



It is my pleasure to welcome you to the Second Los Alamos Primer: Challenges Facing Stockpile Stewardship in the 21st Century

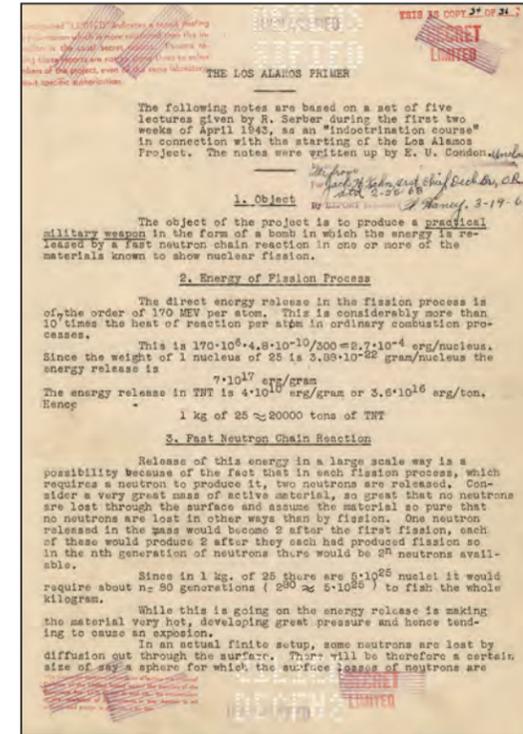
The first *Los Alamos Primer* lecture series took place 70 years ago. It was the spring of 1943, in conjunction with the start-up of “Project Y,” a part of the Manhattan Project. Project Y would eventually become Los Alamos National Laboratory.

The U.S. entry into the Atomic Age had been slow and cautious. But when the United States entered World War II and faced the carnage of the war, fighting and genocide had already claimed millions of lives. Obtaining the bomb before Nazi Germany or Imperial Japan was imperative.

The brightest students (their average age was 24) were recruited from the nation’s best colleges and universities. They were joined by other recruits: some of the world’s preeminent scientists—for example, Enrico Fermi, Hans Bethe, Edward Teller, and Stanislaw Ulam—many of them refugees from Nazi Germany. The recruits were told very little other than that their work might bring an end to the war. They were given one-way train tickets to the tiny town of Lamy, New Mexico, just south of Santa Fe. There they were met by government agents and spirited away to an undisclosed location in the mountains northwest of Santa Fe.

The youthful recruits, soon to become the world’s first nuclear weapons scientists and engineers, knew little about nuclear energy and nothing at all about making an atomic bomb. J. Robert Oppenheimer tasked his Berkeley protégé Robert Serber with immediately laying the necessary intellectual groundwork for the arriving scientists. Serber put the nature of their vital mission bluntly.

“The object of the project,” he explained to the first several dozen nervous new arrivals, “is to produce a practical military weapon in the form of a bomb in which the energy is released by a fast neutron chain reaction in one or more of the materials known to show nuclear fission.”



The document containing the original *Primer* lectures (shown here) remained secret until it was declassified in 1965. It was published for the first time in 1992.

Using a simple blackboard and some brief notes, Serber provided a series of five lectures. He had developed the notes at Berkeley the previous summer while leading a series of secret seminars (which included Oppenheimer, Bethe, and Teller) that explored the potential for building a nuclear weapon. He began the Los Alamos lectures by presenting an essential introductory overview of the relevant nuclear physics. Next, he unveiled the most promising approaches, developed from the secret Berkeley seminars, for building the world’s first nuclear bomb.

Following each day’s lecture, Serber’s original notes were expanded and annotated, based on the questions and discussions traded between audience participants. Formulas, graphs, and simple drawings from the blackboard were added. The resulting 24-page document was mimeographed and handed out to every newly arriving Project Y scientist.

The document, titled the *Los Alamos Primer*, was a slim and parsimonious but powerful map. Although it presented a definitive starting point and destination, and contained several clear landmarks in between, the exact route to building a nuclear weapon was still unclear.

Nevertheless, Project Y’s scientists toiled with diligence and determination and managed, by August 1945, to produce two completely different types of practical atomic weapons: Little Boy (a uranium gun-type device) and Fat Man (a plutonium implosion device).

