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Research Profile

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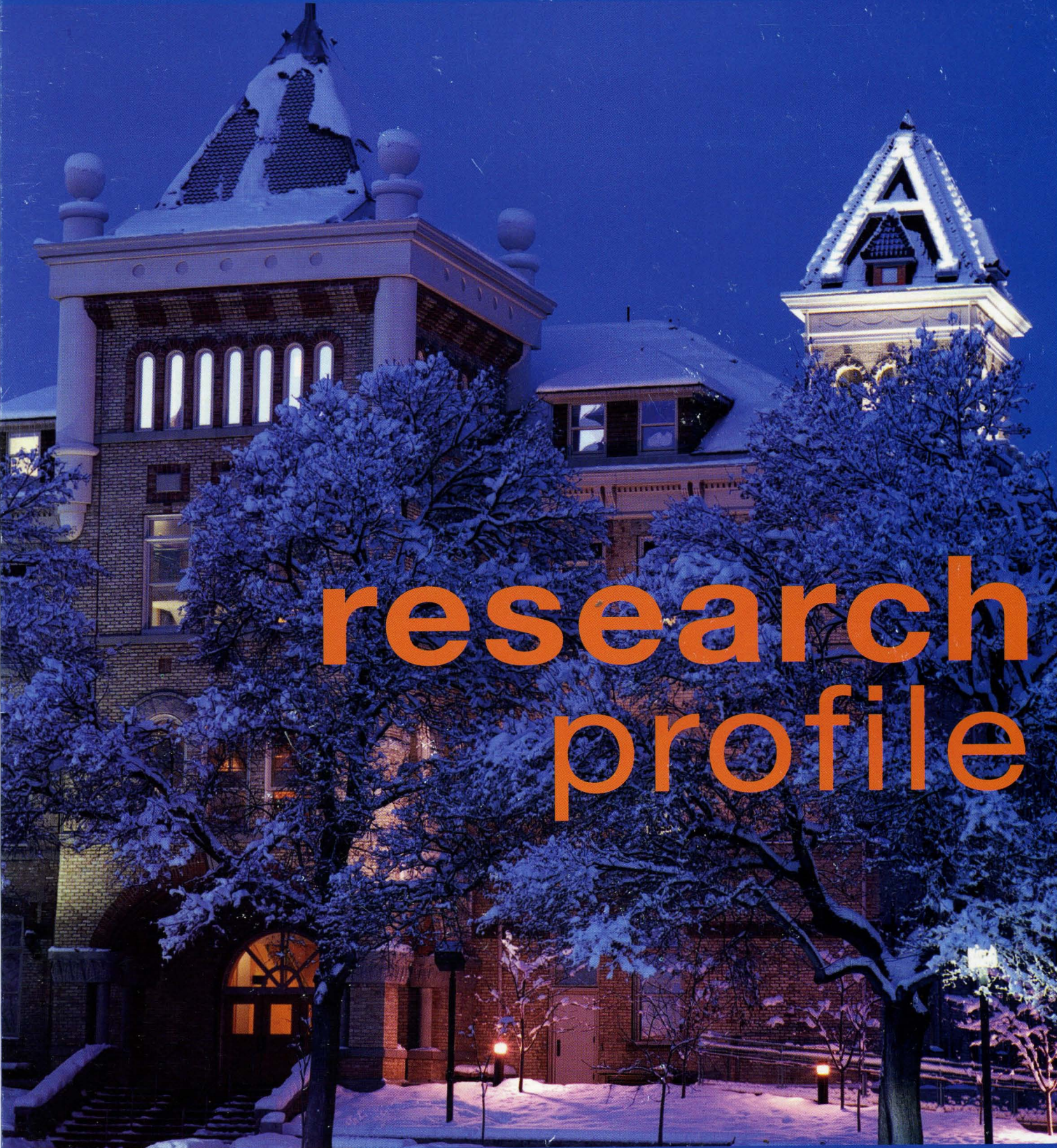
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UTAH STATE UNIVERSITY



research
profile

2003

from the office of the
VICE PRESIDENT *for* RESEARCH

Utah State University research is about:

- Finding solutions for water problems
- Helping individuals and families with disabilities
- Enhancing homeland security through surveillance and monitoring technology
- Searching for secrets to health in old age
- Developing cures for viral diseases
- Sending more experiments into space than any other university in the nation

Dear Colleagues and Friends,

Research matters. At Utah State University research is a vehicle for student learning, faculty creativity, and economic development.

Research involves students in active learning and engages their curiosity. Research builds on faculty creativity, leading to discoveries and the creation of knowledge. Research gives rise to new ideas, intellectual property, technology development, new companies and even new industries that lead to economic value.

