, which manages the Laboratory, distributes gifts of $10,000 each to five school districts in the neighboring cities of Livermore, Pleasanton, Dublin, San Ramon and Tracy in support of their respective science programs.
Read more

With strong support from Lawrence Livermore, the 2013 edition of the Richard Tapia Diversity in Computing Conference concludes the largest and most diverse meeting of its 12-year history in Washington D.C.
Read more

A new secret-level network is now available for LLNL programs. The Institution's Secret National Security Information (iSNSI) network connects LLNL programs with Department of Energy, Department of Defense, Department of Homeland Security and other sponsors needing to communicate and transfer data at this classification level.
Read more

TID launches a new online print service that allows employees to submit unclassified print jobs from the comfort of their offices and have them delivered to the

Quotables

"It's been a great deal of fun working with these young entrepreneurs. They're high energy, very intelligent and tenacious."

– Brandon Cardwell, i-GATE's vice-president for strategy and business development

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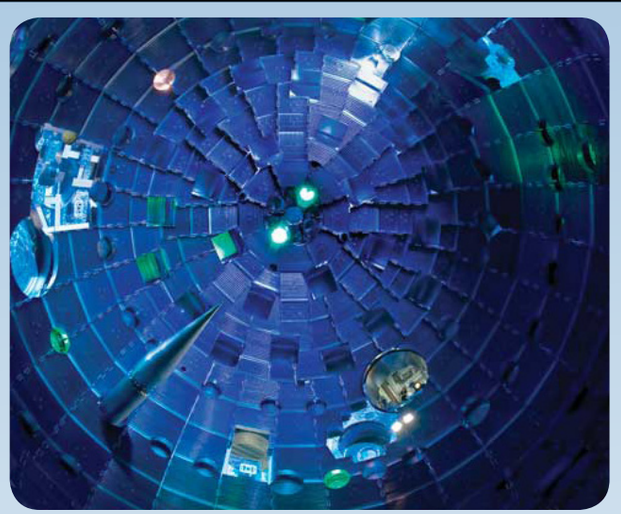

In 2013, the National Ignition Facility achieved record fusion neutron yields of 8,000 joules of neutron energy. This is a view from the bottom of the NIF target chamber.

location they specify.
Read more

LLNL employees may now stream Pandora audio to their desktops. The CIO and Cyber Security Program complete infrastructure upgrades that allow employees to audio stream.
Read more

The CIO program announces the general availability of iOS and Android smartphones and tablets for LLNL employees. Each device will be provided with the Good Technologies client that allows employees direct access email, calendaring, tasks and some internal websites without requiring VPN.
Read more

MARCH 2013

Science and Technology

Livermore researchers describe in detail the properties of the room temperature form of the element boron in the online edition of *Chemical Reviews.*
Read more

Laboratory scientists contribute to the latest results announced by CERN that provide further evidence that the subatomic particle discovered last year is the elusive Higgs boson, a particle at the heart of the Standard Model of particle physics.
Read more

Researchers at Lawrence Livermore National Laboratory perform record simulations using all 1,572,864 cores of Sequoia, one of the largest supercomputers in the world.

Quotables

"The Lab is the heart and soul of this community."

– Linda McKeever, executive director of Open Heart Kitchen

Read more

A team of international scientists, including a Lawrence Livermore astrophysicist, make the most detailed examination yet of the atmosphere of a Jupiter-size planet beyond our solar system.
Read more

Recognized as one of the "Top 10 2012 Science Breakthroughs of the Year" in *Science Magazine*, an international team of researchers, including LLNL physicist Matthias Frank and postdoc Mark Hunter, has for the first time used an ultra-intense X-ray laser to determine the previously unknown atomic-scale structure of a protein.
Read more

A team of researchers from Lawrence Livermore, Barnard College, Columbia University, University of Dhaka, Desert Research Institute and University of Tennessee finds that the arsenic in groundwater in Bangladesh is part of a natural process that predates any recent human activity, such as intensive pumping.
Read more

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Elizabeth Barbosa, a student in Computation, presents her poster, "Web-based Testing for an Environmental Information Management System," at the Richard Tapia Diversity in Computing Conference in Washington D.C.

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People

A team of Lab scientists visit the Navajo Nation Abandoned Mine Lands Reclamation Project in Shiprock, N.M. to conduct work on a joint project. The partnership develops an environmental and hydrological monitoring program for a uranium mine waste disposal cell in the Tse Tah area of northeast Arizona and several other mining areas.
Read more

Eight employees achieve Lean Six Sigma certifications. The Lab uses Lean and Six Sigma process improvement methods as a means to foster its continuous improvement culture.
Read more

Alameda County Supervisor Scott Haggerty and his Chief of Staff of Operations Dawn Argula tour the Additive Manufacturing Facility during a visit to the Laboratory.
Read more

A crew from Tri-Valley Community television films Fun with Science for a feature in a segment titled "Slice of Life," a half-hour show airing on Tri-Valley community television, Channel 30.
Read more

Director Parney Albright welcomes women from across the Lab at a networking event and reception to recognize Women's History Month as well as the achievements of Lab women in all fields.
Read more

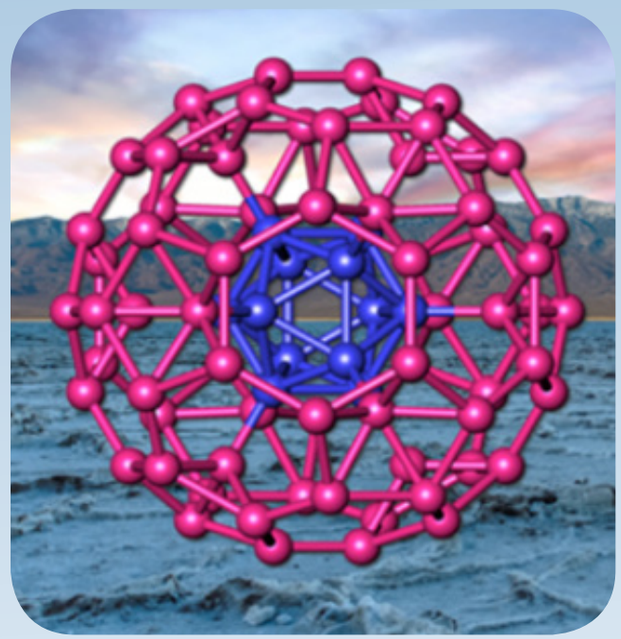
Astronauts Tammy Jernigan, deputy principal associate director for WCI, and Jeff Wisoff, principal associate director for NIF and Photon Science, present "Destination: Space Station and Beyond," at the Bankhead Theater in downtown Livermore.
Read more

Global Security's David Price is appointed to a two-year term as a member of the board of directors for the Institute of Hazardous Materials Management (IHMM).
Read more

Quotables

"High performance computing is a key to accelerating the technological innovation that underpins U.S. economic vitality and global competitiveness. Vulcan offers a level of computing that is transformational, enabling the design and execution of studies that were previously impossible, opening opportunities for new scientific discoveries and breakthrough results for American industries."

– Fred Streitz, HPC Innovation Center director



Livermore researchers describe in detail the properties of the room temperature form of the element boron, which are extremely complex. This ball-and-stick structural model of rhombohedral boron is shown in the foreground and a picture of Badwater Basin in California is shown in the background. The Badwater Basin salt flats contain high concentrations of evaporative minerals such as borax, an important boron-containing compound.

Maj. Gen. Margaret Woodward, U.S. Air Force, visits the Laboratory to familiarize herself with the Lab's missions, roles and capabilities, especially in the areas of nuclear weapons sustainment and surety.
Read more

The Laboratory hosts the 34th Tri-Valley Expanding Your Horizons conference at Las Positas College, giving more than 300 girls in grades 6 through 9 a peek at possible careers in science, technology, engineering and math (STEM).
Read more

Sixty-three cadets and midshipmen from the Reserve Officers' Training Corps visit the Lab for the annual ROTC Day, providing an opportunity for the officers to learn more about LLNL, its mission and internship opportunities.
Read more

In celebration of Women's History Month, Ellen Tauscher, former congressional representative and current member of the LLNS/LANS Boards of Governors, addresses the Laboratory and reflects on her career challenges.
Read more

Operations

The Laboratory hosts the "Additive Manufacturing Forum for Manufacturers" to inform manufacturers of the opportunities additive manufacturing can provide to their businesses and highlight the importance of additive manufacturing to the national economy and to California.
Read more

Quotables

"Whether your roles are in the scientific, technical or engineering arenas, or in administrative and operations areas, all your efforts contribute each day to the Lab's success."

– Director Parney Albright, during a Women's History Month reception

The website for the Recognition and Awards Program is updated to reflect all institutional award programs, as well as a new director-level award: Early-Mid Career Recognition, which recognizes and celebrates extraordinary ST&E accomplishments, leadership and the promise for future excellence demonstrated by scientists and engineers early in their careers (i.e., between five and 20 years since terminal degree).
Read more

The Laboratory completes the Software Quality Assurance (SQA) Implementation Plan for the new requirement to apply SQA to all software using a graded approach.
Read more

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NEWSLINE: LOOKING BACK AT 2013

Ellen Tauscher visits the Lab in celebration of Women's History Month.

