

2-1-2010

Annotated Bibliography of Ethical Issues in Physics: National Security

Marshall Thomsen

Eastern Michigan University, jthomsen@emich.edu

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Recommended Citation

Thomsen, Marshall, "Annotated Bibliography of Ethical Issues in Physics: National Security" (2010). *Ethics in Science and Engineering National Clearinghouse*. 389.

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Ethical Issues in Physics
Bibliography assembled by
Marshall Thomsen
Eastern Michigan University
February 2012
National Security

SEC

Bulletin of the Atomic Scientists

67.6(November 2011) pp. 9-18

The assault on Los Alamos National Laboratory: A drama in three acts

The author argues that the low morale at Los Alamos National Lab is largely due to management issues.

SEC

Bulletin of the Atomic Scientists

67.6(November 2011) pp. 34-43

Coming *not* so soon to a theater near you: Laser weapons for missile defense

The airborne laser antimissile system is used to illustrate the need for more transparency in weapons development programs.

SEC, ADV

APS Forum on Physics and Society Newsletter

Volume 40, Number 4 October 2011

Judging Edward Teller: A closer look at one of the most influential scientists of the Twentieth Century

Istvan Hargittai (reviewed by Leonard R. Solon)

Book Review

SEC

Physics Today – September 2011

Volume 64, Issue 9, p. 35

The tide predictions for D-Day

Bruce Parker

The article sketches the full history of tide prediction before focusing on its applications to the Normandy landing.

SEC

APS Forum on Physics and Society Newsletter

Volume 40, Number 3 July 2011

The Physics of the Manhattan Project

B. Cameron Reed (reviewed by Bernard L. Cohen)

Book Review

SEC, ENE, ADV

Physics Today – July 2011

Volume 64, Issue 7, p. 31

Adventures in scientific nuclear diplomacy

Siegfried S. Hecker

The author recounts his experiences working on nuclear security issues involving Russia, China, North Korea, and South Africa.

ENE, SEC

Bulletin of the Atomic Scientists

67.2(May 2011) pp. 51-58

South Korea in focus: The politics of spent fuel storage and disposal

Jungmin Kang

The spent fuel storage facilities in South Korea are rapidly filling up, and this poses a significant problem in a country that is increasing its reliance on nuclear energy.

ENE, SEC

Bulletin of the Atomic Scientists

67.3(May 2011) pp. 59-66

Inertial confinement fusion energy R&D and nuclear proliferation: The need for direct and transparent review

Robert J. Goldston and Alexander Glaser

The authors discuss overlaps in technology associated with nuclear weapons and that associated with inertial confinement fusion research.

SEC

APS Forum on Physics and Society Newsletter

Volume 40, Number 2 April 2011

Where is North Korea's Nuclear Program Heading?

Siegfried S. Hecker

The author describes his visit to North Korea's Yongbyon Nuclear Complex.

SEC

Bulletin of the Atomic Scientists

67.2 (March 2011) pp. 1-9

Olli Heinonen: Reporting from the front lines of nuclear proliferation

Interview

The interviewee discusses ways in which the Nuclear Non-Proliferation Treaty should be modified to account for the present global situation.

SEC

Physics Today – February 2011

Volume 64, Issue 2, p. 49

Judging Edward Teller: A Closer Look at One of the Most Influential Scientists of the Twentieth Century

Istvan Hargittai; Stephen B. Libby, Reviewer

Book Review

ENE, SEC

APS Forum on Physics and Society Newsletter

Volume 40, Number 1 January 2011

The French Approach to Nuclear Waste

Declan Butler

An underground lab is being constructed, at which research into nuclear waste storage would be performed.

SEC

APS Forum on Physics and Society Newsletter

Volume 39, Number 4 October 2010

Nuclear Express: A Political History of the Bomb and its Proliferation

Thomas C. Reed and Danny B. Stillman (reviewed by Peter Lerner)

Book Review

SEC

Physics Today—July 2010

Volume 63, Issue 7, pp. 27-29

Airport checkpoint technologies take off

Jermey N. A. Matthews

A brief discussion of scanning technologies.

BEGIN LINK

SEC

Physics Today—July 2010

Volume 63, Issue 7, pp. 30-35

Working toward a world without nuclear weapons

Sidney D. Drell

The author outlines six concrete steps that need to be taken in the quest to eliminate nuclear weapons. Included is a discussion of means of verification and the role of international cooperation.

Physics Today—November 2010

Volume 63, Issue 11, pp. 10-11

Roots and risks of total nuclear disarmament

Alexander DeVolpi, Jonathan Katz, and Sidney Drell

END LINK

ENE/SEC

APS Forum on Physics and Society Newsletter

Volume 39, Number 3 July 2010

NRC Should Perform Non-Proliferation Assessment of Laser Enrichment Technology

Francis Slakey & Linda Cohen

The authors discuss what is known and not known about the uranium enrichment technology known as SILEX.

ENE, SEC

Bulletin of the Atomic Scientists

66.4 (July 2010) pp. 11-22

Reassessing the nuclear renaissance

Paul Nelson

The author looks at nuclear power programs from an international perspective, discussing where nuclear power programs are mostly likely to develop.

ENE, SEC

Bulletin of the Atomic Scientists

66.4 (July 2010) pp. 23-32

Creating the ultimate nuclear reactor

William Sailor

The author describes three different reactor designs that hold promise for mitigating key concerns about nuclear power plants, including the problem of nuclear waste.

SEC

Bulletin of the Atomic Scientists

66.4 (July 2010) pp. 42-57

U.S. nuclear laboratories in a nuclear-zero world

Judith Reppy

The author discusses the history of U.S. nuclear weapons labs, their present structure, their role in the transition to a nuclear-zero world, and their role after the elimination of most nuclear weapons.

SEC

Physics Today—June 2010

Volume 63, Issue 6, pp. 41-46

James Franck: Science and conscience

Frank von Hippel

A brief biography of Franck discusses his role in military research in both WWI and WWII.

ENE, SEC

Bulletin of the Atomic Scientists

66.3 (May 2010) pp. 50-56

It's Time to Give Up on Breeder Reactors

Thomas B. Cochran, Harold A. Feiveson, Zia Mian, M. V. Ramana, Mycle Schneider, and Frank N. von Hippel

An overview of technological, economic, and security issues related to breeder reactors.

SEC

APS Forum on Physics and Society Newsletter

Volume 39, Number 2 April 2010

Beyond Uncertainty: Heisenberg, Quantum Physics and the Bomb

David C. Cassidy (reviewed by Alvin W. Saperstein)

Book Review

SEC/ENE

APS Forum on Physics and Society Newsletter

Volume 39, Number 1 January 2010

Energy, Environment, and Climate

Richard Wolfson (reviewed by Art Hobson)

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 39, Number 1 January 2010

Panel Discussion on the International Monitoring System of the
Comprehensive Test-Ban Treaty: The North Korean Test of October 2006
and Future Prospects

Steven Biegalski, The University of Texas at Austin

Transcribed from video by Drew Masada and Sarah Williams, The
University of Texas at Austin

A discussion of the technology behind monitoring for nuclear explosions.

SEC/ENE

APS Forum on Physics and Society Newsletter

Volume 39, Number 1 January 2010

Nuclear Non-Proliferation: The Future Depends On Us

Pierre Goldschmidt

The author argues that we need to be proactive in dealing with proliferation
threats associated with increased worldwide reliance on nuclear energy.

