

POSITION STATEMENT

Federal Support of Fundamental Research

*Adopted by the IEEE-USA
Board of Directors (22 Oct. 2019)*

IEEE-USA strongly recommends sustained, balanced funding for fundamental research in science, technology, engineering and mathematics (STEM). Such research provides the foundation for scientific discovery and progress. It helps assure technological leadership and innovation, and it avoids unanticipated foreign developments of emerging and disruptive technologies—in both the national security and the civilian sectors. Since World War II, the United States has been the world’s scientific and engineering leader; and consequently, its economic leader, as well. Federal support for fundamental research in STEM fields has seen a steady decline in the United States over the last 50 years, undermining the foundation for U.S. innovation. Federal investment in long-term, high-risk, high-payoff fundamental (*i.e.*, basic and applied) research is particularly important today, to maintain global science and technology competitiveness.

IEEE-USA recommends that the government work with industry and universities to:

- Maintain a healthy, long-term sustained, and balanced fundamental research investment in science, technology, engineering and mathematics, including modern laboratories and equipment. Restore fundamental research funding of both civilian and national defense agencies in these areas to a globally competitive level.
- Prioritize scientific and technological fundamental research that is important to ensure scientific leadership, technology competitiveness, economic growth, and national security.
- Ensure the strong participation of universities, research institutes, and federal laboratories, where much of the innovative and leading-edge fundamental research is conducted.

- Enhance interagency coordination of science and technology related activities, with shared information and planning to encourage the free flow of ideas, while still encouraging independent thinking to stimulate multiple approaches at the early research phase.
- Streamline regulations governing federally funded research, to reduce administrative overhead.
- Increase support for science, technology, engineering, and mathematics education, including K12 teacher training, to meet U.S. competitiveness needs in the global economy.

This statement was developed by the IEEE-USA Research and Development Policy Committee, and represents the considered judgment of a group of U.S. IEEE members with expertise in the subject field. IEEE-USA advances the public good, and promotes the careers and public policy interests of the nearly 180,000 engineering, computing and allied professionals who are U.S. members of the IEEE. The positions taken by IEEE-USA do not necessarily reflect the views of IEEE, or its other organizational units.