

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

Physicists as Advisors to Society and Leaders

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

ADV, SOC

APS Forum on Physics and Society Newsletter

Volume 40, Number 3 July 2011

Honesty, Perseverance, and Objectivity: Lessons from a Life in Public Policy

John F. Ahearne

The author draws on examples ranging from accidents in nuclear power plants to his experience with national security issues.

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.

ADV

Physics Today—December 2010

Volume 63, Issue 12, pp. 30-31

At work in the trenches of science diplomacy

David Kramer

An interview with Alex Deghan, Science Advisor at the U.S. Agency for International Development.

ADV

Physics Today—December 2010

Volume 63, Issue 12, pp. 28-30

Science diplomacy enlisted to span US divide with developing world

David Kramer

Discusses how scientists from organizations such as the Federation of American Scientists can help bridge international gaps through cooperative efforts with scientists from other countries such as Yemen.

ADV

Physics Today -- June 2009

Volume 62, Issue 6, pp. 23-24

Marburger calls for a new academic field of study in 'the science of science policy'

David Kramer

A former science advisor advocates formal studies and models of national science policy as a means for more effectively guiding such policy.

BEGIN LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 38, Number 2 April 2009

Review of the 2008 APS Energy Study, Energy Future: Think Efficiency

David Hafemeister

The author focuses on energy use by automobiles, but addresses use in buildings and appliances toward the end.

APS Forum on Physics and Society Newsletter

Volume 38, Number 3 July 2009

Letters to the Editor

Vladislav Bevc

David Hafemeister and Peter Schwartz respond

END LINK

ADV

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.

ADV

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.

BEGIN LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 38, Number 1 January 2009

Advocacy Threatens Scientific Integrity

By Robert E. Levine

The author argues that the APS statement on climate change is in conflict with its own principles of openness.

APS Forum on Physics and Society Newsletter

Volume 38, Number 3 July 2009

Letter to the Editor

Wallace Manheimer

END LINK

ADV

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

ADV

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

ADV

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.

ADV

APS Forum on Physics and Society Newsletter

Volume 36, Number 4 October 2007

The Origins of CAFE

Allan R. Hoffman

This personal history provides a nice case study for the impact that a scientist can have on important legislation.

BEGIN LINK

ADV

Physics Today -- September 2007

Volume 60, Issue 9, pp. 30-32

A Physicist Proselytizes About Countering Global Warming

Toni Feder

An interview with John Houghton, a retired atmospheric physicist, about his lectures on global warming to Christian groups.

Physics Today -- April 2008

Volume 61, Issue 4, pp. 10-12

Houghton friends and foes weigh in on global warming

Ben Zuckerman, Brahma D. Sharma, Warren Norred, Rustum Roy, and

Foster Morrison

END LINK

BEGIN LINK

ADV

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

END LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 36, Number 1 January 2007

Nuclear Proliferation: Capability versus Intent

W.K.H. Panofsky

This article focuses on the need to control access to fissile material and what international policy changes are needed to realize this control.

BEGIN LINK

ADV

Physics Today -- November 2006

Volume 59, Issue 11, pp. 32-34

Scientists Go Political in New Organization

Jim Dawson

Discusses the formation of Scientists and Engineers for America, an organization focused on promoting more discussion of science issues in the political arena.

Physics Today -- April 2007

Volume 60, Issue 4, pp. 30-32

Campaign Aims at Scientists and Engineers

Jim Dawson

Good follow-up article illustrating the interplay between science and politics.

END LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 35, Number 4 October 2006

Personal Observations on Science Advice to the President

Neal Lane

These reflections provide good insight into the mechanics of working as the Science Advisor to the President.

ADV

APS Forum on Physics and Society Newsletter

Volume 35, Number 4 October 2006

Science and Policy, John Marburger

A discussion of Allan Bromley's role as Science Advisor to President Bush, starting in 1989.

BEGIN LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 35, Number 4 October 2006

Reflections of a Science Advisor: General Considerations, the
Superconducting Supercollider (SSC) and the Space Station

John H. Gibbons

The author provides personal reflections on his role in providing advise
to the White House on big science projects.

APS Forum on Physics and Society Newsletter

Volume 36, Number 1 January 2007

Reflections of a Science Advisor: II. Approaches to Science Advice and
Policy Formulation, and a Few Vignettes, John H. Gibbons

A continuation of the previous article, this part providing one paragraph
synopses of several other key issues that arose while the author was
Science Advisor. Issues range from environmental to national security.

END LINK

BEGIN LINK

ADV

Physics Today -- September 2006

Volume 59, Issue 9, pp. 34-40

Science-Based Cleanup of Rocky Flats

David L. Clark¹, David R. Janecky¹, and Leonard J. Lane²

The author describes how key advice from scientists led to a quicker,
more effective clean-up of radioactive contamination.