The Lab's Bicycle Helmet Program kicks off by offering helmets to employees at no cost to promote a safe work environment.
Read more

The Laboratory's patent staff works at a high tempo to protect the Lab's intellectual property as the most substantive changes to United States patent law in six decades approaches.
Read more

In collaboration with the Industrial Partnerships Office, the Keiretsu Forum holds its Academy Capital Access Series program for budding entrepreneurs at the High Performance Computing Innovation Center.
Read more

The CFO Directorate establishes a monthly newsletter titled "CFO Hot Topics," which focuses on a different timekeeping topic each month to help employees better understand LLNS charging practices.
Read more

The Laboratory rolls out TxtWire, a new LLNL employee notification system to provide Lab employees with nearly instantaneous emails, cellular texts and digitized voice notifications regarding the Laboratory in the event of an after-hours emergency.
Read more

The Engineering Safety Steering Committee asks employees to submit safety suggestions to its website for a chance to win a $100 safety award.
Read more

Quotables

"The best people are working here in science, technology, engineering and math...."

– Ellen Tauscher, former congressional representative

The Laboratory announces the implementation of the proposed salary reduction/closure day program will be delayed.
Read more

The Laboratory deploys a security certificate to all Firefox browsers on Windows computers. The certificate deployment is to prepare for a change to LLNL's network that increases network security when accessing the Internet (external websites).
Read more

The Department of Energy updates a variety of work processes called Differing Professional Opinion within DOE O 442 2, Differing Professional Opinion for Technical Issues Involving Environmental, Safety, and Health Concerns for employees (including DOE federal, contractor and subcontractor employees) to raise concerns so that they are assessed and appropriate actions are taken.
Read more

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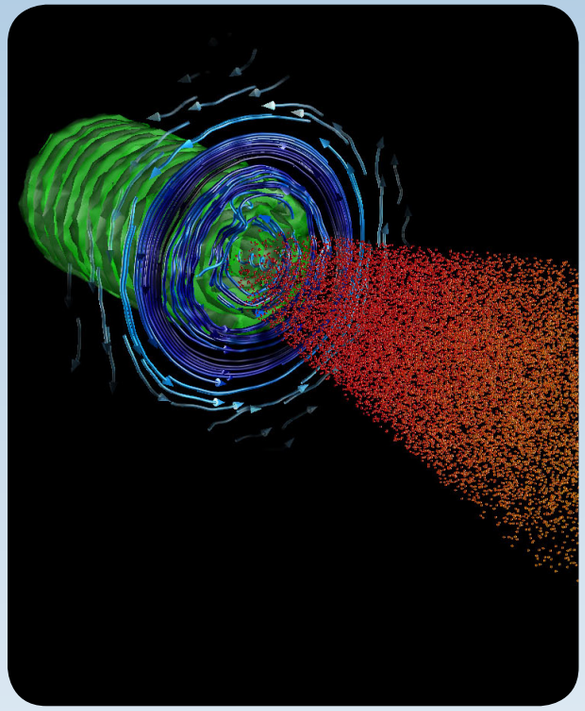

The OSIRIS simulation on Lawrence Livermore's Sequoia showed interaction of a fast-ignition-scale laser with a dense DT plasma. The laser field is shown in green, the blue arrows illustrate the magnetic field lines at the plasma interface and the red/yellow spheres are the laser-accelerated electrons that will heat and ignite the fuel.

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Director Parney Albright issues a call for proposals for the FY14 Laboratory Research and Development competition in the exploratory research, strategic initiative and Laboratory-wide categories.
Read more

The Laboratory institutes a new website tool for the Task Identification Process, which allows employee responses to safety-related questions (tasks-hazards-controls) to be formatted into a Job Hazard Analysis report.
Read more

A new messaging Web interface is introduced, replacing the well-known pager.llnl.gov Web interface with functionality that combines message capabilities to LLNL pagers, SkyTel pagers, LLNL-managed cell phones and registered personal cell phones.
Read more

APRIL 2013

Science and Technology

Lawrence Livermore signs an agreement to work with the Center for Urban Science and Progress so that researchers from Lawrence Livermore National Laboratory and New York University can address some of the pressing problems in major urban centers, such as transportation and clean air.
Read more

The Laboratory announces that abstracts are being sought for the Bacillus ACT 2013 conference sponsored by LLNL's Global Security Principal Directorate. The bi-annual conference allows members of the regional scientific community to present their work and meet more than 300 global peers.
Read more

Scientists at Lawrence Livermore and UC Berkeley discover new materials to capture methane, the second highest concentration greenhouse gas emitted into the atmosphere.
Read more

Quotables

"Scientists and engineers come to work at the national laboratories not because they want to get wealthy, but because they want to have an impact. When you do technology transfer, you have an opportunity to broaden the scope of the impact you have. The very best technology you have sitting on your lab bench has little impact compared to one that's been commercialized."

— Rich Rankin, the leader of LLNL's Industrial Partnerships Office

An international team including Lawrence Livermore scientists definitively measures the spin rate of a supermassive black hole for the first time. This artist's concept illustrates a supermassive black hole with millions to billions times the mass of our sun. Image courtesy of NASA/JPL-Caltech.

Computer scientists at Lawrence Livermore and Rensselaer Polytechnic Institute set a high performance computing speed record that opens the way to the scientific exploration of complex planetary-scale systems.
Read more

The National Nuclear Security Administration announces that its Sequoia supercomputer at Lawrence Livermore has completed its transition to classified computing in support of the Stockpile Stewardship Program, which helps the United States ensure the safety, security and effectiveness of its aging nuclear weapons stockpile without the use of underground testing.
Read more

Xavier Mayali and Jennifer Pett-Ridge, along with collaborators from Oak Ridge and Oregon State University, receive a $1 million grant from the Gordon and Betty Moore Foundation Marine Microbiology Initiative to study marine microbes' link to the carbon cycle.
Read more

A team of LLNL scientists explores uranium-transuranium-zirconium and uranium-transuranium-molybdenum alloys as prospective fuels for advanced fast breeder reactors. The team's results appear in the *Journal of Nuclear Materials.*
Read more

People

Steve Bohlen is selected to sit on the Hydraulic Fracturing Research Advisory Panel, a new advisory panel formed by the Environmental Protection Agency (EPA) to peer-review research on hydraulic fracturing.
Read more

The Department of Energy highlights a number of LLNL women scientists and engineers in a website feature, called "Women @ Energy: Innovators in Science, Technology, Engineering and Mathematics (STEM)."
Read more

Nick Williams is selected as a finalist in the 2013 Flame Challenge, an international contest that asks scientists to communicate complex science in ways that interest and inform an 11-year-old. This year's challenge question "What is time?" prompted Williams and hundreds of other scientists from around the globe to respond with answers.
Read more

Quotables

"How can you make cities safer, more efficient, more secure and improve the quality of life for their inhabitants?"

– Nancy Suski, deputy program director for Domestic Security

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Lawrence Livermore signs an agreement to work with the Center for Urban Science and Progress.

Supercomputing pioneer Gordon Bell addresses the Lab in a presentation titled "The Supercomputer Class Evolution: A Personal Perspective," as part of the Director's Distinguished Lecturer Series.
Read more

Operations and Business Principal Associate Director Don Boyd announces his plans to retire from the Laboratory.
Read more

Rudy Barnes is hired as the Laboratory's new director of Washington Operations. Barnes brings strong national security policy expertise to this new position.
Read more

Operations

Director Parney Albright announces a reorganization of leadership for some of the Lawrence Livermore's national security programs.
Read more

Jeffrey Atherton is named director of the National Ignition Facility, the world's largest and most energetic laser, as it transitions to a user facility.
Read more

The California Energy System for the 21st Century (CES-21) Board of Directors convenes a public meeting at Livermore Valley Open Campus to begin the process of reviewing different aspects of the pending collaboration project that seeks to find and implement improvements to California's massive electric grid.
Read more

Quotables

"The team's findings are the first steps in developing methods for predicting which viral species are most likely to jump from animals to humans and potentially cause outbreaks of diseases."

– Lab researcher Monica Borucki

MathWorks offers complimentary MATHLAB seminars to focus on how to get the most out of MATHLAB and Simulink for technical computing, including test and measurement, data analysis, code generation and model-based design principals.
Read more

The LLNL Library hosts its annual Information Fair in the Main Library, offering a chance for employees to see some of the valuable services the Library provides and to interact directly with representatives from professional societies and services.
Read more

The fellowship named for pioneering Lawrence Livermore computational scientist George Michael seeks exceptional Ph.D. students whose research focus is on high-performance computing applications, networking,

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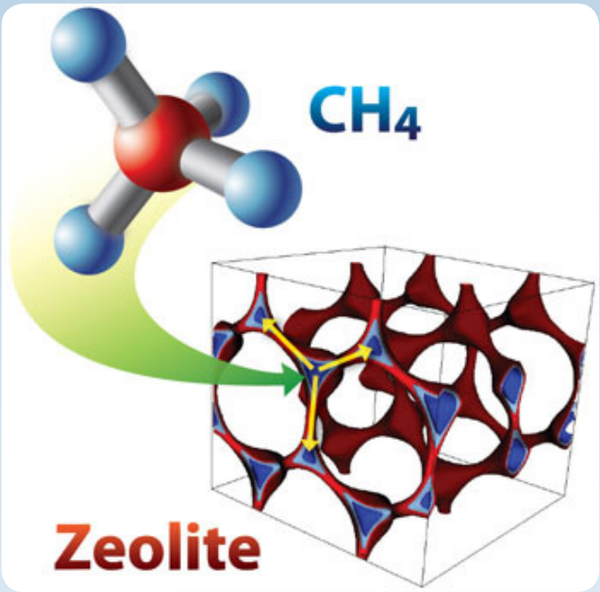

Lawrence Livermore and UC Berkeley scientists discover new materials to capture methane, the second highest concentration greenhouse gas emitted into the atmosphere. The illustration shows methane capture in the zeolite SBN.

