

Office of the President

TO MEMBERS OF THE COMMITTEE ON OVERSIGHT OF THE DEPARTMENT OF ENERGY LABORATORIES:

DISCUSSION ITEM

For Meeting of September 14, 2011

UPDATE ON THE DEPARTMENT OF ENERGY LABORATORIES

Committee Chairman Pattiz will introduce Lawrence Livermore National Laboratory (LLNL) Director and Lawrence Livermore National Security, LLC, (LLNS) President George Miller, who will be retiring.

Update on Director Search for LLNL

The Search Committee and the Screening Task Force, assisted by a search firm, solicited nominations and applications for the position from many sources prior to the August 19 closing date. Since then, the Screening Task Force met to review the nominations and applications, and recommended candidates for consideration by the Search Committee. The Search Committee met and selected the candidates to be interviewed in October. President Yudof will participate in the interviews.

After the interviews conclude, the Search Committee will deliberate and recommend the best-qualified candidate. Regent Pattiz will seek the concurrence of President Yudof and Chairman Lansing for the candidate recommended by the Search Committee. Following this concurrence, Regent Pattiz, in his capacity as Chairman of the LLNS Board of Governors, together with the Vice Chairman of LLNS will approve the appointment after giving due consideration to the opinions of the other Governors on the LLNS Executive Committee. Concurrence of the Secretary of Energy will be obtained, after which the candidate will be hired as a LLNS employee. The successful candidate will be the eleventh Director of the LLNL and the second President of LLNS.

Lawrence Livermore Microbial Detection Array (LLMDA)

A Laboratory-developed detection tool that can simultaneously identify thousands of known viruses and bacteria within 24 hours could be a boon for the medical community, law enforcement, and regulatory agencies.

The LLMDA could help medical professionals diagnose diseases, law-enforcement authorities deal with an apparent bioterrorism attack, and regulatory agencies test product safety. Current detection systems, such as polymerase chain reaction (PCR) technologies, focus on small,

prioritized sets of high-risk biological pathogens. LLMDA, however, can identify a broad range of organisms, including pathogens on a priority screening list, sequenced bacteria, viruses that might not be anticipated, or even emerging pathogens containing DNA sequences previously identified in other pathogens.

The method detects both DNA and RNA viruses present in the same sample, as well as differentiates between different virus subtypes.

Lawrence Berkeley National Laboratory (LBNL) Second Campus Update

There are six finalist sites under consideration for the proposed LBNL Second Campus Site. In late July and early August public meetings were held, and representatives from the six finalist sites (Richmond Field Station, Albany/Berkeley Golden Gate Fields, Berkeley Aquatic Park West, Berkeley Aquatic Park (Potter St.)/Emeryville EmeryStation, Oakland Brooklyn Basin, Alameda Point), made public presentations to Director Paul Alivisatos, Associate Lab Director Jim Krupnick, as well as interested members of the local communities and Laboratory staff. The next public meeting is scheduled for September 22, 2011 with the LBNL Community Advisory Group. The announcement of the preferred site is anticipated to be in November 2011.

Los Alamos National Laboratory (LANL) Flood and Erosion Control Work (fire aftermath)

In July, Laboratory work crews installed 600 feet of water diversion barriers and removed more than 1,200 cubic yards of sediment in anticipation of flash flooding in the aftermath of the Las Conchas Fire damage. Although the fire burned only one acre of LANL property, it charred parts of two major canyons upstream from the Laboratory. With the lack of vegetation and a water-repelling crust on the burned areas, this effort is the first phase of additional work that will help stabilize the canyons that run through LANL property and minimize soil erosion from summer monsoon rains.

LANL Honors Inventors for Patented, Licensed and Copyrighted Techniques

The 13th Annual Outstanding Innovation Technology Transfer Awards reception was held in early August and honored laboratory inventors of patented, licensed, and copyrighted technologies for their important role in transferring science and technology from Los Alamos National Laboratory to industry during fiscal year 2010. The commercialization of technologies developed at the Laboratory helps to strengthen U.S. economic security by creating jobs and enhancing U.S. industrial competitiveness.

This year's winners are:

James Werner, Peter Goodwin, and Andrew Shreve of the LANL Center for Integrated Nanotechnologies for their patent on an apparatus and method that incorporates selective, two-photon activation fluorophores with time-gated imaging to reduce background radiation and to achieve three-dimensional imaging at nanometer resolution.

Dipen Sinha of the Materials Physics and Applications Division has also been recognized. His several decades of work in acoustic technologies have been used in numerous application areas,

ranging from biomedicine to oil and gas exploration. Sinha's dedication to this field of research has resulted in six commercial license agreements, 11 collaborative projects, three sponsored research agreements, three user facility agreements, and 41 new invention disclosures, 18 of which have been issued as U.S. patents thus far.

The distinguished copyright award was presented to the Computational Fluid Dynamics code, "KIVA-4mpi," copyrighted by David Carrington and David Torres of the Fluid Dynamics and Solid Mechanics Group. The software predicts complex fuel and air flows as well as ignition, combustion, and pollutant-formation processes in engines and has been used to optimize diesel engines for high efficiency and low emissions. Currently, KIVA is used by hundreds of institutions, including the Big Three U.S. auto makers, Cummins, Caterpillar, and various federal laboratories.

Harshini Mukundan, Basil Swanson, Aaron Anderson, and Kevin Grace, all of whom work in Physical Chemistry and Applied Spectroscopy, received an award for their efforts in the optical waveguide platform to accurately identify disease, in particular the biomarkers associated with tuberculosis.

Michael Caffrey and Joseph Palmer were honored for the Adaptive Bit Rate Radio. Caffrey was the principal investigator for the Adaptive Radio project and, with the help of \$100,000 in Laboratory venture acceleration funding, licensed the technology and spun-out Adaptive Radio Technologies to commercialize the invention.

(Attachment)