SEC

Physics Today -- September 2009

Volume 62, Issue 9, p. 52

Defusing Armageddon: Inside NEST, America's Secret Nuclear Bomb
Squad

Jeffrey T. Richelson and Dean Wilkening, Reviewer

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 38, Number 3 July 2009

Initiatives to Enhance Nuclear Stability and Non-Proliferation in the 21st
Century

Gerald E. Marsh and George S. Stanford

The author identifies initiatives that should be pursued, including ratifying
the Comprehensive Test Ban Treaty and building a fast-breeder reactor.

SEC

Science and Engineering Ethics

Volume 15, Number 2 / June, 2009 pp. 129-134

Joseph Rotblat and the Moral Responsibilities of the Scientist

Martin Clifford Underwood

A brief biography of Joseph Rotblat, including his involvement in the Manhattan Project and in Pugwash.

SEC

APS Forum on Physics and Society Newsletter

Volume 38, Number 2 April 2009

The Future of US Nuclear Weapons

Richard L. Garwin

Modified from a draft of Richard Garwin's testimony to the Congressional Commission on the Strategic Posture of the United States focusing mostly on stockpile stewardship but with some discussion of missile defense.

SEC

APS Forum on Physics and Society Newsletter

Volume 38, Number 2 April 2009

Hiroshima: The World's Bomb

By Andrew J. Rotter

Reviewed By John L. Roeder

Book Review

SEC

Bulletin of the Atomic Scientists

65.2 (March-April 2009) pp. 52-58

3 reasons why the U.S. Senate should ratify the test ban treaty

Robert Nelson

The author briefly reviews the history of the treaty and argues that it will enhance U. S. security, that it is sufficiently verifiable, and that the U. S. stockpile can be maintained without the types of tests that the treaty bans.

BEGIN LINK

SEC

Physics Today -- January 2009

Volume 62, Issue 1, pp. 41-47

Panofsky agonistes: The 1950 loyalty oath at Berkeley

Personal correspondence gives insight into Panofsky's reaction when confronted with the University of California loyalty oath shortly after World War II.

Physics Today -- June 2009

Volume 62, Issue 6, pp. 8-10

Berkeley loyalty oath tested politics, fear—not loyalty

Kenneth W. Ford, Howard D. Greyber, Robert P. Crease, and J. D. Jackson

END LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 38, Number 1 January 2009

Nuclear Weapons in 21st Century U.S. National Security

Report by a Joint Working Group of AAAS, the American Physical Society, and the Center for Strategic and International Studies

The Executive Summary is reprinted here, providing recommendations on stockpile maintenance, treaty issues, and personnel issues.

SEC

Physics Today -- December 2008

Volume 61, Issue 12, pp. 37-42

Environmental consequences of nuclear war

Owen B. Toon, Alan Robock, and Richard P. Turco

Modern climate models have been used to revisit the nuclear winter scenarios put forth in the 1980s. Current models still suggest that a war involving a small fraction of existing nuclear weapons could have a devastating impact on the global climate.

SEC

Physics Today -- November 2008

Volume 61, Issue 11, pp. 58-59

Panofsky on Physics, Politics, and Peace: Pief Remembers

Wolfgang K. H. Panofsky and George Trilling, Reviewer

SEC

Physics Today -- September 2008

Volume 61, Issue 9, pp. 40-45

The gas centrifuge and nuclear weapons proliferation

Houston G. Wood, Alexander Glaser, and R. Scott Kemp

The history and physics of the gas centrifuge is discussed, as is its dual use for producing nuclear fuel and nuclear weapon material.

SEC

Physics Today -- September 2008

Volume 61, Issue 9, pp. 47-53

The Chinese nuclear tests, 1964–1996

Thomas C. Reed

An interesting history of nuclear weapons development in China that was revealed, in part, by the Chinese through invitations to visit some of their facilities.

SEC

APS Forum on Physics and Society Newsletter

Volume 38, Number 1 January 2009

Disrupting Science: Social Movements, American Scientists, and the Politics of the Military, 1945-1975

By Kelly Moore, Reviewed By Joe Levinger

Book Review

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SEC

Physics Today -- June 2008

Volume 61, Issue 6, pp. 43-49

The Strategic Offense Initiative? The Soviets and Star Wars

Peter J. Westwick

Not only does this article point out that technological initiatives can have consequences that are not overtly intended, but it also details interplay between scientists and government in the Soviet Union that are not all that different from that interplay in the U. S.

Physics Today -- December 2008

Volume 61, Issue 12, p. 10

Remembering Reagan and SDI

Harrison H. Schmitt and Peter Westwick

END LINK

SEC

Bulletin of the Atomic Scientists

64.2 (May-June 2008) pp. 26-31

Inside the atomic patent office

Alex Wellerstein

A discussion of how early nuclear technology appeared in 1940s patent applications and how these applications were handled. Makes reference to a patent application filed by Fermi and Szilard.

SEC

Physics Today -- May 2008

Volume 61, Issue 5, p. 24

Detectors could miss bomb-grade uranium at ports, group warns

David Kramer

The NRDC ran a test with depleted uranium, found it escaped detection, then compared the result to shielded, highly-enriched uranium.

SEC

Physics Today -- April 2008

Volume 61, Issue 4, pp. 72-73

The Atomic Bazaar: The Rise of the Nuclear Poor and Deception: Pakistan, the United States, and the Secret Trade in Nuclear Weapons

William Langewiesche, Adrian Levy, Catherine Scott-Clark, and Trevor Findlay, Reviewer

Book Review

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SEC

Physics Today -- April 2008

Volume 61, Issue 4, pp. 67-68

Nuclear Weapons: What You Need to Know

Jeremy Bernstein and David Hafemeister, Reviewer

Book Review

APS Forum on Physics and Society Newsletter

Volume 37, Number 2 April 2008

Nuclear Weapons: What You Need to Know

By Jeremy Bernstein; Reviewed by Cameron Reed

Book Review

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SEC

APS Forum on Physics and Society Newsletter

Volume 37, Number 2 April 2008

What Are Nuclear Weapons For?

Ivan Oelrich

The author argues that the question posed in the title is actually not the correct one to ask. Rather we should be asking, what are the nation's and the world's security needs?

SEC

APS Forum on Physics and Society Newsletter

Volume 37, Number 1 January 2008

Entrance-Into-Force of CTBT

David Hafemeister

While this paper is entirely policy oriented, it gives a good summary of where things stand with the Comprehensive Test Ban Treaty. The U. S. has not ratified the treaty, but as a signatory to it, the terms are adhered to in this country.

SEC

APS Forum on Physics and Society Newsletter

Volume 37, Number 1 January 2008

Five Days in August: How World War II Became a Nuclear War, by

Michael D. Gordin

Reviewed by Cameron Reed

Book Review

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SEC

Physics Today -- December 2007

Volume 60, Issue 12, pp. 54-55

Learning to Build the Bomb

Alisa L. Carrigan

The author discusses how nations acquire the expertise needed to join the nuclear club.

Physics Today -- October 2008

Volume 61, Issue 10, p. 16

Constraining potential bomb builders

Ahmad Shariati and Alisa L. Carrigan

END LINK

SEC

Bulletin of the Atomic Scientists

63.6 (November-December 2007) pp. 48-53

Peace talk: My life negotiating science and policy

W. K. H. Panofsky

This excerpt from the late particle physicist's autobiography discusses his role as a policy advisor, particularly in the area of national security issues.

SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 4 October 2007

What Are Nuclear Weapons For?

Michael May

How the U. S. nuclear weapons stockpile should be managed is determined in part by the U. S. policy on deterrence and first use. The author argues that the weapons should remain only as a deterrent of last resort.

SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 4 October 2007

What are Nuclear Weapons For?

John S. Foster, Jr. and Keith B. Payne

The authors describe the roles of deterrence, assurance, dissuasion, and defeat in analyzing U. S. nuclear stockpile needs.

SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 4 October 2007

Nuclear Fuel Banks: A View From the South

Fernando de Souza-Barros

Establishing a centralized program for producing nuclear fuel may be the key to growth in the global nuclear power industry without proliferation of nuclear weapons.

SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 3 July 2007

Physics of Societal Issues: Calculations on National Security, Environment,
and Energy, by David Hafemeister

Reviewed by Cameron Reed

Book Review

SEC

Physics Today -- July 2007

Volume 60, Issue 7, pp. 64-66

The Star Wars Enigma: Behind the Scenes of the Cold War Race for Missile
Defense

Nigel Hey and David E. Mosher, Reviewer

Book Review

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SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 3 July 2007

Nuclear Shadowboxing Vol. 2: Legacies and Challenges, by Alexander
DeVolpi, Vladimir E. Minkov, Vadim E. Simonenko and George S.
Stanford

Reviewed by Peter B. Lerner

Book Review

APS Forum on Physics and Society Newsletter

Volume 37, Number 1 January 2008

Authors' response to book review by Peter Lerner [P&S: July 2007],
Alexander DeVolpi, Vladimir E. Minkov, George S. Stanford

APS Forum on Physics and Society Newsletter

Volume 37, Number 1 January 2008

Lerner responds, Peter Lerner

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SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 3 July 2007

Bomb Scare: The History and Future of Nuclear Weapons, by Joseph Cirincione

Reviewed by Cameron Reed

Book Review

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SEC

Physics Today -- June 2007

Volume 60, Issue 6, pp. 54-59

The Challenge of Nuclear Weapons

Sidney D. Drell

The author argues that we need to re-examine our view towards nuclear weapons since the future of the Nuclear Non-proliferation Treaty is uncertain.

Physics Today -- March 2008

Volume 61, Issue 3, pp. 9-10

Difficult Deterrence Decisions

Lewis A. Glenn and Sidney Drell

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Physics Today -- June 2007

Volume 60, Issue 6, pp. 47-52

Eisenhower, Scientists, and Sputnik

John S. Rigden

Eisenhower's action following the Sputnik launch is put into the larger context of physicists providing advice to the government.

Physics Today -- November 2007

Volume 60, Issue 11, pp. 13-14

Science and the White House

Lawrence Cranberg and John S. Rigden

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Physics Today -- April 2007

Volume 60, Issue 4, pp. 36-41

Defending Against Nuclear Weapons: A 1950s Proposal

Silvan S. Schweber

History of a proposal to use an electron beam to disrupt incoming warheads.

Physics Today -- October 2007

Volume 60, Issue 10, pp. 15-16

Footnotes on Particle-Beam Weapon History

Wolfgang Panofsky

END LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 36, Number 2 April 2007

How Much Warhead Reliability Is Enough for a Comprehensive Nuclear Test Ban Treaty?

David Hafemeister

The author presents the case that the United States can, within the context of the proposed Comprehensive Test Ban Treaty, maintain nuclear weapons reliability sufficient for a nuclear deterrence posture.

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Physics Today -- February 2007

Volume 60, Issue 2, pp. 24-26

Future of US Nuclear Weapons A Tangle of Visions, Science, and Money

Jim Dawson

Reports on the debate over whether a new Reliable Replacement Warhead should be developed to replace warheads on existing nuclear weapons.

Physics Today -- June 2007

Volume 60, Issue 6, pp. 35-36

Weapons Experts and Congress Slow Warhead Program

Jim Dawson

Physics Today -- August 2007

Volume 60, Issue 8, p. 14

Planning Needed for US Nuclear Weapons

Ron Bourgoin

END LINK

SEC

Science and Engineering Ethics

Volume 12, Number 4 / December, 2006 pp. 685-700

This article, while focusing on engineers, raises issues similar to those physicists involved in weapons development face. It might be useful to pair this article with one on the Manhattan Project.

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Bulletin of the Atomic Scientists

62.6 (November-December 2006) pp. 51-53

Embracing junk science-- Imaginary Weapons:

A Journey Through the Pentagon's Scientific Underworld

Sharon Weinberger

Reviewed by Lawrence M. Krauss

Book Review

Physics Today -- January 2007

Volume 60, Issue 1, pp. 58-6

Imaginary Weapons:

A Journey Through the Pentagon's Scientific Underworld

Sharon Weinberger and John H. Gibbons, Reviewer

Book Review

END LINK

SEC

Physics Today -- October 2006

Volume 59, Issue 10, pp. 63-64

The Jasons: The Secret History of Science's Postwar Elite

Wolfgang K. H. Panofsky, Reviewer

Book Review

SEC

Physics Today -- October 2006

Volume 59, Issue 10, pp. 64-65

J. Robert Oppenheimer: A Life

Abraham Pais and Laurie M. Brown, Reviewer

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 35, Number 3 July 2006

Nuclear Proliferation Status, 2006

Joseph Cirincione

Methodical and concise overview of policy and areas of risk.

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SEC

APS Forum on Physics and Society Newsletter

Volume 35, Number 3 July 2006

Monitoring Nuclear Weapons and Nuclear-Explosive Materials: An Assessment of Methods and Capabilities

Steve Fetter and Ben Rusek

A non-technical discussion of what needs to be monitored and what options are currently available.

APS Forum on Physics and Society Newsletter

Volume 35, Number 4 October 2006

Response to “Monitoring Nuclear Weapons and Nuclear Explosive Materials”

Jim Fuller

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SEC

APS Forum on Physics and Society Newsletter

Volume 35, Number 3 July 2006

Advances in Nuclear Monitoring Technologies

Brent K. Park, John M. Blackadar, Ian H. Campbell, James D. Danneskiold, Robert J. Estep, Gary Hal Gardner, M. William Johnson, Manuel D.

Martinez, Edward A. McKigney, William L. Myers, Clair J. Sullivan,

Gregory J. Van Tuyle

A technical discussion of detector design and improvements needed to more effectively monitor transport of nuclear weapons-related material.

SEC

APS Forum on Physics and Society Newsletter

Volume 35, Number 3 July 2006

Nuclear Shadowboxing, Vol. 1: Cold War Redux. By Alexander DeVolpi, Vladimir E. Minkov, Vadim E. Simonenko and George S. Stanford

Reviewed by Peter B. Lerner

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 35, Number 3 July 2006

Reappraising Oppenheimer, Centennial Studies and Reflections. Edited by
Cathryn Carson and David Hollinger

Reviewed by Lincoln Wolfenstein

Book Review

SEC

Physics Today -- July 2006

Volume 59, Issue 7, pp. 39-44

Scientists, Security, and Lessons from the Cold War

Charles H. Holbrow

The author describes the Summer Study program, begun early in the Cold War, in which a group of scientists from academia would focus their attention on problems of relevance to national security.

