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Council on Foreign Relations
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PROFESSIONAL EXPERIENCE

Council on Foreign Relations, Washington, DC, office, 2004-present

Fellow, Science and Technology

- Conducting research focused on the nexus of science and foreign policy. Current research interests include U.S. nuclear weapons policy, the nonproliferation regime, Iran's nuclear program, and radiological and nuclear terrorism.
- Leading a project to find ways to stop the leakage of nuclear technology into future nuclear weapons programs.
- Directing and writing a Council Special Report on preventing catastrophic nuclear terrorism.
- Advising the Council's science, technology, and foreign policy program.
- Supervising and mentoring a research associate.

The Johns Hopkins University, Washington, DC, campus, 2005-present

Advanced Academic Programs, Zanvyl Krieger School of Arts and Sciences

Lecturer (Adjunct Professor)

- Teaching a graduate level course titled "Technologies of Weapons of Mass Destruction" for the Homeland Security Certificate Program

Georgetown University, Washington, DC, 2005-present

Security Studies Program, Edmund A. Walsh School of Foreign Service

Adjunct Assistant Professor

- Teaching a graduate level course titled "Nuclear Technologies and Security"

Monterey Institute of International Studies, Washington, DC, office, 2002-2004

Center for Nonproliferation Studies

Scientific Consultant

2004-present

Scientist-in-Residence

2002-2004

- Taught for three years, as an adjunct professor, a graduate level Monterey Institute course on missile and nuclear weapons technologies to graduate students.
- Advised the Center's staff on physical science aspects of CNS's nonproliferation programs.
- Analyzed and conducted peer review of CNS's Country Profiles Database on the Nuclear Threat Initiative Web site.
- Wrote articles for print and Web site (both CNS and Nuclear Threat Initiative sites) publication.
- Contributed, as a writer and peer reviewer, to the *NIS Export Control Observer*.
- Co-directed (with Dr. William Potter) the Different Faces of Nuclear Terrorism Project that systematically assessed nuclear and radiological terrorism.
- Worked with the National Nuclear Security Administration's Office of International Nuclear Material Protection and Cooperation (NA-25) to develop the Department of Energy's Action Plan on international radiological materials security. Advised the U.S. government and New York City government officials on radioactive and nuclear materials security.
- Supervised and mentored several research assistants, interns, and Herbert Scoville, Jr., Peace Fellows.

United States Department of State, Washington, DC, 2000-2002

Bureau of Nonproliferation, Office of the Senior Coordinator for Nuclear Safety

Foreign Affairs Officer

- Coordinated, in conjunction with the Senior Coordinator for Nuclear Safety and representatives of interagency offices, U.S. government nuclear safety policy on Russian plutonium production reactors, Russian nuclear submarine de-fueling and dismantlement, the Multilateral Nuclear Environmental Program for the Russian Federation, the Arctic Military Environmental Cooperation program, and other programs concerned with radioactive waste cleanup in northwest Russia and the Russian Far East as well as nuclear power plant safety in India and Pakistan.
- Oversaw nuclear safety issues for the Nonproliferation Bureau on the light water reactor project in North Korea, working closely with the Korean Peninsula Energy Development Organization and the Agreed Framework division in the State Department. Represented the U. S. government at the Sixth Nuclear Safety Experts Meeting in Hyangsan, North Korea.
- Developed proposals to combat threats of radiological and nuclear terrorism.
- Led the writing, editing, and organizing of “Environmental Security Threats from Decommissioned Russian Marine Nuclear Reactors, Spent Nuclear Fuel, and Associated Radioactive Waste and Contamination,” Report to Congress, October 2001.

Federation of American Scientists, Washington, DC, 1998-2000

Director, Nuclear Policy Project 1999-2000

Senior Research Analyst 1998-1999

- Analyzed nuclear arms control, nonproliferation, missile controls, and global security issues through research and publications.
- Organized press conferences and provided analysis for the news media through interviews on nuclear proliferation, arms control, missile defense systems, and ballistic missile controls.
- Represented FAS at professional meetings, including those of the Coalition to Reduce Nuclear Dangers, addressing nuclear arms control, nonproliferation, and missile defense issues.
- Wrote for and updated FAS’s nuclear nonproliferation and arms control Web site.
- Supervised and mentored a Herbert Scoville, Jr., Peace Fellow.

Institute for Physical Science and Technology, University of Maryland, College Park, MD, 1996-1998

Postdoctoral Research Associate

- Conducted research that applied statistical physics to chaos theory.
- Taught undergraduate physics in physical mechanics and electromagnetism courses by employing interactive and engaging teaching methods.

Physics Department, Boston University, Boston, MA, 1991-1996

Research Assistant 1991-1996

- Examined the phase transitions arising from and the statistics associated with long-range earthquake fault models by employing theoretical techniques and computer simulations.
- Researched properties of glasses and supercooled liquids by applying molecular dynamics techniques using supercomputers.
- Designed a model of a three-dimensional spiral galaxy to understand the dynamics of spiral arm formation.

Teaching Fellow 1992-1995

- Developed and applied innovative, award-winning methods while teaching undergraduate physics.
- Evaluated graduate level assignments for advanced statistical mechanics courses.

Harvard-Smithsonian Center for Astrophysics, Cambridge, MA, summers 1993 and 1994

Astronomer

- Analyzed Einstein Observatory x-ray data to determine properties of quasars.
- Wrote scientific analysis computer programs to establish and update astronomical databases for the High Energy Astrophysics Division.

Space Telescope Science Institute, Baltimore, MD, 1991

Scientific Consultant

- Wrote computer programs to analyze astronomical data from the International Ultraviolet Explorer and the Hubble Space Telescope.
- Conducted research for a comprehensive study of more than 500 F type stars.

