



## DOE/NNSA labs rollout counterterrorism technologies for commander in chief

by David Lyons

“What if my alarm doesn’t go off?” We’ve all asked the question before. What’s the worst that might happen, we wonder? You’ll get the kids to school late, or get a late start on that important project ... or maybe you might miss a once-in-a-lifetime opportunity to brief the president of the United States.

It was this last option that was going through Bioscience (B) Division Leader Jill Trehwella’s mind as she went to bed July 21 at the Argonne Guest House at Argonne National Laboratory outside Chicago. Trehwella was among five people scheduled to brief President George W. Bush the next morning as part of a Department of Energy counterterrorism/homeland security technology demonstration.

“I hardly slept a wink all night,” Trehwella admitted. “I lay in bed, eyes wide open, with tremendous anticipation, thinking about what was going to happen the next morning. I knew I’d be meeting the president and that I’d have the opportunity to talk to him about something I care deeply about and believe is very important.”

That same night was much more restful for Kristin Omberg of Systems Engineering and Integration (D-3), another member of the Los Alamos team who went to Chicago for the presidential visit. During the dry run earlier that evening, Omberg learned that she would not be in the room when the president came through the next day. A researcher from Argonne had been selected to brief the joint exhibit on chemical and biological detection systems, covering Los Alamos’ and Livermore’s [National Laboratory] Biological Aerosol Sentry and Analysis System (BASIS) demonstration and Argonne’s PROTECT system.

“I was disappointed I wasn’t going to be able to meet the president, but the pressure definitely was off,” said Omberg. “I figured I would have a more restful day Monday and I’d get a chance to watch the president’s speech.”

It turned out it was a good thing Omberg got a good night’s sleep Sunday because on Monday morning, just 30 minutes before the president’s arrival, Omberg received a phone call from the

Advanced Photon Source Lobby where the technology demo was set up. “They said that there was some sort of snafu with the clearances that had been run to allow people to be in the room with the president,” Omberg recalled. “For some reason, the person who was preparing to brief the president did not appear on the final list of approved briefers.”

After a brief discussion about who should brief the president, and of equal importance, who was on the approved Secret Service list, Omberg was on her way to the APS Lobby to prepare for her

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*Inset: Jill Trehwella, far right, Bioscience (B) Division leader, briefed President George W. Bush, left, and other officials during a July visit to Argonne National Laboratory in Illinois. Trehwella talked about DNA pathogen sequencing and analysis technologies, one of several Department of Energy/National Nuclear Security Administration technologies that can be used in the nation’s homeland defense efforts. With the president were, from left to right, Rep. Dennis Hastert, R-Ill., and Raymond Orbach, director of DOE’s Office of Science. Also attending the presentation was Tom Ridge, the president’s Homeland Security director. Photo courtesy of the White House*

## 9-11 challenges find Laboratory ready to respond

by David Lyons

Researchers at the Laboratory did not start thinking about the issue of counterterrorism and homeland security on Sept. 12, 2001. “The three NNSA [National Nuclear Security Administration] laboratories have been involved for decades in technology development and problem solving in the realm of arms control and nonproliferation. Through our work in these areas, Los Alamos has developed a skill and technology base that enabled us to respond immediately following the Sept. 11 attacks to calls for assistance in

counterterrorism and homeland security, explained Associate Director for Threat Reduction Don Cobb in congressional testimony this summer.

Cobb’s testimony to Congress touched on many of the technologies that were presented to President Bush at Argonne last month. “Our people should be very proud,” said Cobb. “This Laboratory has done a tremendous job responding to the challenges facing the nation post-9-11.”

Los Alamos technologies relevant to homeland security efforts include

- **National Infrastructure Simulation and Analysis Center (NISAC):** Los Alamos

and Sandia have partnered to establish NISAC to provide improved technical planning, simulation and decision support for the analysis of critical infrastructures.

- **Threat Analysis and Warning:**

Following the Sept. 11 attacks, the Laboratory established a multidisciplinary team of analysts searching for evidence of terrorist activity.

- **Immigration and Naturalization Service, Entry/Exit System:** A team from Los Alamos provides advice and objective recommendations to an INS task force

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Terry Hawkins was in Yavne, Israel, addressing an audience on counterterrorism when he heard about the terrorist attack on the United States. . . . . Page 7



### Plans to rebuild, plans for memorial

The Port Authority of New York and New Jersey, which owns the 16 acres occupied by the World Trade Center and other facilities in the immediate area, and the Lower Manhattan Development Corporation, a joint city-state corporation formed in the aftermath of Sept. 11, 2001, to oversee and coordinate the redevelopment of Lower Manhattan, unveil six plans to rebuild. . . . . Page 8



FROM THE TOP

## A date to remember

by Laboratory Director John Browne

For each of us, there are certain dates with deeply personal meaning — the birth of a loved one, a wedding anniversary or other significant life event.

There also are certain dates linked to events so powerful that they leave a lasting imprint on society.

For my parent's generation, there were at least two — the stock market collapse on Oct. 29, 1929, and the Japanese attack on Pearl Harbor on Dec. 7, 1941.

For my generation, there was the assassination of President Kennedy on Nov. 22, 1963, and the Challenger accident of Jan. 28, 1986. If you were alive and of an age to remember, you can probably recall with great clarity where you were when you learned of these events.

And so it was also for Sept. 11, 2001 — a date that will live in our minds and our hearts as long as we live, marking an event that has likely changed forever the landscape of our world.

Our Laboratory was created to help end World War II — which for the United States began with the attack on Pearl Harbor. The attacks on the World Trade Center and Pentagon ushered our nation into a new war — this time one against terrorism. We can't predict the path this war will take, but we do know Los Alamos has a role to help our nation win it.

Such is our vision — to serve the nation by developing and applying the best science and technology to make the world a better and safer place.

