

CURRICULUM VITAE

David W. Hafemeister
Professor of Physics (emeritus), Cal Poly University
Science Affiliate, Ctr. for International Security and Cooperation, Stanford U.
553 Serrano Dr., San Luis Obispo, CA 93405, (805)-544-5096,
dhafemei@calpoly.edu, digital reprints at <http://works.bepress.com/dhafemei/>

I. PERSONAL:

Born: Chicago, Illinois, 1 July 1934
Married, Three Children

II. EDUCATION:

B.S. Mechanical Engineering, Northwestern University, 1957
M.S. Physics, University of Illinois, 1960
Ph.D. Physics, University of Illinois, 1964

III. VARIOUS ACTIVITIES:

U.S. SENATE: Glenn legislation on nonproliferation (Export Reorganization Act of 1976, IAEA, Glenn-Symington); on energy (EPCA & ECPA, oil pricing, energy R&D, energy standards), Arms Control Treaties (TTBT/PNET, CFE, START, OPEN SKIES, CWC) before the Senate Foreign Relations Committee; technical lead on verification, compliance and national security issues; plus hearings and legislation on Nunn-Lugar former Soviet Weapons dismantlement, ACDA authorizations, Iraq-proliferation, Hatfield-Mitchell CTB, ABM/GPALS, Soviet Scientists, FSU Plutonium, DOD/GAO Nuclear Triad Review.

U.S. STATE DEPARTMENT: Nuclear Nonproliferation (1977-79); Presidential Review Memoranda (PRM) 15 (nonproliferation), PRM 31 (East-West), PRM 33 (North-South), State Dept. Delegate to Alternate Fuel Cycles of the International Nuclear Fuel Cycle Evaluation, represented Under Secretary of State on Nuclear Non-Proliferation Act of 1977 and other legislation, NEPA abroad, Interagency Comm. on Sensitive Nuclear Exports, spent fuel return, etc. Strategic Arms Negotiations (1987), Chair of START Interagency Technical Working Group on "Throw-weight," technical lead for State Dept. on TTBT work program, Working Interagency Group on Defense and Space, START, and TTBT Treaties, Tribute of Appreciation from Assistant Secretary of State for Political-Military Affairs Bureau (Dec. 1987).

U.S. ARMS CONTROL AND DISARMAMENT AGENCY: Foster Fellow in Office Strategic Negotiations, Bureau of Strategic and Eurasian Affairs, Jan. 1997-Jan. 1998. Implementation and Compliance issues on START I, START II's Bilateral Implementation Commission, thought pieces on START III.

NATIONAL ACADEMY OF SCIENCES. Study Director of MONITORING NUCLEAR WEAPONS AND NUCLEAR-EXPLOSIVE MATERIALS (Nat. Acad. Press, 2005), Staff Officer and technical lead on TECHNICAL ISSUES RELATED TO THE COMPREHENSIVE TEST BAN TREATY (Nat. Acad. Press, 2002). Staff Officer for the bilateral discussions with the

Russian, Chinese, and Indian Academy of Sciences on nuclear policy, presented two of the NAS papers, and at EIF-CTBT in 2007. Testimony before NAS second study on CTBT, Sept. 2009.

AMERICAN PHYSICAL SOCIETY: APS Leo Szilard Award for Physics in the Public Interest (1996), Fellow of APS, APS Council (1988-91, 1996), APS Executive Board (1989, 1991), Chair Forum on Physics & Society (1985-86), Panel on Public Affairs (1978-81, 84-85, 88-90, 93-97, Vice-Chair-94, Chair-Elect-95, Chair-1996, Chair for POPA reports on ELF-EMF and on Energy), Chair APS Constitution and Bylaws Comm. (1989-90), Education Comm. (1974-77), Editor of Physics Society (1986), Chair of Forum Awards (1980, 1994), Co-organizer of 6 Short Courses, 6 AIP Conference Proceedings Books, 1 MIT/Pergamon, invited APS talks at Stanford(1973), Chicago(1977), Washington DC(1991, 1994), Indianapolis(1996), Atlanta(1999), Montreal(2004), Denver(2009); chaired/organized 10 sessions, chair of funding committee for Szilard (1998) and member of founding committee Sakharov (2004-5) Award.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE: Congressional Fellow (1975-76); Science, Arms Control, and National Security Fellow (1987), chaired AAAS sessions on nonproliferation (1978), and nuclear power in space (1989), invited talks at Boston(1976), San Francisco(1989).