United States Navy, Main duty assignments: Groton, CT and Bremerton, WA, 1987-1990

Naval Officer

- Supervised, as a qualified engineering-officer-of-the-watch, an eleven-person team who operated a nuclear power and propulsion plant aboard a ballistic missile submarine.
- Trained the sonar (14-person) and reactor controls (5-person) divisions on a ballistic missile submarine.
- Managed more than a dozen people as a submarine division officer.

Los Alamos National Laboratory, Los Alamos, NM, summers 1986 and 1987

Research Assistant

- Designed computer codes that interacted with Group T-3's computational fluid dynamics program for classified laboratory experiments.
- Investigated theoretical physics problems in fluid flow and thermodynamics using Laboratory supercomputers.

Johns Hopkins University Applied Physics Laboratory, Laurel, MD, summer 1985

Research Assistant

- Developed computer code for translating satellite synthetic aperture radar data to images.
- Doubled the image processing speed to increase detection capabilities and cut costs.

PROFESSIONAL SERVICE

- President of the Board of Directors for Bellona USA, September 2005 to present.
- Scientific consultant to the Black Dawn nuclear terrorism exercises conducted by the Center for Strategic and International Studies, Brussels, Belgium, May 2004, and Ljubljana, Slovenia, May 2005.
- Served, as a Member-at-Large, on the Executive Committee of the Forum on Physics and Society, American Physical Society, April 2003 to December 2004.
- Technical adviser to the Project on Japan's Nuclear Options in the 21st Century, organized by the Henry L. Stimson Center, February to November 2003.
- Taught courses on nuclear weapons technology and prevention of nuclear terrorism at the Nonproliferation Education Institute, University of North Carolina, Asheville, summer 2003.
- External adviser, as of August 2002, for Alistair Millar's Ph.D. dissertation, "U.S. and NATO Nuclear Policy in the Post-Cold War Era: Past as Prologue?" for the Department of Peace Studies, University of Bradford.
- Outside reader for Michael Kraig's Ph.D. dissertation, "The Causes and Consequences of Nuclear Proliferation in the Developing World" for the State University of New York at Buffalo, October-December 2000.
- Served on the Ad Hoc Selection Committee for the 2000-01 Defense Policy Science and Engineering Fellowship Program for the American Association for the Advancement of Science, February-March 2000.
- Scientific consultant for the American Civil Liberties Union of the National Capital Area, February 2000.
- Consultant and review board member for the Project Alliance Tomorrow's nuclear policy disarmament group, sponsored by The Tokyo Foundation, Tokyo, Japan, April 1999-February 2000.
- Reviewer of educational books and films for the American Association for the Advancement of Science's *Science Books & Films* since 1997. (See publications section for list of published reviews.)

EDUCATION

Ph.D. in physics, Boston University, Boston, Massachusetts, August 1996

M.A. in physics, Boston University, Boston, Massachusetts, May 1994

B.S. in physics with distinction, United States Naval Academy, Annapolis, Maryland, May 1987

ADDITIONAL EDUCATION

NASA Summer School for High Performance Computational Physics, Goddard Space Flight Center, Greenbelt, Maryland, July 1993.

Sonar Officer School, Groton, Connecticut, May 1989.

Submarine Officer School, Groton, Connecticut, October 1988 - February 1989.

Naval Nuclear Power School, Orlando, Florida and Windsor Locks, Connecticut, September 1987 - October 1988.

AWARDS AND HONOR SOCIETY MEMBERSHIPS

- Robert Jay Lifton Fellowship (for developing a new course on nuclear technologies and security), Awarded by the Center on Terrorism, John Jay College of Criminal Justice, Academic Year 2005-2006.
- Robert S. Landauer Memorial Lecturer Award (for outstanding scientific achievement toward improving the security of radioactive sources), Health Physics Society's Annual Meeting, 2003.
- Best Paper Award (on Russian nuclear submarine dismantlement), Decommissioning, Decontamination, and Reutilization Division, American Nuclear Society's Winter Meeting, 2002.
- Teaching Fellow Innovative Performance Award, Physics Department, Boston University, 1994.
- Gertrude and Maurice Goldhaber Prize (in recognition of outstanding achievement by a first-year graduate student in physics), Boston University, 1993.
- Presidential University Teaching Fellowship, Boston University, 1992-1993.
- Presidential University Graduate Fellowship, Boston University, 1991-1992.
- Sea Service Ribbon, U.S. Navy, 1989.
- Congressional Medal of Honor Society Prize (for exceptional work in physics), U.S. Naval Academy, 1987.
- Trident Scholar (honors independent study program), U.S. Naval Academy, 1986-1987.
- Sigma Xi (scientific research society), 1987-present.
- Phi Kappa Phi (national collegiate honor society), 1986-present.
- Sigma Pi Sigma (physics honor society), 1985-present.

PUBLICATIONS

Public Policy Publications

Book

- Charles D. Ferguson and William C. Potter with Amy Sands, Leonard S. Spector, and Fred C. Wehling, *The Four Faces of Nuclear Terrorism* (New York: Routledge, 2005), 376 pp.

Reports

- Charles D. Ferguson, *Preventing Catastrophic Nuclear Terrorism*, Council Special Report, Council on Foreign Relations (forthcoming), 2005.
- Leonard W. Connell, Susan W. Longley, Lawrence C. Trost, and Charles D. Ferguson, *Security Analysis of Mid-Sized Gamma Irradiators*, SAND Report, Sandia National Laboratories, (forthcoming), 2005.
- Charles D. Ferguson and William C. Potter, *Improvised Nuclear Devices and Nuclear Terrorism*, Occasional Paper No. 2, The Weapons of Mass Destruction Commission, Stockholm, Sweden, May 2004, 35 pp.
- Charles D. Ferguson, Tahseen Kazi, and Judith Perera, *Commercial Radioactive Sources: Surveying the Security Risks*, Occasional Paper No. 11, Center for Nonproliferation Studies, Monterey Institute of International Studies, January 2003, 83 pp.; the Executive Summary was reprinted in English and French in the publication "Nuclear Terrorism," *Disarmament Forum*, No. 2, UNIDIR, 2003, pp. 23-28.

