Testimony of
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Congressman Alan B. Mollohan, Chairman
Congressman Frank R. Wolf, Ranking Member
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The National Science Foundation (NSF) is the only federal agency that supports basic research across all fields of science and engineering and all levels of science and engineering education. Although the agency's annual budget represents approximately 4 percent of the total federal budget for research and development, it provides nearly half of the support for non-medical basic research at colleges and universities. The main source of federal support for basic research at colleges and universities in the fields of mathematics, the social sciences, non-medical biology, and computer science comes from the NSF as well as over 40% of support in the physical sciences, engineering, and the environmental sciences. Through the directorate of Education and Human Resources, the NSF supports activities that ensure a diverse, competitive, and globally engaged science, technology, engineering, and mathematics workforce.

NSF invests over 90% of its budget directly to support research at colleges and universities, in all 50 states. This support reaches over 2000 institutions and nearly 200,000 researchers, postdoctoral fellows, trainees, teachers, and students every year. NSF receives well over 44,000 grant proposals each year, making over 11,000 awards, mostly to individual investigators at colleges and universities, and other public and private institutions. Through its merit review process, NSF identifies the best ideas and the people to develop these ideas, who through their work advance the frontiers of knowledge in science and engineering.

There are seven research directorates at NSF. Most of the funds for research are allocated to investigators through these directorates. Research proposals are received as a response to solicitations issued by disciplinary divisions within directorates and NSF offices or an investigator can submit an unsolicited proposal. In either case, the proposal goes through a merit

review process which assesses the intellectual merit of the proposed project and the broader impacts of the project.

It is through the directorates that the science and engineering disciplinary communities have most of their interaction with NSF. In fact, over 45,000 scientists and engineers serve on merit review panels or as proposal reviewers each year, thus having direct input in setting research standards. NSF also derives input from the disciplinary communities through directorate advisory committees and committees of visitors. Advisory committees provide advice on program management and performance as well as input on the impacts of policies, programs, and activities in the disciplines that are funded through the directorate. Committee of visitors provide input on the quality and integrity of program operations and program-level technical and managerial matters pertaining to proposal decisions; and, comments on how the outputs and outcomes generated by awardees have contributed to the attainment of NSF's mission and strategic outcome goals.

This characteristic of continual interaction with the science and engineering disciplinary communities allows NSF to keep abreast of research in the disciplinary fields, understand the needs of the scientific community, and be responsive to it. Conversely the science and engineering discipline communities believe that they are an integral part of the process in helping move U.S. research and innovation forward. This includes those investigators making the transformational discoveries to those scientists and engineers establishing the needed infrastructure that makes significant discovery possible.

Community involvement has served the NSF well over the years as research supported by the NSF has had a tremendous impact. Many new products, procedures, and methods have accrued from the NSF investments in basic research - research performed over many years and not always pre-determined toward a specific application. Society, unaware for the most part how basic research impacts daily life, enjoys many benefits from NSF investments. These benefits include products such as Google, the favorite internet search engine; Magnetic Resonance Imaging (MRI), used widely to detect cancer and internal tissue damage; Geographic Information Systems, used by businesses, police departments, governments, and others to respond to natural disasters, reduce crime, and provide better services to customers; and, many others.

The NSF investments have enabled the U.S. to build a scientific infrastructure second to none, facilitated revolutionary research that pushes the frontiers of knowledge, and laid the groundwork for innovation that has been important to the U.S. economy and a high quality of life.