Although many people do not realize it, our Laboratory has been working to combat terrorism — especially threats from weapons of mass destruction — for many years. The Nuclear Emergency Search Team was created in 1975 in response to a growing concern over nuclear weapons being developed or stolen by terrorists or rogue countries. After the collapse of the Soviet Union on Dec. 25, 1991, we increased our efforts with our Russian and former Soviet republic counterparts to help secure nuclear materials at many of their sites. This has grown to include a second line of defense at airports and harbors.

Reports from Russian immigrants indicated the Soviet Union also had developed a vast biological warfare program. In 1979, the Soviets had a major anthrax outbreak at Sverdlosk, resulting in the deaths of at least 64 people. They attributed it to "tainted meat" eaten by the population. In the early 1990s, Los Alamos scientists performed detailed DNA analyses of tissue samples from the Sverdlosk victims. These analyses showed that the anthrax was "engineered" with at least four strains present in the victims and thus, not a natural outbreak. Russia later admitted that Sverdlosk was one of the biological warfare sites. This Los Alamos capability was immediately applied in the wake of the anthrax attacks this fall in Washington, New York and Florida.

Today we are contributing our technical strengths to the Office of Homeland Security, as well as the Department of Defense, to address challenges associated with terrorism. The creation of the new Department of Homeland Security will focus this country's efforts to develop short- and long-term solutions for many existing vulnerabilities. In a free society, however, we never will be able to eliminate all risks, and we will need to maintain our vigilance.

Our Laboratory's role is to help the nation counter terrorist threats with the best science and technology that we have to offer. But as a nation, we also must address the longer-term core issues that lead people to embrace terrorism. Quality of life for all people will be a major driving force in dealing with the global challenges of the 21st century.

The issues of adequate energy supply, environmental degradation, health and food supply are coupled as never before in history. "Making the world a better and safer place" includes contributing in these areas as well so that we sever the roots of terrorism where we can. Our generation will remember 9-11 as the date when the war on terrorism began. Perhaps the next generation will remember a date when the war ends.



Director John Browne

## Los Alamos NewsLetter

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Los Alamos enhances global security by ensuring safety and confidence in the U.S. nuclear stockpile, developing technologies to reduce threats from weapons of mass destruction and improving the environmental and nuclear materials legacy of the Cold War. Los Alamos' capabilities assist the nation in addressing energy, environment, infrastructure and biological security problems.



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## Sept. 11 is designated as Patriot Day

Chapter 1 of title 36, United States Code, is amended by adding at the end the following new section:

#### Sec. 144. Patriot Day

(a) DESIGNATION — Sept. 11 is Patriot Day.

(b) PROCLAMATION — The President is requested to issue each year a proclamation calling on

(1) State and local governments and the people of the United States to observe Patriot Day with appropriate programs and activities;

(2) all departments, agencies, and instrumentalities of the United States and interested organizations and individuals to display the flag of the United States at halfstaff on Patriot Day in honor of the individuals who lost their lives as a result of the terrorist attacks against the United States that occurred on Sept. 11, 2001; and

(3) the people of the United States to observe a moment of silence on Patriot Day in honor of the individuals who lost their lives as a result of the terrorist attacks against the United States that occurred on Sept. 11, 2001.





# Taking care of ourselves, we are taking care of business

*Editor's note: The following is a reprint of a letter that appeared in the Nov. 1, 2001, Los Alamos NewsLetter by Tom Locke, clinical psychologist and team leader for the Employee Assistance Program (EAP), reminding the work force that by taking care of ourselves, we are taking care of business.*

Friends,  
Most of us watched and listened as the tragic events of Sept. 11 unfolded. Media coverage instantaneously informed us of events; it also exposed us to a level of trauma that can be disturbing and emotionally overwhelming. For all of us, our reality has been abruptly and forever changed.

Across our Laboratory, our town and our country, family, friends and colleagues talk about their disbelief, their horror, their vulnerability, their sadness, their fear and their anger. As the magnitude of that tragedy and other recent events unfold, those emotional reactions are likely to intensify. It is very important to talk with someone you trust about your reactions.

Denying emotional reactions can lead to significant, long-term difficulties.

To focus only on what is bad is to miss the good that is everywhere. Now is the time to nurture ourselves and support one another as best we can.

Sleep, eat as you should, exercise, do what you find enjoyable, relax from time to time. If you do those things well, you will help yourself and be better able to help those around you cope with these traumas. Acknowledge that your ability to attend and stay focused on important safety and security tasks can be compromised. For a time, double-check and ask others to monitor tasks that are most sensitive.

As was true for the [Cerro Grande] fire, the hard-drive incident and all the other difficult situations we have faced, most will do well with time. For those who just cannot seem to re-establish a sense of equilibrium, consider talking to your doctor or another wellness professional.

And remember that the Employee Assistance Program is available for individual or group consultations and can be reached at 7-7339.



## Sept. 11, 2001

*'These acts shattered steel,  
but they cannot dent the  
steel of American resolve'*

—George W. Bush

*Editor's note: Source timelines use varying times. The ones used here appeared most frequently. All times are Eastern Daylight Time.*

**7:59 a.m.** — American Airlines Flight 11 departs Boston for Los Angeles, carrying 81 passengers, two pilots and nine flight attendants.

**8:01 a.m.** — United Airlines Flight 93 carrying 38 passengers, two pilots and five flight attendants leaves Newark, N.J., for San Francisco.

**8:10 a.m.** — American Airlines Flight 77 departs Washington's Dulles International Airport for Los Angeles carrying 58 passengers, two pilots and four flight attendants.

**8:14 a.m.** — United Airlines Flight 175 departs Boston for Los Angeles, carrying 56 passengers, two pilots and seven flight attendants.

**8:48 a.m.** — A hijacked passenger jet, American Airlines Flight 11 out of Boston, crashes into the north tower of the World Trade Center, tearing a gaping hole in the building and setting it afire.

**9:03 a.m.** — A second hijacked airliner, United Airlines Flight 175 from Boston, crashes into the south tower of the World Trade Center and explodes.