Physics Today -- September 2007

Volume 60, Issue 9, pp. 10-12

Cleanup, Not Cover-Up, at Rocky Flats

William R. Alschuler, Anne Fenerty, David L. Clark, David R. Janecky,
and Leonard Lane

END LINK

ADV

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

ADV

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.

ADV

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

ADV

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.

ADV

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

BEGIN LINK

ADV

Bulletin of Atomic Scientists

61.5 (September-October 2005) pp. 40-49

Requiem for an office

Chris Mooney

This article discusses the history of the Office of Technology Assessment, which provided technical advice to the Congress from 1972-1994. It focuses on events that led to its demise and efforts to revive it.

Bulletin of Atomic Scientists

62.1 (January-February 2006) pp. 5-6

Letters to the Editor

Rush Holt, James Louis Holt, Adam Keiper, Chris Mooney

END LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 34, Number 4 October 2005

Introduction to a Sequence of Articles in Physics & Society on Science Input to Government

W.K.H. Panofsky

Provides a brief history of science advising in the U. S. and identifies key sources of tension between science advisors and those they advise.

ADV

APS Forum on Physics and Society Newsletter

Volume 34, Number 4 October 2005

Scientific Integrity in Government and Ballistic Missile Defense

Edwin E. Salpeter

The author discusses four cases, some of which he had personal involvement with, where technical issues arose related to weapons systems. Advice provided by scientists met with varying reception.

ADV

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

ADV

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.

ADV

APS Forum on Physics and Society Newsletter

Volume 34, Number 2 April 2005

Hans Bethe - Last of the Giants

Sidney Drell

Brief, personal reflection on Bethe.

BEGIN LINK

ADV

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

END LINK

ADV

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.

ADV

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.

ADV

Physics Today -- February 2005

Volume 58, Issue 2, pp. 23-24

National Academies Committee Sets Steps for Bringing Best Science Advice to Washington

Jim Dawson

The NAS issues recommendations for the process of appointing science advisors in the White House and the process of assembling science advisory panels.

BEGIN LINK

ADV

Physics Today -- September 2004

Volume 57, Issue 9, pp. 29-30

Court Rules Against 10 000-Year Radiation Safety Standard at Yucca Mountain

Jim Dawson

The court ruled that the EPA must appropriately account for National Academy of Sciences findings.

Physics Today -- December 2004

Volume 57, Issue 12, pp. 12-14

Yucca Mountain Nuclear Waste Containment Standard a Hot Topic
Dick Schmidt, Thomas Bjerstedt, Wenonah Hauter, Ron Bourgojn, and
Cameron Reed

END LINK

ADV

Science and Engineering Ethics

Volume 10, Number 3 / September, 2004, pp. 437-455

An in depth discussion of the difficulties that arise associated with uncertainty when scientists advise governments. Includes some specific cases and a discussion of how governments can and do manipulate science.

ADV

Physics Today -- August 2004

Volume 57, Issue 8, pp. 55-56

Jerry Wiesner: Scientist, Statesman, Humanist—Memories and Memoirs

Walter A. Rosenblith and Wolfgang K. H. Panofsky, Reviewer

BEGIN LINK

ADV

Physics Today -- April 2004

Volume 57, Issue 4, pp. 30-31

Bush Administration Accused of Misusing Science

Jim Dawson and Paul Guinnessy

This brief article on a statement issued by the Union of Concerned Scientists raises some useful issues about the role of scientists as advisors to society. There is not time in the brief article to get into a detailed discussion of the facts it alludes to.

Physics Today -- May 2004

Volume 57, Issue 5, pp. 29-30

Marburger Refutes Claims That Bush Administration Misuses Science

Jim Dawson and Paul Guinnessy

END LINK

ADV

APS Forum on Physics and Society Newsletter

Volume 33, Number 1 January 2004

30 Years of APS Congressional Fellows: Looking Back and Looking Forwards

Sherri G. Stephan

The author describes first hand experience with this program designed to equate physicists with public policy making and to provide members of Congress with technical expertise.

ADV

APS Forum on Physics and Society Newsletter

Volume 33, Number 1 January 2004

Examining an Alternative Approach to the Science Congressional Fellowship Program: The D.C.-Academia Revolving Door

David Hafemeister

Discusses some advantages to a career spent partly in academia and partly in government, including the ability to write independently while in the academic world.

ADV

Physics Today -- June 2003

Volume 56, Issue 6, pp. 59-60

In War and Peace: My Life in Science and Technology

Guy Stever and D. Allan Bromley, Reviewer

ADV

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.