Chapters in Books

- Charles D. Ferguson, "Nuclear Terrorism: Myths, Monoliths, and Reality," in *The Second Nuclear Age*, ed. Michael Flynn (Louisville: University of Kentucky Press, forthcoming, 2006).
- Charles D. Ferguson, Evan S. Medeiros, and Phillip C. Saunders, "Chinese Tactical Nuclear Weapons," Chapter 7 in *Tactical Nuclear Weapons: Emergent Threats in an Evolving Security Environment*, eds. Brian Alexander and Alistair Millar (Washington, DC: Brassey's, Inc., 2003).

- Charles D. Ferguson, "Toward a System Dynamical Model of Russian Nuclear Submarine Dismantlement Barriers," pp. 393-402 in *Remaining Issues in the Decommissioning of Nuclear Powered Vessels*, eds. A. A. Sarkisov and L. G. LeSage (Dordrecht, the Netherlands: NATO Science Series, Kluwer Academic Publishers, 2003).

Articles

- Jack Boureston and Charles D. Ferguson, "Strengthening Nuclear Safeguards: Special Committee to the Rescue?" *Arms Control Today* (forthcoming), December 2005.
- Charles D. Ferguson, "The Global Nuclear Underground Market," *Harvard International Review* (forthcoming).
- Charles D. Ferguson and Joel O. Lubenau, "Understanding and Stopping Nuclear and Radiological Terrorism," *Global Dialogue* (forthcoming).
- Jack Boureston and Charles D. Ferguson, "Laser Enrichment: Separation Anxiety," *Bulletin of the Atomic Scientists*, March/April 2005, pp. 14-18.
- Charles D. Ferguson, "Gli Arsenali Invisibili del Terrore [The Invisible Arsenal of Terror]," *Limes* [Italy's journal of geopolitics], 1/2005, pp. 99-104.
- Charles Ferguson and Ray Takeyh, "Teheran sulla soglia [Teheran on the threshold]," *Rivista di Aspen Institute Italia*, volume title: "La seconda era nucleare [The second nuclear age]," Aspenia, No. 27, 2004, pp. 98-103.
- Charles D. Ferguson, "Can Bush or Kerry Prevent Nuclear Terrorism?" *Arms Control Today*, September 2004, pp. 13-15.
- Joel O. Lubenau and Charles D. Ferguson, "Security of Radioactive Sources in the United States," *NIS Export Control Observer*, July 2004, pp. 2-8.
- Charles D. Ferguson, "Counterproliferation and Nonproliferation Background," *Physics & Society*, July 2004, pp. 2-3.
- Charles D. Ferguson and Jack Boureston, "IAEA Puts Iranian Laser-Enrichment Technology in the Spotlight," *Jane's Intelligence Review*, July 2004, pp. 38-41.
- William C. Potter, Charles D. Ferguson, and Leonard S. Spector, "The Four Faces of Nuclear Terror and the Need for a Prioritized Response," *Foreign Affairs*, May/June 2004, pp. 130-132.
- Jack Boureston and Charles D. Ferguson, "Schooling Iran's Atom Squad," *Bulletin of the Atomic Scientists*, May/June 2004, pp. 31-35.
- Charles D. Ferguson, "The Threat of Nuclear Terrorism in Europe," *The New Presence*, Spring 2004, pp. 34-36.
- Charles D. Ferguson and Alessandro Andreoni, "Le Vie Della 'Bomba Sporca' [The Ways of the 'Dirty Bomb']," *Limes* [Italy's journal of geopolitics], 1/2004, pp. 93-100.
- Jack Boureston and Charles D. Ferguson, "Assessing Iran's Plutonium Reprocessing Capabilities," *Jane's Intelligence Review*, March 2004, pp. 40-43.
- Peter D. Zimmerman and Charles D. Ferguson, "Sweeping the Skies," *Bulletin of the Atomic Scientists*, November/December 2003, pp. 57-61.
- Charles D. Ferguson and Joel O. Lubenau, "Securing U.S. Radioactive Sources," *Issues in Science and Technology*, Fall 2003, pp. 67-73.
- Charles D. Ferguson, "Protecting Nuclear Material and Facilities: A Standards-Based Approach," *Physics & Society*, October 2003, pp. 20-25.
- Charles D. Ferguson and Leonard S. Spector, "Closing the Gap in Export Licensing Rules of High-Risk Radioactive Sources," *Proceedings of the 44th INMM Annual Meeting*, July 2003.
- Charles D. Ferguson, "Reducing the Threat of RDDs," *IAEA Bulletin*, Volume 45, Number 1, 2003, pp. 37-40.
- Michael Jasinski, Cristina Chuen, and Charles D. Ferguson, "Russia: Of Truth and Testing," *Bulletin of the Atomic Scientists*, September/October 2002, pp. 60-65; plus sidebar: Charles D. Ferguson, "Just a coincidence?" pp. 62-63.
- Piers M. Wood and Charles D. Ferguson, "How China Might Invade Taiwan," *Naval War College Review*, Autumn 2001, pp. 55-68.
- Charles Ferguson and John Pike, "Missile Defense and Arms Control," *PIR Reports Series*, Report No. 23, PIR Center for Policy Studies in Russia, September 2000, pp. 42-51, and also published in Russian in *PIR Study Paper No. 15*: "U.S. NMD: Implications for Strategic Stability and Arms Control," ed. Ivan Safranchuk, September 2000, pp. 47-58.
- Charles Ferguson, "Missile Defense: A Roadblock to Nuclear Disarmament," *Nuclear Weapons Convention Monitor*, Issue 1, April 2000, pp. 9-10.