**9:05 a.m.** — President Bush, while at an elementary school in Sarasota, Fla., is told of the attacks by Chief of Staff Andrew Card.

**9:17 a.m.** — The Federal Aviation Administration shuts down all New York City-area airports.

**9:21 a.m.** — The Port Authority of New York and New Jersey orders all bridges and tunnels in the New York area closed.

**9:25 a.m.** — All domestic flights are grounded by U.S. Federal Aviation Administration.

**9:31 a.m.** — President Bush, speaking in Sarasota, Fla., says the country has suffered an "apparent terrorist attack."

**9:32 a.m.** — New York Stock Exchange closed.

**9:43 a.m.** — American Airlines Flight 77 crashes into the Pentagon, sending up a huge plume of smoke. Evacuation begins immediately.

**9:48 a.m.** — The White House evacuates.

**9:49 a.m.** — The FAA halts all flight operations at U.S. airports, the first time in U.S. history that air traffic nationwide has been halted.

**9:50 a.m.** — The south tower of the World Trade Center collapses, plummeting into the streets below. A massive cloud of dust and debris forms.

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## Designated foreign terrorist organizations



Below is the current list of designated foreign terrorist organizations as of August 2002. The list is updated every two months.

1. Abu Nidal Organization
2. Abu Sayyaf Group
3. Al-Aqsa Martyrs Brigade
4. Armed Islamic Group
5. Asbat al-Ansar
6. Aum Shinrikyo
7. Basque Fatherland and Liberty
8. Gama'a al-Islamiyya (Islamic Group)
9. HAMAS (Islamic Resistance Movement)
10. Harakat ul-Mujahidin
11. Hizballah (Party of God)
12. Islamic Movement of Uzbekistan
13. Jaish-e-Mohammed (Army of Mohammed)
14. al-Jihad (Egyptian Islamic Jihad)
15. Kahane Chai (Kach)
16. Kurdistan Workers' Party
17. Lashkar-e Tayyiba (Army of the Righteous)
18. Liberation Tigers of Tamil Eelam
19. Mujahedin-e Khalq Organization
20. National Liberation Army
21. Palestinian Islamic Jihad
22. Palestine Liberation Front
23. Popular Front for the Liberation of Palestine
24. PFLP-General Command
25. al-Qa'ida
26. Real IRA
27. Revolutionary Armed Forces of Colombia
28. Revolutionary Nuclei (formerly ELA)
29. Revolutionary Organization 17 November
30. Revolutionary People's Liberation Army/Front
31. Salafist Group for Call and Combat
32. Shining Path (Sendero Luminoso, SL)
33. United Self-Defense Forces of Colombia
34. Communist Party of the Philippines/New People's Army

From the U.S. Department of State Web site at <http://www.howstuffworks.com/framed.htm?parent=terrorism.htm&url=http://state.gov/>.

### Diversity behaviors

#### Something to think about ...

- Continue showing your patriotism by supporting President George W. Bush's request that we not turn against each other as Americans.
- Continue greeting and treating your co-workers with courtesy and kindness.
- Continue talking openly and honestly about your feelings using "I" language.
- Continue holding everyone (at all levels) accountable for demonstrating our institutional values.
- Continue creating a safe environment for yourself and others to discuss current events.
- Continue keeping your colleagues safe at work and in your communities.
- Continue proactively and directly addressing problems when they arise.
- Continue contacting and utilizing resources from organizations like the Diversity Office, Office of Equal Opportunity, Ombuds, Staff Relations, Human Resources, etc.
- Continue demonstrating to the Department of Energy Secretary Abraham, a third-generation Arab-American (as he indicated in his inaugural address to the Laboratory), that we are a world-class lab on many fronts, including diversity.
- Continue acknowledging that in other instances, we do not hold an entire community responsible for the acts of a small group (i.e., David Koresh, Timothy McVeigh, the Protestant/Catholic war in Ireland, etc.)
- Continue to be "security aware."
- Continue to avoid raising a security concern by profiling based on any of the identification factors indicated in AM Policy 101.01.

—Excerpt from a Sept. 26, 2001, all-employee memo

### Did you know ...

- Debris removed from World Trade Center site: 1,640,707 tons; 190,568 in steel
- Manpower required to clear the site: 3.1 million man-hours; 108,342 truckloads
- Cost of cleaning up ground zero: \$750 million





Sept. 11, 2001:  
A timeline ...



- 9:57 a.m. — Bush departs from Florida.
- 9:58 a.m. — Emergency dispatcher in Pennsylvania receives a call from a passenger on United Flight 93, who says, "We are being hijacked, we are being hijacked!"
- 10 to 11:30 a.m. — Government buildings across the nation are evacuated.
- 10:10 a.m. — United Airlines Flight 93 crashes in Somerset County, Penn., 80 miles southeast of Pittsburgh.
- 10:13 a.m. — The United Nations building evacuates, including 4,700 people from the headquarters building and 7,000 total from UNICEF and U.N. development programs.
- 10:22 a.m. — In Washington, the State and Justice departments are evacuated, along with the World Bank.
- 10:24 a.m. — The FAA reports that all inbound transatlantic aircraft flying into the United States are being diverted to Canada.
- 10:29 a.m. — The World Trade Center's north tower collapses from the top down releasing a tremendous cloud of debris and smoke.
- 10:45 a.m. — All federal office buildings in Washington are evacuated.
- 10:46 a.m. — U.S. Secretary of State Colin Powell cuts short his trip to Latin America to return to the United States.
- 10:48 a.m. — Police confirm the plane crash in Pennsylvania.
- 10:57 a.m. — New York Gov. George Pataki says all state government offices are closed.
- 11:02 a.m. — New York City Mayor Rudolph Giuliani urges New Yorkers to stay at home and orders an evacuation of the area south of Canal Street.
- 11:16 a.m. — A news agency reports that the Centers for Disease Control and Prevention is preparing emergency-response teams in a precautionary move.
- 11:18 a.m. — American Airlines reports it has lost two aircraft. American Flight 11, a Boeing 767 flying from Boston to Los Angeles, had 81 passengers and 11 crew aboard. Flight 77, a Boeing 757 en route from Washington's Dulles International Airport to Los Angeles, had 58 passengers and six crew members aboard. Flight 11 slammed into the north tower of the World Trade Center. Flight 77 hit the Pentagon.