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storage or large-scale data analysis using the most powerful computers currently available.
Read more

The Lab celebrates Earth Week, April 22-25, with several activities: the showing of the award-winning documentary "Bag It," offering personal document shredding, previewing the popular LLNL/Sandia Farmers Market and presenting the LLNL Author Series.
Read more

The Lab hosts a series of meetings on nuclear weapons efforts executed in partnership between the United Kingdom and the United States. The NNSA and DoD lead a governance meeting known as the U.S. and U.K. Warhead Second Level.
Read more

The Emergency Programs Organization and the Decontamination and Waste Treatment Facility conduct an emergency response exercise.
Read more

LLNL is recognized by the National Safety Council for its strong and improving safety performance in 2012. First, the Laboratory exceeded 2 million work hours without a lost time injury during the period Feb. 15-April 18. Second, LLNL was recognized for overall significant improvement in safety performance for calendar year 2012 by reducing the Lost Work Day frequency rate by more than 25 percent.
Read more

The Security Organization partners with the Livermore Police Department (LPD) and starts a pilot program to provide limited access to LLNL's main site by on-duty LPD patrol vehicles.
Read more

Get Active, cosponsored by WorkingWell@LLNL, Work-Life Programs and LLESA, kicks off the campaign to encourage employees to get moving.
Read more

Quotables

"This is a pivotal time for this field. Experimental results obtained at NIF have given us confidence that our inertial confinement fusion program is making great progress. We have demonstrated self-heating of an ignition target. I am looking forward to working with others to bring to fruition the 50-year goal of fusion energy."

– Edward Moses, former NIF director, on his new position

Lawrence Livermore's Sequoia supercomputer is one of the world's most powerful computational systems.

MAY 2013

Science and Technology

The California Energy Commission awards $1.7 million to a partnership between LLNL and Cool Earth Solar Inc. to conduct a community-scale renewable energy integration demonstration project at the Livermore Valley Open Campus.
Read more

LLNL scientist William Cassata finds that new evidence from ancient lunar rocks suggests that the moon's long-lived dynamo — a molten, convecting core of liquid metal that generated a strong magnetic field — lasted 160 million years longer than originally estimated and was continuously active until well after the final large impacts.
Read more

The distortion of the ancient shoreline and flooding surface of the U.S. Atlantic Coastal Plain are the direct result of fluctuations in topography in the region and could have implications for understanding long-term climate change, according to a new study.
Read more

LLNL scientists discover and demonstrate a new technique to remove and store atmospheric carbon dioxide while generating carbon-negative hydrogen and producing alkalinity, which can be used to offset ocean acidification.
Read more

Through experiments and simulations, a team of LLNL scientists find that twin boundaries with good electrical conductivity and a strengthening mechanism in materials may not be so perfect after all.
Read more

Quotables

"In the spirit of what Livermore is good at, this work was born out of the fierce competition of ideas of how to fix the problem, but then coming together as a team to move the best ideas forward."

– Omar Hurricane, LLNL scientist on the National Ignition Facility campaign

People

Livermore high school students visit the Lab for the Department of Energy's (DOE) IT Job Shadow Day. This is the first time LLNL participates in the event that aims to enlighten local high school seniors about summer internships as well as careers in information technology (IT) at LLNL and other DOE facilities.
Read more

Guest speaker Mohammad Qayoumi discusses how to remove the obstacles in STEM (science, technology, engineering and math) education at an Asian Pacific American Heritage Month presentation.
Read more

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The California Energy Commission awards $1.7 million to a partnership between Lawrence Livermore and Cool Earth Solar to conduct a renewable energy demonstration project at the Livermore Valley Open Campus. Above is the concentrator photovoltaic (CPV) system in the field. Photo courtesy of Cool Earth Inc.

Employees bask in the sun while enjoying ethnic food, music and entertainment during the annual Asian Pacific American Heritage Month festival held outside the Central Cafe.
Read more

Marinda Wu, president of the American Chemical Society, speaks about turning challenges into opportunities as part of the Director's Distinguished Lecturer Series and the Lab's recognition of Asian Pacific American History Month.
Read more

Six Lab employees, some newly appointed, serve on the UNCLE Credit Union board of directors and supervisory committee.
Read more

Congressman Ken Calvert visits the Lab for tours and briefings.
Read more

Operations

LLNL offers a voluntary separation program for up to 600 employees. The Self-Select Voluntary Separation Program (SSVSP) is available to all career employees and is a means to address budget challenges in fiscal year 2014.
Read more

LLNS releases a request for information from parties interested in potential leases at the planned Livermore Valley Open Campus (LVOC).
Read more

Quotables

"The important implication of this discovery is that the moon possessed a magnetic field much later than would be expected for a body of its size."

–LLNL scientist William Cassata

"Star Trek: Into Darkness," filmed at the National Ignition Facility with the approval of the Department of Energy, debuts in theaters.
Read more

The Turbulence Analysis and Simulation Center in the Computational Engineering Division is now open for business and ready to serve Laboratory research programs and to work with partners in industry.
Read more

The Lab begins its annual controlled burn at Site 300.
Read more

The Ethics Office kicks off a communication campaign.
Read more

A Bay Area start-up company founded by University of California, Berkeley students is given a helping

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Doug East of Computation explains the supercomputer storage area to local high school students during DOE IT Job Shadow Day at the Lab.

hand by a regional public-private partnership designed to support technology start-ups.
Read more

JUNE 2013

Science and Technology

LLNL's 20 petaflops Sequoia supercomputer retains its No. 1 ranking on the Graph 500 list, a measure of a system's ability to conduct analytic calculations — finding the proverbial needle in the haystack.
Read more

LLNL scientists find that icy comets that crashed into Earth billions of years ago could have produced life-building organic compounds, including the building blocks of proteins and nucleobase pairs of DNA and RNA.
Read more

The 5 petaflops Vulcan supercomputer becomes available for collaborative work with industry and research universities to advance science and accelerate the technological innovation at the heart of U.S. economic competitiveness. The availability of Vulcan effectively raises the amount of computing at LLNL available for external collaborations by an order of magnitude.
Read more

LLNL researchers break the record for tracking the movement and concentration of carbon dioxide in a geologic formation using the world's deepest Electrical Resistance Tomography system. The research provides insight into the effects of geological sequestration to mitigate the impact of greenhouse gases.
Read more

Lawrence Livermore researchers for the first time create movies of irreversible reactions that occur too rapidly to capture with conventional microscopy.
Read more

Quotables

"Our simulations of dynamic topography of the Eastern Seaboard have implications for inferences of global long-term sea-level change."

– LLNL geophysicist Nathan Simmons

People

Lori Souza is appointed to the Las Positas College Foundation board.
Read more

John Grotzinger, project scientist for the Mars Science Laboratory Mission Team, takes the audience on an out-of-this world tour of Mars during a Director's

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John Grotzinger, project scientist for the Mars Science Laboratory Mission Team, speaks at a presentation to Lab employees.

Distinguished Lecturer Series presentation, "Curiosity's Mission of Exploration at Gale Crater."
Read more

Participants of the Lab's Get Active program gather to celebrate their achievements at a potluck lunch. The event wraps up the eight-week program, now in its seventh year.
Read more

Operations

Laboratory employees and city officials celebrate the discovery of the two heaviest elements on the periodic table — 114, Flerovium, and 116, Livermorium — during a daylong celebration.
Read more

Auditors visit LLNL to determine if the Lab's Quality Management System is in conformance with the International Standard Organization (ISO) 9001, Quality Management standard. The Lab remains ISO 9001 certified.
Read more

The Project Management, Engineering and Construction (PMEC) Department of O&B's Facilities and Infrastructure Directorate announces consulting services that can help deliver value-added engineering and construction services for LLNL projects.
Read more

LLNL conducts a safety culture survey for employees. As part of NNSA/DOE requirements, the survey aims to measure the behaviors, attitudes and values of workers and to ensure that employees have the ability to raise safety questions when they occur.
Read more

Quotables

"We not only found a way to remove and store carbon dioxide from the atmosphere while producing valuable H2, we also suggest that we can help save marine ecosystems with this new technique."