- Charles D. Ferguson and John E. Pike, “National Missile Defence: Developing Disaster,” *Disarmament Diplomacy*, March 2000, pp. 3-5.
- Charles Ferguson, “Sparking a Buildup: U.S. Missile Defense and China’s Nuclear Arsenal,” *Arms Control Today*, March 2000, pp. 13-18.
- Charles D. Ferguson, “Bait and Switch – Is Anti-North Korean Missile Defense Designed for China?” *F.A.S. Public Interest Report*, Volume 52, Number 6, November/December 1999, pp. 10-12.
- Charles D. Ferguson and Keith G. Tidball, “Man-Overboard Signaling Technology Can Save Lives,” *United States Naval Institute Proceedings*, April 1999, pp. 88-89.
- Charles D. Ferguson, “New Russian Arms Control Centers in the Weapons Complex,” *F.A.S. Public Interest Report*, Volume 52, Number 2, March/April 1999, p. 9.
- Charles D. Ferguson, “Tritium: TVA Gets the Nod,” *Bulletin of the Atomic Scientists*, March/April 1999, pp. 12-14.
- Charles Ferguson, “FAS Sponsors Nuclear Warhead Transparency Workshop,” *F.A.S. Public Interest Report*, Volume 51, Number 6, November/December 1998, p. 5.
- Charles D. Ferguson, “A Worst Case Missile Threat to China,” *F.A.S. Public Interest Report*, Volume 51, Number 5, September/October 1998, pp. 9-12.
- Charles D. Ferguson, “Nuclear Arms: Reduction or Replacement?” *F.A.S. Public Interest Report*, Volume 51, Number 4, July/August 1998, pp. 9-10.

Congressional Testimony

- Hearing on Reducing the Threat of Nuclear Terrorism: A Review of the Department of Energy’s Global Threat Reduction Initiative, Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, May 24, 2005.

Opinion-Editorials

- Jack Boureston and Charles D. Ferguson, “Keep Your Enemy Closer,” *Bulletin of the Atomic Scientists*, November/December 2005, pp. 25, 76.
- Charles D. Ferguson and Ray Takeyh, “Ban (your) nukes!” *International Herald Tribune*, October 7, 2005, p. 7.
- Joel O. Lubenau and Charles D. Ferguson, “Florida Could Lose in Battle Over Nuclear Rules,” *Orlando Sentinel*, October 5, 2005.
- Jack Boureston and Charles D. Ferguson, “Finding Nuclear Sanity: West Could Guide Iran’s Nuclear Energy Research,” *Defense News*, August 29, 2005, p. 21.
- Charles D. Ferguson and Daniel Keegan, “Security through Selfishness,” *Baltimore Sun*, May 8, 2005, p. 5C.
- Brian D. Finlay and Charles D. Ferguson, “Bush, Congress Should Act: Tougher Measures Needed on Terror Weapons,” *Newsday*, December 20, 2004, p. A37.
- Charles D. Ferguson and William C. Potter, “Terror and the Nuclear Threat: U.S. Underestimates the Growing Threat of Crude Bombs,” *San Jose Mercury News*, October 10, 2004, p. 1 of Perspective Section.
- Charles D. Ferguson, “Preventing a Nuclear 9/11: First, Secure the Highly Enriched Uranium,” *International Herald Tribune*, September 24, 2004, p. 6.
- Charles Ferguson and Kaleb Redden, “Facing the Inevitable: Arm Public with Facts on Dirty Bomb Defense,” *Defense News*, February 9, 2004, p. 53.
- Charles D. Ferguson and Joel O. Lubenau, “Too Much Potential for Local Dirty Bomb Attack,” *The Philadelphia Inquirer*, June 30, 2003, p. A11.
- Charles Ferguson and Karl Inderfurth, “Defusing Dirty Bombs: Proposed Legislation Would Control Critical Material,” *Defense News*, February 10, 2003, p. 37.
- Charles Ferguson, “Loosen the Fingers on Nuclear Triggers,” *Defense News*, April 22, 2002, p. 21.
- Charles D. Ferguson, “An Unsafe Missile Defense,” *The Harvard Crimson*, May 5, 2000, p. A10.
- Charles D. Ferguson, “Nuclear Espionage and the Role of Scientists,” *Physics and Society*, Volume 29, Number 1, January 2000, pp. 8-9.
- Philipp C. Bleek and Charles D. Ferguson, “Missile Defense a Threat to U.S. Security,” *The Miami Herald*, December 27, 1999, p. 9B and published as “National missile defense risks threat to U.S. security,” *Northeast Mississippi Daily Journal*, December 21, 1999; “U.S. missiles would send wrong signal,” *Rome News-Tribune* (Rome, Georgia), January 9, 2000, syndicated by Knight-Ridder/Tribune News Service, December 21, 1999.

- Charles Ferguson, "Pakistan Coup: Another Step toward the Nuclear Brink," *Defense News*, November 1, 1999, p. 19.
- Charles D. Ferguson, "Nuclear Test Ban Treaty Needed to Help Prevent Nuclear War," *Charlotte Observer*, September 3, 1999; also published as "Nuke Test Ban Treaty Essential to a Safer World," *Delta Democrat Times*, September 5, 1999; "Treaty Needed to Prevent Nuke War," *Las Vegas Review-Journal*, September 6, 1999; "Seize Unique Chance to Pass Nuclear Treaty," *Wichita Eagle*, September 6, 1999; "Senate Vote Could Curb Proliferation," *Albuquerque Journal*, September 7, 1999, syndicated by Knight-Ridder/Tribune News Service.
- Charles Ferguson and Daryl Kimball, "Test Ban Treaty is the Last Line of Defense Against Nuclear Espionage," *Minneapolis-St. Paul Star Tribune*, June 4, 1999.
- Charles Ferguson, "Ratify Test Ban Treaty To Help Protect Nuclear Secrets," *Defense News*, May 24, 1999, p. 19.
- Charles Ferguson and Frank von Hippel, "U.S. Tritium Production Plan Lacks Strategic Rationale," *Defense News*, December 7-13, 1998, p. 29.
- Charles D. Ferguson, "Uranium Deal: A Security Threat," *Albuquerque Journal*, August 15, 1998 and published as "The Price for Nuclear Security," *Sacramento Bee*, September 18, 1998, syndicated by Knight-Ridder/Tribune News Service.