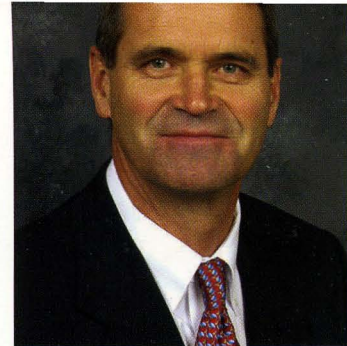
As Utah's land-grant and space-grant institution and one of only two public research universities in the state, Utah State University continues to build an environment where exploration and creation of new knowledge is not the exception but the standard. By generating nearly 70 percent more research expenditures and providing 87 percent more funding for student research than five years ago, we are working to demonstrate that research matters.

We appreciate your interest in Utah State University and invite you to celebrate with us another year of discovery, creation, and achievement.

Best regards,

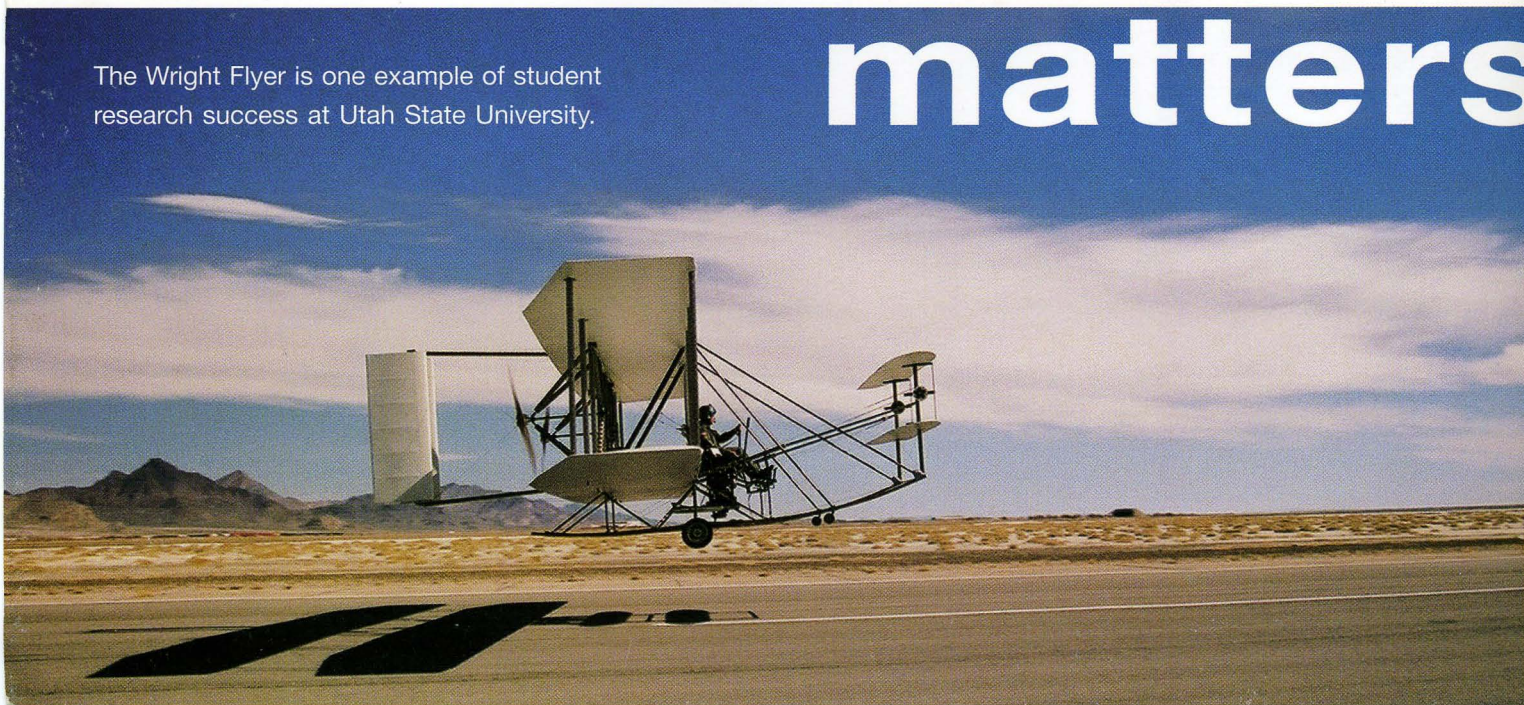


Brent C. Miller, Ph.D.
Vice President for Research



utah state research matters

The Wright Flyer is one example of student research success at Utah State University.