Although the world today is very different than that of 1945, there is still a need to deal with the world’s dangers. The United States and its allies remain threatened by traditional nuclear-armed adversaries and new nuclear powers, as well as by states of concern and terrorist organizations seeking nuclear weapons. In this environment, the Laboratory’s mission—to do the world-class science needed to meet challenges in national security—has not changed. To succeed, the Laboratory’s scientists must, above all, be free to think critically and examine all possibilities.

As Oppenheimer put it, “There must be no barriers to freedom of inquiry. There is no place for dogma in science. The scientist is free, and must be free to ask any question, to doubt any assertion, to seek for any evidence, to correct any errors ... We know that the only way to avoid error is to detect it and that the only way to detect it is to be free to inquire.”

As the Soviet Union collapsed, raising concerns about the security of nuclear weapons and materials in the Soviet weapons complex, underground testing ended in 1992. This essential tool of U.S. weapons efforts was replaced in 1994 by the Stockpile Stewardship Program. Los Alamos went from designing, engineering, and testing nuclear weapons to stewarding the Laboratory-designed weapons, which are aging in the nuclear stockpile, and doing this without full-scale testing. (Assessments of the stockpile are reported annually to the president.)

The new challenges that stewardship presented the Laboratory were, and still are, daunting. Assessing the health of the stockpile—then, now, and in the future—without additional full-scale testing, required building revolutionary new experimental facilities and investing in new supercomputing, engineering, and manufacturing capabilities. It took less than two-and-a-half years to build the first atomic bombs, but it has taken 20 years of the nation's best scientific efforts to get the Stockpile Stewardship Program this far.

How far are we? This new challenge, like the one that began in 1943, is one with a clear objective: a safe, secure, and effective stockpile. We have made significant strides in stewardship at Los Alamos. Our supercomputers, where weapon simulations are done, are some of the fastest on the planet. Our Dual-Axis Radiographic Hydrodynamic Testing facility is producing world-class radiographs of weapon components. We have built plutonium pits to support the U.S. Navy and we are extending the service life of Navy and Air Force weapons. But however significant our successes to date, great scientific challenges remain for Stockpile Stewardship—ensuring that the deterrence remains safe, secure, and effective without testing requires this capability for the long-term.

Because these weapons depend on an in-depth understanding of extremely complicated physics and because the warhead components continue to age, they continue to present new problems. Although pit aging has begun to be studied, important work remains to be done. As national and international political and economic landscapes shift, and as our science and technology improve, there is no foreseeable end in sight to the challenges of Stockpile Stewardship—nor to the ways of meeting them. Yet today's austere budget climate threatens our ability to optimally use the existing tools of Stockpile Stewardship; to complete lifetime extension programs (LEPs) with modern materials and manufacturing that meet U.S. military requirements while improving safety and security; and to build the downsized, modernized infrastructure, without which we will be unable to carry out our national security mission. In this difficult situation, the path ahead is unclear. But failure is not an option.

The *Second Los Alamos Primer* lectures and discussions, held on the Laboratory's 70th anniversary, will explore the changing stewardship landscape, seek new ways to meet its challenges, celebrate our successes, and inspire our current and next generation of scientists.



Mary F. Argo



George E. Kistiakowsky



William E. Parsons



Enrico Fermi



Richard P. Feynman



Harold M. Agnew

Official identification badge photos from Project Y frame a rare color photograph taken of the Trinity test.



Otto R. Frisch



Luis Alvarez

"We were lying there, very tense, in the early dawn, and there were just a few streaks of gold in the east; you could see your neighbor very dimly. Suddenly, there was an enormous flash of light, the brightest light I have ever seen or that I think anyone has ever seen. It blasted; it pounced; it bored its way right through you..."



Grover R. Rainier

A new thing had just been born; a new control; a new understanding of man, which man had acquired over nature."

-I. I. Rabi



J. R. Oppenheimer



Nicholas Metropolis



Hans A. Bethe



Robert Serber



Norris E. Bradbury



John R. Von Neumann



MONDAY, JULY 22 LOS ALAMOS NATIONAL LABORATORY SECOND PRIMER LECTURE SERIES

UNCLASSIFIED

Jonathan Ventura, Host

8:00 am Welcome~ Charles McMillan

Laboratory Director Charles McMillan welcomes everyone to the first day of the Laboratory's 70th Anniversary Celebration and its *Second Los Alamos Primer* lecture series.