SEC

Bulletin of the Atomic Scientists

62.3 (May-June 2006) pp. 53-54

The Jasons: The Secret History of Science's Postwar Elite

Ann Finkbeiner

Reviewed by John Prados

Book Review

SEC

Physics Today -- January 2006

Volume 59, Issue 1, pp. 34-35

Physicists Protest US Nuclear Policy

Toni Feder

Physicists at the University of California San Diego launch a petition drive to urge that the Nuclear Non-Proliferation Treaty not be undermined.

SEC

APS Forum on Physics and Society Newsletter

Volume 35, Number 1 January 2006

Nuclear Power and Proliferation

Gerald E. Marsh and George S. Stanford

The authors critique an APS study and suggest that the Nonproliferation Treaty should be modified to address proliferation issues that will arise as nuclear power expands globally.

SEC

Bulletin of Atomic Scientists

61.6 (November-December 2005) pp. 22-23

A sustained reaction

Eugene Rabinowitch

A short reflection on the impact of nuclear weapons on the world and how scientists have sought to influence nuclear policy.

SEC

Physics Today -- November 2005

Volume 58, Issue 11, pp. 51-52

American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer

Kai Bird, Martin J. Sherwin, and John S. Rigden, Reviewer

Book Review

SEC

Physics Today -- October 2005

Volume 58, Issue 10, pp. 52-57

Hans in War and Peace

Richard L. Garwin and Kurt Gottfried

This article provides a good overview of a physicist who was active throughout most of his career in providing advice on technical issues. Topics span the early days of the Manhattan project to the 1980s debate on missile defense.

SEC

APS Forum on Physics and Society Newsletter

Volume 34, Number 4 October 2005

J. Robert Oppenheimer: And the American Century, David Cassidy

Reviewed by Gary Prézeau

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 34, Number 4 October 2005

The Great Fallout-Cancer Story of 1978 and its Aftermath

Daniel W. Miles

A former resident of St. George Nevada questions repeated stories of excessive cancer rates in the town arising from nuclear testing, contrasting conclusions of books drawn from anecdotal evidence and preliminary reports with his investigation of a variety of other sources.

SEC

Bulletin of Atomic Scientists

61.5 (September-October 2005) pp. 50-57

Empty threat

Nick Schwellenbach

Discusses the history of U.S. policy regarding the threat of an Electromagnetic Pulse triggered by a nuclear weapon. Particular attention is paid to whether there is a real threat that terrorists could generate an EMP.

SEC

Physics Today -- September 2005

Volume 58, Issue 9, p. 34

Bomb Scientists Remember Trinity

Paul Guinnessy

Personal reminiscences and links to films of the Trinity test help underscore the momentous issues faced by physicists working on the Manhattan Project.

SEC

Physics Today -- September 2005

Volume 58, Issue 9, pp. 57-58

Blackett: Physics, War, and Politics in the Twentieth Century

Mary Jo Nye and David Edgerton, Reviewer

Book Review

SEC

Bulletin of the Atomic Scientists

61.4 (July-August 2005): pp. 50-63

Would you have dropped the bomb?

Martin E. Marty, Pervez Hoodbhoy, Thomas Donnelly, Robert L. Gallucci,
Gar Alperovitz, Richard B. Frank, Mary Palevsky, Tadatoshi Akiba

This is a roundtable discussion convened 60 years after the Hiroshima bomb.
Several other articles in this same issue address this topic.

SEC

Physics Today -- July 2005

Volume 58, Issue 7, p. 33

Proliferation Is Key Issue in Nuclear Power Resurgence

Jim Dawson

An APS study group looks at the overlap in technologies associated with
peaceful and military use of nuclear energy.

SEC

APS Forum on Physics and Society Newsletter

Volume 34, Number 3 July 2005

Does National Security Require or Contradict Scientific Integrity?

News article on the issue of whether fraud was involved in lab tests related
to missile defense systems. An investigation was halted when key
information was classified.

SEC

APS Forum on Physics and Society Newsletter

Volume 34, Number 3 July 2005

The Four Faces of Nuclear Terrorism by Charles D. Ferguson and William
C. Potter with Amy Sands, Leonard S. Spector and Fred L. Wehling

Reviewed by Forest Rouse

Book Review

SEC

Bulletin of the Atomic Scientists

61.3 (May-June 2005): pp. 60-61

The Pentagon's psychic friends network

Review of "The Men Who Stare at Goats:

By Jon Ronson

Reviewed by Michael Shermer

Book Review

SEC

Physics Today -- May 2005

Volume 58, Issue 5, pp. 45-51

The Uranium Bomb, the Calutron, and the Space-Charge Problem

William E. Parkins

The author writes of his involvement in a World War II project that he describes as "the greatest example of beating swords into plowshares in the history of humankind."

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APS Forum on Physics and Society Newsletter

Volume 34, Number 2 April 2005

Hans Bethe and Societal Issues

Edwin E. Salpeter

A condensed overview of Bethe's contributions.

APS Forum on Physics and Society Newsletter

Volume 34, Number 3 July 2005

Hans Bethe and Nuclear Power

Richard Wilson

APS Forum on Physics and Society Newsletter

Volume 34, Number 4 October 2005

UCS and Nuclear Power

Kurt Gottfried

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APS Forum on Physics and Society Newsletter

Volume 34, Number 2 April 2005

An Episode among the Many Contributions of Hans Bethe to Physics and Society

Wolfgang K.H. Panofsky

Discusses Bethe's role in bringing scientists into negotiations related to verifiability of nuclear test ban treaties.

SEC

Bulletin of the Atomic Scientists

61.2 (March-April 2005): pp. 58-63

Watching the world: with sensors in the ground, water, and air, the global system to detect nuclear tests already exceeds designers' expectations. Its potential now depends on political will.(Special Report).

Trevor Findlay and Andreas Persbo.

Provides a non-technical overview of detection methods.

SEC

Bulletin of the Atomic Scientists

61.1 (January-February 2005): pp. 30-37

Founder and father: Eugene Rabinowitch was a true Renaissance man--a member of the Manhattan Project, an outstanding thinker, scientist, and writer. And 60 years ago he founded the Bulletin.

Alexander Rabinowitch.

This concise biography explores issues related to the Manhattan project and arms control.

SEC

Physics Today -- January 2005

Volume 58, Issue 1, pp. 51-52

Oppenheimer: Portrait of an Enigma

Jeremy Bernstein and Steven Weinberg, Reviewer

Book Review

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SEC

APS Forum on Physics and Society Newsletter

Volume 34, Number 1 January 2005

Underestimating the Consequences of Use of Nuclear Weapons:
Condemned to Repeat the Past's Errors?

Lynn Eden

An article drawing on a book by the same author, providing insight into the book in addition to the review and responses below.

Physics Today -- April 2005

Volume 58, Issue 4, pp. 62-63

Whole World on Fire: Organizations, Knowledge, and Nuclear Weapons
Devastation

Lynn Eden and Peter Zimmerman, Reviewer

Book Review

Physics Today -- July 2005

Volume 58, Issue 7, pp. 17-20

Book Review on Fire

John G. Lewis, Harold L. Brode, Lynn Eden, and Peter D. Zimmerman

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SEC

Science and Engineering Ethics

Volume 10, Number 4 / December, 2004, pp. 667-692

The bane of "inhumane" weapons and overkill: An overview of increasingly lethal arms and the inadequacy of regulatory controls

Jacques G. Richardson

This is a comprehensive look at weapons of mass destruction from World War I forward.

