

An Urgent Call by Scientists to:

DEFEND SCIENCE!

In the U.S. Today Science, as Science, is Under Attack as Never Before.

The signs of this are everywhere. The attacks are coming at an accelerating pace, and include frequent interventions by powerful forces, in and out of the Bush Administration, who seem all too willing to deny scientific truths, disrupt scientific investigations, block scientific progress, undermine scientific education, *and sacrifice the very integrity of the scientific process itself* -- all in the pursuit of implementing their particular *political agenda*. And today this dominant political agenda is profoundly allied and intertwined with an extremist (and extremely anti-science) *ideological* agenda put forward by powerful fundamentalist religious forces commonly known as the Religious Right. These fundamentalists now have extensive influence and representatives in major institutions of the U.S. government, including Congress and the White House. This itself goes a long way towards explaining why science itself is under such unprecedented attack.

It is commonplace under the current Administration for the government to deny funding, censor scientific reports, or in other ways undermine scientific research which might turn up facts which they don't want to hear; to manipulate, distort, or outright suppress scientific findings they find objectionable; to attempt to reshape government scientific panels to obtain policy recommendations on issues ranging from health to the environment, based less on actual scientific findings than on the requirements of the Administration's agenda.

The situation is so serious that more than 6,000 scientists have already signed the "Restoring Scientific Integrity" statement, which denounces the Bush Administration for "abuse of science"; and Scientific American published an editorial under the title: "Bush-League Lysenkoism: The White House Seeks to Bend Science To Its Will."

CONSIDER THIS:

~ Particular Christian fundamentalist "moral codes" are increasingly imposing restrictions on what kinds of questions can be investigated by scientists and what kinds of answers scientists can come up with. HIV-prevention studies have come under attack for even attempting to study prevalent sexual practices. Funds have been cut and researchers have faced intimidation and harassment from fundamentalists inside and outside of government who insist that scientific study of HIV/AIDS begin and end with the demand for "abstinence-only" programs. Research into human sexuality in general has been suppressed and faulty studies and outright disinformation about the effectiveness of condoms and other birth control methods have been promoted and disseminated by the Administration. The Department of Health and Human Services is known to have deleted from its web site scientific health information, which conflicted with the Administration's "abstinence-only" approach to sex education...THIS IS NOT ACCEPTABLE.

~ Entire new fields of scientific inquiry, like stem-cell research, with potential for path-breaking medical breakthroughs, are denied federal funds because of fundamentalist religious objections...THIS IS NOT ACCEPTABLE.

~ Scientists whose findings conflict with corporate interests or policies of the Bush Administration face threats of retaliation or denial of funding. There are "gag orders" forbidding government scientists from talking publicly about important scientific questions and *even mentioning words* like "global warming." In studies by government scientists on global warming and its potentially devastating consequences for the planet and humanity, titles of reports have been

changed and whole sections taken out by high political officials. There are repeated efforts by government officials to over-rule scientists on such things as which plant and animal species to include on the "Endangered Species" list, which natural habitats are in critical need of preservation, what air and water quality standards need to be, and so on...THIS IS NOT ACCEPTABLE.

~ In a practice many have denounced as "Scientific McCarthyism," scientists who are candidates for scientific advisory boards and panels have been asked whom they voted for or whether they support particular policies of the Administration, and some have been denied appointments because of their political views...THIS IS NOT ACCEPTABLE.

~ Official government-run bookstores at the Grand Canyon have carried books promoting as fact the literalist Biblical notion that the Grand Canyon was formed only a few thousand years ago by "Noah's Flood," in direct contradiction to the overwhelming geological evidence and scientific consensus that the Grand Canyon contains rocks that are billions of years old and that the Canyon itself was carved out by a river, over a very long period of time, millions of years ago...THIS IS NOT ACCEPTABLE.

And that is not all: Here we are in the 21st century, and the head of the government himself, George W. Bush, refuses to acknowledge that evolution is a scientific fact! THIS IS NOT ACCEPTABLE.