AEC/DOE/NNSA. Engineer, Particle Accelerator Division, Argonne Nat. Lab. (1957-8), Post Doctoral Fellow, Physics Div., Los Alamos Nat. Lab. (1964-66), Visiting Physicist, Physics Div., Argonne Nat. Lab. (summer 1973) and Lawrence Berkeley National Lab., Center for Buildings Sciences (1985-6), NAS reviewer for CISAC-NAS study (2000-2), Division Review Committee, Nuclear Nonproliferation Division, Los Alamos Nat. Lab. (member 2002-6, Chair, 2004-6), Member of Threat Reduction Program Review Comm. (2005-6), consultant to Remote Sensing Laboratory (Nevada Test Site, 2008-)

FEDERATION OF AMERICAN SCIENTISTS: Member of National Council (1989-92, 1994-98). Member of Joint FAS/CSS (Committee of Soviet Scientists) Cooperative Research Project on Arms Reductions (1988-90).

STANFORD UNIVERSITY: CTBT research at Stanford as a Science Fellow (2005-6) and as a Science Affiliate (2006 -). Publications in Science and Global Security and Arms Control Today and CTBTO Spectrum. Presentations at the 5th EIF-CTBT Conference (18 September 2007), CRS (March 2008), NTS (18 September 2008), APS-Denver(May 2009), CTBTO ISS 2009, NAS (September 2009), LLNL (October 2009).

CALIFORNIA POLYTECHNIC UNIVERSITY: 25 Senior Projects (50/50, physics/energy), House Doctor Energy Laboratory, Meritorious Performance and Promise Award (1986, 1988, 1990), Honored Professor from School of Science/Math by School of Architecture & Environmental Design (1989), Chair Campus Grievance Committee 1981-83 (chosen by Faculty Senate and Univ. President), Chair Physics Dept. Colloquium Committee (1978-90, 1993-96, 1998-2000), Chair Campus General Education Comm (1989-90). Physics and Society courses (1972-).

CARNEGIE-MELLON UNIVERSITY: PhD Thesis Advisor for A. Klotz, Coreferent (Netherlands) B. Kolk, Co-Chair Solid State Physics Seminars, Chair Campus YMCA, Director Carnegie-Mellon Prep, Danforth Fellow, Pittsburgh Urban Youth Action Award.

IV. EMPLOYMENT:

Co-Op Engineer, Kearney & Trecker Corporation, Milwaukee, WI (1955-57).
 Mechanical Engineer, Particle Accelerator Division, Argonne Nat. Laboratory (1957-58).
 Research and Teaching Assistant, Univ. of Illinois, Physics Department (1958-64).
 Visiting Professor, NSF Inst., Tougaloo College, Tougaloo, MS (June-August 1964).
 Science Fellow, Physics Division, Los Alamos National Laboratory (1964-66).
 Assistant Professor, Physics Department, Carnegie-Mellon University (1966-69).
 Associate Professor, Physics Department, Calif. Polytechnic U. (1969-72); Professor (1972-2000).
 Visiting Scientist, Nat. Lab., Univ. Groningen, Netherlands (June-Dec. 1971; June-Sep. 1980).
 Research Physicist, Physics Division, Argonne National Laboratory (Summer 1973).
 Amer. Assoc. Ad. Science Congressional Fellow (1975-76).
 Science Advisor to Senator John Glenn (June 1975-February 1977).
 Special Assistant to Lucy W. Benson and Joseph S. Nye, Under Secretary of State for Security Assistance, Science, and Technology (February 1977-September 1978).
 Expert Consultant to Deputy Assistant Secretary of State-OES L. Nosenzo and Director of Office of Nuclear Nonproliferation Policy, Dept. of State (June-August 1979).
 Visiting Scientist, Physics Dept., Program Sci/Tech Int. Sec., STS, Massachusetts Institute of Technology (August 1983-August 1984).
 Visiting Scientist, Buildings Science Center, Lawrence Berkeley Lab., University of California (June-September 1985, 10% of 1986).
 Amer. Assoc. Ad. Science, Arms Control, and National Security Fellow, Office of Strategic Nuclear Policy (Geneva Talks), Department of State (January-December 1987).
 Visiting Scientist, Center for International Affairs and Arms Control, Stanford University (June-August 1988).
 Visiting Scientist, Center for Energy/Environmental Studies, Princeton University (June-August, 1989).
 Professional Staff Member, Comm. on Foreign Relations, U.S. Senate (Sept. 1990-Oct. 1992).
 Professional Staff Member, Comm. on Governmental Affairs, U.S. Senate (Oct. 1992-Aug. 93).
 Visiting Scholar (Ctr. Int. Security Studies, Sept. 1996 -Jan. 1998), Lecturer (Environmental Policy Prog., Sept.-June 1998), School of Public Policy, University of Maryland.
 Wm. Foster Fellow, Strategic Negotiations Division (START), Bureau of Strategic and Eurasian Affairs, U.S. Arms Control and Disarmament Agency (Jan. 1997 - Jan. 1998)
 Study Director, *Monitoring Nuclear Weapons and Nuclear-Explosive Materials*, Staff, *Technical Issues Relating to the CTBT*, National Academy of Sciences, (April 2000-January 2002)
 Member (2002-6), Chair (2004-6), *Division Review Committee for Nuclear Nonproliferation Division*. Member (2005-6), *Threat Reduction Review Committee*, Los Alamos National Laboratory, consultant on remote monitoring for Nevada Test Site (September 2008 –).
 Science Fellow, Center for International Security and Cooperation, Stanford U. (Sept. 2005–Aug. 2006). Science Affiliate (2006-).

