Coalition for National Science Funding

RECOMMENDATIONS ON FY 2006 FUNDING
FOR THE NATIONAL SCIENCE FOUNDATION

The National Science Foundation (NSF) has played a critical role in establishing U.S. global preeminence in science and technology. The U.S. can no longer take this position of leadership for granted. Other nations are investing heavily in basic research and are on a fast track to pass the United States in scientific excellence and technological innovation. Current funding for NSF, the only federal agency charged with supporting basic research across all science, social and behavioral science, mathematics, and engineering disciplines, is insufficient to meet this challenge. To ensure the future prosperity and security of the United States, the Coalition for National Science Funding (CNSF) recommends a FY 2006 budget for NSF of at least $6 billion.

NSF-supported basic research leads to new knowledge and provides scientific capital that serves as the foundation from which practical applications are drawn. It provides support for researchers at nearly 2,000 universities across the country, and its investments in education are helping to prepare a new generation to meet the increasingly technical demands on our nation's workforce.

Examples of major innovations spawned by NSF research include:

- In the mid-1990s, two NSF-supported graduate students discovered a better way of searching data on the Internet and used their idea to found Google, Inc., a $50-billion company that employs more than 2,000 people.
- Fundamental research supported by NSF led to the development of Magnetic Resonance Imaging (MRI), which is used widely to detect cancer and internal tissue damage and is predicted to be a $110-billion industry by 2007.
- In the late 1960s, an NSF sponsored researcher studying the microbiology of extreme environments led to the basis for developing the polymerase chain reaction (PCR), which made genome sequencing practical and fueled the revolution in biotechnology -- an industry with annual revenues of about $40 billion.
- NSF-supported basic research in geography and computer science led to the development of Geographic Information Systems used by businesses; police departments; federal, state and local governments, and others to respond to disasters (including 9/11), reduce crime, and provide better services to customers.

Such entrepreneurial and innovative contributions, as these, are essential to the nation's continued prosperity in a rapidly-evolving global economy.

In FY 2004, NSF's stringent peer review evaluation process judged approximately 12,000 proposals as "very good to excellent" or "excellent," but because of budgetary constraints, only 56% of these could be funded. In other words, 5,400 promising proposals—ideas that could provide the basis for technological breakthroughs—were passed over.

Just as U.S. economic progress depends on a vibrant research enterprise to spark technological innovation, so does national and homeland security. The U.S. Commission on National Security for the 21st Century found in 2001 that basic scientific research has been "seriously underfunded" by the federal government, posing "a greater threat to U.S. national security over the next quarter century than any potential conventional war that we might imagine."

The Congress and President Bush recognized that NSF is underfunded by enacting the NSF Authorization Act of 2002, which authorized 15% annual growth for NSF over five years. Although CNSF recognizes the current fiscal climate, we urge Congress to assign a high priority to the areas of federal investment that provide the greatest long-term return to the American people, such as the National Science Foundation.