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Physics Today -- December 2004

Volume 57, Issue 12, pp. 60-61

Is There Really a Cowboy Culture of Arrogance at Los Alamos?

Brad Lee Holian

The author argues that perception of safety and security does not match reality.

Physics Today -- March 2005

Volume 58, Issue 3, pp. 10-12

Los Alamos Workers Debate the Lab's Safety, Morale, and Leadership

Lee McAtee, David A. Herbert, and Brad Lee Holian

Physics Today -- March 2005

Volume 58, Issue 3, pp. 26-27

Missing Magazines Highlight Staff Distrust of Los Alamos Management

Paul Guinnessy

Physics Today -- June 2005

Volume 58, Issue 6, pp. 16-17

Safety and Another Magazine Mystery for Los Alamos

J. Charles Smith and Paul Ginsparg

END LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 33, Number 4 October 2004

Teaching About Nuclear Weapons, Michael May

Provides a concise overview of key issues. "My concluding observation is that there is no moral or ethical solution or approach to these problems that is not based on an understanding of the details, both human and technical."

BEGIN LINK

SEC

Science and Engineering Ethics

Volume 10, Number 3 / September, 2004, pp. 531-542

The morality of weapons research

John Forge

The author argues that an engineer doing weapons research needs to pay careful attention to the “do no harm” standard found in engineering ethics codes.

Science and Engineering Ethics

Volume 15, Number 1 / March, 2009, pp. 25-38

Proportionality, Just War Theory and Weapons Innovation

John Forge

END LINK

SEC

Physics Today -- August 2004

Volume 57, Issue 8, pp. 51-53

Edward Teller in the Public Arena

Harold Brown and Michael May

Discusses the extensive role Teller played in the nation’s nuclear program, from its inception up through the Strategic Defense Initiative.

SEC

APS Forum on Physics and Society Newsletter

Volume 33, Number 3 July 2004

National Academy of Sciences Study on the Comprehensive Nuclear Test Ban Treaty

David Hafemeister

Provides an overview of this study, illuminating some of the science in the report.

BEGIN LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 33, Number 3 July 2004

Purex and Pyro are Not the Same

William H. Hannum, Gerald E. Marsh, and George S. Stanford

The authors point out that not all nuclear fuel reprocessing techniques are the same and hence the risks and benefits of each should be analyzed on a case by case basis.

APS Forum on Physics and Society Newsletter

Volume 34, Number 1 January 2005

Another View of the Role of Nuclear Power

Richard L. Garwin

APS Forum on Physics and Society Newsletter

Volume 34, Number 1 January 2005

Response to Garwin's Paper

William H. Hannum, Gerald E. Marsh, George S. Stanford

APS Forum on Physics and Society Newsletter

Volume 34, Number 1 January 2005

Richard Garwin again

Richard L. Garwin

APS Forum on Physics and Society Newsletter

Volume 34, Number 1 January 2005

Oil, CO₂, and the Potential of Nuclear Energy

Robert W. Albrecht and David Bodansky

APS Forum on Physics and Society Newsletter

Volume 34, Number 2 April 2005

A Limit to Growth of Nuclear Fission Power?

Arthur Smith

APS Forum on Physics and Society Newsletter

Volume 34, Number 2 April 2005

There is No Such Thing as a Proliferation-Proof Nuclear Fuel Cycle.

W.K.H. Panofsky

APS Forum on Physics and Society Newsletter
Volume 34, Number 2 April 2005
Response to Arthur Smith's Letter
Robert Albrecht and David Bodansky

APS Forum on Physics and Society Newsletter
Volume 34, Number 2 April 2005
Nuclear Power Know-how is Here and Should be Used
William H. Hannum, Gerald E. Marsh, George S. Stanford

APS Forum on Physics and Society Newsletter
Volume 34, Number 2 April 2005
Weaponizability of Reactor-Degraded Plutonium
Alex De Volpe

END LINK

SOC

APS Forum on Physics and Society Newsletter
Volume 33, Number 3 July 2004
Ivory Bridges - Connecting Science and Society by Gerhard Sonnert,
Reviewed by Gustaf Mårtensson
Book Review

SEC

APS Forum on Physics and Society Newsletter
Volume 33, Number 2 April 2004
The Logic of Intelligence Failures
Bruce G. Blair
Takes a mathematical approach to the study of intelligence gathering and
threat assessments.

SEC

APS Forum on Physics and Society Newsletter
Volume 33, Number 2 April 2004
Nuclear Dangers in South Asia
Scott D. Sagan
This article raises a number of issues relevant to proliferation.

SEC

Physics Today -- January 2004

Volume 57, Issue 1, pp. 52-53

The National Labs: Science in an American System, 1947–1974

Peter J. Westwick and Lillian Hoddeson, Reviewer

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 33, Number 1 January 2004

Illicit Trafficking of Weapons-Usable Nuclear Material: Facts and
Uncertainties

Lyudmila Zaitseva and Friedrich Steinhausler

Looks at what is known about this subject, arguing that speculations about
what might happen should be grounded in what has happened.

SEC

Bulletin of the Atomic Scientists

59.6 (November-December 2003): pp. 34-42

Atoms for peace: did the 50-year-old Atoms for Peace program accelerate
nuclear weapons proliferation? The jury has been in for some time on this
question, and the answer is yes.

Leonard Weiss

Discusses the origin of the program and looks at links between it and nations
joining the nuclear club.

BEGIN LINK

SEC

Physics Today -- November 2003

Volume 56, Issue 11, pp. 32-37

Nuclear Bunker Busters, Mini-Nukes, and the US Nuclear Stockpile

Robert W. Nelson

An overview of both policy and technical issues related to the possible development of nuclear weapons designed to destroy underground targets.

Physics Today -- May 2004

Volume 57, Issue 5, pp. 15-17

Readers Weigh Options for Bunker Busting Weapons

Bryan L. Fearey, Paul C. White, John St. Ledger, John D. Immele,

Jeffrey Marque, and Robert W. Nelson

END LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 4 October 2003

The Risks of Nuclear Weapons After the Cold War

W.K.H. Panofsky

This brief article discussed five risks of the post Cold War era.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 4 October 2003

An Alternative Nuclear Posture

Michael May

A mostly policy oriented paper critiquing then-current U.S. nuclear policy and offering an alternative.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 4 October 2003

Weapons of Mass Destruction in Iraq, North Korea, and Iran: Hype, Hope, or Hysteria?

Philip E. Coyle, III

The author argues that how we define “weapons of mass destruction” has important policy implications.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 4 October 2003

Ballistic missile Defense Revisited

W.K.H. Panofsky

Provides a concise overview of ballistic missile defense and puts it into the larger context of U. S. defense policy.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 4 October 2003

Protecting Nuclear Material and Facilities: A Standards-Based Approach

Charles D. Ferguson

Proposes five standards to improve security related to fissile material.

SEC

Bulletin of the Atomic Scientists

59.5 (September-October 2003): pp. 46-51

Between MOX and a hard place: it costs more, it's as dangerous to make as a bomb, and burning MOX creates almost as much plutonium as it gets rid of.

Other than that, it's a great idea.

