

**LAWRENCE LIVERMORE**

# REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: April 28-May 2, 2008.

Builder of bovine biodefense

**IVD** TECHNOLOGY



Pam Hullinger

When the United Kingdom suffered an outbreak of foot-and-mouth disease in 2001, leaving its sheep and cattle populations devastated, the British government enlisted the help of Lawrence Livermore veterinarian Pam Hullinger, among others, to assist with the eradication efforts and prevent such an outbreak in the future.

Hullinger and her colleagues are now looking for ways to prevent such an outbreak from reoccurring. *IVD Technology* editor Richard Park recently spoke with Hullinger on how various animal disease detection and response factors affect veterinary assay development.

For the story, see <http://www.devicelink.com/ivdt/archive/08/04/011.html>

Lab's water technology worth its salt



A Laboratory-developed desalination technology will be at the heart of a project to build experimental water-purification reactors for drought-plagued northeastern Australia.

An Australian-led collaboration is expected to announce the plan to use reactors employing capacitive deionization (CDI) -- an electric field water remediation technology that has been under development at the Lab since the mid 1990s -- according to an article published in *IEEE Spectrum Online*.

"The goal is to have a system up and running this year," said Bill Daily, an engineer for groundwater remediation at the Laboratory. Daily heads up the Lab's efforts.

For more see, <http://spectrum.ieee.org/apr08/6098>

From Earth to the moon and beyond



Make no mistake: The goal of the nation's space program is to settle the solar system.

That was the message from NASA Ames Research Center Director Pete Worden during his visit to the Laboratory this week to discuss future missions to the moon, Mars and beyond.

Worden added that NASA can't do it alone. It will take a partnership with the private sector and the international scientific community.

For more, see

[https://newsline.llnl.gov/articles/2008/may/05.02.08\\_moon.php](https://newsline.llnl.gov/articles/2008/may/05.02.08_moon.php)

Lab scientists tapped for National Academy posts



Tom Isaacs and Claire Max

Claire Max, a Lab astrophysicist who helped pioneer adaptive optics, has been elected to the National Academy of Sciences. Max was the founding director of the Lab's Institute for Geophysics and Planetary Physics and led the Laboratory's University Relations Program. She now serves as director of the Center for Adaptive Optics at UC Santa Cruz.

Tom Isaacs, who heads up the Lab's Office of Planning and Special Studies, has been named to the Nuclear and Radiation Studies Board of the National Academy of Sciences.

The Nuclear and Radiation Studies Board (NSRB) provides an open forum for discussion and organizes and oversees studies on safety, security, technical efficiency and other policy and societal issues arising from the application of nuclear and radiation-based technologies.

For more, see <https://newsline.llnl.gov/labNews/index.php>

### Explosive science



Tucked into a faraway corner of Lawrence Livermore National Laboratory, scientists, engineers and technicians are conducting explosive work -- literally and figuratively -- as part of the National Nuclear Security Administration's efforts to keep the nuclear stockpile safe and secure. The High Explosives Application Facility -- better known as HEAF -- is a state-of-the-art explosives research center that features a variety of experimental capabilities found nowhere else. HEAF activities support LLNL's Energetic Materials Center, a national resource for research and development of explosives, pyrotechnics and propellants. This collective expertise is just one reason NNSA has proposed making LLNL its Center of Excellence for High Explosives R&D, with HEAF specifically identified as the high explosive R&D focus.

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development, with particular expertise in high-energy-density physics, laser science, high-performance computing and science/engineering at the nanometer/subpicosecond scale, LLNL innovations improve security, meet energy and environmental needs and strengthen U.S. economic competitiveness. The Laboratory also partners with other research institutions, universities and industry to bring the full weight of the nation's science and technology community to bear on solving problems of national importance.

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