8:15 am Awards Ceremony

Director Charles McMillan accepts awards on behalf of the Laboratory.

- Don Cook, DOE/NNSA
- Norm Pattiz, University of California
- Martin White, Ministry of Defense, United Kingdom
- Andrew Jupp, Atomic Weapons Establishment, United Kingdom
- François Geleznikoff, Direction des Applications Militaires
- Michael Turner, American Physical Society

8:45 am Inventing Los Alamos: The Birth of an Atomic City

Jon Hunner, New Mexico State University, will explore the early social and cultural history of this unique community. Beginning with the establishment of Project Y during the Manhattan Project, Hunner will describe and illustrate how this instant city developed during World War II and how it adapted to the Cold War. From the hasty construction of a town intended to last only for the duration of the war to the evolution of an attractive modern suburb, "Inventing Los Alamos" will examine the origins of the community that helped change the world.



Jon Hunner is the head of the History Department at New Mexico State University. He received his Ph.D. from the University of New Mexico. Hunner teaches graduate and undergraduate students about United States, New Mexico, and public history. He also assists communities in New Mexico with documenting, interpreting, and publicizing their history and culture.

Hunner is a historian of the Nuclear Age. He is the author of *Inventing Los Alamos: The Growth of an Atomic Community*, which examines its creation as the Atomic City. He is also the author of *Dr. J. Robert Oppenheimer, the Cold War, and the Atomic West*, which brings new insights into how the West influenced Oppenheimer and how Oppenheimer then transformed the West.

QUESTIONS 9:15 - 9:30

9:30 am *The Second Nuclear Age*

Paul Bracken, Yale University, discusses why the United States needs to pay renewed attention to nuclear weapons and how their presence will transform the way crises develop and escalate in the future.



A management and political science professor at Yale University, Paul Bracken is a leading expert in global competition and the strategic application of technology in business and defense. Bracken recently authored *The Second Nuclear Age*, which calls for renewed attention to nuclear weapons as a vital element in statecraft and power politics. He also serves on several Department of Defense advisory boards.

Before joining the faculty at Yale, Bracken worked under Herman Kahn at the Hudson Institute. Bracken was a member of the institute's senior staff, as well as a consultant to the Rand Corporation.

QUESTIONS 10:00 - 10:15

10:15 - 10:30 BREAK

10:30 am DoD/Military Perspectives

Michael Elliott, Department of Defense, addresses the challenges confronting the military services in retaining confidence in the stockpile, which has not been tested since 1992, while changes are introduced through Life Extension Programs.



A career member of the Department of Defense's Senior Executive Service, Michael Elliott is the deputy director for the Strategic Stability, Strategic Plans and Policy Directorate, the Joint Staff. In this role, he is responsible for the formulation of Joint Staff positions and recommendations regarding strategic deterrence, nuclear policy, Department of Defense efforts to combat weapons of mass destruction, and strategic arms reduction negotiations and agreements, as well as other international negotiations and agreements.

In 2009, Elliott served as a representative to the New Strategic Arms Reduction Treaty (New START) negotiations with the Russian Federation. He has also served as the senior technical authority to the director for Plans and Policy and Commander, USSTRATCOM, and was responsible for the shaping and implementation of national security plans and policy as it applied to the command and the execution of its mission.

QUESTIONS 11:00 - 11:15

11:15 am DOE/NNSA Perspectives

Anne Harrington, National Nuclear Security Administration, discusses the arms control environment as a significant factor shaping the acquisition and deployment of new launch platforms for nuclear weapons and the work carried out by the national security science laboratories in support of the deterrent.



Anne Harrington currently serves as deputy administrator for Defense Nuclear Nonproliferation at the National Nuclear Security Administration. Previously, she was the director of the U.S. National Academy of Sciences Committee on International Security and Arms Control (CISAC). While at CISAC, she managed several key studies on a variety of nonproliferation, threat reduction, and other nuclear security issues.

Before joining CISAC, Harrington served for 15 years in the U.S. Department of State, where she was acting director and deputy director of the Office of Proliferation Threat Reduction and a senior U.S. government expert on nonproliferation and cooperative threat reduction.

QUESTIONS 11:45 - 12:00

12:00 - 1:00 LUNCH BREAK

INTERNATIONAL PERSPECTIVES

In these talks representatives from two of America's closest allies will present a European perspective on the role of nuclear weapons in the 21st century.