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# Where were you on 9/11?

## Lab work force recalls what they were doing

"The local news interrupted its normal broadcast to show footage of the first plane that hit the World Trade Center. I was paralyzed, I could not believe what I was seeing nor could I tear myself away from the TV as the events occurred. It was just like the day when President Kennedy was shot, I'll never forget what I was doing or where I was at that very moment."

—Portia Blackman,  
Human Resources Deployed  
Resources (HR-D-SR), generalist

"I was dumfounded when I heard the news on the radio and saw the images on TV. As individuals in this country, we are complacent about our own safety, and we're unaware of the dangers the rest of the world lives with everyday. Security is everyone's business, and we all have a responsibility to be aware of our surroundings instead of floating around in our cocoons."

—Don Wood,  
Creative Consultants, vice president,  
contractor

When the 150th Air National Guard unit was activated, Christian Lopez's job was to load munitions 24 hours a day, seven days a week to keep 24-hour flight operations over populated cities airborne. "I felt overwhelming pride performing my job when our country really needed my help."

—Christian Lopez,  
Project Controls (PM-4),  
project management

"Initially heard about the plane that flew into the World Trade Center from a colleague, but I assumed the aircraft was a small Cessna or Piper. After more details were provided, I knew we were in trouble, and I became worried about my sister who worked four blocks from the World Trade Center."

—Maurice Katz,  
Los Alamos Neutron Science  
Center (LANSCE-DO), chief of staff

"I'm originally from New York City and to see the buildings collapse on a large-screen television made me feel like I was there. When the World Trade Center collapsed within a few minutes, the scene left me utterly speechless. I still can't believe the World Trade Center towers are not there because they were such a big part of New York City."

—Linda Scott,  
238Pu Science and Engineering (NMT-9),  
administrative assistant

"I was working in the cooling towers at TA-53. I was shocked when I heard the news on the radio, and I thought, 'Not in America.' Previous attacks on our country hadn't affected me because I was younger and I didn't understand."

—Jens Peterson,  
Bushman Construction, laborer,  
contractor

"It was remarkable how little one could gauge what was happening because traffic and business near the Pentagon were functional. The only difference was there seemed to be more people watching the subway system. I think it was important to show the terrorists that they hadn't disrupted our lives, which was very symbolic."

—Lee Collins,  
Atomic and Optical Theory (T-4),  
Lab Fellow

"I was at the computer center at Penn State and as events unfolded, a special room was set up for students to view TV. The images were so horrible, and it was so sad to see fellow students crying because they had relatives at the World Trade Center. I seriously considered leaving the country returning home to Spain because my mother was hysterical believing there might be more attacks the next day."

—Monica Maceira,  
Geophysics (EES-11),  
graduate research assistant

### Lab to commemorate 9-11 anniversary



The Lab will hold a 9-11 commemorative event beginning at 8 a.m. Sept. 11 at Technical Area 3 in the horseshoe area in front of the Administrative Building. Following the guidelines of House Joint Resolution 71 that designates Sept. 11 as Patriot Day, the American flag will be brought to half staff and a moment of silence will be observed in honor of the individuals who lost their lives as a result of the terrorist attacks of Sept. 11, 2001. Protection Technology Los Alamos will provide a rifle salute and taps. A lone bagpiper will signal the end of the observance. The commemorative event is open to all Lab employees and contractors, and can be viewed on LABNET or through the Internet at [www.lanl.gov/media](http://www.lanl.gov/media).



# Sept. 11, 2001?

## ...were doing and emotions felt

“I never thought something of this magnitude could happen. It really scared me because the security breaches were simultaneous, and it made me wonder, ‘How safe are we as Americans?’”

—Joseph Medina,  
High Intensity Beam Lines,  
Accelerator Experimental Areas  
and Remote Handling (LANSCE-7),  
mechanical technician

“Initially the attacks didn’t hit me on a real level because they were so sudden. However, I heard one week later that a former Lab employee, Max Hammond, whom I worked with at UCLA and who later became employed by the Lab, was on the second plane that hit the World Trade Center. Hammond was the perfect person who represented diversity because he was smart, spoke his mind and was a hysterical fun-loving person.”

—Laurie Quon,  
Communication Arts and Services (IM-1),  
webmaster

“I first heard about the attacks on the Today Show on my way out to volunteer as a tour guide at the Caldera. It was interesting because the Caldera is one of the most beautiful places in this part of the country, but the realization that somewhere else people were hurting really put a damper on everyone’s experience. We didn’t have access to a TV, so we heard bits and pieces of riveting news from the visitors, rangers and volunteers.”

—Carol Hogsett,  
Human Resources Staffing (HR-S),  
recruiting coordinator

“I woke up, turned on the TV and heard the anchor say, here goes another plane into the second World Trade Center tower. I thought I was watching a movie clip on the Today Show, I just couldn’t believe it was a live event.”

—Emmanuel Dominguez,  
Neutron Science and Technology (P-23),  
undergraduate research student

“I was working at my desk in Stockholm when a co-worker mentioned that something happened in New York City. I tried accessing several Web sites, but I was not successful for several hours until I finally accessed a Web site from the United Kingdom. My initial

reaction was one of watching a movie, I didn’t comprehend what was happening, and I could not accept it. It was a strange feeling.”

