

Sam  
Here is the resume of  
the man who would  
handle the EPA/ETS  
program with

This is the  
RESUME of  
the guy who  
would be in  
ETS-EPA Task Force  
-10's at "HORS-

## FACSIMILE TRANSMISSION

To: Bill Drzechowski

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resume - of Hork

From: The project is withDate: The 20th we

described. agree?

W. Woodman

There are \_\_\_ pages including this cover sheet. If there are any  
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ALEXIS



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Senior Fellow  
Bruce Bartlett

2000 15th St North  
Suite 501  
Arlington, VA 22201

703.351.4969 Tel  
703.351.0090 Fax

## S. FRED SINGER, Ph.D.

2101 Wilson Blvd, Suite 1003, Arlington VA 22201  
(703) 527 0131 • FAX: (703) 275-2673

### POSITIONS HELD:

- 1988 - **Director, The Science and Environmental Policy Project.** Foundation-funded, independent research project to determine how science is used—or misused—in formulating federal environmental policy.
- 1989 - **Distinguished Research Professor, Institute for Space Science and Technology, Gainesville, FL.** Principal Investigator, Cosmic Dust/Orbital Debris Project.
- 1987-1989 **Chief Scientist, U.S. Department of Transportation.** Also: Deputy Administrator, Research and Special Programs Administration; Chairman, Research and Development Council; Chairman, Navigation Council.
- 1971 - **Professor of Environmental Sciences, University of Virginia, Charlottesville, VA.** Planetary science; global environmental issues (acid rain, greenhouse warming, ozone depletion); cost-benefit analysis; oil and energy (economics and public policy); economic and environmental impacts of population growth.
- 1970-1971 **Deputy Assistant Administrator (Policy), U.S. Environmental Protection Agency.** Also, chaired Interagency Work Group on Environmental Impacts of the Supersonic Transport.
- 1967-1970 **Deputy Assistant Secretary (Water Quality and Research), U.S. Department of the Interior.** Also, integrated atmospheric/oceanographic activities within the Department.
- 1964-1967 **(First) Dean of the School of Environmental and Planetary Sciences, University of Miami, Coral Gables, FL.** Expanded the oceanographic institute and added departments of atmospheric sciences and geophysics.
- 1962-1964 **(First) Director, National Weather Satellite Center (now part of NOAA), U.S. Department of Commerce.** Established operational systems for remote sensing and for management of atmosphere, ocean, and land surface data.
- 1953-1962 **Director, Center for Atmospheric and Space Physics, and Professor of Physics, University of Maryland, College Park, MD.** Experiments, theory, and publications on rocket and satellite technology, remote sensing, cosmic rays, radiation belts, magnetosphere, the Moon, meteorites, general relativity.
- 1948-1950 **Research Physicist, Upper Atmosphere Rocket Program, Johns Hopkins University Applied Physics Laboratory, Silver Spring, MD.** Cosmic ray, ozone, and ionosphere research with rockets.

## S. FRED SINGER--Page 2

## VISITING POSITIONS:

- 1992-93 Distinguished Visiting Fellow, The Hoover Institution, Stanford, CA. Environmental policy and economic impacts.
- 1991 Guest Scholar, Woodrow Wilson International Center for Scholars, at the Smithsonian Institution, Washington, D.C. U.S. space policy
- 1991 Guest Scholar, National Air and Space Museum, Smithsonian Institution, Washington, D.C. Early history of rocket and space science.
- 1984-87 Visiting Eminent Scholar, George Mason University, Fairfax, VA. Public policy analysis on natural resources, environment, climate effects, strategic defense, space travel.
- 1982-83 Senior Fellow, The Heritage Foundation, Washington, D.C. Natural resources policy; oil price forecasts.
- 1978 (First) Sid Richardson Professor, Lyndon Baines Johnson School for Public Affairs, University of Texas, Austin, TX. Studies of manned exploration of Mars and Martian moons.
- 1972 U.S. National Academy of Sciences Exchange Scholar, Soviet Academy of Sciences Institute for Physics of the Earth, Moscow, USSR.
- 1971 Federal Executive Fellow, The Brookings Institution, Washington, D.C. Cost-benefit analysis of environmental regulation.
- 1961-62 Visiting Scientist, Jet Propulsion Laboratory, Cal Tech, Pasadena, CA. Research and publications on planetary atmospheres.

## PROFESSIONAL ACTIVITIES (Partial List):

National Advisory Committee on Oceans and Atmospheres--Vice Chairman and member, 1981-1988.  
 White House Office of Science and Technology Policy--Acid Rain Panel and consultant, 1982-1987.  
 U.S. Dept. of State Science Advisory Board (Oceans, Environment, Science), 1982-1987.  
 White House Panel on U.S.-Brazil Science and Technology Exchange, 1987.  
 U.S. Department of Energy Nuclear Waste Panel, 1984.  
 NASA Space Applications Advisory Committee, 1983-1985.  
 Governor of Virginia Task Force on Transportation, 1975.

Consultant, at various times, to the Federal government--House Select Committee on Space, GAO, OTA, NSF, DOE, NASA, AEC, Treasury (Secy. Wm. Simon), DOD (Strategic Defense Initiative); state governments--Alaska, Pennsylvania, Virginia; and industries, including GE, Ford, GM, EXXON, Shell, Unocal, Sun Oil, ARCO, Lockheed, Martin-Marietta, McDonnell-Douglas, IBM.

Advisory Editor: *Regulation* (CATO Institute), *Environmental Conservation* (Elsevier), *Environmental Geology* (Springer), *The World & I* (Washington Times Corp.).