– LLNL visiting scientist Greg Rau

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JULY 2013

Science and Technology

Americans use more natural gas, solar panels and wind turbines and less coal to generate electricity in 2012, according to the most recent U.S. energy charts released by LLNL. Each year, the Laboratory releases energy flow charts that track the nation's consumption of energy resources.
Read more

The use of plasmonic black metals could someday provide a pathway to more efficient photovoltaics -- the use of solar panels containing photovoltaic solar

LLNL's Bruce Goodwin and research staff member Eric Duoss (back) explain additive manufacturing processes to Congressman Ken Calvert, while Christie Schomer of Congressional Affairs looks on.

cells -- to improve solar energy harvesting, according to researchers at Lawrence Livermore.
Read more

While many scientists believe life may have evolved from a primordial soup here on Earth, LLNL's Nir Goldman has another idea: Comets may have brought the building blocks of life to Earth.
Read more

A new technology developed at Lawrence Livermore with clever algorithms and a tiny microarray can identify thousands of pathogens in 24 hours. This means that using the Lawrence Livermore Microbial Detection Array for identifying viruses, bacteria, fungi and other disease-causing pathogens is faster and cheaper than most other methods.
Read more

LLNL and Swedish scientists announce that the best evidence so far for the lifelong production of new neurons in the brain comes from data based on nuclear fallout. The reassuring conclusion is that an average adult makes 1,400 new cells every day in the hippocampus, the brain region crucial for memory and learning.
Read more

From developing the first accelerator mass spectrometer for use in the biology field to tracking radionuclides from the Dai-ichi Nuclear Power Plant disaster, the Laboratory's Center for Accelerator Mass Spectrometry (CAMS) celebrates 25 years in the spotlight of not only dating ancient artifacts but solving global challenges.
Read more

Quotables

"We conclude that neurons are generated throughout adulthood and that the rates are comparable in middle-aged humans and mice, suggesting that adult hippocampal neurogenesis may contribute to human brain function."

– LLNL physicist Bruce Buchholz, who works in the Lab's Center for Accelerator Mass Spectrometry

The Laboratory's Don Felske, Walter Dekin and Sean Ford travel to the corners of the globe to train as on-site surrogate inspectors for the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization. Training is held in Austria, Jordan, South Korea and, most recently, Hungary.
Read more

People

Rich Rankin is named the new leader of LLNL's Industrial Partnerships Office. He comes to Livermore after a successful 35-year career at Idaho National Laboratory, where he held four different positions as a technology transfer professional, and

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Lawrence Livermore National Laboratory Director Parney Albright (left) accepts a proclamation from Livermore Mayor John Marchand during the naming of 116 S. Livermore Ave. as Livermorium Plaza. With the discovery of Livermorium, the city of Livermore becomes one of only six cities to have an element named after it on the periodic table.

as a chemical scientist who developed an instrument that was commercialized.
Read more

Steve Grey, leader of the Lab's American Indian Program, is selected as a member of the management committee of the newly created Navajo Transitional Energy Company, LLC.
Read more

Intern Eric Browy, an army veteran seriously injured in Iraq, goes to work in LLNL's Target Fabrication group, where he begins to fulfill his career goal of working in R&D.
Read more

Department of Homeland Security Secretary Janet Napolitano is nominated for appointment as the 20th president of the University of California.
Read more

Dori Ellis is named LLNL's new associate director-at-large for Interagency Mission Enhancement.
Read more

Rep. Chaka Fattah visits the Lab for a series of briefings and tours.
Read more

Participants and administrators with the California Council on Science and Technology Policy Fellowship program visit Sandia and LLNL for tours of various facilities.
Read more

Quotables

"The flux of organic matter to Earth via comets and asteroids during periods of heavy bombardment may have been as high as 10 trillion kilograms per year, delivering up to several orders of magnitude greater mass of organics than what likely pre-existed on the planet."

– LLNL chemist Nir Goldman

Operations

LLNL holds a special summer series of its popular "Fun with Science" program, presented by the award-winning Nick Williams. The program is designed for children at the fifth grade level (though it also can be enjoyed by children younger and older).
Read more

Teachers from California and Hawaii seeking real-world knowledge to teach biotech and computational modeling attend the LLNL Teacher Research Academy.
Read more

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Weapons testing data helps LLNL scientists determine that the brain makes new neurons into adulthood.

The Emergency Programs Organization conducts the annual full-scale exercise in the area of Avenue B, Fifth Street and West Inner Loop Road.
Read more

Walkers, joggers and cyclists have a better lit pathway north of East Avenue on the south side of LLNL with the installation of 15 solar-powered LED lights.
Read more

Tyler Paniagua and Sam Wickizer are machinists who spend countless hours in the shop making research tools and products that engineers and other scientists depend on to conduct innovative research. Their hard work is honored when they graduate from the LLNL Engineering Directorate's Machinist Apprentice Program.
Read more

Quotables

"The team's findings are the first steps in developing methods for predicting which viral species are most likely to jump from animals to humans and potentially cause outbreaks of diseases."

– Monica Borucki, LLNL scientist who discovered that viruses could adapt to certain conditions, which could help it reach a human host

AUGUST 2013

Science and Technology

Efforts to combat diseases such as severe acute respiratory syndrome and Middle East respiratory syndrome coronavirus are spearheaded by a team of LLNL scientists. The Lab researchers make promising new discoveries that provide insight into the emergence of inter-species transmittable viruses.
Read more

A recently discovered mineral, Hutcheonite, is named after LLNL meteorite researcher Ian Hutcheon, and can be seen only with a high-powered scanning electron microscope.
Read more

LLNL's National Ignition Facility focuses all 192 of its ultra-powerful laser beams on a tiny deuterium-tritium filled capsule. In the nanoseconds that follow, the capsule implodes and releases a neutron yield of approximately 8,000 joules of neutron energy — approximately three times NIF's previous neutron yield record for cryogenic implosions.
Read more

LLNL's High Performance Computing Innovation Center and the Science and Technology Facilities Council in the United Kingdom sign a memorandum of understanding to collaboratively expand industry's use of supercomputing to boost economic competitiveness in the two countries.
Read more

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Richard Rankin, named director of LLNL's Industrial Partnerships Office, aims to foster the commercialization of LLNL technologies.

In a series of campaigns led by LLNL's Yuan Ping using the OMEGA laser at the Laboratory for Laser Energetics at the University of Rochester, researchers compress iron up to 5.6 million atmospheres (5.6 million times the pressure at the Earth's surface), and it remains a solid. The experiment sets a record pressure for solid iron.
Read more

People

Director Parney Albright selects Charles Verdon as principal associate director for Weapons and Complex Integration. Verdon had served in this position in an acting capacity since April 2013.
Read more

LLNL hosts Bernard Gray, the chief of Defence Materiel from the UK Ministry of Defence. He is briefed on many areas of LLNL and the UK Atomic Weapons Establishment (AWE) collaborations under the Mutual Defense Agreement on Atomic Weapons.
Read more

California Public Utilities Commissioner Carla Peterman visits the Lab to listen to briefings on energy and tour the High Performance Computing Facility and the National Atmospheric Release Advisory Center.
Read more

New state Assembly member Susan Talamantes Eggman visits the Lab and tours the Additive Manufacturing Lab and National Ignition Facility. Eggman's itinerary also includes briefings about the Lab's energy, environment and agricultural research efforts.
Read more

Quotables

"My sincere congratulations to the winners of this year's R&D 100 Awards. The scientists and engineers who developed these award-winning technologies at the cutting edge facilities across our national labs are keeping Americans at the forefront of the innovation community and assuring our nation's economic competitiveness and national security."

— U.S. Department of Energy Secretary Ernest Moniz

Leaders in additive manufacturing research at LLNL's Engineering Directorate host two visitors from the National Additive Manufacturing Innovation Institute (NAMII): Edward Morris, the director of NAMII; and Bill Macy, NAMII's deputy director of technology.
Read more

Congressman Eric Swalwell and local dignitaries celebrate the strong commitment to employ returning veterans and the supportive efforts of LLNL and

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LLNL cosmochemist Ian Hutcheon holds a piece of the meteorite Allende, which contains some of the oldest objects in the solar system. A new mineral, hutcheonite, is named in honor of Hutcheon.

Las Positas College to help vets integrate into the workforce through education and work experience.
Read more

Director Parney Albright announces the selection of Doug East as the Laboratory's chief information officer (CIO). As CIO, he serves as a member of the Senior Management Team and reports to the deputy director.
Read more

Operations

In an effort to ensure employees are prepared for growth in the future, the Laboratory adopts changes to the Integrated Performance and Pay Program to enhance the quality of performance management with an increased emphasis on development and growth.
Read more

During his first visit to the Lab as the acting administrator for the National Nuclear Security Administration, Bruce Held speaks with employees during a special all hands talk.
Read more

A new employee is added to the roster of those working on Level 2 of the National Ignition Facility's Target Bay. His name is D2T3, and his duties are a bit different than his colleagues'. D2T3 — named for the hydrogen isotopes that serve as fuel for NIF's fusion targets — is a radiation-detecting, remote-controlled robot.
Read more

To meet the needs of those seeking scientific equipment, furniture or other items, the Lab launches a new internal Craigslist-like service called ReUseIt. ReUseit is an online self-service application that facilitates peer-to-peer awareness and communication of available property and material for reuse, which should save on unnecessary procurement costs.
Read more

Quotables

"It is likely to be a permanent cut (in nuclear energy) as four nuclear reactors recently went offline (two units at San Onofre in California as well as the power stations at Kewaunee in Wisconsin and Crystal River in Florida). There are a couple of nuclear plants under construction, but they won't come on for another few years."