Adolfo Reparaz

Does it make sense to convert weapons-grade plutonium into mixed oxide fuel for nuclear power plants?

BEGIN LINK

SEC

Physics Today -- September 2003

Volume 56, Issue 9, pp. 26-27

APS Study Points to Severe Limits on Boost-Phase Missile Defense

Jim Dawson

This article summarizes key conclusions from the report on a two year study that examined various [proposed defenses against a variety of missile systems.

Physics Today -- January 2004

Volume 57, Issue 1, pp. 30-35

Boost-Phase Defense Against Intercontinental Ballistic Missiles

Daniel Kleppner, Frederick K. Lamb, and David E. Mosher

A more detailed article by authors of the study.

Physics Today -- July 2004

Volume 57, Issue 7, pp. 13-82

Boost-Phase Missile Defense Debate Continues

Dean Wilkening, Richard L. Garwin, Michael Levi, Truman Hunter,

Daniel Kleppner, Frederick K. Lamb, and David Mosher

END LINK

SEC

Bulletin of the Atomic Scientists

59.4 (July-August 2003): pp. 46-51

How Ulam set the stage: history has not given enough credit to the main man behind the H-bomb.

Bengt Carlson

A historical look written by a contemporary of Teller and Ulam at Los Alamos.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 3 July 2003

Letters from Italy: A Physicist's Decision not to Review Papers for Phys. Rev., Daniel Amit

This brief exchange between an editor and a “retiring” reviewer illustrates an interesting intersection between publication issues and international policy issues.

SEC

Physics Today -- June 2003

Volume 56, Issue 6, pp. 25-26

Post–September 11th Visa Woes Still Plague International Students and Scientists

Jim Dawson

A news article highlighting the difficulties with international collaborations in science.

SEC

Bulletin of the Atomic Scientists

59.3 (May-June 2003): pp. 52-59

Nixing nukes in Vietnam: in 1966, a group of scientists studied the possible use of nuclear weapons in Vietnam. Here's why their report advised against it.

Peter Hayes and Nina Tannenwald

For scientists (members of JASON) took the initiative in 1966 to study the possible use of nuclear weapons in Vietnam, in response to casual mention of the possibility.

SEC

Physics Today -- May 2003

Volume 56, Issue 5, pp. 19-22

Cosmic-Ray Muons Might Help Thwart Transport of Concealed Fissile Material

Bertram Schwarzschild

A report on Los Alamos scientists who devised an improved means for detecting fissile material. Muons would be recorded entering and leaving an object under surveillance, and scattering patterns would be used to determine composition.

SEC

Physics Today -- May 2003

Volume 56, Issue 5, pp. 59-60

Brotherhood of the Bomb: The Tangled Lives and Loyalties of Robert Oppenheimer, Ernest Lawrence, and Edward Teller

Gregg Herken and Silvan Schweber, Reviewer

Book Review

BEGIN LINK

SEC

Physics Today -- April 2003

Volume 56, Issue 4, pp. 39-44

Technical and Policy Issues of Counterterrorism—A Primer for Physicists

Jay Davis and Don Prosnitz

This paper is mostly policy-oriented, but it does include a section on technical challenges that the physics community can help address.

Physics Today -- September 2003

Volume 56, Issue 9, pp. 16-17

Counterterrorism Priorities and Policy

Ben Zuckerman, Henry E. Heatherly, Martin A. Ebert, Jay Davis, and Don Prosnitz

END LINK

SEC

Physics Today -- April 2003

Volume 56, Issue 4, pp. 32-34

US Research Grants Are Critical to Former Soviet Weapons Scientists, but Not a Long-Term Solution

Jim Dawson

A news article on the difficulty of ensuring gainful employment of former Soviet Weapons scientists through joint research programs with U.S. corporations.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 2 April 2003

Nuclear Policing the World

Nina Byers

This is a brief commentary, but it does a nice job of illustrating the interest of many of the Manhattan Project Physicists in policies associated with nuclear weapons.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 2 April 2003

Brotherhood of the Bomb by Gregg Herken

Reviewed by Andrew M.B Sessler

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 2 April 2003

A Convenient Spy: Wen Ho Lee and the Politics of Nuclear Espionage by Dan Stober and Ian Hoffman

Reviewed by Peter Lerner

Book Review

SOC

APS Forum on Physics and Society Newsletter

Volume 32, Number 2 April 2003

Something New Under the Sun: An Environmental History of the 20th Century World, by J.R. McNeill

Reviewed by Tina Kaarsberg

Book Review

SEC

Bulletin of the Atomic Scientists

59.2 (March-April 2003): pp. 56-63

No experience necessary: the Nth country experiment showed that three post-docs with no nuclear knowledge could design a working atom bomb.

Dan Stober

Reports on the experiment performed in 1964 by Lawrence Livermore.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 1 January 2003

Sniffer Plane Secrets and Political Courage

Alan J. Scott

While this article straddles the fence between science/society issues and political analysis, it does serve to illustrate the importance of openness in scientific inquiry by examining a celebrated case of fraud in military research.

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 1 January 2003

Russian Early-Warning System and Danger of Inadvertent Launch

Pavel Podvig

The author provides an account of the development of Russia's early-warning system, designed to detect incoming missiles as part of a launch-on-warning plan. Though there has been significant deterioration in the early-warning system, the author argues that this does not threaten nuclear stability since the Russian military has never relied much on the system anyway.

BEGIN LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 32, Number 1 January 2003

Nuclear Power and Nuclear Proliferation

H.A. Feiveson

The author argues that an expansion of the nuclear power industry significant enough to make a significant dent in the global warming problem will cause an unavoidable increase in the risk of proliferation of nuclear weapons.

APS Forum on Physics and Society Newsletter

Volume 32, Number 2 April 2003

Pro Nuclear Power

Bertram Wolfe

Point/No Counterpoint

Bruno Comby

Two letters related to the previous article.

END LINK

SEC

Physics Today -- October 2002

Volume 55, Issue 10, pp. 25-26

NAS Finds No Flaws in Nuclear Treaty

Paul Guinnessy

This investigation of the Comprehensive Test Ban Treaty by the National Academy of Sciences provides a nice case study on scientific organizations providing technical advice.

BEGIN LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 31, Number 4 October 2002

Heisenberg, Bohr and the Atom Bomb

Wolfgang Liebert

Copenhagen in Europe: Why not the Same Debate as in the US ? Jean-Jacques Salomon

The Role of German Physicists in WWII Science

Harry Lipkin

Creating a New Past: Heisenberg and Radioactive Decay

Alvin M. Saperstein and Betsy Pugel

A collection of essays revolving around the issue of Heisenberg's role in the quest for nuclear weapons in Nazi Germany.

APS Forum on Physics and Society Newsletter

Volume 32, Number 2 April 2003

Why Did Heisenberg go to Copenhagen?

Klaus Gottstein

END LINK

SEC

Bulletin of the Atomic Scientists

58.5 (September-October 2002): pp. 48-53

Laser defenses: what if they work?

Geoffrey Forden

Provides an overview of current U. S. missile defense projects, arguing that even when a missile is successfully hit by a defense system, there can still be significant casualties caused by it.

BEGIN LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 31, Number 3 July 2002

Does the U.S. Need New Nuclear Weapons?

Frank N. von Hippel

The author suggests that calls for the development of new types of nuclear weapons may go hand in hand with a shift in the perspective that nuclear weapons should only be considered weapons of last resort. He calls on physicists to take an active role in the debate.