facts & figures 2003

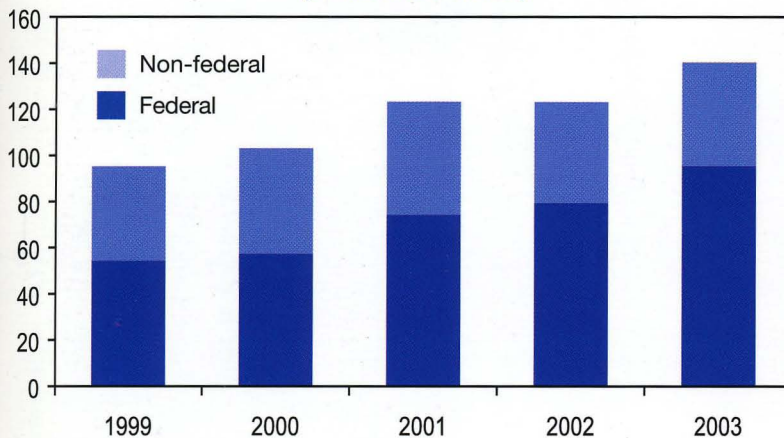
Selected Research Centers

- Biotechnology & Genomics Research Center
- Center for Atmospheric and Space Sciences
- Center for Epidemiologic Studies
- Center for Persons with Disabilities
- Institute for Antiviral Research
- Space Dynamics Laboratory
- Utah Agricultural Experiment Station
- Utah Water Research Laboratory

Sponsored Program Awards by College, FY 2003 (amount in millions)

College	Number	Amount
Agriculture	189	\$32.9
Business	23	\$1.3
Education & Human Services	177	\$23.1
Engineering	387	\$58.0
Humanities, Arts & Social Sciences	16	\$0.3
Natural Resources	141	\$8.3
Science	142	\$9.1
Other	129	\$6.3
Jointly Administered	(14)	(\$0.9)
Total	1,213	\$138.2

Total Research Expenditures, FY 2003 (in millions of dollars)

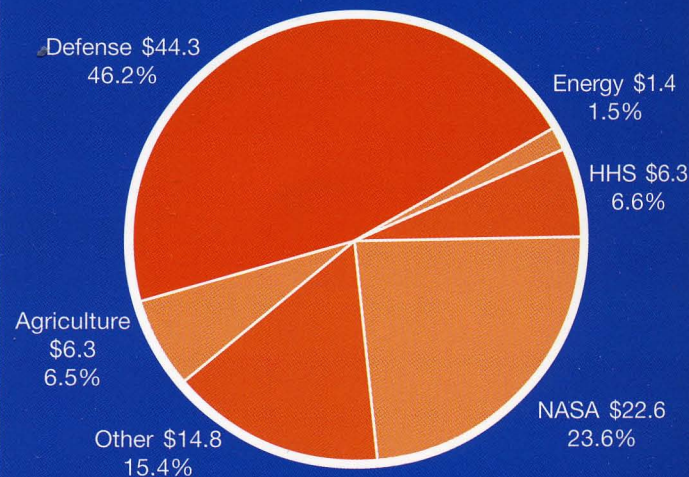


	1999	2000	2001	2002	2003
Non-federal	41.0	45.8	48.2	43.4	44.8
Federal	54.4	57.4	75.2	79.9	95.8
Total	95.4	103.2	123.4	123.3	140.6

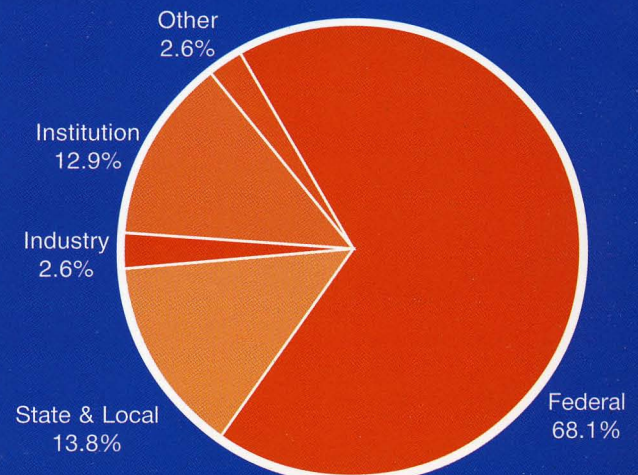
Research Expenditures by Source, FY 2003 (amount in millions)

Source of Funds	Percent	Amount
Federal Government	68.1%	\$95.8
State & Local Funds	13.8%	\$19.4
Institution Funds	12.9%	\$18.1
Industry	2.6%	\$3.7
All Other Sources	2.6%	\$3.7
Total	100%	\$140.6

Research Expenditures by Agency (in millions of dollars)