Letters-to-the-Editor

- Charles D. Ferguson, "Building a Bomb Without a State," *The Washington Post*, February 19, 2005, p. A30.
- Charles D. Ferguson and Joel O. Lubenau, "'Dirty Bombs': Halt Terrorists' Access to Radioactive Materials," *Seattle Post-Intelligencer*, June 19, 2003, p. B7.
- Charles D. Ferguson, "Dealing on Nukes," *The Washington Post*, June 5, 2002, p. A22.
- Charles Ferguson, "The Missile Defense Program," *The Washington Post*, July 24, 2000, p. A22.
- Philipp C. Bleek and Charles D. Ferguson, "U.S. Nuclear Missile Shield," *The Los Angeles Times*, April 2, 2000, p. M4.
- Philipp C. Bleek and Charles D. Ferguson, "More reaction to the test ban treaty vote," *The Washington Times*, October 21, 1999, p. A22.
- Charles D. Ferguson, "Our Dealings with the Middle Kingdom," *The Washington Post*, May 11, 1999, p. A20.
- Charles Ferguson and Frank von Hippel, "US Can Begin Cutting Its Tritium Needs and Nuclear Arsenal without STARTing," *Physics Today*, May 1999, pp. 11, 13.
- Charles Ferguson and Frank von Hippel, "Task force should look at other nuclear-deterrent options," *The Washington Times*, December 16, 1998, p. A18.
- Charles Ferguson, "On putting commercial reactors to military purposes," *The Washington Times*, August 5, 1998, p. A16.

Book Reviews

- Forthcoming review (2005) in the *Journal of Cold War Studies* of *Avoiding Armageddon: Europe, the United States and the Struggle for Nuclear Nonproliferation, 1945-1970* by Susanna Schrafstetter and Stephen Twigge, Westport, Connecticut: Praeger, 2004.
- Charles D. Ferguson, "Policy by e-mail," *Bulletin of the Atomic Scientists*, March/April 2003, pp. 70-72. Review of Kenneth D. Bergeron, *Tritium on Ice: The Dangerous New Alliance of Nuclear Weapons and Nuclear Power*, MIT Press, 2002.
- Charles D. Ferguson, "Cooperation is the Key to Scientific Solutions of Post-Cold War Problems," *Peace and Conflict: Journal of Peace Psychology*, 6(2), 183-184 (2000). Review of *International Seminar on Nuclear War and Planetary Emergencies, 19th session: Science after the Cold War: Disarmament technologies & NATO, science-status and perspectives, disarmament & non-proliferation, the human environment* (International Seminar on Nuclear War and Planetary Emergencies [1994: Erice, Italy]), 1995, Riveredge, NJ: World Scientific.

Web-Based Publications

- Charles D. Ferguson, "Prevention, Not Retaliation," *Foreign Policy Forum*, www.foreignpolicyforum.com, October 5, 2004.
- Charles D. Ferguson, "Risks of Civilian Plutonium Programs," Issue Brief, NTI Web site, http://www.nti.org/e_research/e3_52b.html, July 2004.

- Hugh E. Naylor IV and Charles D. Ferguson, “DOE’s Domestic Nuclear Security Initiatives,” Issue Brief, NTI Web site, http://www.nti.org/e_research/e3_50b.html, July 2004.
- Charles D. Ferguson, “Congressional Debate on Nuclear Weapons Policy: From the Nuclear Brink to the Slippery Slope,” Research Story of the Week, CNS Web site, <http://www.cns.miis.edu/pubs/week/031027.htm>, October 27, 2003, updated on November 10, 2003.
- Alessandro Andreoni and Charles D. Ferguson, “Radioactive Cesium Seizure in Thailand: Riddled with Uncertainties,” Research Story of the Week, CNS Web site, <http://www.cns.miis.edu/pubs/week/030717.htm>, July 17, 2003.
- Charles D. Ferguson and Peter D. Zimmerman, “New Nuclear Weapons?” Research Story of the Week, CNS Web site, <http://www.cns.miis.edu/pubs/week/030528.htm>, May 28, 2003.
- Joel O. Lubenau, “Security Risks of Radioactive Material,” CNS Reports, including an Introduction on “Radioactive Source Security: Recent Developments,” by Charles D. Ferguson, <http://www.cns.miis.edu/pubs/reports/lubenau.htm>, May 27, 2003.
- Charles D. Ferguson, “Study Details Steps to Reduce Dirty Bomb Threat,” Research Story of the Week, CNS Web site, <http://www.cns.miis.edu/pubs/week/030113.htm>, January 16, 2003.
- Charles D. Ferguson, Book Review of *I’d Rather Teach Peace* by Colman McCarthy, <http://www.interventionmag.com>, December 15, 2002.
- Charles D. Ferguson, “Nuclear Posture Review,” Issue Brief, NTI Web site, http://www.nti.org/e_research/e3_15a.html, August 2002.
- Charles D. Ferguson, Book Review of *The New Nuclear Danger* by Helen Caldicott, <http://www.interventionmag.com>, July 16, 2002.
- Michael Jasinski, Cristina Chuen, and Charles Ferguson, “Renewed U.S.-Russian Controversy Over Nuclear Testing,” Research Story of the Week, CNS Web site, <http://www.cns.miis.edu/pubs/week/020527.htm>, May 27, 2002.
- Charles D. Ferguson, “Keep on Nukin’ in the Third World?” Article for <http://www.interventionmag.com>, May 20, 2002.
- Charles D. Ferguson, “Mini-nuclear Weapons and the U.S. Nuclear Posture Review,” Research Story of the Week, CNS Web site, <http://cns.miis.edu/pubs/week/020408.htm>, April 8, 2002; reprinted in U.S. Army War College course material for the course “War, National Security Policy and Strategy,” instructed by Col. John F. Troxell, academic year 2002.
- Charles D. Ferguson, “US Needs No Tritium Now,” Op-Ed, *The Nando Times*, <http://www.nandotimes.com>, December 17, 1999; “No Need for Tritium Now,” syndicated by Scripps-Howard News Service, December 15, 1999.