1:00 pm *Martin White (United Kingdom)*



Martin White is the head of Strategic Technologies of the United Kingdom's Ministry of Defense. He is tasked with ensuring that the United Kingdom's defense nuclear science and technology capability, primarily centered at the Atomic Weapons Establishment, is developed and maintained at a level consistent with meeting the ministry's nuclear deterrent policy requirements and with providing defense nuclear science and technology support to broader UK government initiatives.

Before joining the Ministry of Defense, White was appointed to the British Embassy in Washington. His role was to maintain a healthy bilateral US/UK relationship on defense issues, consistent with UK interests.

1:20 pm *Daniel Verwaerde (France)*



Daniel Verwaerde is the director of Military Applications at the Commissariat à l'énergie atomique et aux énergies alternatives (CEA).

Prior to his current position, Verwaerde served as director of nuclear weapons, where he was in charge of French nuclear deterrence programs at the Direction des Applications Militaires (DAM), which operates under the CEA.

When France discontinued its nuclear test operations and switched to simulations in 1996, Verwaerde, who once oversaw the CEA Simulation and Computer Science department, was chosen as the first director of the French Simulation Program.

QUESTIONS 1:40 - 2:00

2:00 pm *Challenges of North Korea*

U.S. Ambassador Christopher Hill is among a handful of Americans who have spent significant time dealing with North Korean officials. Ambassador Hill will share his views and perspectives on North Korea and where it may go under the leadership of Kim Jong-un.



Ambassador Christopher Hill is the dean of the Josef Korbel School of International Studies at the University of Denver.

Before arriving in Denver, Hill worked as the nation's ambassador to Macedonia, Poland, Korea, and Iraq. In 2005, he was selected to be the head of the U.S. delegation to the Six-Party Talks on the North Korean nuclear issue.

Hill earned the State Department's Distinguished Service Award (1996) and the Robert S. Frasure Award for Peace Negotiations (1999) for his contributions to the Bosnia Peace Settlement and to the resolution of the Kosovo crisis, respectively.

QUESTIONS 2:30 - 2:45

2:45 - 3:00 BREAK

3:00 pm *U.S. Media Perspective*

Judith Miller, author and Fox News correspondent, will share her perspectives, based on her extensive experiences in the Middle East, on national security challenges confronting the United States.



Judith Miller is an investigative reporter for Fox News, currently working as a national security and terrorism commentator. She is also an adjunct fellow at the Manhattan Institute and a contributing editor of its magazine, *City Journal*. Miller's journalism focuses on American foreign policy, particularly in the Middle East, as well as on the protection of civil liberties and national security in the post-9/11 world.

Miller formerly worked as a reporter for *The New York Times*, where she was part of a team that won a Pulitzer Prize for a series of articles on Osama Bin Laden and Al-Qaeda. During the recent Iraq War, Miller was the only reporter to be embedded with the 75th Expeditionary Task Force, the multiservice unit whose sensitive mission was to hunt for weapons of mass destruction. She has written several books, including *God Has Ninety-Nine Names*, which explores the spread of Islamic extremism in ten Middle Eastern countries, including Israel and Iran.

QUESTIONS 3:30 - 3:45

3:45 pm *DOE/NNSA Perspectives*

Don Cook, National Nuclear Security Administration, will discuss the current state of the fiscal year 2014 budget and the likelihood of long-term investments in next-generation computing, as well as on funding for the proposed MaRIE science facility at Los Alamos.



Don Cook serves as the deputy administrator for Defense Programs at the National Nuclear Security Administration. As deputy administrator, Cook is responsible for managing the U.S. nuclear security enterprise of laboratories and manufacturing facilities.

Prior to his appointment to NNSA, Cook served as managing director and chief executive officer of the Atomic Weapons Establishment in the United Kingdom. Cook has also worked in Pulsed Power Sciences, Microtechnologies, Infrastructure, and Security at Sandia National Laboratories.

QUESTIONS 4:30 - 4:45

4:45 pm *Closing Remarks~ Charles McMillan*



J. Robert Oppenheimer (1943–1945), left, with General Leslie R. Groves (head of the Manhattan Engineer District) at the Trinity Site's ground zero in September 1945.