V. BOOKS:

- A. Buffa, D. Hafemeister and R. Brown, PHYSICS FOR MODERN ARCHITECTURE, Paladin House, Lake Geneva, WI, 1983, 204 pages, and lab manual on earthquakes and energy.
- D. Hafemeister and D. Schroerer, editors, PHYSICS, TECHNOLOGY AND THE NUCLEAR ARMS RACE, Amer. Instit. Physics Conference Series 104, NY, 1983, 384 pages.
- D. Hafemeister, H. Kelly, and B. Levi, editors, ENERGY SOURCES: CONSERVATION AND RENEWABLES, Amer. Instit. Physics Conf. Series 135, New York, 1985, 682 pages.
- D. Hafemeister, editor, ACID RAIN: HOW SERIOUS AND WHAT TO DO, Amer. Association of Physics Teachers, College Park, MD, 1986, 56 pages.

- K. Tsipis, D. Hafemeister, and P. Janeway, editors, *ARMS CONTROL VERIFICATION: THE TECHNOLOGIES THAT MAKE IT POSSIBLE*, Pergamon-Brassey, Elmsford, NY, 1986, 436 pg.
- D. Schroerer and D. Hafemeister, editors, *NUCLEAR ARMS TECHNOLOGIES IN THE 1990s*, Amer. Instit. Physics Conf. Series 178, New York, 1989, 486 pages.
- D. Hafemeister, *SCIENCE AND SOCIETY TESTS (Am J Phys Reprints)*, El Corral, San Luis Obispo, CA, 1988, 91 pages.
- D. Hafemeister, ed., *PHYSICS AND NUCLEAR ARMS TODAY (Physics Today)*, Amer. Institute of Physics, New York, 1991, 399 pages.
- B. Levi, D. Hafemeister and R. Scribner, ed., *GLOBAL WARMING: PHYSICS AND FACTS*, Amer. Instit. Physics Conf. Series 247, New York, 1992, 326 pages.
- D. Hafemeister, ed., *BACKGROUND PAPERS ON ENERGY*, APS Panel on Public Affairs, 1997, 91 pages, www.aps.org.
- D. Hafemeister, ed., *BIOLOGICAL EFFECTS OF LOW-FREQUENCY ELECTROMAGNETIC FIELDS*, Am. Assoc. of Physics Teachers, 1998, 141 pages.
- D. Hafemeister, *PHYSICS OF SOCIETAL ISSUES: CALCULATIONS ON NATIONAL SECURITY, ENVIRONMENT AND ENERGY*, Springer, 2007, 510 pages.
- D. Hafemeister, B. Levi, M. Levine and P. Schwartz (ed.), *PHYSICS OF SUSTAINABLE ENERGY: USING ENERGY EFFICIENTLY AND PRODUCING IT RENEWABLY*, Amer. Institute of Physics Conference Proceedings, Vol. 1044, 2008, 450 pages.
- D. Hafemeister, D. Kamman, B. Levi, and P. Schwartz (ed.), *PHYSICS OF SUSTAINABLE ENERGY II, USING ENERGY EFFICIENTLY AND PRODUCING IT RENEWABLY*, Amer. Institute of Physics Conference Proceedings, Vol. , 2011, pages.