## EDUCATION:

B.E.E. (Electrical Engineering), Ohio State University  
 A.M., Ph.D.(Physics), Princeton University.

## S. FRED SINGER--Page 3

**MAJOR ACCOMPLISHMENTS:**

- First measurements, with V-2 and Aerobee rockets, of primary cosmic radiation in space (with James A. Van Allen, 1947-1950).
- Discovery, with rocket-borne magnetometer, of equatorial electrojet current in the ionosphere (1949).
- Calculation of cosmic ray effects on meteorites, followed by first measurements of their ages (1952).
- Design of Minimum Orbital Unmanned Satellite (MOUSE), (1952-1954).
- Design of sensing instruments for MOUSE, including the first instrument for measuring stratospheric ozone (1956), now in use in the Nimbus satellite.
- First publications forecasting the existence of trapped radiation in the earth's magnetic field (radiation belts, later discovered by Van Allen) to explain the magnetic-storm ring current (1958).
- Design of the high-altitude FARSIDE rocket, to search for geomagnetically trapped radiation (1958).
- Capture theory for the origin of the Moon and of the Martian satellites, Phobos and Deimos (1968).
- Design study of Martian exploration by way of a manned base on Phobos/Deimos (Ph-D Project) (1977-78)
- First calculation of methane increase due to population growth and its effects on the stratosphere (1971). Paradigm of CFC-stratosphere effects. While developed in connection with the SST controversy, it is now of importance for both greenhouse warming and ozone depletion theories.
- Theory for the behavior of world oil prices, and prediction in 1980 of the price collapse of 1983.
- Discovery of orbiting debris clouds, using instruments on the LDEF satellite (1980).

**HONORS:**

- Special Commendation from the White House (Pres. Eisenhower) for early design of earth satellites; for drafting in 1954 the resolutions on satellites for IUGG, URSI, and the International Geophysical Year.
- Elected to the International Academy of Astronautics (Paris).
- U.S. Department of Commerce Gold Medal Award for the development and management of weather satellite programs.
- (First) Science Medal from the British Interplanetary Society.
- Selected as one of Ten Outstanding Young Men in the United States (1959) by the Junior Chamber of Commerce.
- Honorary Doctorate of Science from Ohio State University (1970).
- Elected Fellow: American Association for the Advancement of Science (AAAS), American Geophysical Union, American Physical Society, American Institute for Aeronautics and Astronautics.
- Elected to the AAAS Council: Committee on Council Affairs, and Section Secretary.
- Phi Beta Kappa National Lectureship, 1981.
- Membership in honorary societies, including Tau Beta Pi, Eta Kappa Nu, Sigma Xi.
- Listed in *Who's Who in America*, *American Men of Science*, etc.



## S. FRED SINGER---Page 4

**MILITARY SERVICE:**

U.S. Navy---Mine warfare and countermeasures, design of electronic computer. 1944-1946.  
U.S. Air Force Reserve, 1950-1953.

**PUBLICATIONS/MEDIA:****Books and Monographs (Partial List)**

*Manned Laboratories in Space* (Reidel, 1970); *Is There an Optimum Level of Population?* (McGraw-Hill, 1971); *The Changing Global Environment* (Reidel, 1975); *Arid Zone Development* (Ballinger, 1977); *Economic Effects of Demographic Changes* (Joint Economic Committee, U.S. Congress, 1977); *Cost-Benefit Analysis in Environmental Decisionmaking* (Mitre Corp, 1979); *Energy* (W.H. Freeman, 1979); *The Price of World Oil* (Annual Reviews of Energy, Vol. 8, 1983); *Free Market Energy* (Universe Books, 1984); *Oil Policy in a Changing Market* (Annual Reviews of Energy, Vol. 12, 1987); *The Ocean in Human Affairs* (Paragon House, 1988); *The Universe and Its Origin: From Ancient Myths to Present Reality and Future Fantasy* (Paragon House, 1990); *Global Climate Change: Human and Natural Influences* (Paragon House, 1990).

**Articles**

More than 400 technical publications in scientific, economics, and public policy journals.

More than 200 articles and editorials in the *Wall Street Journal*, *New York Times*, *Los Angeles Times*, *Washington Post*, *Washington Times*, *Chicago Tribune*, *Newsday*, *Cleveland Plain Dealer*, *Newsweek*, *New Republic*, *National Review*, *Readers' Digest*, and other publications.

**News Media**

Featured in *Time*, *Life*, *U.S. News & World Report*.

Appearances on ABC Nightline, NBC TODAY Show, PBS MacNeil-Lehrer News Hour, CBS Nightwatch, CNN, C-SPAN, and other televised news and discussion programs. Numerous radio interviews.

**OUTSIDE ACTIVITIES:**

- 1977 - Board of Directors, AMREP Corp. (NYSE), New York City
- 1981 - Board of Directors, Patent Enforcement Fund, Inc., Southport CT
- 1981 - Board of Directors, EXCELCO Energy, Inc., Tulsa OK
- 1974 - International Scientific Advisory Board, Weizmann Institute of Science, Israel.
- 1975 - International Board of Governors, The Hebrew University of Jerusalem, Israel.
- 1988 - Executive Committee, National Committee on American Foreign Policy, New York.
- 1992 - Board of Trustees, ISST (Institute for Space Science & Technology), Gainesville FL
- 1993 - Board of Advisors, ECO (Environmental Conservation Organization), Maywood IL
- 1993 - Board of Governors, ICSE (International Centre for Scientific Ecology), Paris