—Jurij Smakov,  
Center for Nonlinear Studies (T-CNLS),  
graduate research assistant

“I was shocked and in disbelief when my brother called me at work at 8 a.m. to inform me about what happened. I immediately contacted my wife and kids because my first thoughts were about their safety, especially since rogue planes were in the air. It was a long way home from the Lab to Albuquerque.”

—Roy Lopez,  
Radio Frequency (SNS-02),  
technician

“I was in Denver attending a conference only to discover that the downtown district was closed. Signs in windows read, ‘Due to the events we are closed.’ I did not find out what happened until 11 a.m. I suspect that the relative emptiness of downtown Denver generally occurred because people thought, ‘I cannot deal with this.’ My initial reaction was to walk around in a dazed, numbed-out stupor.”

—George Zvoloski,  
Hydrology, Geochemistry and  
Geology (EES-6), technical staff member

“I was working in Atlanta at the Center for Diseases Control and Prevention on the smallpox virus. I was shocked to see such a tragedy develop especially since I never expected this to happen; it was like watching a movie. The following day a memorial was held at Georgia Institute of Technology.”

—Ming Zhang,  
Theoretical Biology and Biophysics, (T-10),  
graduate research assistant

“I heard the news before leaving for work and immediately turned on my computer once I arrived to watch the news on CNN. I heard various reports from people coming in and out of the office and a rumor about a rogue plane crashing into Los Alamos. I had been working in Los Alamos for 29 years, and this was the first experience that left me feeling frightened.”

—Danny Valdez,  
Diversity Office (DVO),  
project administrator

## Sept. 11, 2001: A timeline ...



**11:40 a.m.** — Bush arrives at Barksdale Air Force Base, La., from Florida after deciding not to return to Washington right away.

**11:59 a.m.** — United Airlines confirms that Flight 175, from Boston to Los Angeles, has crashed with 56 passengers and nine crew members aboard. It hit the World Trade Center’s south tower.

**12:15 p.m.** — The Immigration and Naturalization Service says U.S. borders with Canada and Mexico are on the highest state of alert, but no decision has been made about closing borders.

**12:30 p.m.** — The FAA says 50 flights are in U.S. airspace, but none are reporting any problems.

**1:04 p.m.** — Bush, speaking from Barksdale AFB, says that all appropriate security measures are being taken, including putting the U.S. military on high alert worldwide. He asks for prayers for those killed or wounded in the attacks and says, “Make no mistake, the United States will hunt down and punish those responsible for these cowardly acts.”

**1:27 p.m.** — A state of emergency is declared by the city of Washington.

**1:44 p.m.** — The Pentagon says five warships and two aircraft carriers will leave the U.S. Naval Station in Norfolk, Va., to protect the East Coast from further attack and to reduce the number of ships in port. The two carriers, the USS George Washington and the USS John F. Kennedy, would head for the New York coast. The other ships headed to sea were frigates and guided-missile destroyers capable of shooting down aircraft.

**1:48 p.m.** — Bush leaves Barksdale AFB aboard Air Force One and flies to an air force base in Nebraska.

**2 p.m.** — Senior FBI sources tell reporters they are working on the assumption that the four airplanes that crashed were hijacked as part of a terrorist attack.

**2:30 p.m.** — The FAA announces there will be no U.S. commercial air traffic until noon EDT Wednesday at the earliest.

**2:49 p.m.** — At a news conference, Mayor Rudolph Giuliani says that subway and bus services are partially restored in New York City. Asked about the number of people killed, Giuliani says, “I don’t think we want to speculate about that — it’s more than any of us can bear.”

**2:51 p.m.** — The Navy dispatches missile destroyers and other equipment to New York and Washington.

**3:07 p.m.** — Bush arrives at U.S. Strategic Command at Offut Air Force Base, Neb.

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## Sept. 11, 2001: A timeline ...



- 3:47 p.m.** — White House announces that Bush is convening a meeting of the National Security Council.
- 3:55 p.m.** — Mayor Giuliani now says the number of critically injured in New York City is up to 200 with 2,100 total injuries reported.
- 4 p.m.** — A news agency reports that U.S. officials say there are “good indications” that Saudi militant Osama bin Laden, suspected of coordinating the bombings of two U.S. embassies in 1998, is involved in the attacks, based on “new and specific” information developed since the attacks.
- 4:06 p.m.** — California Gov. Gray Davis dispatches urban search-and-rescue teams to New York.
- 4:10 p.m.** — Building 7 of the World Trade Center complex is reported on fire.
- 4:20 p.m.** — U.S. Sen. Bob Graham, D-Fla., chairman of the Senate Intelligence Committee, says he was “not surprised there was an attack (but) was surprised at the specificity.” He says he was “shocked at what actually happened — the extent of it.”
- 4:25 p.m.** — The American Stock Exchange, the Nasdaq and the New York Stock Exchange say they will remain closed Wednesday.
- 4:30 p.m.** — The president leaves Offutt AFB to return to Washington.
- 5:25 p.m.** — The 47-story Building 7 of the World Trade Center complex collapses. The evacuated building is damaged when the twin towers across the street collapse earlier in the day. Other nearby buildings in the area remain ablaze.
- 5:30 p.m.** — A news agency reports that U.S. officials say the plane that crashed in Pennsylvania could have been headed for one of three possible targets: Camp David, the White House or the U.S. Capitol.
- 6 p.m.** — Explosions are heard in Kabul, Afghanistan, hours after terrorist attacks targeted financial and military centers in the United States. The attacks occurred at 2:30 a.m. local time. Afghanistan is believed to be where bin Laden, who U.S. officials say is possibly behind Tuesday’s deadly attacks, is located. U.S. officials say later that the United States had no involvement in the incident whatsoever. The attack is credited to the Northern Alliance, a group fighting the Taliban in that country’s ongoing civil war.
- 6:10 p.m.** — Giuliani urges New Yorkers to stay home Wednesday if they can.

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## DOE/NNSA labs ...