The President claims: "On the issue of evolution, the verdict is still out on how God created the earth," and then sits smugly by while Creationists carry out an assault against evolution in classrooms, museums, libraries, government bookstores, and even IMAX movies and science theaters.

No, Mr. President, the verdict is NOT out on evolution. EVOLUTION IS A FACT -- IT IS ONE OF THE MOST WELL-ESTABLISHED AND WELL-DOCUMENTED FACTS IN THE HISTORY OF SCIENCE. TO DENY AND ATTACK EVOLUTION IS TO DENY AND ATTACK ONE OF THE MOST FUNDAMENTAL FACTS ABOUT ALL OF NATURE AND REALITY AND ONE OF THE MOST CRUCIAL FOUNDATION STONES OF ALL OF MODERN SCIENCE. This is not a matter of "controversy" in the scientific community: It is recognized as a fact by the overwhelming majority of scientists in the U.S. and throughout the world. Evolution is just as well-established as the fact that the earth goes around the sun -- a scientifically-demonstrated truth which, several centuries ago and for some time, was also opposed and even viciously suppressed because of a religious inquisition, resulting in great harm to science and to humanity. We cannot, and will not, allow the same kind of thing to happen with the scientific fact of evolution.

Therefore, we, the undersigned scientists and members of the scientific community, are issuing this urgent call to everyone in society to take up the challenge to DEFEND SCIENCE.

To be clear: Many who continue to hold religious beliefs can and should rally to this call to DEFEND SCIENCE. This is not about science trying to destroy religion. It is about defending science from a specific right-wing political agenda which, coupled with a fundamentalist, Biblical-literalist religious ideology, is setting out to implement a program that will fundamentally pervert and undermine science and the scientific process itself.

Individual scientists may be atheists or agnostics, or may hold various religious beliefs; and their politics range over the full spectrum of

political views. But one thing the overwhelming majority of scientists all have in common is their understanding that, when conducting scientific investigation and applying the scientific method, it is essential to use as a starting point previously accumulated scientific knowledge -- the storehouse of well-established scientific evidence about reality which has previously been arrived at through concrete and systematic scientific observation and experiment and has been subjected to rigorous scientific review and testing. This is what we scientists stand on as our foundation when we set out to further investigate reality and make new discoveries. This is how science has been done and how it has advanced for hundreds of years now, and this has allowed science to benefit humanity in countless ways.

Genuine science never proceeds from, or uses as its starting point, any set of subjective "beliefs," "opinions" or "faith-based edicts" handed down by religious or secular authorities and proclaimed to be beyond human questioning, testing and investigation. To bring into the scientific process assumptions, religious or otherwise, which were not arrived at by scientific methods, and which by definition cannot be **tested** by scientific methods, would destroy science as science.

In conclusion: We must refuse to accept a situation where scientific inquiry is blocked or its findings ruled out of order unless they conform to the goals of the government, to corporate interests and to the ideology of religious fundamentalists; where dogma enforced by governmental and religious authority takes the place of science; where the scientific approach of seeking natural explanations for natural phenomena is suppressed. We must insist on an atmosphere where scientists are allowed to seek the truth, even when the truth conflicts with the views and policies of those in power, and where the scientific spirit is fostered, where science education and the popularization of the scientific method are valued, where people are encouraged to pursue an understanding of how and why things are the way they are; where all that has been learned by humanity so far, all that has repeatedly been tested and found to be true, serves as the starting point for further investigation of reality.

IT IS UP TO US. IT IS TIME TO TAKE A CLEAR AND DECISIVE STAND IN DEFENSE OF SCIENCE. THIS IS OF CRUCIAL AND URGENT IMPORTANCE NOT ONLY FOR SCIENTISTS, BUT FOR PEOPLE THROUGHOUT SOCIETY, FOR HUMANITY AS A WHOLE AND FOR OUR FUTURE.

over 2000 signatories including:

Gerardus 't Hooft, Professor Theoretical Physics, Utrecht University, the Netherlands, Nobel Prize Physics 1999
Prof. Robert Curl, Chemist, Nobel Laureate, Research Professor, University Professor Emeritus, Rice University
Marc Davis, Professor of Astronomy, UC Berkeley, member National Academy of Sciences
Richard Dawkins, Charles Simonyi Chair in the Public Understanding of Science, University of Oxford
Roy Doi, Distinguished Professor, Molecular & Cellular Biology,