— LLNL energy systems analyst A.J. Simon

SEPTEMBER 2013

Science and Technology

The "Current Challenges in Computing 2013: Biomedical Research" conference brings together

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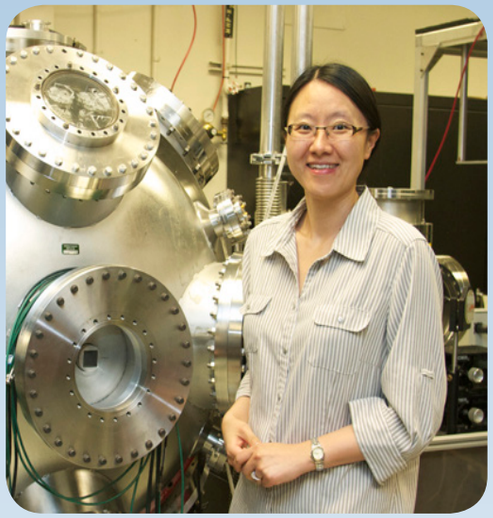

LLNL physicist Yuan Ping stands next to the target chamber in the Europa laser bay, part of the Jupiter Laser Facility. She wins a Department of Energy Office of Science Early Career Research Program award for her work in fusion research.

thought leaders in biomedicine from government, academia and industry to discuss opportunities for accelerating the development of biomedical tools using supercomputers.
Read more

A multi-institutional team of researchers announces that a Laboratory-developed biological detection technology has been employed as part of an international collaboration that has detected a virus in bladder cancers.
Read more

The Office of Science and Technical Information releases SciTech Connect, a portal that makes Department of Energy research and development results publicly available free of charge.
Read more

Thanks to a group of Laboratory scientists, researchers working in the field of half-metallic materials get a new information resource. LLNL's John Pask and Lin Yang along with CY Fong of UC Davis release "Half-Metallic Materials and Their Properties," the first comprehensive book on the subject.
Read more

Researchers from Lawrence Livermore and Florida-based Chemergy Inc. announce plans to demonstrate an innovative bioenergy technology that converts wastewater treatment plant byproducts into hydrogen gas to produce electricity.
Read more

A number of LLNL researchers help organize and present at the International Conference on Inertial Fusion Sciences and Applications.
Read more

Quotables

"I'm not in the business of discovering minerals. But I am interested in dating when these minerals formed and what happened to them several million years after they formed."

– LLNL Cosmochemist Ian Hutcheon

A new report by scientists from LLNL and six other scientific institutions concludes that human influences have directly impacted the latitude/altitude pattern of atmospheric temperature.
Read more

LLNL, through Lawrence Livermore National Security, LLC, is awarded more than $45 million to develop and deliver a state-of-the-art laser system for the European Union's Extreme Light Infrastructure Beamlines facility, under construction in Dolni Brezany near Prague in the Czech Republic.
Read more

Lawrence Livermore researchers give presentations at the International Conference on Bacillus anthracis, *B. cereus and B thuringiensis* (Bacillus ACT 2013).
Read more

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Acting administrator for the National Nuclear Security Administration Bruce Held addresses employees.

People

Julio Friedmann is appointed deputy assistant secretary for Clean Coal in the Department of Energy's Office of Fossil Energy.
Read more

LLNL Engineering Directorate Associate Director and LLLWA member Monya Lane speaks about teamwork at the Lawrence Livermore National Laboratory Women's Association scholarship fundraising luncheon.
Read more

Lori Souza is selected as associate deputy director, Operations.
Read more

Tony Baylis is named the new director of the Office of Strategic Diversity Programs.
Read more

Three students from Historically Black Colleges and Universities participate in a two-week plasma physics summer school at LLNL.
Read more

Fifteen students complete high energy density physics internships in plasma physics, advanced computer architectures and other Weapons and Complex Integration (WCI) research areas.
Read more

Director Parney Albright addresses the Livermore Chamber of Commerce.
Read more

Quotables

This agreement builds on the strong and enduring alliance between our countries in matters of security and economic cooperation. The common goals we share and complementary strengths we bring to this collaboration will allow our HPC Innovation Center and Daresbury's Hartree Centre to exploit their clear synergies to our mutual benefit."

– Bruce Held, National Nuclear Security Administration (NNSA) acting administrator, on the partnership to apply high performance computation to economic competitiveness.

Operations

Results of LLNL's "Safety Conscious Work Environment Self-Assessment" are published in a report made available to employees.
Read more

LLNL increases the number of contracts awarded to small businesses for the third straight year.
Read more

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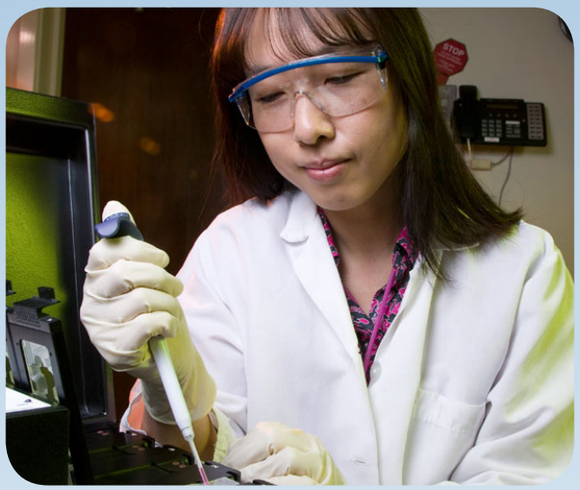

Livermore Lab biologist Crystal Jaing prepares a Microbial Detection Array slide, the primary detection technology used in an international study of bladder cancer samples.

Director Parney Albright recognizes 11 teams of employees with the Director's Institutional Award of Excellence.
Read more

Following a large wildfire on Mount Diablo, the Air District advises residents in areas affected by the smoke, including the Tri Valley, to be cautious and avoid unnecessary outdoor activities.
Read more

NNSA hosts a Target Fabrication Industry Day in LLNL's Livermore Valley Open Campus.
Read more

Following a rigorous review of facilities and services, the Lab's Health Services Department (HSD) earns another three-year accreditation by the Accreditation Association for Ambulatory Health Care (AAAHC).
Read more

In an effort to strengthen and showcase the long-standing relationship between Livermore Laboratory and the University of California, the UC Board of Regents holds a public meeting at the Laboratory.
Read more

OCTOBER 2013

Science and Technology

A team of Lawrence Livermore National Laboratory researchers announces it has pioneered the use of a long-standing technology for a new application — analyzing the chemical composition of uranium samples.
Read more

Quotables

"The creative process where people put their ideas together and feed off each other, coming up with creations that couldn't happen otherwise, is very powerful. It's a strength that will continue to be necessary for competitive advantage in the future."

–Engineering Associate Director Monya Lane

In a series of experimental campaigns at the University of Rochester's Omega laser, researchers led by Laboratory scientist Federica Coppari, in collaboration with Princeton University, study the structure of magnesium oxide up to 900 GPa (9 million atmospheres).
Read more

DoD announces that LLNL served as technical lead and integrator on an important test to assess a new conventional warhead designed by the Lab. Dave Hare, Livermore's program manager of the test, called it an "unequivocal success."
Read more

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The High Repetition-Rate Advanced Petawatt Laser System, or HAPLS, will be designed, developed, assembled and tested at Lawrence Livermore. It will be transferred to the ELI Beamlines facility in 2016, where it will be commissioned for use by the international scientific community.

Research projects ranging from the predictive assessment of pharmacological cardiotoxicity to understanding dark matter in the universe are among those allocated time on Laboratory supercomputers under the recently announced Institutional Unclassified Computing Grand Challenge Awards.
Read more

After its first run of more than three months, operating a mile underground in the Black Hills of South Dakota, a new experiment named LUX proves itself the most sensitive dark matter detector in the world.
Read more

People

Anantha Krishnan is appointed director of the Office of Mission Innovation.
Read more

In a National Ignition Facility leadership change, Edward Moses, the principal associate director for NIF and Photon Sciences, takes a new position leading a two-year effort to explore the science and applications of ignition. Jeff Wisoff is appointed acting principal associate director.
Read more

Nevina Kinlahcheeny, an employee with the Office of Strategic Diversity Programs, is recognized by New Mexico Public Regulatory Commissioner Theresa Becenti-Aguilar for being an outstanding professional and role model in the community at a special meeting held in Farmington, N.M.
Read more

Quotables

"Lawrence Livermore National Laboratory takes a back seat to no one. This [visit] is an extraordinary opportunity for the regents to see these unique facilities."