Physics and Other Science Publications

Theses

- Charles Daniel Ferguson II, *Numerical Investigations of an Earthquake Fault Based on a Cellular Automaton, Slider-Block Model*, Ph.D. Dissertation, Boston University (1997).
- Charles D. Ferguson II, *Optical Measurement of the RMS Roughness of Ion-Bombarded Surfaces*, Trident Scholar Report #143, United States Naval Academy (1987); Trident Scholar (honors independent study program) Thesis, 1986-1987.

Articles

- K. F. Tiampo, J. B. Rundle, W. Klein, J. S. Sá Martins, and C. D. Ferguson, “Ergodic Dynamics in a Natural Threshold System,” *Physical Review Letters*, **91**, 238501-238504 (2003).
- W. Klein, J. Rundle, M. Anghel, J. S. S. Martins, and C. Ferguson, “Scaling and Phase Transitions in Models of Earthquake Faults,” pp. 189-190, *Proceedings 2nd ACES Workshop*, ed., M. Matsu’ura, K. Nakajima, and P. Mora, University of Queensland Press, Brisbane, Australia, 2001.
- W. Klein, M. Anghel, C. D. Ferguson, J. B. Rundle, and J. Sá Martins, “Statistical Analysis of a Model for Earthquake Faults with Long-Range Stress Transfer,” pp. 43-72 in *Geocomplexity and the Physics of Earthquakes*, ed., J. B. Rundle, D. L. Turcotte, and W. Klein, American Geophysical Union, Washington, DC, 2000.
- C. D. Ferguson, W. Klein, and John B. Rundle, “Spinodals, scaling, and ergodicity in a threshold model with long-range stress transfer,” *Physical Review E*, **60**, 1359-1373 (1999).

- J. R. Dorfman, C. D. Ferguson, and T. Gilbert, “Field driven thermostated systems: A nonlinear multibaker map,” *Physical Review E*, **59**, 364-371 (1999).
- C. D. Ferguson and C. R. Willis, “One- and two-collective variable descriptions of two interacting sine-Gordon kinks,” *Physica D*, **119**, 283-300 (1998).
- Charles D. Ferguson, W. Klein, and John B. Rundle, “Long-Range Earthquake Fault Models,” *Computers in Physics*, Volume 12, Number 1, January/February 1998, pp. 34-40.
- John B. Rundle, Susanna Gross, W. Klein, Charles Ferguson, and Donald L. Turcotte, “The Statistical Mechanics of Earthquakes,” *Tectonophysics*, **277**, 147-164 (1997).
- John B. Rundle, W. Klein, Susanna Gross, and C. D. Ferguson, “Traveling density wave models for earthquakes and driven threshold systems,” *Physical Review E*, **56**, 293-307 (1997).
- W. Klein, J. B. Rundle, and C. D. Ferguson, “Scaling and Nucleation in Models of Earthquake Faults,” *Physical Review Letters*, **78**, 3793-3796 (1997).
- W. Klein, C. Ferguson, and J. B. Rundle, “Spinodals and Scaling in Slider-Block Models,” in *Reduction and Predictability of Natural Disasters*, Ed. J. B. Rundle, D. L. Turcotte, and W. Klein, Santa Fe Institute Studies in the Sciences of Complexity, Volume XXV, Reading, MA, Addison-Wesley (1996).
- F. D. Correll, C. D. Ferguson, and R. A. Kant, “Optical Measurement of the RMS Roughness of Ion-Implanted Surfaces,” *Nuclear Instruments and Methods in Physics Research*, **B24/25**, 581-583 (1987).

Book and Film Reviews

Wrote the following reviews on educational publications for the American Association for the Advancement of Science:

- Reviewed the book *The Simple Universe* by Ian Brewster, *Science Books & Films*, Volume 40, Number 4, July/August 2004, p. 163.
- Reviewed the book *The Big Splat, or, How Our Universe Came to Be* by Dana Makenzie, *Science Books & Films*, Volume 39, Number 6, November/December 2003, p. 263.
- Reviewed the book *Mechanics, Volume 2* from the *Physics Matters!* Series by John O. E. Clark, *Science Books & Films*, Volume 38, Number 5, September/October 2002, p. 509.
- Reviewed the book *Objects in Motion: Principles of Classical Mechanics* by Paul Fleischer, *Science Books & Films*, Volume 37, Number 6, November/December 2001, p. 260.
- Reviewed the video *What in the World? The Earth Explained: Earthquakes and Mountains* by SVE & Churchill Media, *Science Books & Films*, Volume 37, Number 1, January/February 2001, pp. 39-40.
- Reviewed the book *God’s Equation: Einstein, Relativity, and the Expanding Universe* by Amir D. Aczel, *Science Books & Films*, Volume 36, Number 3, May/June 2000, p. 120.
- Reviewed the book *Rogue Asteroids and Doomsday Comets: The Search for the Million Megaton Menace that Threatens Life on Earth* by Duncan Steel, March 1999 review published at <http://ehrweb.aaas.org/~sbf>
- Reviewed the books *Forces Around Us*, *Full of Energy*, *Machines We Use*, and *Solid, Liquid, or Gas?* from the *It’s Science!* Series by Sally Hewitt, *Science Books & Films*, Volume 34, Number 8, November 1998, p. 243.
- Reviewed the book *An Introduction to Satellite Image Interpretation* by Eric D. Conway and The Maryland Space Grant Consortium, *Science Books & Films*, Volume 34, Number 4, May 1998, p. 109.

Letter-to-the-Editor

- Charles D. Ferguson, “Fishy Physics,” *The Washington Post*, September 13, 2003, p. A19.