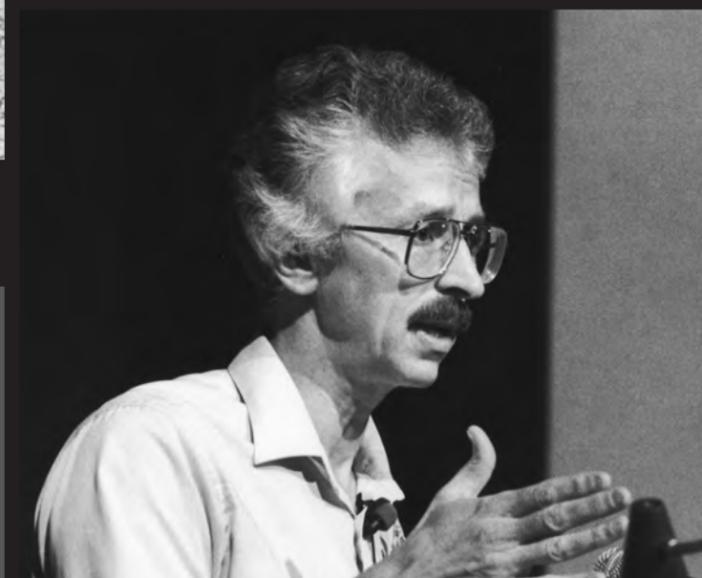
Norris Bradbury (1945–1970), center, at Los Alamos with President John F. Kennedy and Senator Clinton P. Anderson (NM) in December 1962.



Harold Agnew (1970–1979), center, with visitors from the University of California.



Donald Kerr (1979–1986), right, with Senator Jeff Bingaman (NM), left, and Bob Thorn, acting Lab director in 1979 and 1985.



Siegfried S. Hecker (1986–1997)



John C. Browne (1997–2003)

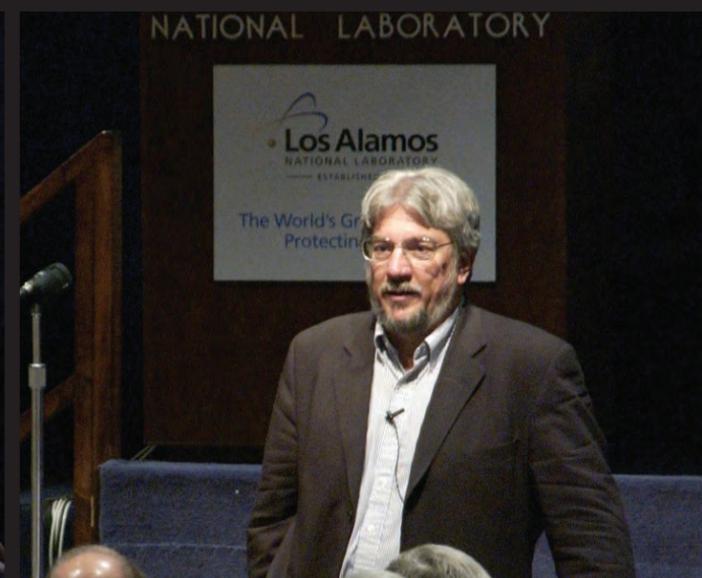


George Peter Nanos (2003–2005) with representatives from the Eight Northern Pueblos.

LOS ALAMOS NATIONAL LABORATORY DIRECTORS



Robert W. Kuckuck (2005–2006)



Michael R. Anastasio (2006–2011)



Charles McMillan (2011–current)

TUESDAY, JULY 23
LOS ALAMOS NATIONAL LABORATORY
SECOND PRIMER LECTURE SERIES

SECRET/RESTRICTED DATA

Craig Leasure, Host

8:00 am *Welcome~ Charles McMillan*

Laboratory Director Charles McMillan welcomes everyone to the second day of the Laboratory's 70th Anniversary Celebration and its *Second Los Alamos Primer* lecture series.

8:10 am *Keynote Speaker~ Victor "Vic" Reis*

Vic Reis is considered by many to be the architect of the Stockpile Stewardship Program. He will address the progress the program has made since its inception in 1994 and the challenges of moving it forward over the next several decades.



Vic Reis served as assistant secretary for defense programs in the U.S. Department of Energy from 1993 to 1999, during which he led the development of the DOE's Stockpile Stewardship Program, which was formally established by the 1994 National Defense Authorization Act. After the U.S. moratorium on nuclear testing began in 1992, Reis was among the first to recognize the need for a new, formal, science-based program for maintaining the U.S. nuclear stockpile and for replacing data formerly obtained by underground testing with data from experiments, modeling and simulation, and engineering.