VI. ARTICLES (1983-2011)

- D. Hafemeister, "Science and Society Test VIII: The Arms Race Revisited", *Am. J. Phys.* 51, 215-225 (1983).
- D. Hafemeister, "Interactive Computer Graphics: The Arms Race", *Bull. Science, Technology, and Society* 4, 471-488 (1984); *AIP* 104, 184-204 (1983).
- D. Hafemeister, "Chronology of the Nuclear Arms Race", *AIP* 104, 296-306 (1983), and *AIP* 178, 435-443 (1989).
- D. Hafemeister, "Basic Physics of EMP, ABM, and Laser/Particle Beam Weapons", *AIP* 104, 357-368 (1983).
- D. Hafemeister, "The Feasibility of the X-ray Laser Pumped with a Nuclear Explosion", *Int. Soc. Photo. Eng., SPIE* 474, 100-106 (1984).
- D. Hafemeister, "A Response to the Build-Down", *Bull. At. Sci.* 40, 60-61 (March 1984).
- D. Hafemeister, "Regarding the Need to Convert Domestic Research Reactors from Highly Enriched to Low-Enriched Uranium Fuels", *Hearings Before House Committee on Science and Technology*, September 25, 1984, pages 418-424.
- D. Hafemeister, "Advances in Verification Technology", *Bull. At. Sci.* 41, 35-40 (January 1985).
- D. Hafemeister, J. Romm, and K. Tsipis, "The Verification of Compliance of Arms Control Agreements," *Scientific American* 252, 38-45 (March 1985).
<http://www.calpoly.edu/~dhafemei/sciamer.htm>
- A. Rosenfeld and D. Hafemeister, "Energy Conservation in Large Buildings", Chapter 8 in *AIP* 135, 148-168 (1985) and LBL-10505 (1985).
- D. Hafemeister, "A Chronology of Energy Conservation and Production", *AIP* 135, 576-579 (1985).
- D. Hafemeister, "Physics of Some Environmental Aspects of Energy", *AIP* 135, 628-641 (1985).
- D. Hafemeister, "Emerging Technologies for Verification of Arms Control Treaties", *Bull. Sci. Tech. Soc.* 5, 307-320 (1985).