–Norman Pattiz, chair of the LLNS Board of Governors, on UC Regents meeting at LLNL

Glenn Fox is selected as the associate director for Physical and Life Sciences.
Read more

Parney Albright announces during an all hands presentation that he is stepping down as director of the Laboratory to pursue his broader interests and contributions to the U.S. national security enterprise.
Read more

Cecelia Larsen, one of the first LLNL employees, dies Oct. 19 at age 96.
Read more

Operations

The Emergency Management Department begins monthly testing of the Laboratory emergency voice alarm system.
Read more

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Greg Klunder, a chemist in LLNL's Forensic Science Center, examines a uranium ore concentrate sample with the aid of a near-infrared spectrometer.

Employees receive access to Facebook on Laboratory computers, part of the launch of an ambassador program that aims to improve morale and expand the reach of official LLNL messages by providing a safe way for employees to exhibit pride in their work.
Read more

The Lab announces it will continue operations despite the government shutdown.
Read more

The California Network for Manufacturing Innovation, which the Laboratory helped found, is officially designated as an Innovation Hub by the State of California.
Read more

The Laboratory performs a first test of the Txtwire after-hours communication system.
Read more

LLNL's biosciences and biotechnology program celebrates its 50th anniversary.
Read more

NOVEMBER 2013

Science and Technology

The Laboratory signs a memorandum of understanding to evaluate the topological data analysis software produced by Ayasdi for tackling big data problems.
Read more

Quotables

"I want to show disadvantaged kids that there is a very bright future for them in science and engineering. Every student deserves a chance to succeed. Hopefully, I can make a difference in their lives."

– LLNL Engineer Victor Castillo

A new Lawrence Livermore report shows the first solids to form in the solar system contain unusual isotopic signatures that show a nearby supernova injected material within approximately 100,000 years of their formation. That supernova, caused by the cataclysmic death of a star, could even have triggered the birth of the sun.
Read more

The University at Buffalo, representing a national consortium of eight research universities and institutes including Lawrence Livermore, is awarded a prestigious $25 million Science and Technology Center grant from the National Science Foundation to transform the field of structural biology, including drug development, using X-ray lasers.
Read more

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Lawrence Livermore scientists help detect that a new experiment named LUX is the most sensitive dark matter detector in the world. LUX researchers, seen here in a clean room on the surface at the Sanford Lab, work on the interior of the detector before it is inserted into the titanium cryostat.

Lawrence Livermore, in partnership with Intel and Cray, announce a unique high performance computing (HPC) cluster named Catalyst that will serve research scientists at all three institutions and provide a proving ground for new HPC and Big Data technologies and architectures.
Read more

Researchers from Lawrence Livermore and the Swiss Federal Institute of Technology in Zurich develop a new method using nanotubes to detect molecules at extremely low concentrations enabling trace detection of biological threats, explosives and drugs.
Read more

A new study by Lawrence Livermore scientists shows that observed changes in global (ocean and land) precipitation are directly affected by human activities and cannot be explained by natural variability alone.
Read more

In a series of experimental campaigns on the Janus laser at LLNL's Jupiter laser facility, Lab researchers make novel measurements on the evolving spatial structure of a shock front due to rapidly evolving material deformation mechanisms associated with plasticity, phase transformations and fracture.
Read more

People

New Acting Director Bret Knapp gives his first all hands meeting and says his priorities are budget stabilization, Lab connectivity and re-engaging the workforce.
Read more

Quotables

"Because we see these systematic differences between the first solids and everything else that formed later, it gives us a time window for when the supernova would have occurred. And it tells us that the neighborhood we were growing up in was rough. There were possibly a lot of violent events happening when our solar system was forming."

– LLNL Scientist Gregory Brennecka, on a study to identify characteristics of the first solids to form in the solar system.

Newsline profiles Kirsten Sprott, an employee in LLNL's Public Affairs Office, who volunteers her time to the Exceptional Needs Network, which is committed to ensure that every child, no matter what the challenge may be, can go to camp, making that dream a reality.
Read more

Bryan Balazs believes that education is one of the keys to improving people's lives throughout the

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The Lab's biomedical and environmental research program celebrates its 50th anniversary. John Gofman, a distinguished professor at the University of California at Berkeley, was recruited to set up the program and given the charge of studying the effects of radiation on humans. Mort Mendelsohn was recruited to lead the program after Gofman's departure in 1969 to return to teaching. Pictured here are Goffman, group leaders Fred Hatch and Bernie Shore and Jay Minkler.

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world. He volunteers in a new Helping Others More Effectively Campaign charity, The Pedrozzi Scholarship Foundation.
Read more

Lab employees Vira Okuda and Sheri Savage dedicate themselves to helping some of the area's smallest and furriest residents through their efforts with area animal rescues. They are profiled in *Newsline* as part of the HOME Campaign.
Read more

Mike Carter offers an account in *Newsline* of a trip to Africa in July as a back-up photographer for a video project on the work of the Asante Africa Foundation, a non-profit educational organization founded by former Lab employee Erna Grasz and for which he serves as a board member.
Read more

A new lecture series that aims to connect LLNL and Silicon Valley entrepreneurs takes place with a talk by Prabhu Soundarrajan, global director of solutions for RAE Systems Inc. and a board member of i-Gate. Soundarrajan talks about new innovations in sensors in multiple domains, and the tales of going from ideas to real companies and the bumps along the road.
Read more

FBI Assistant Director Amy Hess tells the story in an LLNL colloquium of what she and her team did for three months during the summer of 2008 with U.S. Special Forces in Afghanistan.
Read more

LLNL employee Karen Ballou is very familiar with atrial fibrillation (Afib) and has made it her purpose to raise awareness. Ballou was impacted personally by Afib, which is why she is selected as a Face of Stroke ambassador for the month of September by the National Stroke Association in honor of National Atrial Fibrillation Awareness Month.
Read more

Quotables

"That means a supernova must have sprinkled elements with different composition of heavy isotopes into the solar system sometime between the formation of the first solids and the formation of the planets."

– LLNL researcher Gregory Brennecka, on how supernovae injected materials that eventually led to planet formation.

Operations

The search process for the 12th director of Lawrence Livermore National Laboratory and president of Lawrence Livermore National Security, LLC gets under way.
Read more

Lawrence Livermore National Security, LLC (LLNS), the contract manager for Lawrence Livermore, announces the recipients for the 2013 LLNS Community Gift

Acting Director Bret Knapp talks to employees during his first all-hands meeting.

Program. These gifts, totaling $100,000, reflect LLNS' commitment to local communities.
Read more

Lawrence Livermore partners with the National Nuclear Security Administration and the Department of Energy to deliver an agency-wide identity management solution in support of the RightPath Network Vision initiative.
Read more

Riders in the 10th annual Veteran's Day Lab Ride raise $1,600 to support the Alameda Community County Food Bank and Operation S.A.M. (supporting all military).
Read more

In honor of Native American Heritage Month, the American Indian Activity Group and the Office of Strategic Diversity Programs co-sponsor several events throughout November.
Read more

The Working Well program offers a free fingerstick assessment of lipids and blood sugar to all interested LLNS and LFO employees once every fiscal year.
Read more

Construction efforts to modernize the West Cafe begin and will continue through late March 2014.
Read more

The Lawrence Livermore Laboratory Armed Forces Veterans Association hosts its annual Veterans Day breakfast at the Livermore VA Medical Center.
Read more

Quotables

"As the name implies, Catalyst aims to accelerate HPC simulation and big data innovation. The partnership between Intel, Cray and LLNL allows us to explore different approaches for utilizing large amounts of high performance non-volatile memory in HPC simulation and Big Data analytics."

– Matt Leininger, deputy of Advanced Technology Projects

The HOME Campaign surpasses the $1 million mark. Read more

The Global Security Principal Directorate hosts a symposium at the Livermore Valley Open Campus for graduate students in the Herbert York Global Security Fellowship Program.
Read more

The Lab recognizes November as National Diabetes Month by putting out a series of messages about the dangers of diabetes.
Read more

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Mike Carter shakes hands with African student Barrack Obama. Carter traveled to Africa as part of the Asante Africa Foundation, a non-profit education organization that is one of the agencies that receives funds from the Helping Others More Effectively (HOME) Campaign

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DECEMBER 2013

Science and Technology

Lawrence Livermore researchers combine ultrafast time-resolved experimental measurements with theory to reveal how an explosive responds to a high-impact shock. Their work garners the cover of *Journal of Physical Chemistry A*.
Read more

Researchers report on the development of a geothermal power plant that will lock away unwanted carbon dioxide (CO_2) underground and use it as a tool to boost electric power generation by at least 10 times compared to conventional geothermal power.
Read more

Using deep sea corals gathered near the Hawaiian Islands, a Lawrence Livermore scientist, in collaboration with UC Santa Cruz colleagues, determines that a long-term shift in nitrogen content in the Pacific Ocean has occurred as a result of climate change.
Read more

A Lawrence Livermore team, along with researchers from the University of California at Los Angeles and SLAC National Accelerator Laboratory, produce some of the highest energy betatron X-rays ever demonstrated, with the added benefit of being produced on a system the size of a large tabletop.
Read more