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moment in history. “I walked up the stairs to the lobby still in shock,” Omberg said, “but there was no time to think about being flustered. The VIP delegation including the Illinois governor, the state’s two U.S. senators and several members of the Illinois congressional delegation were already in the room, checking out all of the displays and talking with the laboratory briefers in advance of the president’s arrival.”

Omberg stepped in the door and was greeted by Trehwella, “Kristin,” she said, “meet Congressman Kirk, R-Ill.” And then, the briefings began. First, for the group of VIPs and soon for the president.

Both Omberg and Trehwella noted that you know it’s a strange day when you’re briefing the Illinois governor and the majority of its congressional delegation and it feels like a warm-up exercise.

Omberg and Trehwella were joined in the room by Steve Rinaldi, the joint program director for the National Infrastructure Simulation and Analysis Center (NISAC). Rinaldi is a Sandia National Laboratories employee, who represents both Los Alamos and Sandia on the joint NISAC project. The two other presentations were of the Nuclear Emergency Support Team (NEST) and Sandia’s decontamination foam.

Finally, the moment came that everyone had been anticipating: the arrival of the president.

The president seemed to immediately put everyone in the room at ease. Trehwella said she was so excited — likely a bit visibly nervous and grinning like a Cheshire cat — when the president first entered the lobby. She said the president looked around the room and said, “How’re y’all doing today?” Trehwella enthusiastically responded, “Doing great!”

The head of the DOE Office of Science, Ray Orbach, then led the president on the pre-arranged path through the various exhibits, starting with NISAC. The president, of course, was not by himself. He was accompanied by Energy Secretary Spencer Abraham, Director of Homeland Security Tom Ridge, Speaker of the U.S. House of Representatives J. Dennis Hastert (R-Ill.), the Director of the Office of Science and Technology Policy John Marburger and Press Secretary Ari Fleischer. All of the briefers remarked that at each exhibit, Bush took the time to introduce himself to them, as well as all the members of his group.

The president’s first stop was the critical infrastructure protection exhibit where Orbach spoke to him about Argonne’s energy-usage demonstration, parts of which

are being incorporated into NISAC. Rinaldi then walked the president through some of the details of the demonstration. “Bush had such a commanding presence, but immediately put me at ease. He was very engaged with the demonstration and asked several excellent, focused questions about the capabilities of our models,” said Rinaldi.

Rinaldi said Ridge stayed behind after the president moved on and talked to him about the importance of the infrastructure work and the need to get it out into the field. “This offered validation that what we are doing is very important and recognized at the highest levels of government,” explained Rinaldi.

After the NEST briefing, Bush moved to Trehwella’s demonstration on DNA analysis of pathogens. Trehwella said Bush was surprised to hear from Orbach of the key role played by DOE in the establishment of the international Human Genome Project and the continuing role of DOE’s Joint Genome Institute in that effort. Trehwella said the main message she wanted to get across to the president was that the merging of our basic bioscience research with our important national security work enabled Los Alamos to support federal agencies in the response to last fall’s anthrax attacks.

“The demo I brought combined elements of technology innovation from Los Alamos, Livermore and Sandia and was a complete portable DNA analysis system, as we say, ‘from dirt to data,’” explained Trehwella, noting that the president had numerous questions for her, not about the science behind the analysis, but about what you could accomplish with the technology.

Trehwella said that as Bush was leaving her table, he remarked on the importance of this work to the nation, she said to him, “We will do our best.”

Bush looked Trehwella in the eye, she said, and responded, “I know you will.”

Omberg was next in line and despite the lack of advance notice, she said she felt ready to brief the president. “It sounds corny, but it really was a tremendous honor to be representing the incredible hard work of all the people from Los Alamos, Livermore and Argonne who work on this issue of chemical and biological detection,” she said.

Omberg told Bush that BASIS was one of the technologies deployed at the Olympics. She said he responded, “Oh, one of those technologies ...”

When Bush had finished his tour of the various demos, all the presenters went outside into the very hot and muggy Chicago weather to watch the president deliver a speech on homeland security to the employees at Argonne.

The entire Los Alamos contingent was pleased to hear the president’s remarks, especially when he made specific reference to Los Alamos: “I’ve just come back from viewing some demonstrations of the great work done at national laboratories, whether it be here, or Los Alamos, or Sandia or others. The American people need to know we’ve got a lot of brain power working on ways to deal with the threats that we now face as we head into the 21st century.”

*Kristin Omberg, right, of Systems Engineering and Integration (D-3) briefs Illinois Gov. George H. Ryan, left, and Matthew Bettenhausen, deputy governor for Criminal Justice & Public Safety, about Argonne National Laboratory’s chemical detection PROTECT system. Omberg next discussed the Los Alamos-Livermore BASIS system with Ryan.*





# Lab leader recounts 'shocking experience'

by Kathryn Ostic



Terry Hawkins

“Growing hatred toward the United States as a sole remaining superpower makes us a lightning rod for the rest of the world,” said Terry Hawkins, division leader of Nonproliferation and International Security (NIS), to an attentive audience at the Soreq Nuclear Research Center in Yavne, Israel. It was Sept. 11, 2001, and Hawkins was addressing the group on counterterrorism.

Suddenly, in the middle of his talk, the phone rang. Hawkins soon learned what millions of Americans were finding out: One of the World Trade Center towers had just been hit by an airplane.

Hawkins abruptly ended his talk and returned with his wife to their hotel in Tel Aviv where they silently watched CNN coverage of the attacks on the World

Trade Center and Pentagon. “It was a shocking experience for me to view the Sept. 11 attacks on CNN,” said Hawkins. “Questions frantically raced through my mind: ‘How will I get home? Will I personally know some of the victims? Will international phone lines be jammed? Will I have money if my Diners Club becomes inactivated?’”

Later that night Hawkins and his wife joined their host, the host’s wife and one other couple for a somber dinner. As an expression of sorrow, Israelis erected simple memorials consisting of candles and hand-drawn posters. The memorials stretched for three miles.