- D.W. Hafemeister, "Science and Society Test IX: Technical Means of Verification", *Am. J. Physics* 54, 693-703 (1986).
- D.W. Hafemeister, "Sensitivity Analysis of the Threat to National Security Posed by a Breakout from Arms Control Treaties," in *ACV-Pergamon*, 1986, 44-62.
- D. Schroerer and D. Hafemeister, "A Bibliography of Technical Means of Verification", in *ACV-Pergamon*, 1986, 400-409.
- D. Hafemeister, "The Cal Poly House Doctor Lab", *Energy Auditors and Retrofitters* 3, 12-14 (July 1986).
- D. Hafemeister and B. Levi, "Rewarding Scientists Who Pursue and Discuss Physics in the Public Interest," *Bulletin Sci. Tech. Soc.* 6, 342-346 (1986).
- D. Hafemeister, "Science and Society Test X: Energy Conservation," *Amer. J. Physics* 55, 307-315 (1987).
- A. Rosenfeld and D. Hafemeister, "Energy-Efficient Buildings," *Scientific American* 256, 78-85 (April 1988). <http://www.calpoly.edu/~dhafemei/sciamer.htm>
- D. Hafemeister, review of THE ADVANCEMENT OF SCIENCE, AND ITS BURDENS by G. Holton, *Phys. Today* 41, 86-88 (Feb. 1988).
- D. Hafemeister, "Infrared Monitoring of Nuclear Power in Space," *AIP* 178, 206-219 (1989), *Science & Global Security* 1, 109-128 (1989), *BAPS* 34, 1161 (1989).
- J. Primack, N. Abrams, S. Aftergood, D. Hafemeister, D. Hirsch, R. Mozley, O. Prilutsky, S. Rodionov, and R. Sagdeev, "Space Reactor Arms Control: Overview," *Science and Global Security* 1, 58-82 (1989).
- D. Hafemeister, "Verification and Compliance of Nuclear Testing Treaties," invited testimony in TEST BAN ISSUES, Senate Committee on Foreign Relations, October 6 1988, pg. 16 -19, 22-24, 76-81.
- B. Levi and D. Hafemeister, "Stability of Nuclear Forces," pg. 87-100 in THE FUTURE OF LAND-BASED STRATEGIC MISSILES, ed. by B. Levi, M. Sakitt, A. Hobson, Amer. Instit. Phys, NY, 1989.
- B. Levi, D. Hafemeister, and V. Thomas, "Verification of Limitations on Land-Based Missiles," pg. 101-122 in THE FUTURE OF LAND-BASED STRATEGIC MISSILES (above).
- D. Hafemeister, "Exploratory Concepts for Land-Based Missiles," pg. 281-287 in THE FUTURE OF LAND-BASED STRATEGIC MISSILES (above).
- D. Hafemeister and L. Wall, "Energy Conservation in Buildings and Appliances," pages 441-473 in THE ENERGY SOURCEBOOK: A GUIDE TO TECHNOLOGY, RESOURCES AND POLICY, ed. by A. Fainberg and R. Howes, AIP, NY, 1990.
- D. Hafemeister, review of ATOMS FOR PEACE AND WAR by R. Hewlett and J. Holl, *Am. J. Physics* 58, 602-3 (1990).
- D. Hafemeister, review of TOWARDS A COMPREHENSIVE TEST BAN by S. Fetter, MAKING SPACE DEFENSE WORK by A. Milton, M. Davis, and J. Parmentola, VERIFICATION AND COMPLIANCE by M. Krepon and M. Umberger, *Physics Today* 104-108 (September 1990).
- S. Aftergood, D. Hafemeister, J. Primack, O. Prilutsky, S. Rodionov; "Nuclear Power in Space," *Scientific American* 264, 42-47 (June 1991). <http://www.calpoly.edu/~dhafemei/sciamer.htm>
- U.S. Senate Foreign Relations Committee, pg. 8-17 of TTBT/PNET NUCLEAR TEST BAN TREATIES (Senate Executive Report 101-31, 1990).
- U.S. Senate Foreign Relations Committee, pg. 32-51 of the CFE TREATY (Senate Executive Report 102-22, 1991).
- U.S. Senate Foreign Relations Committee, pg. 27-75 of the START TREATY (Senate Executive Report 102-53, 1992).
- D. Hafemeister, review of GENIUS IN THE SHADOW: A BIOGRAPHY OF LEO SZILARD, THE MAN BEHIND THE BOMB by W. Lanouette, *Am J. Physics* 61, 862-3 (1993).