APS Forum on Physics and Society Newsletter

Volume 31, Number 4 October 2002

Nuclear Earth-Penetrators: a Dangerous Fantasy

A. DeVolpi

END LINK

SEC

Bulletin of the Atomic Scientists

58.3 (May-June 2002): pp. 28-37

Lowering the bar: the government wants to save money by loosening radiation exposure standards--how low will it go?

LeRoy Moore.

This discussion of radiation standards looks at competing exposure models: the linear, no-threshold model and the threshold model. It also provides interesting insight into policy formulation in a political and scientific environment.

BEGIN LINK

SEC

Bulletin of the Atomic Scientists

58.3 (May-June 2002): pp. 20-28

The Bohr letters: no more uncertainty.

William Sweet

The author argues that the recent release of letters written by Bohr lay to rest the story that Heisenberg tried to broker a deal in 1941 to forestall development of nuclear weapons.

Bulletin of the Atomic Scientists

58.5 (September-October 2002): pp. 4-6

More on Bohr (Letters to the Editor).

Schaaf, Klaus Gottstein and William Sweet

Bulletin of the Atomic Scientists

59.1 (January-February 2003): p. 5

No Nazi bomb program (Letter to the Editor).

Harry J. Lipkin

END LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 31, Number 2 April 2002

Nuclear Terrorism

Donald D. Cobb

and

Radiological Terrorism

Steven E. Koonin

Two commentaries on dirty bombs. The second is from congressional testimony.

BEGIN LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 31, Number 2 April 2002

Humanitarian De-mining and the Quest for Better Ways to Locate Buried
Non-metallic Objects

Surajit Sen and Ronald L. Woodfin

The author reviews recent advances in technology to locate land mines,
noting that more research is needed to develop safe and effective de-
mining equipment.

APS Forum on Physics and Society Newsletter

Volume 31, Number 3 July 2002

Mine Detection and the Need for New Technology

Patrick Blagden

Not written in response to the above article but covers the same general
topic from a different perspective, so it makes a good companion piece.

END LINK

SEC

Bulletin of the Atomic Scientists

58.1 (January-February 2002): pp. 67-69

The Phantom Defense: America's Pursuit of the Star Wars Illusion. Craig
Eisendrath, Melvin A. Goodman, and Gerald E. Marsh Praeger

Reviewed by Mike Moore

Book Review

SEC

Physics Today -- January 2002

Volume 55, Issue 1, pp. 19-22

National Labs Focus on Tools against Terrorism in Wake of Airliner and
Anthrax Attacks

Jim Dawson

A news article that illustrates the impact that major events can have on the
mission of our national labs.

BEGIN LINK

SEC/SOC

Physics Today -- December 2001

Volume 54, Issue 12, pp. 35-41

Edward Condon and the Cold War Politics of Loyalty

Jessica Wang

Edward Condon, head of the National Bureau of Standards, did battle with the House Committee on Un-American Activities sparked by his support for arms control and other policies viewed as left leaning.

Physics Today -- April 2002

Volume 55, Issue 4, pp. 12-13

Edward Condon Remembered

Mark A. Wilson, Leonard X. Finegold, and R. Robert Brattain

END LINK

SEC

Physics Today -- August 2001

Volume 54, Issue 8, pp. 40-44

A Physicist with the Air Force in World War II

A personal reflection of a physicist who played an active role in developing military instrumentation during World War II.

Alex E. S. Green

SEC

Physics Today -- July 2001

Volume 54, Issue 7, p. 29

Nations Tackle Nuclear Terrorist Threat

Paul Guinnessy

A brief overview of efforts to ensure that fissile material does not wind up in the hands of terrorists.

SEC

Physics Today -- June 2001

Volume 54, Issue 6, pp. 50-55

The Early Days of Pugwash

Joseph Rotblat

A participant in the Pugwash Conferences describes the history of these meetings between scientists on opposite sides of the Iron Curtain during the Cold War.

SEC

Bulletin of the Atomic Scientists

57.3 (May 2001): pp. 53-57

Plutonium disposal, the third way.

Allison Macfarlane, Frank von Hippel, Jungmin Kang and Robert Nelson

The authors discuss a technique for preparing plutonium for long-term storage.

SEC

APS Forum on Physics and Society Newsletter

Volume 30, Number 2 April 2001

How to Think About Proliferation and Nuclear Power

William C. Sailor.

The author explores the relationship between a civilian nuclear power program and a nation acquiring nuclear weapons.

SEC

APS Forum on Physics and Society Newsletter

Volume 30, Number 2 April 2001

Nuclear Energy: Will It Save the World?

Bertram Wolfe

“The world is growing, is using up the available fossil fuels that are contaminating the globe. The only available solution is a major worldwide expansion of nuclear power.”

BEGIN LINK

SEC

APS Forum on Physics and Society Newsletter

Volume 30, Number 2 April 2001

Leukemia from Military Use of Depleted Uranium

Bernard Cohen.

The author argues that evidence indicates that the use of depleted uranium in weapons does not result in a measurable increase in leukemia.

APS Forum on Physics and Society Newsletter

Volume 30, Number 3 July 2001

Depleted Uranium and Leukemia

John Michael Williams

APS Forum on Physics and Society Newsletter

Volume 30, Number 3 July 2001

Depleted Uranium and Leukemia--a rejoinder to Williams

Bernard L. Cohen

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SEC

Bulletin of the Atomic Scientists

57.2 (March 2001): pp. 34-41

Magical THINKING.

Arjun Makhijani, Hisham Zerriffi and Annie Makhijani

This is an early look at transmutation as one way to handle nuclear waste.

It could be interesting to compare it with more recent articles.

Bulletin of the Atomic Scientists

57.3 (May 2001): p4

The integral fast reactor could do it (letter)

George S. Stanford

(see also response following)

END LINK

SEC

Physics Today -- February 2001

Volume 54, Issue 2, India's Nuclear Bomb: The Impact on Global Proliferation pp. 55-56

George Perkovich and George W. Rathjens, Reviewer

Book Review

SEC

Physics Today -- January 2001

Volume 54, Issue 1, p. 49

Unarmed Forces: The Transnational Movement to End the Cold War

Matthew Evangelista and Herbert L. Abrams, Reviewer

Book Review

SEC

Bulletin of the Atomic Scientists

57.1 (January 2001): pp. 13-15

In verification we trust.(political issues and questions about verification of nuclear arms under Comprehensive Test Ban Treaty).

Trevor Findlay and Oliver Meier

A report on a scientific study on the issue of verification of the

Comprehensive Nuclear Test Ban Treaty. The study concludes that nuclear tests can be detected with high probability using existing technology.

BEGIN LINK

SEC

Physics Today -- December 2000

Volume 53, Issue 12, pp. 25-29

Special Issue: On Physics and National Security

Sidney D. Drell

The author provides an overview of the articles in this special issue.

Physics Today -- December 2000

Volume 53, Issue 12, pp. 31-35

The Evolving Battlefield

John S. Foster and Larry D. Welch

Discusses some of the challenges in battlefield technology related to guidance, detection, and communications. Authors argue that society benefits when battlefield precision is improved.

