Federal Research Funding: Investing in America’s Future

Federal Science Investments Lead to Economic & Societal Benefits

Foundational Research Publications

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<th>Publication</th>
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<tr>
<td>Observation of Gravitational Waves from a Binary Black Hole Merger</td>
<td>Physical Review Letters</td>
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<td>Relaxation Effects in Nuclear Magnetic Resonance Absorption</td>
<td>Physical Review</td>
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Societal Outcomes

Spinoffs: Resulted in critical advances in seismic isolation technologies that are projected to aid in early-warning earthquake systems; led to new lasers and optics that have spawned small businesses.

Life-saving Technologies: Led to MRI and brain imaging machines – the workhorses of sophisticated medical diagnostics used in hospitals across the country; follow-on research has improved techniques, refined standards, and created a global database for physicians.

Transformative Applications: Established idea of quantum entanglement, from which emerged the field of Quantum Information Science (QIS) that is revolutionizing computing and encryption.

Primary Funding Agencies

- NSF
- DOE Office of Science
- NIST
- DOD

Agency | Research $ |
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DOD | 7.3 B |
DOE Office of Science | 5.0 B |
NIST | 0.6 B |
NSF | 7.1 B |

Federal Science Investment is Crucial to National Security

- “Retaining the high ground in research and engineering is necessary to deter future conflicts, win future wars, and maintain our standard of living” – Gordon England, Former Sec. of Navy and former Dep. Sec. of Defense
- Success requires a unified effort of robust funding for research across all science agencies and the DOD, bolstering national security through scientific advancement.

Federal Science Investment is Essential to the Workforce

- “In an increasingly competitive economy, having a background in science is worth every nickel.” — Joe Iadorola, estimator with Cooper Construction Services in Gaithersburg, MD.
- Entrepreneurs do cutting-edge research with small business grants from science agencies.

Federal Science Investments Produce Local Benefits

- Innovations from robust, sustained investment support long-term economic growth both locally and nationally, and help to keep our communities safe and secure.
- Investments in research enable institutions to train a broad STEM workforce, empower local companies to employ that workforce, and create strong connections between national labs, universities, and local industries.

Action

Congress should lift the caps on non-defense discretionary spending and increase support for the federal science agencies accordingly.