SELECTED PRESENTATIONS

- Keynote speaker at the Fall 2005 Institute for Nuclear Materials Management, Central Region Chapter Meeting, Oak Ridge, Tennessee, October 11, 2005; talk was titled “The Three Nuclear Threats Confronting the United States.”
- Presented the seminar talk “Preventing Nuclear and Radiological Terrorism in the 21st Century,” Oak Ridge National Laboratory, October 11, 2005.
- Gave a talk titled “The Good, the Bad, and the Ugly in Government Actions to Prevent Nuclear Terrorism,” ShieldNY from Nuclear and Bio-Terrorism conference, John Jay College of Criminal Justice, The City University of New York, September 23, 2005.
- Chaired a panel and gave a presentation at the conference “Nuclear Proliferation in the 21st Century: Will Multilateral Diplomacy Work?” sponsored by the Danish Institute for International Studies, Copenhagen, Denmark, August 26, 2005.

- Taught a course titled “Nuclear and Radiological Terror: Can We Stop It?” at the Teaching Nonproliferation Institute, Washington and Lee University, Lexington, VA, June 28 and 29, 2005.
- Featured speaker at Council on Foreign Relations meeting on “Nonproliferation Policy in the Second Term,” Washington, D.C., April 28, 2005
- Charles Ferguson, “Can Nuclear Terrorists be Deterred?” *Bulletin of the American Physical Society*, Volume 50, No. 2, April Meeting, Tampa, Florida, April 17, 2005.
- Keynote speaker at the Counter Terrorism Symposium hosted by the Fire Department of New York and the United States Military Academy, New York, NY, March 1, 2005.
- Wrote and presented the paper “An Assessment of the Second Term Bush Administration’s Weapons of Mass Destruction Prevention Policies,” Korean Consulate Workshop at the Council on Foreign Relations, New York, NY, November 12, 2004.
- Lecture on “The Four Faces of Nuclear Terrorism,” Center for Peace and Security Studies, Georgetown, University, Georgetown University, Washington, DC, September 29, 2004.
- Presented “Assessment of Iran’s Nuclear Program” to a Council on Foreign Relations press event, Washington, DC, September 14, 2004.
- Gave a presentation on “Nuclear Terrorism – Control of Radioactive Sources,” National Academy of Sciences, Working Group on Opportunities for U.S.-Russia Cooperation on Combating Radiological Terrorism, August 24, 2004.
- Briefed the Section Chiefs and other senior members of the Fire Department of New York (FDNY) on “Confronting the Consequences of Nuclear Weapons and Dirty Bombs,” Brooklyn, NY, March 2-3, 2004.
- Guest professor at the Johns Hopkins University-School of Advanced International Studies for the course WMD Proliferation in the former Soviet Union, February 27, 2004.
- Presented the paper, “Combating and Preparing for Radiological Terrorism: The International Dimension,” to the Forty-Second Session of the United Nations Secretary-General’s Advisory Board on Disarmament Matters, New York, NY, February 5, 2004.
- Gave a presentation on “Combating and Confronting Nuclear Terrorism,” George Marshall Library, Virginia Military Institute, Lexington, VA, January 20, 2004.
- Guest professor at Washington and Lee University; taught seminar on nuclear terrorism prevention and risk management, January 20, 2004.
- Presented “Systems Approach to Securing High-Risk Radioactive Sources,” at the American Nuclear Society’s Winter Meeting, New Orleans, LA, November 19, 2003.
- Gave a talk titled “The Highest Priority Threat” to a workshop on “The Implications of a New Era in Arms Control on Regional Nonproliferation and Nuclear Materials Management,” sponsored by the Nonproliferation and Arms Control Division and the Northeast Chapter of the Institute of Nuclear Materials Management (INMM), Washington, DC, November 13, 2003.
- Keynote speaker (presentation on “Reducing the Risks of RDDs”), Radionuclide Decontamination Science and Technology Workshop, Los Alamos National Laboratory, Los Alamos, NM, September 16, 2003.
- Presented a talk on addressing the WMD terrorism threat for a United Nations Institute for Disarmament Research (UNIDIR) workshop on the WMD non-state actor threat, Geneva, Switzerland, September 5, 2003.
- Gave the keynote Robert S. Landauer Memorial Lecture (“An Integrated Strategy for Securing High-Risk Radioactive Sources”) at the Health Physics Society’s annual meeting in San Diego, CA, July 21, 2003.
- Presented the paper “Closing the Gap in Export Licensing Rules of High-Risk Radioactive Sources,” Institute for Nuclear Materials Management’s annual meeting, Phoenix, AZ, July 15, 2003.
- Taught prevention of nuclear terrorism course and nuclear weapons technology course at the Nonproliferation Education Institute at University of North Carolina, Asheville, NC, June 27-28, 2003.
- Gave the presentation “Protecting Nuclear Materials and Facilities: A Standards-Based Approach” at the American Nuclear Society’s Annual Meeting in San Diego, CA, June 3, 2003.
- Presented at the McGraw-Hill Homeland Security Expo on “CBRN Terrorism: Assessing the Risks and Developing Responses,” Crystal City, VA, May 15, 2003.
- Gave a presentation to Environmental Protection Agency officials on the topic of security of radioactive sources and radiological terrorism, Woodrow Wilson Center for Scholars, Washington, DC, April 16, 2003.
- Presented on a Council on Foreign Relations panel covering nonproliferation issues, New York, NY, April 10, 2003.