By placing a permanent magnet under high pressure, Lawrence Livermore researchers explore how atomic structure enhances magnetic strength and resistance to demagnetization. This fundamental research into magnetic behavior has important implications for engineering stronger, cheaper magnets.
Read more

Quotables

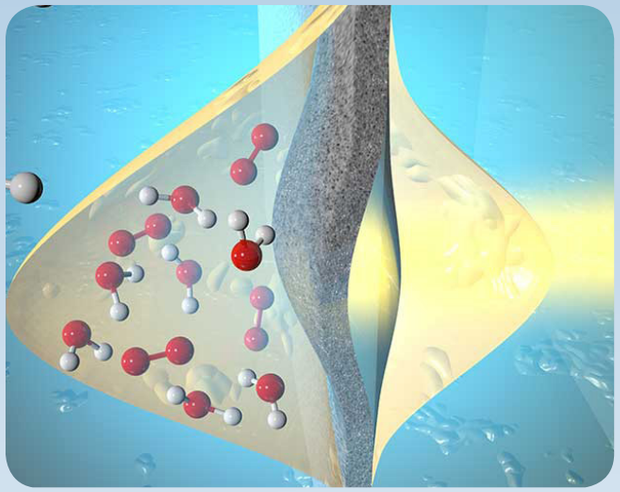
"We trained our folks and we trained the military to collect evidence in order to prosecute individuals as best we could. But it's a very chaotic environment when you're getting shot at."

– FBI Assistant Director Amy Hess, about her work in Afghanistan

People

U.S. Energy Secretary Ernest Moniz speaks about the Department of Energy's (DOE) initiatives and increased collaboration with the national laboratories during an all hands meeting with employees.
Read more

During a two-day visit, Secretary of Energy Advisory Board (SEAB) members meet at the High Performance Computing Innovation Center



Livermore scientists discover how explosives respond to shockwaves.

to discuss energy and national security issues on which they advise and make policy recommendations.
Read more

Acting Under Secretary Rose Gottemoeller discusses the need for the Comprehensive Test Ban Treaty and the history behind it during a Director's Distinguished Lecturer Series talk.
Read more

Tom Ramos, physicist and longtime LLNL employee, talks about the history of the Lab during its formative years.
Read more

The Lawrence Livermore Laboratory Women's Association (LLWA) Women in Science Networking Group hosts a talk by Luisa Hansen, a longtime activist for increasing the participation of women in science at the Lab.
Read more

Members of the Congressional Panel on the Governance of the Nuclear Security Enterprise meet at the Laboratory for an update on national security programs and LLNL operations. The purpose of the 12-member panel of experts is to examine options and make recommendations for improving the governance structure, mission and management of the nation's nuclear security enterprise across federal agencies.
Read more

Brig. Gen. (retired) Feroz Hassan Khan of the Department of National Security Affairs at the Naval Post Graduate School, and Mansoor Ahmed, lecturer, Department of Defense and Strategic Studies at Quaid-i-Azam University, discuss "Pakistan: Living with Nuclear Weapons" as part of a Center for Global Security Research (CGSR) presentation.
Read more

Matthew Kroenig, associate professor and international relations field chair in the Department of Government at Georgetown University and nonresident senior fellow at the Brent Scowcroft Center on International Security at The Atlantic Council, speaks about "Nuclear Superiority and Nuclear Crisis Outcomes" as part of a Center for Global Security Research (CGSR) presentation.
Read more

Quotables

"Find someone who is knowledgeable in their field, who knows their way around the Lab, and who will act as your champion."

– Luisa Hansen, on what young women should do to get ahead in their field

NOTE

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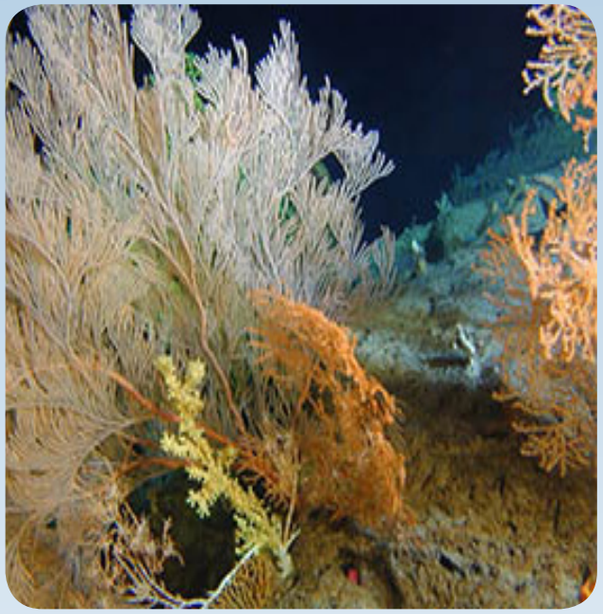

Living and fossilized coral are gathered from dives in the Hawaiian Islands. A Lawrence Livermore scientist and collaborators study coral to determine that a long-term shift in nitrogen content in the Pacific Ocean has occurred as a result of climate change. Image courtesy of NOAA Hawaii Undersea Research Laboratory.

LLNL hosts leaders from the Department of Energy and Japan's energy complex in an effort to identify joint U.S.-Japan partnerships in energy policy, renewable energy and smart grid technologies.
Read more

Operations

The Laboratory receives the scores determined by the NNSA Fee Determination Official for fiscal year 2013, earning an overall 87 percent of the total fee, or $41.3 million.
Read more

The Laboratory receives DOE approval of the calendar year 2014 (CY14) Compensation Increase Plan (CIP). Due to the uncertainty surrounding the continuing resolution, sequestration and the debt ceiling, the start of the CY14 salary review process is postponed.
Read more

The Security Organization announces that new traffic diverters will be put into place for off-hours access at the Vasco Road/East Avenue entrance to the Laboratory.
Read more

The Laboratory begins the process of replacing its current telephone system with a new generation voice system that is based on Voice over Internet Protocol (VoIP).
Read more

While the remodel of the West Cafe continues, Sodexo establishes a large covered food service area for breakfast and lunch patrons for the duration of construction.
Read more

Laboratory employees, along with Lawrence Livermore National Security, LLC, raise $3.3 million to give to charities within their surrounding communities through the the HOME Campaign (Helping Others More Effectively).
Read more

The Unclassified myCloud File Synchronization service, managed by the ITSD Collaboration Services Group, makes licenses available for customers that would like to take advantage of this high-availability, on-premise cloud data storage environment.
Read more

Quotables

"This also has very significant implications about how we understand, and perhaps, can better predict effects of global warming in the Pacific, but also likely in other subtropical regions."

– LLNL geoscientist Tom Guilderson, about the nitrogen content in the Pacific Ocean

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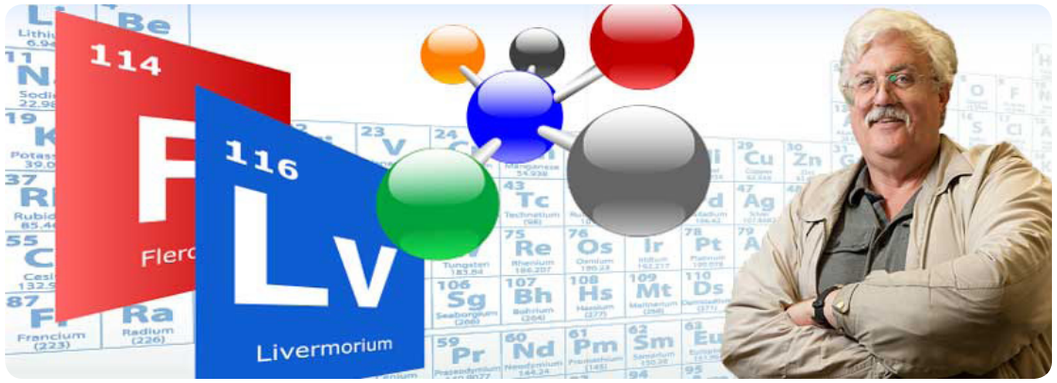
AWARDS & RECOGNITION



Ken Moody

LLNL Radiochemist **Ken Moody** is named a 2013 American Association for the Advancement of Science (AAAS) fellow.
Read more

Charles Cerjen, Marilyn Schneider, Ian Thompson and Eric Schwegler are named 2013 American Physical Society fellows.
Read more

LLNL wins five R&D 100 awards, including one award for a project supported by the Defense Threat Reduction Agency (DTRA)/U.S. Strategic Command Center for Combating Weapons of Mass Destruction, the outcome of which could provide groundbreaking assistance in fighting bioterrorism.
Read more

Former Lawrence Fellow **David Lobell**, who has done groundbreaking work on the agricultural impacts of climate change, receives a MacArthur fellowship.
Read more

Jim Hammer, a physicist in the Weapons and Complex Integration Directorate at Livermore, receives the 2013 Edward Teller Medal.
Read more

U-Learn, the Lab's online learning center, receives two national awards for 2013; awards recognizing U-Learn for its integration efforts in support of succession planning initiatives, leadership and management development and employee development.
Read more