ADV

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.

ADV

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

ADV

Science and Engineering Ethics

Volume 8, Number 4 / December, 2002, pp. 593-602

Consensus conference on environmental values in radiation protection: a report on building consensus among experts

Matthias Kaiser and Ellen-Marie Forsberg

The author uses a conference on radiation protection to illustrate the use of a consensus conference to provide advice to society on technological issues.

ADV

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.

ADV

Bulletin of the Atomic Scientists

58.4 (July-August 2002): pp. 65-66

Science, Money, and Politics: Political Triumph and Ethical Erosion Daniel

S. Greenberg

Reviewed by Michael S. Reidy

Book Review

BEGIN LINK

ADV

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

ADV

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.

ADV

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.

ADV

APS Forum on Physics and Society Newsletter

Volume 31, Number 1 January 2002

Life Views and Particle Physics

David Hafemeister

The author discusses the roles some particle physicists have played in providing advice on science and society issues.

ADV

Physics Today -- October 2001

Volume 54, Issue 10, pp. 24-26

Legislation to Revive OTA Focuses on Science Advice to Congress

Jim Dawson

News article on the possibility of reviving the Office of Technology Assessment, which had provided advice to Congress on technical issues before being disbanded in the 1980s. The article provides a brief history of OTA.

ADV

APS Forum on Physics and Society Newsletter

Volume 30, Number 4 October 2001

Our National Energy Situation is a Mess!

Albert A. Bartlett

A physicist testifies before Congress.

ADV

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.

ADV

Physics Today -- April 2001

Volume 54, Issue 4, pp. 27-28

Boehlert Seeks Stronger Voice for Science on Capitol Hill

Jim Dawson

An interview with a member of Congress provides a quick overview of how some science issues are viewed on Capitol Hill.

ADV

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

M Robert Weidman, Michigan Technological University Edward A. Whittaker, Stevens Institute of Technology John Wolbeck, Orange County Community College Stanley George Wojcicki, Stanford University Edward Wright, UCLA Todd Young, Wayne State College William Younger, College of the Albemarle Hsiao-Ling Zhou, Georgia State University.Â Howard Shugart, Chair Frances Hellman, and many others at the University of California, Berkeley, Physics Department for helpful discussions, and for hospitality. Thanks also to Prof. Tito Arecchi and others at the Istituto Nazionale di Ottica, Florence, Italy. Marshall Thomsen Department of Physics and Astronomy. Eastern Michigan University. Graduate Education in Physics: Which Way Forward? Thursday, January 31 â€“ Saturday, February 2, 2008 American Center for Physics College Park, MD. I will focus my comments today on two questions: what ethics-related information is essential in physics graduate education and by what mechanisms can students acquire this information? Part of my philosophy in developing ethics education programs is that while it is unrealistic to expect to change the moral compass of an individual in the confines of the time normally Proceedings of Ethical Issues in Physics. Eastern Michigan University, Ypsilanti, MI (July 17-18, 1993). SchÄ¶n, J. H., Meng, H., & Bao, Z. (2001). Self-assembled monolayer organic field-effect transistors. *Nature*, 413, 713-716. Service, R. F. (2001).Â Pioneering physics papers under suspicion for data manipulation. *Science*, 296(5572), 1376-1377. University of Konstanz. Physics Bibliography. Prepared to accompany the book: *Physics, the Human Adventure: From Copernicus to Newton and Beyond* By Gerald Holton & Stephen G. Brush Rutgers University Press, 2001. ***To search Physics Bibliography for specific words, terms, people, etc., type "Ctrl + F"***. Contents. Chapter and section titles (linked to corresponding "Sources, etc." in item 2).Â Stillman Drake, *Galileo Studies, Personality, Tradition, and Revolution*, Ann Arbor, Michigan: University of Michigan Press, 1970. Galileo Galilei, *On Motion and On Mechanics*, translated by I. E. Drabkin and S. Drake, Madison, Wisconsin: University of Wisconsin Press, 1960; *Two New Sciences*. W. C. Humphreys, "Galileo, falling bodies, and inclined planes. *Ethical Issues in Physics Bibliography* assembled by Marshall Thomsen Eastern Michigan University. February 2012 Conflict of Interest. *COI Science and Engineering Ethics* Volume 17, Number 1 / March 2011, pp. 75-107 Climate Change, Nuclear Economics, and Conflicts of Interest Kristin Shrader-Frechette The author argues that nuclear industry-funded cost analyses of nuclear power significantly underestimate the true costs. *COI Science and Engineering Ethics* Volume 13, Number 4 / December, 2007, pp. 415-435 *Defining Financial Conflicts and Managing Research Relationships: An Analysis of University...*