- D. Hafemeister, "D.C.-Academic Revolving Door Scenarios," pg. 63-68 in FROM THE LAB TO THE HILL, ed. A. Fainberg, Amer. Assoc. Advance. Science, Washington, D.C., 1994. Updated in *Physics and Society* 33, 3-4 (January 2004).
- D. Hafemeister, "Physics and Society," pages 1450-53 in MacMillian *Encyclopedia of Physics*, Simon & Schuster Macmillan, New York, ed. J. Rigden, 1996.
- D. Hafemeister, "The Intersection of NPT Renewal, CTB Negotiation and IAEA Enhancement," Ch. 5 (p. 71-84) in OLD ISSUES AND NEW STRATEGIES IN ARMS CONTROL AND VERIFICATION, ed. J. Brown, VU University Press, Amsterdam, 1995.
- D. Hafemeister, "Monitoring Nuclear Test Ban Treaties," *Physics/Society* 24, 1-3 (April 1995).
- D. Hafemeister, "Background Paper on Power Line Fields and Public Health," for APS statement of April 1995, WWW.APS, NYTimes (p. A14, May 14, 1995), amicus brief to CA/NY supreme courts (with 6 biomed-physics nobel laureates), *Phys. Society* 24, 2-3 (Oct. 1995), *Phys. Today* 49, 84-86 (Jan. 1996).
- D. Hafemeister, "The Imprudence of Prudent Avoidance," *Phys. Society* 24, 9-11 (July 1995).
- D. Hafemeister, review of ENVIRONMENTAL PHYSICS by E. Boeker and R. van Grondelle, *Physics Today* 48, 66-67 (Oct. 1995).
- D. Hafemeister, "AAPT Resource Letter: Biological Effects of Low-Frequency Electromagnetic Fields," *Amer. J. Physics* 64, 974-981 (1996), 1998 AAPT reprint book (141 pages), BAPS 44, 1536 (1999).
- D. Hafemeister, review of DARK SUN: THE MAKING OF THE HYDROGEN BOMB by R. Rhodes, *Amer. Scientist* 84, 507-8 (Sept. 1996).
- D. Hafemeister, "In Search of an Improved Science and Public Policy Process," BAPS 41, 934 (1996), *Phys. Society* 25, 9-10 (Oct. 1996) and *APS News* 6, 7 (Jan. 1997).
- D. Hafemeister + 9, "The Current Energy Situation: Summary Points," APS May 1996 Statement, ed. BACKGROUND PAPERS ON ENERGY (WWW.APS, 91 pages), *APS News* 5, 8 (Oct. 1996).
- D. Hafemeister, "Summing Up Questions and Answers on the Comprehensive Test Ban Treaty," p. 113-132 in THE COMPREHENSIVE TEST BAN TREATY: ISSUES AND ANSWERS, ed. by M. McKinzie, Cornell Univ., 1997.
- D. Hafemeister, "Reflections on the GAO Report on the Nuclear Triad," *Science and Global Security* 6, 383-393 (1997).
- D. Hafemeister, Review of THE NUCLEAR BLACK MARKET, GLOBAL ORGANIZED CRIME PROJECT, *Physics and Society* 26, 15 (Jan. 1997).
- D. Hafemeister, Review of POSSIBLE HEALTH EFFECTS OF EXPOSURE TO RESIDENTIAL ELECTRIC AND MANGNETIC FIELDS (Nat. Acad. Sci.), *Physics and Society* 26, 12-13 (April 1997).
- D. Hafemeister, "The Case for the Comprehensive Test Ban Treaty," *FAS Public Interest Report* 50, 9-10 (Jan. 1997).
- D. Hafemeister, review of THE FUTURE OF U.S. NUCLEAR WEAPONS POLICY (Nat. Acad. Sci. Press), *Physics and Society*, 27, 18-19 (Jan. 1998).
- D. Hafemeister, "How Much Reliability and Yield is Enough for a CTBT?," *Physics and Society* 27, 10-11 (Jan. 1998).
- D. Hafemeister, review of THE UNITED STATES AND ARMS CONTROL by Allan Krass, (Prager Pub.), *Physics and Society* 27, 16 (July 1998).
- D. Hafemeister, "History of the Forum on Physics and Society," *Physics and Society* 28, 3-5 (Jan. 1999), *APS News* 8, 4 (April 1999), BAPS 44, 181 (1999).
- D. Hafemeister, review of ATOMIC AUDIT by S. Schwartz (Brookings) and KILLING DETENTE by A. Cahn (Penn State Press), *Phys. and Society* 28, 19-20 (April 1999).
- D. Hafemeister, "US Nuclear Security Cooperation with Russia and Transparency," p. 80-111, TRANSPARENCY IN NUCLEAR WAREADS AND MATERIALS, Cambridge Univ. Press, 2003, ed., N. Zarimpas.