Livermore researchers join their colleagues around the world in celebrating the award of the Nobel Prize for Physics to Peter Higgs and Francois Englert in recognition of their work developing the theory of what is now known as the Higgs field, which gives elementary particles mass.
Read more

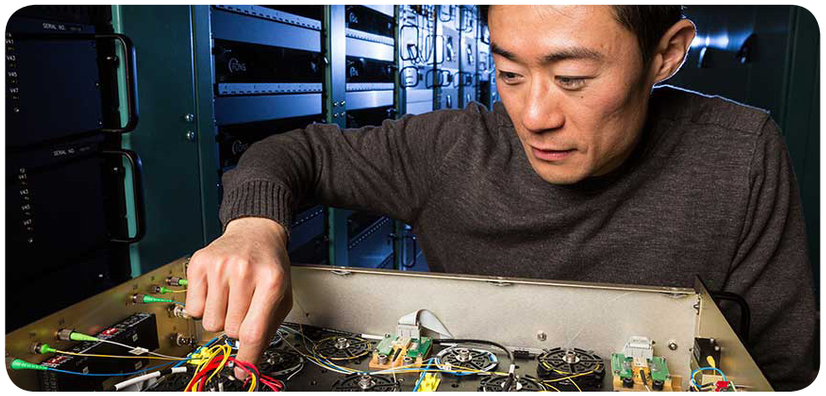
Phil Pagoria, deputy scientific capabilities leader at LLNL's Energetic Materials Center, is the recipient of the 2013 NATO Munitions Safety Award for Technical Achievement.
Read more

Lawrence Postdoctoral Fellow **Frederico Fiuza**, who models the fast ignition approach to inertial-confinement fusion in LLNL's Fusion Energy Sciences Program, is awarded a 2013 ASCR Leadership Computing Challenge award for his proposal "Predictive Full-Scale Simulations of Fast Ignition of Fusion Targets."
Read more

The Laboratory team behind the discovery of element 116, **Livermorium**, on the periodic table is honored as one of the Livermore Chamber of Commerce's top Dream-makers and Risk-takers for 2013.
Read more

Yuan Ping is a recipient of a DOE Office of Science Early Career Research Program award, which

AWARDS & RECOGNITION



Optics engineer Jason Chou looks over a new technology called Laser SHIELD that won an R&D 100 award.

provides $2.5 million over five years to support the development of individual research programs of outstanding scientists early in their careers.
Read more

Allen Grayson, an environmental scientist in ES&H, is named person of the year by the Pretreatment, Pollution Prevention and Storm Water Committee of the California Water Environment Association.
Read more

LLNL receives accolades for its 2012 achievements in waste reduction and green purchasing as part of its participation in the Federal Green Challenge, a voluntary partnership program sponsored by the EPA that challenges federal agencies to reduce their greenhouse gas emissions.
Read more

Nine Laboratory scientists join the ranks of 14 other researchers by being named members of the Lab's Distinguished Members of Technical Staff (DMTS) for their extraordinary scientific and technical contributions to the Laboratory and its missions as acknowledged by their professional peers and the larger community.
Read more

Director Parney Albright honors the Laboratory scientists and engineers who won six R&D 100 awards for 2012 at a reception at the Livermore Valley Open Campus.
Read more

Lawrence Fellow **Frederico Fiuza** is one of three recipients of this year's Ph.D. Research Award from the Plasma Physics Division of the European Physical Society for work on his doctoral thesis, "Multi-scale PIC Simulations of High Energy Density Scenarios: From Laboratory to Astrophysics."
Read more

Global Security presents Gold Awards to five teams and one individual for exceptional achievements.
Read more

Dave Trombino of Global Security's N Program is honored with a certificate of appreciation for his efforts to develop radiation detection capabilities for law enforcement agencies that patrol San Francisco Bay from the United States Coast Guard.
Read more

LLNL researchers receive five awards among the top 100 industrial innovations worldwide in 2012.
Read more

Andris Dimits, a physicist in the Fusion Energy Sciences Program, is selected as an American Physical Society (APS) fellow.
Read more

Lab scientist **Regina Soufli**, a member of NASA's Solar Dynamics Observatory Science Investigation Team, recieves a Group Achievement Award from NASA.
Read more

AWARDS & RECOGNITION

Regina Soufli

Sidney Drell

Johnny Foster is honored in a day of special events. Among the recurring themes struck by those who paid tribute to the ongoing career of Johnny Foster are his energy, technical insights, "relentless" examination of assumptions, selflessness, ability to galvanize those around him to achieve extraordinary goals and the global reach of his influence.
Read more

Former LLNS board of governors member **Sidney Drell**, physicist, arms control expert and adviser, is one of 12 eminent researchers recently named by President Obama as a recipient of the National Medal of Science. The award represents one of the highest honors bestowed by the United States Government upon scientists, engineers and inventors.
Read more

The California Academy of Science full-dome show "Earthquake: Evidence of a Restless Planet" is nominated for "Outstanding Visual Effects in a Special Venue Project" by the Visual Effects Society's (VES) annual awards.
Read more

Director Parney Albright recognizes the team responsible for the de-inventory of the Laboratory's Security Category 1/II special nuclear material with a special award.
Read more

Nick Williams, a retired engineer and science presenter, takes top honors in the written category of The Flame Challenge, a global science contest run by the Alan Alda Center for Communicating Science at Stony Brook University.
Read more

Five local high school seniors from Livermore and Tracy are awarded LLNL's prestigious Edward Teller Science Scholarship.
Read more

The Lawrence Livermore Laboratory Women's Association (LLLWA) presents annual scholarship awards totaling $4,500 to five recipients helping scholars pursue their educational ambitions.
Read more

A new record for a high performance computing calculation set on Lawrence Livermore National Laboratory's Sequoia supercomputer is awarded the Gordon Bell Prize for peak performance at SC13 in Denver, Colo.
Read more

The Computation Directorate and Advanced Simulation and Computing program's effort to make the Lab's High Performance Computing (HPC) facilities as energy efficient as possible receives a Reader's Choice Award, selected by readers of *HPCWire*. The award is for "Best Application of 'Green Computing' in HPC.
Read more

AWARDS & RECOGNITION

From left to right: Anna Maria Bailey, HPC facilities manager for LLNL; Tom Tabor, publisher of *HPCWire;* Fred Streitz, HPCIC director; and Becky Springmeyer of the Advanced Simulation and Computing (ASC) program during the awards ceremony at Supercomputing 2013.

Fred Steitz receives an Editor's Choice Award from *HPCWire* editors for the Lab's outreach to industry through the High Performance Computing Innovation Center and special programs such as the HPC4energy Incubator. The award is for "Best HPC Collaboration Between Government and Industry."
Read more

LLNL's 20 petaflops Sequoia supercomputer again retains its No. 1 ranking on the Graph 500 list, a measure of a system's ability to conduct analytic calculations — finding the proverbial needle in the haystack.
Read more
The artificial retina, in which Lawrence Livermore has played a prominent role, earns a place in the top 25 best inventions of the year 2013 from *Time Magazine*. The invention also garners a 2013 best innovation designation by *Popular Science*.
Read more

For the second time, Lab physicist **Roger White**, a designer in B-Division from the Weapons and Complex Integration (WCI) Directorate, receives an award from the Defense Threat Reduction Agency (DTRA) for his work in post-detonation nuclear forensics.
Read more

Lawrence Livermore National Laboratory again receives recognition for its work to move breakthrough technologies into the commercial marketplace by garnering four awards in the Federal Laboratory Consortium's Far West Regional competition.
Read more

John Moody and **Pravesh Patel** are selected as 2013 fellows of the American Physical Society (APS).
Read more

Four innovations from three Lab teams and one individual researcher receive 2013 S&T Awards.
Read more

As part of the Department of Energy's Innovative and Novel Computational Impact on Theory and Experiment program, 13 Lawrence Livermore researchers are awarded more than a billion core hours on two of America's fastest supercomputers dedicated to open science.
Read more

Tony Baylis, director of the Office of Strategic Diversity Programs at Lawrence Livermore National Laboratory (LLNL), is named as a

AWARDS & RECOGNITION

Donna Crawford

Department of Energy (DOE) champion of the Minorities in Energy Initiative by DOE Secretary Ernest Moniz during a forum at the White House.
Read more

HPCwire, a leading news and information portal for the HPC technologies, names Computation Associate Director **Dona Crawford** as one of its "People to Watch" in 2013.
Read more

When representatives of the Organization for the Prohibition of Chemical Weapons (OPCW) step forward to receive the 2013 Nobel Peace Prize, they will do so in large measure because of the contributions from 21 scientific laboratories around the world, including Lawrence Livermore National Laboratory.
Read more

LLNL Deputy Director Tom Gioconda recognizes eight employees for achieving Lean Six Sigma certification at the November monthly performance review, a meeting of LLNL's senior management team.
Read more

Three of Lawrence Livermore's sustainability projects are recognized by the National Nuclear Security Administration with 2013 Sustainability Awards.
Read more

Physicist **Miguel Morales** is selected for a Presidential Early Career Award for Scientists and Engineers (PECASE) for his work in condensed matter physics.
Read more

Visit www.llnl.gov for more news and events at LLNL.