“Once we were recognized as Americans, sympathy was directly expressed, and we felt like we were among friends,” noted Hawkins.

Hawkins eventually was able to communicate by phone with his family; he also contacted and encouraged his Laboratory staff by e-mail. Five days after the attacks, Hawkins and his wife boarded a Northwest Airline flight headed for home.

“Upon landing, I thought, ‘My country is wounded and less innocent, and I have a lot of work to do,’ ” said Hawkins.

**“Questions frantically raced through my mind, such as, ‘How will I get home?’ ”**

## Laboratory responds ...

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regarding the design and development of an integrated, automated entry/exit system.

- **GENetic Imagery Exploitation (GENIE):** GENIE uses feature-extraction technology to enable human analysts to keep up with the flood of high-quality imagery.
- **Responding to anthrax attacks:** Laboratory researchers have supported federal agencies by providing DNA forensics expertise.
- **The Biological Aerosol Sentry and Information System (BASIS):** A joint Los Alamos-Livermore project, BASIS provides early warning of airborne biological weapons attacks.
- **Chemical Detection:** The Swept Frequency Acoustic Interferometer (SFAI) can be used to determine the composition of suspected chemical weapons without opening or disturbing the weapon.
- **Securing Nuclear Materials at their Source:** Laboratory researchers have worked for more than a decade securing materials through the Department of Energy/NNSA Materials Protection, Control and Accounting program and have begun efforts to secure radiological sources in Russia.
- **Second Line of Defense:** The SLD program works to strengthen Russia’s overall capability to prevent the illegal transfer of nuclear materials, equipment and technology to would-be proliferators.
- **Protecting U.S. Borders, Bases and Cities:** This area strives to detect radiological or nuclear materials at U.S. ports of entry, cities and military bases. The Laboratory provides several federal agencies information on handheld radiation detectors and isotope identifiers, advice on what instruments to buy and instruction in their use.
- **Nuclear sensors, detectors and isotope identifiers:** Los Alamos has long been a leader in the development of devices to search for, detect and identify nuclear and radiological materials. Developments include handheld, portal, package and container monitors.
- **Nuclear emergency preparedness and response:** Los Alamos has more than 100 employees involved in the DOE Nuclear Emergency Support Team (NEST), focused on responding to a threat involving radiological or nuclear materials or devices.

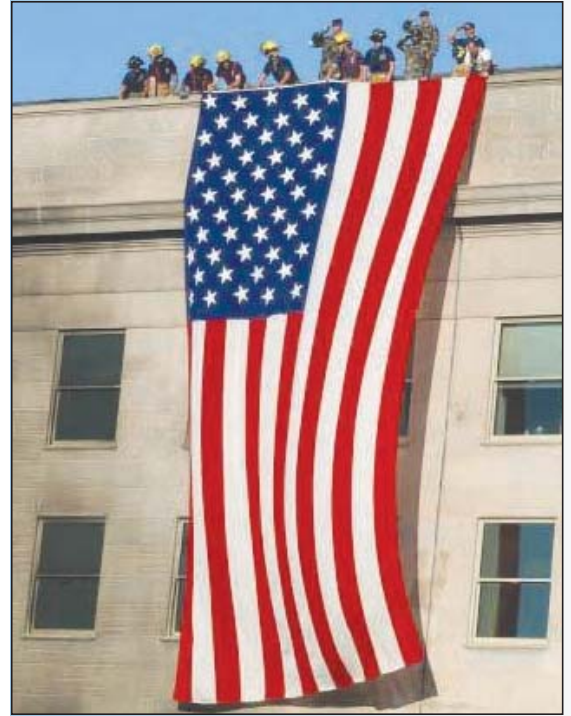
A more complete listing of Los Alamos homeland security technologies is in Cobb’s Congressional testimony, available online at [http://www.lanl.gov/orgs/pa/newsbulletin/2002/07/10/HEC\\_Cobb\\_test\\_7\\_8\\_02.pdf](http://www.lanl.gov/orgs/pa/newsbulletin/2002/07/10/HEC_Cobb_test_7_8_02.pdf).



## Did you know ...

- The groundbreaking ceremony for the Pentagon took place on Sept. 11, 1941— exactly 60 years before the terrorist attack in 2001.
- The Department of Defense reports a total of 125 service members, employees and contract workers died in the Sept. 11, 2001, attack on the Pentagon building. An additional 64 people died aboard the hijacked American Airlines Flight 77, which crashed into the west side of the building.

## Sept. 11, 2001: A timeline ...



**6:40 p.m.** — Rumsfeld, the U.S. defense secretary, holds a news conference in the Pentagon, noting the building is operational. “It will be in business tomorrow,” he says.

**6:54 p.m.** — Bush arrives back at the White House and is scheduled to address the nation at 8:30 p.m. The president earlier landed at Andrews Air Force Base in Maryland with a three-fighter jet escort.

**7:17 p.m.** — U.S. Attorney General John Ashcroft says the FBI is setting up a Web site for tips on the attacks: [www.ifccfbi.gov](http://www.ifccfbi.gov). He also says family and friends of possible victims can leave contact information at 800-331-0075.

**7:45 p.m.** — The New York Police Department says at least 78 officers are missing. The city also says as many as half of the first 400 firefighters on the scene were killed.

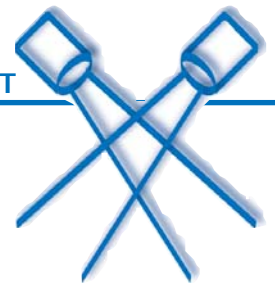
**8:30 p.m.** — Bush addresses the nation, saying “thousands of lives were suddenly ended by evil” and asks for prayers for the families and friends of Tuesday’s victims. “These acts shattered steel, but they cannot dent the steel of American resolve,” he says. The president says the U.S. government will make no distinction between the terrorists who committed the acts and those who harbor them. He adds that government offices in Washington are reopening for essential personnel Tuesday night and for all workers Wednesday.