Physics Today -- December 2000

Volume 53, Issue 12, pp. 36-42

The Continuing Debate on National Missile Defenses

Lisbeth Gronlund, George N. Lewis, and David C. Wright

A fairly detailed introduction to missile defense systems, including discussion of proposed technologies and available countermeasures.

Physics Today -- December 2000

Volume 53, Issue 12, pp. 44-50

Science-Based Stockpile Stewardship

Raymond Jeanloz

Investigates how deterioration of nuclear weapons can be monitored when direct testing of weapons is prohibited by treaty.

Physics Today -- December 2000

Volume 53, Issue 12, pp. 51-56

The Scientific Community and Intelligence Collection

Mark F. Moynihan

Focuses on satellite-based intelligence gathering.

Physics Today -- July 2001

Volume 54, Issue 7, pp. 11-12

Physics and National Security: Of Missiles, Mines, and Morality

Allen B. Thomson, Lisbeth Gronlund, David C. Wright, George N.

Lewis, Lowell J. Burnett, Greg Root, Eric W. McFarland, and Sidney D.

Drell

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SEC

Bulletin of the Atomic Scientists

56.6 (November 2000): pp. 43-50

In the Beginning (nuclear physics, secrecy).

Peter J. Westwick.

Discusses the evolution of classification in nuclear weapons research during the 1940s and 1950s in the U. S.

SEC

Bulletin of the Atomic Scientists

56.6 (November 2000): pp. 51-56

What's left to protect.(nuclear secrets on the open).

Howard Morland.

A discussion of the workings of the hydrogen bomb as well as efforts to keep key aspects of the process secret.

BEGIN LINK

SEC

Bulletin of the Atomic Scientists

56.6 (November 2000): pp. 57-62

Secrets that matter (nuclear energy)

David Albright.

The author argues that while secrecy has been useful in slowing the spread of nuclear weapons, there has been an overemphasis on classifying information.

Bulletin of the Atomic Scientists

57.1 (January 2001): p4

A more even-handed Uncle Sam (letter)

Chuck Hansen

END LINK

SEC

Physics Today -- October 2000

Volume 53, Issue 10, pp. 82-84

A Radar History of World War II: Technical and Military Imperatives

Louis Brown and Robert H. March, Reviewer

Book Review

SEC

APS Forum on Physics and Society Newsletter

Volume 29, Number 4 October 2000

Hitler's Uranium Club: the Secret Recordings at Farm Hall: Jeremy
Bernstein

Heisenberg and the Nazi Atomic Bomb Project: Paul Lawrence Rose

Reviewed by Leo Sartori

Book Review

SEC

Bulletin of the Atomic Scientists

56.5 (September 2000): pp. 22-28

Shootin' for the moon (history of space defense programs)

Jeffrey T. Richelson

This history provides an interesting look at a variety of weapons systems
that were contemplated but never developed and deployed.

SEC

APS Forum on Physics and Society Newsletter

Volume 29, Number 3 July 2000

CTBT, SSP, and U.S. National Security

Sidney Drell

A good overview of issues associated with the Comprehensive Test Ban
Treaty.

BEGIN LINK

SEC

Physics Today -- July 2000

Volume 53, Issue 7, pp. 59-60

Their Day in the Sun: Women of the Manhattan Project

Ruth H. Howes, Caroline L. Herzenberg, and Benjamin C. Zulueta,

Reviewer

Book Review

Physics Today -- December 2000

Volume 53, Issue 12, p. 12

Women Authors, Scientists Critiqued

Frieda A. Stahl and Benjamin C. Zulueta

APS Forum on Physics and Society Newsletter

Volume 29, Number 4 Oct 2000

Their Day in the Sun: Women of the Manhattan Project: Ruth H. Howes
and Caroline L. Herzenberg, reviewed by Joan Mason

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SEC

Physics Today -- July 2000

Volume 53, Issue 7, pp. 28-32

A Historical Perspective on Copenhagen

David C. Cassidy

A discussion of what is known about why Heisenberg undertook fission research in Germany during World War II.

Physics Today -- July 2000

Volume 53, Issue 7, pp. 34-36

The German Uranium Project

Hans A. Bethe

The author argues that Heisenberg did not, in fact, pursue the development of nuclear weapons during World War II.

Physics Today -- April 2001

Volume 54, Issue 4, pp. 14-16

Heisenberg's Message to Bohr: Who Knows?

Klaus Gottstein, Harry J. Lipkin, Donald C. Sachs, and David C. Cassidy

Physics Today -- March 2002

Volume 55, Issue 3, pp. 32-33

Bohr Letters Clarify Mystery

Bertram Schwarzschild

END LINK

SEC

Physics Today -- July 2000

Volume 53, Issue 7, p. 55

In the Shadow of the Bomb: Bethe, Oppenheimer, and the Moral Responsibility of the Scientist

Silvan S. Schweber and Sidney D. Drell, Reviewer

SEC

Physics Today -- May 2000

Volume 53, Issue 5, pp. 37-41

Andrei Sakharov and the Nuclear Danger

Sidney D. Drell

This article provides a physicist's take on issues related to nuclear strategy, and it addresses the role physicists have played in arms races.

SEC

APS Forum on Physics and Society Newsletter

Volume 29, Number 2 April 2000

The Nuclear Safety Smokescreen: Warhead Safety and Reliability and the Science Based Stockpile Stewardship Program

Hisham Zerriffi and Arjun Makhijani

This article presents an argument that the issues of safety and reliability need to be looked at separately when looking nuclear stockpile maintenance.

SEC

Physics Today -- April 2000

Volume 53, Issue 4, pp. 66-68

Reason Enough to Hope: America and the World of the Twenty-first Century

Philip Morrison, Kosta Tsipis, and William Happer, Reviewer

Review of a book in which physicists examine issues related to nuclear weapons.

Book Review

SEC

Physics Today -- April 2000

Volume 53, Issue 4 pp. 53-54

APS and AAAS Leaders Protest 'Inhumane' Treatment of Suspected Los Alamos Spy in Jail, Awaiting Trial

Irwin Goodwin

Provides both a brief overview of the Wen Ho Lee case to date as well as reaction of some of the physics community to his case.

SEC

Bulletin of the Atomic Scientists

56.2 (March 2000): pp. 30-35

The Target is Russia.(ballistic missile defense system could jeopardize arms reduction).

Theodore A. Postol

The author argues that deployment of a proposed missile defense system would be viewed by Russia and China as an escalation of the arms race and that the United States may have already violated the ABM treaty with some components of the system.

SEC

Bulletin of the Atomic Scientists

56.2 (March 2000): pp. 36-41

The wrong plan (a better ballistic missile defense strategy)

Richard L. Garwin

The author argues that it is easier to intercept a missile from potential small nuclear states such as North Korea by going after it in the boost phase where counter measures are much more difficult to develop.

SEC

Physics Today -- February 2000

Volume 53, Issue 2 pp. 46-48

Los Alamos Director Talks About Security Problems, Morale, and Recruiting Young Scientists at Lab

Interview with Los Alamos Director John C. Browne

SEC

Bulletin of the Atomic Scientists

56.1 (January 2000): pp. 47-50

We'll be sorry

W. K. H. Panofsky

The author reflects on the failure of the Comprehensive Test Ban Treaty to be ratified by the U. S. Senate, analyzing arguments that were used by those opposing the treaty. He examines the extent of the nuclear stockpile, arguing that there exist means to readily assure that the U. S. maintains a sufficient deterrence without the need of testing.