- D. Hafemeister, review, TRITIUM ON ICE: DANGEROUS NEW ALLIANCE OF NUCLEAR WEAPONS AND NUCLEAR POWER (MIT Press), *Am. J. Phys.* **71**, 510-11, (2003)
- D. Hafemeister, "Energy Scaling Law for Buildings," *Hyperfine Interactions* **151**, 191-3, (2003).
- D. Hafemeister, "Physics and Society Travels with Dave," *Physics and Society* **33** (April 2004).
- D. Hafemeister, "National Academy of Sciences Study on the Comprehensive Nuclear Test Ban Treaty," *Physics and Society* **33**, 4-7 (July 2004), invited paper BAPS, 2004-Montreal.
- D. Hafemeister, "Effective CTBT Verification: The Evidence Accumulates," *Verification Yearbook*, 2004, p. 29-44, VERTIC, London.
- D. Hafemeister, "A Secrecy Primer," *Bulletin of Atomic Scientists* **61**, 23-25 (May/June 2005) and 5-7 (July/August 2005).
- D. Hafemeister, "Presidential Report to the Congress: Net Benefit Analysis of US/Soviet Arms Control," *Science and Global Security* **13**, 209-217 (2005)
- D. Hafemeister, "How Much Reliability is Enough for a Comprehensive Nuclear Test Ban Treaty?," *Physics and Society* **36**(2), 3-8 (2007).
- D. Hafemeister, "Progress in CTBT Monitoring Since Its 1999 Senate Defeat," *Science and Global Security* **15**(3), 151-183 (2007), presented to *EIF-CTBT* (Vienna, 18 September 2007), NAS-2 (9 Sept. 2009), Congressional Res. Serv. (Washington, DC, 13 March 2008), APS-Denver BAPS 236 (5 May 2009), NAS-2 (9 Sept. 2009).
- D. Hafemeister, "The CAFE Formula," *Physics and Society* **36**(4), 16-18 (2007).
- D. Hafemeister, "Entrance-Into Force of CTBT," *Physics and Society* **37**(1), 8-11 (2008).
- D. Hafemeister, Review of THE STAR WARS ENIGMA: BEHIND THE SCENE OF THE COLD WAR RACE FOR MISSILE DEFENSE by Nigel Hey (Potomac Books, 2006), *Journal of Cold War Studies* **10**(2), 141-143 (2008).
- D. Hafemeister, Review of NUCLEAR WEAPONS: WHAT YOU NEED TO KNOW by Jeremy Bernstein (Cambridge U. Press, 2008), *Physics Today* **61**(4), 67-68 (2008).
- D. Hafemeister, "A Bribe to Escape Moscow," *Physics and Society* **37**(2), 18-19 (2008).
- D. Hafemeister and P. Schwartz, "A Tutorial on the Basic Physics of Climate Change," *Physics and Society* **37**(3), 3-5 (2008).
- D. Hafemeister, "Physics of Energy-Efficient Buildings," AIP Conf. Proc. 1044, PHYSICS OF SUSTAINABLE ENERGY, D. Hafemeister, et al (ed.), pp. 88-111.
- D. Hafemeister, "The CTBT: Effectively Verifiable," *Arms Control Today* **38**(8), 6-12 (October 2008).
- D. Hafemeister, "Review of the 2008 APS Energy Study, *Energy Future: Think Efficiency*," *Physics and Society* **38**, 16-20 (April 2009).
- D. Hafemeister, "Capabilities of the IMS Seismic Auxiliary Network," and "CTBT Space-Based Monitoring," *CTBTO International Scientific Study*, Vienna, June 10-12, 2009.
- D. Hafemeister, "CTBT Evasion Scenarios: Possible or Probable?," *CTBTO Spectrum* **13**, 22-25 (September 2009).
- Thomas Graham, Jr. and D. Hafemeister, "Nuclear Testing and Proliferation – an Inextricable Connection," *Disarmament Diplomacy* **91**, 15-26 (summer 2009).
- D. Hafemeister, "Input to the NAS-CTBT Study," Nat. Acad. of Sciences, 9 September 2009.
- D. Hafemeister, "Assessing the Merits of the CTBT," *Nonproliferation Review* **16**(3), 473-482 (November 2009).
- J. Koomey, D. Hafemeister, et al, "Defining a Standard Metric for Electricity Savings," *Environmental Research Letters* **5**, 1-10 (2010).
- D. Hafemeister, review of SUSTAINABLE ENERGY – WITHOUT THE HOT AIR, by David MacKay (UIT, Cambridge, UK), *American J. of Physics* **78**(2), x-y (2010). Review of *Sustainable Energy in American Journal of Physics* **78**(2), 222-3 (2010).

VII. TOTAL PUBLICATIONS:

PHYSICS (Nuclear, Solid State, Chemical): Physical Review (8), Physical Review Letters (1), Physics Letters (2), Jour. Chem. Physics (8), Book Chapters (4), Books (1), Miscellaneous (8).

SCIENCE AND PUBLIC POLICY: Amer. Jour. Physics (20), Technology Review (1), Scientific American (3), Science and Global Security (5), Bull. Atomic Scientists (4), Bull. Science Technology Society (2), Physics Today (4), Arms Control Today (2), CTBTO Specturm, Disarmament Diplomacy, Non-Proliferation Review, Book Chapters (22), Books (12), Miscellaneous (60).

VIII. PHYSICS PUBLICATIONS (1962-84).

IX. SCIENCE AND PUBLIC POLICY PUBLICATIONS (1972-82).