**9:57 p.m.** — Giuliani says there is hope that there are still people alive in rubble. He also says that health department tests show there are no airborne chemical agents about which to worry.

**10:49 p.m.** — A news agency reports that Ashcroft told members of Congress there were three to five hijackers, armed only with knives, on each plane.

**11:54 p.m.** — A news agency reports that a government official said there was an open microphone on one of the hijacked planes and that sounds of discussion and “duress” were heard. Also, reports state that law enforcement has “credible” information and leads and is confident about the investigation.





## Plans to rebuild, plans for memorial

# Six concept plans unveiled

The Port Authority of New York and New Jersey, which owns the 16 acres occupied by the World Trade Center and other facilities in the immediate area, and the Lower Manhattan Development Corp., a joint city-state corporation formed in the aftermath of Sept. 11, 2001, to oversee and coordinate the redevelopment of Lower Manhattan, this summer unveiled six concept plans for development of the WTC and adjacent areas that will include a Sept. 11, 2001, memorial.

The concept plans look beyond the former 16-acre WTC site and consider the broader urban context that must be rebuilt. Alternatives in the six concept plans, which are a starting point for thinking about site, according to the PA and LMDC "Preliminary Urban Design Plan," ([www.renewnyc.com/concepts.htm](http://www.renewnyc.com/concepts.htm)) will include a permanent memorial that is respectful, contemplative and inspirational; public open space that is usable and attractive; cultural amenities that could include such things as a Museum of Freedom and Remembrance; a concert hall; an opera house; education facilities; a library or community center; and commercial office space.

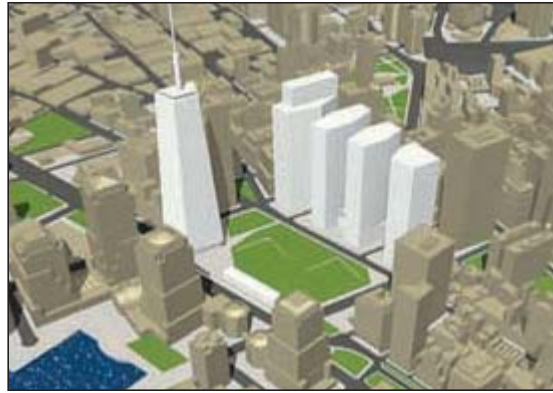
There are three main planning phases in the project: The first includes the six concept plans, the second includes refined plans and the third in the calls for the release of the final draft plan in December.

Since the port authority put out the call for public input in July, it has received 5,000 suggestions via e-mail and has listened to comments from more than another 5,000 participants from other venues.

As a result of input, the following ideas will be incorporated into the new program alternative, according to the PA and LMDC: a distinctive skyline, a preference for preserving the footprints of the twin towers for memorial space and precluding commercial development on those locations, minimum and maximum square footage for mixed-use development, a grand promenade from the future WTC memorial with the ferries in Battery Park to Liberty and Ellis islands, a new street grid and a central transit center.

Architects and planners from around the world have been invited to participate in the design study and up to five teams of architects will work on the final plan.

In addition to the massive World Trade Center redevelopment and memorial project, the Pentagon has been authorized by Congress and the secretary of defense to establish a memorial on the grounds of the Pentagon. American Airlines Flight 77



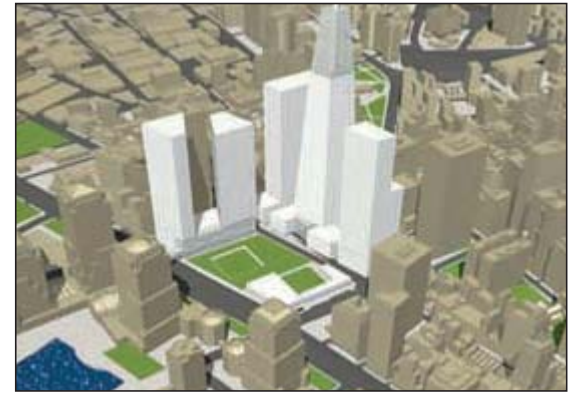
**Memorial Plaza:** Tallest building is 79 stories, 18 acres park space and two "foot prints" of former towers.



**Memorial Square:** Tallest building is 80 stories with 24 acres of green space.



**Memorial Triangle:** Tallest building is 85 stories, 13 acres of park space with memorial on site where towers stood.



**Memorial Garden:** Tallest building 86 stories, four smaller buildings and 6.8 acres of park space.



**Memorial Park:** Five towers and Obelisk on site where towers stood.



**Memorial Promenade:** Two buildings, each 63 stories, with four smaller 32-story buildings and 27 acres of green space.

crashed into the Pentagon, killing all 59 people aboard as well as 125 civilians and service members within the Pentagon.

A two-stage competition, sponsored by the United States Department of Defense (DoD) and administered by the United States Army Corps of Engineers, to select a concept for the memorial is under way. A jury comprising a panel of professionals, government representatives and victims' family members is scheduled to announce the winner Dec. 23.

The memorial site is a 1.93-acre parcel of land located 165 feet west of the west face of the Pentagon, within clear view of the point at which Flight 77 struck the building. The memorial site is directly in front of the location of a charred and discolored piece of limestone from the original facade that was placed in the wall during a ceremony on June 11 as part of the effort to rebuild the damaged area of the Pentagon.



### Did you know ...

- People from more than 80 nations were killed in the terrorist attacks on the World Trade Center twin towers
- World Trade Center casualties: 2,823 (updated May 30) (includes those killed in WTC and aboard the two jetliners)
- The 110-story twin towers were 1,362 feet and 1,368 feet high — 100 feet taller than the Empire State Building.
- Estimates indicate that 10 percent of the office space in Manhattan was lost on Sept. 11.
- The WTC had the largest refrigeration plant in the world, cooling 60,000 tons daily when it was in operation.

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