Reis is a senior adviser for the DOE. Additionally, he served as director of Defense Research and Engineering in the Defense Department and assistant director for National Security and Space in the Executive Office of the President's Office of Science and Technology Policy.

QUESTIONS 8:40 - 9:00

9:00 am *Congressional Perspective*

Representative Charles Jeremy "Jerry" Lewis (Ret.) will discuss the current budgetary challenges confronting Congress, which needs to authorize and appropriate the funds to acquire new launch platforms and support the infrastructure requirements of the nuclear weapons complex.



As a congressman, Jerry Lewis represented California's 41st, 40th, 35th, and 37th congressional districts. He was first elected in 1978 and was reelected 16 consecutive times until he retired in 2012.

A member of the Republican Party, Lewis is a former chairman of the House Appropriations Committee, serving in that capacity during the 109th Congress, from 2005 to 2007. During the 110th and 111th, he was the ranking member on the committee. Lewis has also served as the vice chairman of the Appropriations Committee's Subcommittee on Defense.

QUESTIONS 9:30 - 9:45

NATIONAL SECURITY SCIENCE LABORATORY
DIRECTORS' PERSPECTIVES

The directors of the other two U.S. national security science laboratories will review their unique shared history with Los Alamos in providing the nation with a safe, secure, and effective nuclear deterrent. The directors will present awards to the Laboratory.

9:45 am *Paul Hommert*



Paul Hommert is the director of Sandia National Laboratories and president of Sandia Corporation, a wholly owned subsidiary of Lockheed Martin Corporation, which operates Sandia for the National Nuclear Security Administration.

Prior to his current position, Hommert was executive vice president and deputy laboratories director for Sandia's Nuclear Weapons Program. He also served as vice president of Sandia's California site.

Additionally, Hommert led the Applied Physics Division at Los Alamos National Laboratory and has been the director of Research and Applied Science at the United Kingdom's Atomic Weapons Establishment.

10:00 am *Penrose "Parney" Albright*



Parney Albright is the director of Lawrence Livermore National Laboratory and the president of Lawrence Livermore National Security, LLC.

Prior to being named director, Albright served as the principal associate director for Global Security at Livermore, where he helped guide the laboratory's efforts to broaden its engagement with the national security and energy communities.

Before arriving at Livermore, Albright was president of Civitas Group, LLC. He also served as assistant secretary of the Department of Homeland Security.

QUESTIONS 10:15 - 10:30

10:30 - 10:45 BREAK

10:45 am *Challenges of North Korea*

U.S. Ambassador Joseph DeTrani will share his unique perspectives on what direction North Korea may take under the new leadership of Kim Jong-un. Terry Wallace, principal associate director of Global Security, will moderate this discussion.



Terry Wallace



Ambassador Joseph DeTrani is the president of the Intelligence and National Security Alliance (INSA), a nonprofit organization that works to recognize and promote the highest standards within the national security and intelligence communities. Prior to joining the INSA, DeTrani worked in the Office of the Director of National Intelligence (ODNI).

Having been the senior advisor and North Korea mission manager to ODNI, DeTrani specializes in Asian relations. During his career in public service, he also served as special envoy to the Six-Party Talks with North Korea and as the U.S. representative to the Korea Energy Development Corporation. Additionally, DeTrani worked as the CIA's director of East Asia Operations.

QUESTIONS 11:15 - 11:30

11:30 - 12:30 LUNCH BREAK

12:30 pm *Decadal Challenges for Science and Engineering*

An overview of MaRIE, the Laboratory's proposed new signature science facility, and the Laboratory's plans for next-generation computing at Los Alamos. Alan Bishop, principal associate director of Science, Technology, and Engineering at the Laboratory, will provide the context on how these new capabilities are essential to the Laboratory's meeting its future national security responsibilities.



Alan Bishop

- **Mary Hockaday**, deputy director of Weapons Physics and MaRIE capture manager, will provide more-detailed discussions on technical hurdles.
- **John Sarrao**, associate director of Theory, Simulation, and Computation, will present an overview of MaRIE and its capabilities.
- **Bill Archer**, associate director for Weapons Physics, and **Gary Grider**, division leader of High Performance Computing, will discuss the Laboratory's next-generation supercomputing efforts.