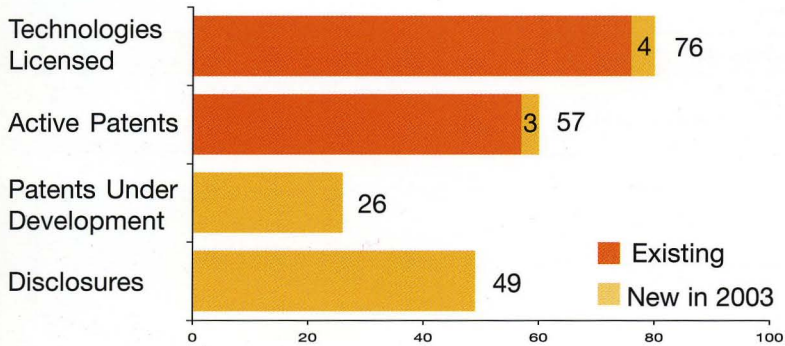
Research Expenditures by Source



making a difference

Technology Transfer New ideas and technologies initiated by Utah State University researchers create profitable products and businesses. Nearly 60 companies had their beginnings in USU research. These companies generate more than \$300 million in taxable revenues, employ more than 1,000 people, and create an infrastructure of high-tech businesses throughout the state.

By the numbers in 2003:



New Patents:

- Ligand-DNA Composition for Capture and Detection of Contaminants on a Solid Surface - Bart Weimer
- Laulimalide Microtubule Stabilizing Agents - Bradley Davidson
- Kinematic Analysis of Conically Scanned Environmental Properties - Tom Wilkerson



Student Research Hands-on learning is

a standard at Utah State University because research gives students direct experiences. Utah State employs thousands of students in research-related jobs, and provides undergraduate and graduate research assistants with millions of dollars of educational support. Faculty member Jan Sojka, shown above, helps students send their experiments on the space shuttle with the Get-Away Special program. The USU Wright Flyer, nanosatellites, and a nuclear fusion reactor are a few more examples of student research projects conducted in 2003. This year, more USU students presented at national research conferences than ever before, with more students selected to present at Posters on the Hill in Washington D.C. than any other university.



Innovation Campus Growth has been the central theme of Utah State

University's research park this year. With fourteen existing buildings and three more under construction, Innovation Campus has become a center of research and economic activity in Cache Valley. Innovation Campus' recently-completed master plan will guide growth at the campus over the next 40 years to bring it from its current 38 acres to over 150 acres by full build-out.

By the numbers in 2003:

Tenants	43	Percent Net Occupancy	93
Buildings	14	Employees	1,900
Total Sq. Feet	320,000	Student Employees	900



research highlights

A Utah State University-University of Idaho research team was first in the world to clone a member of the horse family, a mule, which was named "Idaho Gem." The research team included Kenneth L. White, Utah State University professor of animal science. Since Idaho Gem's May 4 birth, the team has also cloned Utah Pioneer, born June 9, and Idaho Star, born on July 27. As scientifically and commercially significant as their accomplishment is for the horse industry, the project also can provide new understandings of genetically-related problems for humans.

- On July 4, Utah State students made history when their creation—the **USU Wright Flyer**—became the first replica to fly over Huffman Prairie Flying Field since Orville and Wilbur Wright had done so nearly 100 years ago.
- Biological and Irrigation Engineering researchers are implementing a mapping project in the Dominican Republic to **improve the management of irrigation systems**, thus improving the quality of life for citizens. These technologies will also be useful in Utah.
- USU researchers discovered that 60 percent of retail businesses in some Utah communities **water their lawns far too much**—enough to support ponds and water lilies—during Utah's severe drought.
- Researchers at Utah State University's Institute for Antiviral Research are searching for drugs that will effectively control human viral infections, including **severe acute respiratory syndrome (SARS)**.
- This past year, the Utah Veterinary Diagnostic Laboratory conducted all veterinary-related testing for **West Nile virus** and detected the first Utah occurrences in both birds and horses.
- The Teaching Learning Network is producing a documentary for National Public Television that features the **National Center for Hearing Assessment and Management (NCHAM)** and its work in screening newborns and infants for early identification of hearing loss.

Some large grants awarded to Utah State University faculty include:

ADVANCE: Applying a Successful Business Model to a University

Funded by the National Science Foundation

This study is designed to create a supportive workplace model for women.

Epidemiology of Alzheimer's Dementia in Cache County, UT

Funded by the National Institute on Aging

This study is one of the largest in the country seeking to understand health in old age.

Russian American Observational Satellites

Funded by the US Department of Defense

This project is the only cooperative defense project between the U.S. and Russia.

Youth and Families with Promise

Funded by the US Department of Justice

This project uses parent and youth mentors to prevent delinquency.



Contact us for more information about research at Utah State University.

Vice President for Research

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**Innovation Campus,
USU's Research Park**

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