Univ. of California, Davis; Member of NAS
Paul Ehrlich, Bing Professor of Population Studies, Stanford University
Prof. Herman Eisen, member, National Academy of Sciences; Former President Amer. Assoc. Immunologists
James Eisenstein, Professor of Physics, Caltech. Member of the National Academy of Sciences
S. Walter Englander, Professor of Biochemistry & Biophysics; University of Pennsylvania, member NAS
Donald A. Glaser, PhD., Nobel Laureate in Physics, Prof. of Physics & of Neurobiology, UC Berkeley
Laurie Glimcher, Professor of Immunology, Dept of Cancer Biology, Harvard, member of NAS
Roger Guillemin, MD, PhD, Nobel laureate in Medicine & Physiology 1977, Member National Academy of Sciences
Michael G. Hadfield, Professor of Zoology, University of Hawaii
Carl Heiles, Astronomy Department, UC Berkeley
John G. Hildebrand, Regents Professor of Neurobiology, University of Arizona
Gerald T. Keusch M.D., Assoc. Dean for Global Health, Boston University Medical Center
Prof. James L. Kinsey, Department of Chemistry, Rice University, Member, National Academy of Sciences (1991)
Prof. Herbert Kroemer, Nobel Laureate Physics 2000
Harold Kroto, Professor of Chemistry, Florida State University, Nobel Laureate (1996)
Paul C. Lauterbur, Professor of Chemistry & of Medical Information Sciences, Univ. of Illinois, Nobel Laureate (2003)
Prof. Jean-Marie Lehn, Strasbourg, France, Nobel Laureate in Chemistry, 1987
Geoff Marcy, Professor of Astronomy, UC Berkeley
Christopher F. McKee, Physics & Astronomy Depts, UC Berkeley, member National Academy of Sciences
Douglas Osheroff, Professor of Physics, Stanford University, Nobel Laureate 1996
Kevin Padian, Professor, Department of Integrative Biology, UC Berkeley
Stephen R. Palumbi, Professor of Biological Sciences, Hopkins Marine Station, Stanford University
David Politzer, Caltech, Nobel Laureate in Physics 2004
Theodore A. Postol, Prof. of Science, Technology, and National Security Policy, MIT
Donald Prothero, Prof. Caltech and Occidental College
Irwin Rose, Prof. Physiology & Biophysics UC Irvine, Nobel laureate in Chemistry (2004)
Edwin E. Salpeter, Prof. Emeritus, Physical Sciences, Cornell University, member National Academy of Sciences, Royal Society (UK)
Randy Schekman, Prof of Molecular & Cell Biology, director campus stem cell center, UC Berkeley, member NAS
Andrew Sessler, Former President of the American Physical Society, member of the National Academy of Sciences
Peter Singer, Ira W. DeCamp Professor of Bioethics, Princeton University
Ardea Skybreak, author of Science of Evolution
E. Donnall Thomas, Nobel laureate, 1990, Fred Hutchinson Cancer Research Center
Wm J. Welch, Professor of Astronomy, UC Berkeley
Dr. Charles Yanofsky, Prof. emeritus, Dept. of Biological Sciences Stanford Univ. National Medal of Science recipient, member of National Academy of Sciences

WHAT YOU CAN DO

Scientists and Members of the Scientific Community:

Sign and Circulate This Statement. Help Raise Funds to Have it Printed in Newspapers Across the Country, and Internationally. Get This Statement Adopted by Scientific, Educational and Other Associations and Institutions. Urge Others to Become Involved.

Members of the General Public: Reprint and Circulate This Statement, Help Spread the Word, Contribute Your Ideas About How to Wage This Crucial Battle...Join With People in the Scientific Community and Others to Wage This Battle...

To sign the Defend Science Statement, to see the complete list of signatories so far, to donate funds for the publishing of the Statement, please go to:

www.defendscience.org – mail@defendscience.org