YEARS OF INNOVATION

THE SCIENCE COALITION

America Leads the World in Science and Technology

With the support of federal investments in basic research, generations of scientists have channeled American ingenuity to unlock more breakthroughs than any other country on Earth.

Vannevar Bush established a unique and lasting framework with his 1945 report *Science – The Endless Frontier*, fortified by the creation of agencies like the National Science Foundation (NSF) and National Institutes of Health (NIH) as well as support from the Department of War and Department of Energy. This highly successful model has since sustained U.S. competitiveness and innovation.

As the nation's 250th anniversary invites us to reflect on our past and imagine our future, university research stands out as one of the clearest throughlines connecting the country's founding ideals to its modern-day strengths in innovation and

Breakthroughs Born from University Research

THE SCIENCE COALITION

CUTTING-EDGE HEALTH CARE

Publicly funded research drives disease prevention and life-saving treatments that improve outcomes and extend lives.

ALZHEIMER'S DIAGNOSIS

Discoveries from Columbia University, supported by the National Institute of Aging, are laying the groundwork for the early detection of Alzheimer's.

MRNA VACCINES

The University of Pennsylvania helped uncover a revolutionary disease prevention approach with support from NIH.

CAR T-CELL THERAPY

Federally funded UCLA research contributed to the development and clinical advancement of engineered immune-cell therapies to fight cancer.

MS TREATMENT

A professor from the University at Buffalo created AVONEX™, now the most prescribed drug for people suffering from relapsing multiple sclerosis.

HPV VACCINE

Federally funded research from the University of Rochester developed the science behind GARDASIL™, able to prevent over 90% of HPV-related cancers.

BLOOD BANKS

During World War II, University of Iowa physicians created the foundation for modern blood preservation and transfusion with support from the federal government.

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BIOMEDICAL INNOVATION

Biomedical research leads to new innovations that make healthcare more precise, effective, and accessible.

PACEMAKERS AND DEFIBRILLATORS

Harvard University researchers led groundbreaking cardiology research to discover lifesaving technologies.

BLADELESS LASIK

NSF-funded research from the University of Michigan pioneered innovative vision correction surgery.

MRI MACHINES

Federally funded research from Stony Brook University underpins a staple of modern medical diagnostic technology.

IVF AND REPRODUCTIVE HEALTH

Researchers and physicians at Old Dominion University are pioneering assisted reproductive health technology, including the first uses of IVF in the U.S.

FOUNDATIONAL GENETIC RESEARCH

NIH-funded work from the University of Oregon established zebrafish as a cornerstone of biomedical discovery.

MEDICAL SIMULATION TRAINING

Penn State researchers, funded by NIH, designed a robotic training program shown to improve hospital patient safety and reduce errors.

Breakthroughs Born from University Research

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AGRICULTURAL SOLUTIONS

These endeavors allow us to produce better, more abundant foods while making our systems more efficient and sustainable.

MAPPING THE CORN GENOME

University of Nebraska research revealed which corn varieties thrive in specific environments, boosting production and resilience.

BREEDING BETTER HARVESTS

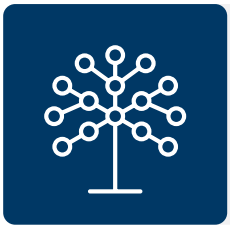
Washington State University developed new breeds of cherries and apples, improving both the taste and growing period.

FLOOD-RESISTANT RICE

Funded by USDA, UC Davis introduced a gene into rice varieties to protect them from flooding, creating more reliable food sources.

SUSTAINABLE FOOD SYSTEMS

American University leads the Multiscale RECIPES research network, working to make food systems more sustainable, supported by NSF.



PLANT TAXONOMY

Research from University of Nebraska professor Charles Bessey revolutionized how scientists classify plant species.

ANTIMICROBIAL RESISTANCE

Researchers at The Ohio State University are developing strategies to improve animal health and food safety by fighting antibiotic resistance.

Breakthroughs Born from University Research

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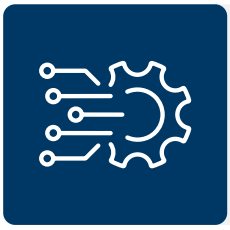
TECHNOLOGICAL ADVANCEMENTS

University research powers smarter tools and technologies that are transforming how we live and work.



ARTIFICIAL INTELLIGENCE

Researchers at UC San Diego wrote the algorithm behind today's AI, supported by the U.S Office of Naval Research and NSF.

GOOGLE™ ALGORITHMS

NSF-funded work at Stanford University helped found one of the largest tech companies in the world.

CRISPR GENE EDITING TECHNOLOGY

UC Berkeley research, supported by NIH, discovered this method for repairing DNA sequences.

WEB BROWSERS

Researchers at the University of Illinois created Mosaic, the first popular graphical browser for the World Wide Web, in 1993.

GRAVITATIONAL WAVES

Supported by NSF, Syracuse University researchers were part of the first team to detect gravitational waves, forever changing scientists' understanding of the universe.

VIRTUAL REALITY

Harvard researchers invented one of the earliest VR headsets in 1968, with support from several U.S. defense agencies.

Breakthroughs Born from University Research

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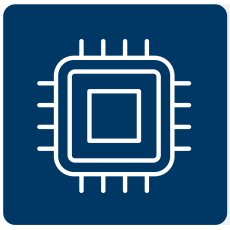
NATIONAL SECURITY & DEFENSE

With federal funding, universities pioneer innovative technologies and approaches that help keep Americans safe and support U.S. leadership.



TRANSISTORS

A University of Illinois physicist won the Nobel Prize for inventing the foundational building block of modern military and information technology.

WEATHER PREPAREDNESS

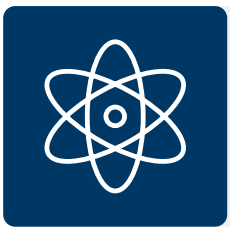
NASA and NSF enabled University at Albany researchers to create the National Lightning Detection Network for critical weather safety.

RARE EARTH MINERAL MINING

DOE-funded research at Penn State is creating a new sustainable supply chain by salvaging critical elements from coal waste.

DUAL-USE TECHNOLOGIES

UC San Diego created the FORGE, a campus-wide enterprise researching technological solutions for both military and civilian needs.



NEW STATE OF MATTER

NSF and NIST-funded research at the University of Colorado Boulder discovered the Bose-Einstein condensate, laying important groundwork for several areas of modern quantum technology critical to defense innovation.

MILITARY BASE PROTECTION

The University of Nebraska is developing and testing infrastructure to better protect entry control points at military bases and facilities.

Investing Now for the Next 250 Years

As we celebrate 250 years, the nation faces a defining choice: whether to sustain the partnership that made it the world leader in science and innovation or risk falling behind.

Federal investment in university research has powered discoveries that strengthen the economy, protect national security, and improve Americans' lives. But leadership is not guaranteed.

Over the next 250 years, meeting new challenges — including global competition, technological transformation, energy and food security, and public health — will depend on the breakthroughs that begin in research universities today.

If the United States wants to remain the world's leader in innovation, it must recommit to robust and sustained federal support for university-led basic research and continue building the Endless Frontier for generations to come.

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