

# LAWRENCE LIVERMORE REPORT

A weekly collection of scientific and technological achievements from Lawrence Livermore National Laboratory: April 20-27, 2009.

## National Atmospheric Release Advisory Center celebrates its 30th



**Former NARAC scientists Tom Sullivan, left, and Marv Dickerson responded to the 1979 Three Mile Island nuclear power plant accident.**

The Laboratory's National Atmospheric Release Advisory Center (NARAC) celebrated its 30-year anniversary at a special celebration last week.

NARAC opened its doors in 1979 during the Three Mile Island nuclear meltdown. Now, 30 years later, scientists are using advanced models to predict the impacts of atmospheric, biological, chemical and radiological releases.

The center provides critical information on the potential impacts of hazardous airborne releases, as part of an integrated national preparedness and response strategy. NARAC responds to toxic industrial chemical spills, fires, biological and chemical agent releases, radiological dispersal devices and improvised nuclear device scenarios, NASA spacecraft launches, and nuclear power plant accidents. NARAC predictions provide information on affected areas and populations, estimated casualties, and health effects and protective action guideline levels to assist decision makers and responders.

NARAC is the DOE modeling center for radiological/nuclear incident response. Since 2004, NARAC has been the primary provider of capabilities for the DHS-led Interagency Modeling and Atmospheric Assessment Center (IMAAC), which responds to all-hazards and coordinates federal plume modeling for major events.

NARAC current and former program leaders were on hand at the anniversary event. Videos and photos of past and current events were shown.

### **'Green' building dedicated on Earth Day**



### **Frank Russo and Alison Terrill affix the plaque to Bldg. 264.**

To commemorate Earth Day 2009, the Lab dedicated its first green facility, Bldg. 264, and installed a ceremonial plaque in the building's entryway during a brief ceremony last Wednesday.

Bldg. 264, which currently provides office space for Operations and Business Facilities Management; Environment, Safety, Health and Quality; and Safety, Training Information Systems, was recently certified under the Leadership in Energy and Environmental Design (LEED™) Green Building Rating System developed by the U.S. Green Building Council (USGBC). It has become the first facility at LLNL to achieve such certification.

During the ceremony, Mark Sueksdorf, Facilities and Infrastructure, Project Management, Engineering and Construction department head, welcomed guests noting that the certification process itself was "long and arduous," but said the Lab is proud of the effort to save energy, water and minimize waste. LEED Certification has become a coveted designation and is attracting interest in sustainable technology.

Frank Russo, principal associate director of the Operations and Business Principal Directorate, joined Allison Terrill, the Lab principal architect who led the certification effort, to affix the plaque to the wall. The plaque is made of recycled content glass and cut, not etched, to save energy.

### **KGO Radio explores NIF**



Former Lab physicist and current KGO radio host Bill Wattenburg recently interviewed National Ignition Facility Director Ed Moses on his radio program.

Scientists have been working on achieving fusion in the laboratory for the last 50 years. And with NIF nearing completion, that goal may be achieved.

"This is the facility that will attain the holy grail," Moses said. "You get more energy out than you put in and hopefully create a source of energy for our future."

To hear the whole interview, go to  
[https://newsline.llnl.gov/\\_rev02/articles/2009/apr/KGOAM\\_EdMoses\\_0409.mov](https://newsline.llnl.gov/_rev02/articles/2009/apr/KGOAM_EdMoses_0409.mov)

### **Lab's Zsolt Jenei featured in *New York Times***



**Zsolt Jenei, left, meets Edward Teller for the first time in 2003.**

Zsolt Jenei, a physicist from Romania working at the Laboratory, is featured in a *New York Times* audio interview included as part of a series of articles on immigration.

Jenei, 30, was interviewed as a highly-skilled immigrant working in the United States on an H1B visa. He has worked as a graduate student in physics at the Lab since 2002, first in the positron group from 2002-2004 and in high-pressure physics since 2005.

Jenei was born and raised in Transylvania as a member of the Romanian province's Hungarian-speaking population (the region was under Hungarian control until the end of World War I). As a science student in high school he became a great admirer of Edward Teller, who was a national hero to many Hungarians, and working at the lab co-founded by Teller "became a distant dream."

Not only did he come to the Laboratory, Jenei met Teller in 2003. A photo of the meeting appeared on the front page of *Newsline* May 30, 2003.

The interview is available on the *New York Times* Website at [http://www.nytimes.com/interactive/2009/04/12/us/20090412\\_H1B\\_AUDIO.html](http://www.nytimes.com/interactive/2009/04/12/us/20090412_H1B_AUDIO.html).

### **Carbon dating fires up cover of *Ecological Monographs***



**Boreal forest surrounds Xindi Lake, in the south-central Brooks Range, Alaska.  
Photo credit: P. E. Higuera.**

While rising temperatures may mean an earlier melting snowpack, it doesn't necessarily mean there will be more wildfires in a particular area: It all depends on the type of vegetation in the area.

A new study on the cover of the May issue of *Ecological Monographs* shows that, in some cases, the types of plants growing in an area could override the effects of climate change on wildfire occurrence.

Laboratory scientist Tom Brown along with Philip Higuera of Montana State University and colleagues looked at the direct and indirect impacts of millennial scale climate change on fire occurrence in the south-central Brooks Range in Alaska.

The team looked at historical fire occurrence by analyzing sediments found at the bottom of lakes.

Using the Lab's Center for Accelerator Mass Spectrometry, they carbon dated the charcoal deposits in the sediment and reconstructed fire occurrences from 15,000 B.C. to the present. They then measured the amount of plant parts, such as fossil pollen, to figure out what type of vegetation dominated the area during the different time periods. Like rings in a tree, different layers of sediment represent different times in the past.

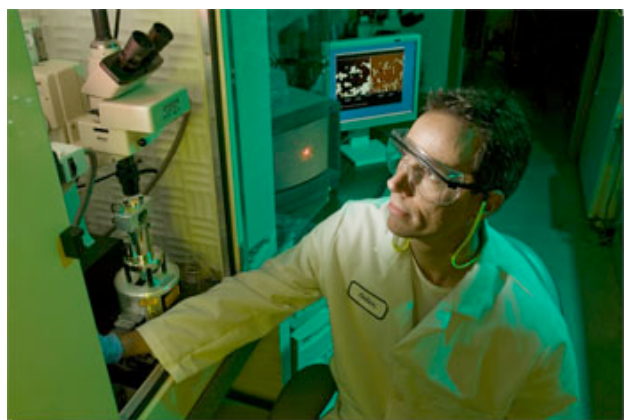
To read more, go to <http://www.esajournals.org/doi/full/10.1890/07-2019.1>

### **Latest *Newsline* available**



*Newsline* provides the latest Lab research and operations news. See the most recent issue at <https://newsline.llnl.gov/rev02/index.php>

### **Photo of the week**



Picture perfect: Selim Elhadj mounts a sample and makes adjustments to image individual spores with an atomic force microscope (AFM).

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