- Led a seminar on “Radiological Terrorism and Radioactive Source Security,” Security Studies Program, MIT, Cambridge, MA, March 31, 2003.
- Gave the presentation “Security Risks of Commercial Radioactive Sources” to the staff (legislative assistants) of the Bipartisan Task Force on Nonproliferation, U.S. House of Representatives, Washington, DC, March 3, 2003.
- Served as the “Ask the Expert” analyst on the PBS Web site February-March, 2003, available at <http://www.pbs.org/wgbh/nova/dirtybomb/ferguson.html>.
- Featured guest expert on PBS Nova’s “Dirty Bomb,” which was first broadcast on February 25, 2003.
- Charles D. Ferguson, “Radiological Terrorism and Commercial Radioactive Sources,” presentation at press conference devoted to release of CNS study on commercial radioactive sources, held at the Brookings Institution, Washington, DC, January 16, 2003.
- Cristina Chuen and Charles Ferguson, “Nuclear Submarine Issues in the Russian Far East,” presentation at the American Nuclear Society meeting for the panel on Problems in Decommissioning Nuclear Submarines, Washington, DC, November 18, 2002.
- Charles D. Ferguson, “Toward a Systematic Assessment of Nuclear Terrorist Threats,” presentation at the Carnegie International Nonproliferation Conference for the panel on Nuclear Terror Threats, Washington, DC, November 15, 2002.
- Invited guest lecturer at Georgetown University for class on radiological weapons for Kai-Henrik Barth’s graduate-level course on Weapons Technology and Security, September 19, 2002.
- Co-chaired panel on “Nonproliferation Assessment Methodologies” at the American Nuclear Society meeting, Hollywood, Florida, June 11, 2002.
- Featured guest on C-SPAN’s Washington Journal on May 19, 2002 for an hour long call-in show on nuclear weapons and technology.
- Invited presenter at the April 22-24, 2002 NATO-Russia Advanced Research Workshop in Moscow, Russia on Unresolved Problems with Decommissioned Russian Nuclear Submarines; presentation was titled “System Dynamics for Russian Submarine Dismantlement.”
- Interviewed more than 100 times for print, radio, and television news media, as a nuclear arms control and defense analyst with the Federation of American Scientists. Interview appearances include CNN, Fox News Channel, BBC TV and Radio, CBC Radio, Pacifica Radio, Voice of America’s Talk to America (international radio call-in show), *The International Herald Tribune*, *The New York Times*, *The Washington Post*, *The Christian Science Monitor*, *Associated Press*, and *Scripps-Howard News Service*.
- Gave presentations on the Convention for Nuclear Safety, the Convention on Supplementary Compensation for Nuclear Damage, and the Asian Nuclear Safety Conference, 22nd USA-ROK Joint Standing Committee on Nuclear Energy Cooperation, Department of State, Washington, DC, May 16, 2001.
- Presented an analysis of the environmental security threats posed by decommissioned Russian marine reactors, Center for Energy and Environmental Studies, Princeton University, March 15, 2001.
- Discussed, as part of a three-person panel, to the Committee on International Environmental Law of the Association of the Bar of the City of New York, the legal aspects of environmental security threats posed by decommissioned Russian marine reactors, New York, NY, March 14, 2001.
- Gave an invited talk on national missile defense as part of the Atlantic Council of the United States Summer 2000 Intern Discussion Series, Washington, DC, July 6, 2000.
- Presented a technical analysis of China’s military airfield capacities at the press briefing “Chinese Military Power Revealed Through Satellite Imagery,” National Press Club, Washington, DC, May 12, 2000.
- Served on the Ballistic Missile Control Roundtable, sponsored by the Canadian Centre for Foreign Policy Development and Project Ploughshares, on March 30-31, 2000 in Ottawa, Canada.
- Charles Ferguson, “Russian-American Risk Reduction with Chinese Characteristics,” talk given at The 11th International Summer Symposium on Science and World Affairs, Fudan University, Shanghai, China, July 29, 1999.
- Charles D. Ferguson, “Nuclear Command and Control: Unclench the Grip on the Nuclear Hair Trigger to Prevent Accidental Nuclear War,” talk given as an invited panelist at the Institute for Energy and Environmental Research workshop on “De-alerting Nuclear Weapons,” Washington, DC, March 17, 1999.
- Jeremy J. Stone and Charles D. Ferguson, “Missile Encirclement: China’s Interest in Missile Controls,” talk given at the Sixth ISODARCO-Beijing Seminar on Arms Control, Fudan University, Shanghai, China, October 1998.

- Charles D. Ferguson, “Trim Tritium: An Economic Incentive for Disarmament,” presentation for The Tenth International Summer Symposium on Science and World Affairs, Massachusetts Institute of Technology, Cambridge, Massachusetts, July 1998.
- Thomas Gilbert, Charles D. Ferguson, and J. R. Dorfman, “Unveiling a New Map for Thermostated Systems: Curtains and Bakers,” poster presented at the IXth International Summer School on Fundamental Problems in Statistical Mechanics, Altenberg, Germany, August 1997.
- C. D. Ferguson, “Possible Phase Transition in a Long-Range Earthquake Model,” statistical physics seminar talk given at the Institute for Physical Science and Technology, University of Maryland, College Park, Maryland, April 1997.
- C. D. Ferguson, “Can Computers Capture the Essence of Earthquakes?” presentation to the physics department at the United States Naval Academy, Annapolis, Maryland, February 1997.
- C. D. Ferguson, W. Klein, and J. B. Rundle, “Critical Phenomena and Metastability in Models of Earthquake Faults,” talk given at the 74th Statistical Mechanics Meeting, Rutgers University, New Brunswick, New Jersey, December 1995.
- F. D. Correll, C. D. Ferguson, and R. A. Kant, “Optical Measurement of the RMS Roughness of Ion-Implanted Surfaces,” *Bulletin of the American Physical Society*, **32**, 891 (1987), presentation at the Meeting of the American Physical Society, New York, New York, March 1987.

FOREIGN TRAVEL

Antigua, Austria, Bahamas, Bahrain, Belgium, Canada, Costa Rica, DPRK (North Korea), Denmark, France, Germany, Ireland, Mexico, P.R. China, ROK (South Korea), Russia, Saudi Arabia, Slovenia, Spain, Sweden, Switzerland, United Kingdom (England and Northern Ireland)

Current as of October 2005.