Federal Funding of Scientific Research – A Timeline

World War II

WWII marked the beginning of the partnership between the U.S. government and U.S. universities to conduct research on behalf of the American people.

1941 - Office of Scientific Research and Development led by President Roosevelt's advisor, Vannevar Bush, was responsible for developing such items as radar, the proximity fuse, medical drugs, and, the atomic bomb, many of which were of decisive importance in winning WWII.

1945 - Bush's report, *Science–the Endless Frontier,* established the framework between science and government where government provides funds for basic research across a variety of fields.

1950 – The National Science Foundation was created to promote science, advance health, prosperity and welfare, and secure the national defense.

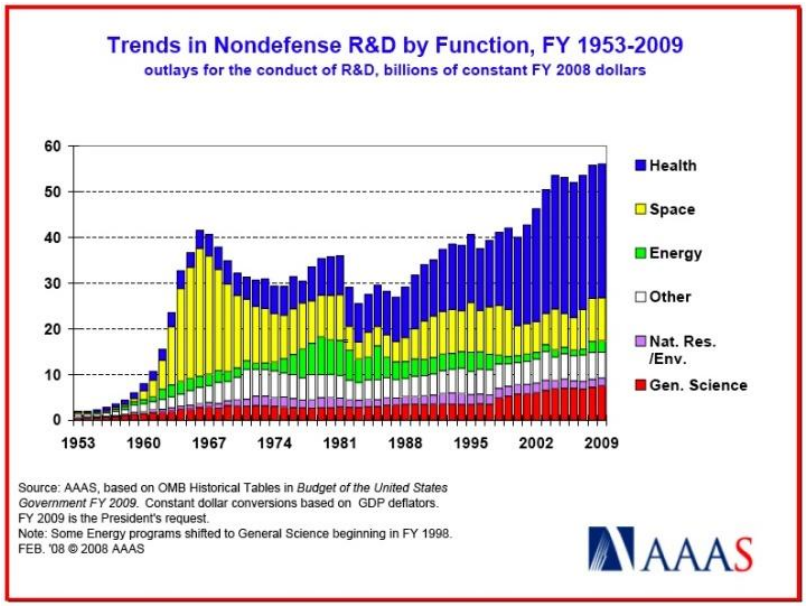
Sputnik and the Space Race

On Oct. 4, 1957, the Soviet Union launched Sputnik triggering, almost overnight, a national strategy of investing in education and research to reclaim American scientific and technological leadership. In four years, Congress doubled federal R&D spending and tripled funding for basic scientific research at the National Science Foundation (NSF), the National Institutes of Health (NIH), and other agencies.

Other milestones included passage of the National Defense Education Act of 1958, creation of NASA to preserve the role of the U.S. as the leader in space science and technology; and creation of the Defense Advanced Research Projects Agency (DARPA), which came to play a significant role in the creation of the Internet.

War on Cancer and other Milestones in Biomedical Research

1946 – The National Institute of Health's National Cancer Institute (NCI) established a program to fund outside cancer research
1953 – A full-scale clinical research program was established at NCI
1971 – Passage of the National Cancer Act substantially increased funding to NCI
1980 – Passage of the Bayh-Dole Act created a uniform paten policy among federal agencies, enabling small businesses, non-profits and universities to retain title to inventions made under federally-funded research programs. Bayh-Dole is credited with helping to create the biotech industry.
1998-2003 – Doubling of NIH budget. Convinced that biomedical research was an engine for economic growth, Republican leaders in Congress and Democrats pushed for budget increases for NIH. President Bush made finishing the doubling effort a presidential campaign promise.



Rising Above the Gathering Storm

In 2005, the National Academies report, "*Rising Above the Gathering Storm*," chronicled the decline in American preeminence in science and technology. The report warned that in a global economy increasingly driven by ideas and innovation, the U.S. must invest strongly in science and education to remain competitive. The report triggered bipartisan action:

President Bush launched his American Competitiveness Initiative (ACI) calling for doubling the investment in "innovation-enabling research" at the National Science Foundation, the Department of Energy's Office of Science, and the National Institute of Science and Technology (NIST).

Congress passed and President Bush signed the America COMPETES Act, which increased funding for the ACI science agencies and training for science and math teachers. It also established a new program for energy research – Advanced Research Projects Agency-Energy (ARPA-E). Many of the programs authorized under COMPETES were funded in FY2009.

The National Academies published a follow on to its 2005 report in 2010, which praised some of the progress made since the earlier report, but lamented that many of the original recommendations remained undone.

Congress passed and President Obama signed into law a reauthorization of America COMPETES in 2010.