QUESTIONS 1:15 - 1:30

1:30 pm *Weapons Designers Roundtable*

Los Alamos' weapons designers will discuss the technical challenges Stockpile Stewardship presents to the weapons design community. Bob Webster, associate director for Weapons Physics, will provide an overview of the technical issues confronting experienced designers and the challenges of training emerging designers during the moratorium on underground nuclear testing.



Bob Webster

- **Gary Wall**, **John Pedicini**, and **Jas Mercer Smith**, weapons designers with underground testing experience, will provide their perspectives.
- **Langdon Bennett**, **John Scott**, and **Brian Lansrud-Lopez** will discuss the challenges of being an emerging weapons designer.

QUESTIONS 2:15 - 2:30

2:30 pm LABORATORY DIRECTORS' ROUNDTABLE

Laboratory Directors Pete Nanos, Bob Kuckuck, Michael Anastasio, and Charles McMillan have all signed annual assessment letters on the nuclear stockpile's weapons systems that were designed by Los Alamos. This panel discussion, moderated by Bret Knapp, principal associate director of the Weapons Program, will explore the directors' views, opinions, and concerns regarding the stockpile as it ages; the challenges created by the moratorium on underground testing; and the challenges confronting the Laboratory in its efforts to maintain its scientific and engineering capabilities for addressing issues in national security.



Bret Knapp

Pete Nanos



Pete Nanos is the associate director of research and development at the Department of Defense's Defense Threat Reduction Agency. He was a director of Los Alamos National Laboratory from 2003 to 2005 and was a vice admiral in the U.S. Navy. Nanos arrived in Los Alamos in 2002 and shared responsibility for supervising the three divisions of the Laboratory's Threat Reduction Directorate: Biosciences, Decisions Applications, and Nonproliferation and International Security.

Robert Kuckuck



Robert Kuckuck was the director of Los Alamos National Laboratory from May 2005 to June 2006, serving as the last director under the University of California contract. He was appointed as director following a 35-year career at Lawrence Livermore National Laboratory, during which he held a number of management positions, including deputy director of the laboratory. Kuckuck began his career at Livermore as an experimental physicist. Over the course of his tenure at the laboratory, he became recognized as a leading expert in treaty verification technologies and nuclear weapons testing. Among other positions, he worked as Livermore's assistant associate director for Nuclear Testing and deputy associate director for Nuclear Design. Additionally, Kuckuck has worked as a deputy administrator with the National Nuclear Security Administration.

Michael Anastasio



Michael Anastasio was a director of Los Alamos National Laboratory and president of Los Alamos National Security, LLC, from 2006 until 2011. He was the first director to serve under Los Alamos' new contract with LANS, LLC. Under Anastasio's leadership, Los Alamos delivered its first war reserve plutonium pit to support the U.S. Navy's Trident Ballistic Missile Program and successfully commissioned the second axis of DARHT. Before becoming director at Los Alamos, Anastasio served as a director of Lawrence Livermore National Laboratory. At Livermore, Anastasio was instrumental in the development and execution of the national Stockpile Stewardship Program.

Charles McMillan



Charles McMillan is the director of Los Alamos National Laboratory and the president of Los Alamos National Security, LLC (LANS). Before being named director, McMillan served as principal associate director for the Weapons Program. In that capacity, he provided vision and direction for the Weapons Program and was principal advisor to the Laboratory's director in preparation of the annual assessment letter on the safety, security, and effectiveness of nuclear weapons in the nation's stockpile. Prior to serving as the principal associate director for the Weapons Program, McMillan held a series of scientific and management positions at Lawrence Livermore National Laboratory.

QUESTIONS 3:30 - 3:45

3:45 pm *Closing Remarks~ Charles McMillan*

Now...

and then...



After World War II, the Atomic Energy Commission (AEC) was created to administer the nation's nuclear weapons complex. In Los Alamos, this meant that the AEC oversaw the Laboratory and the community of Los Alamos, neither of which was open to the public. In the photograph at the right, taken in the late 1940s, armed AEC guards on horseback are shown patrolling the northern perimeter of the community of Los Alamos (on North Mesa overlooking Barranca Mesa).

Los Alamos remained a guarded, secured community until 1957. Many of the trails used by the AEC's horse-mounted patrols are today used for recreation.