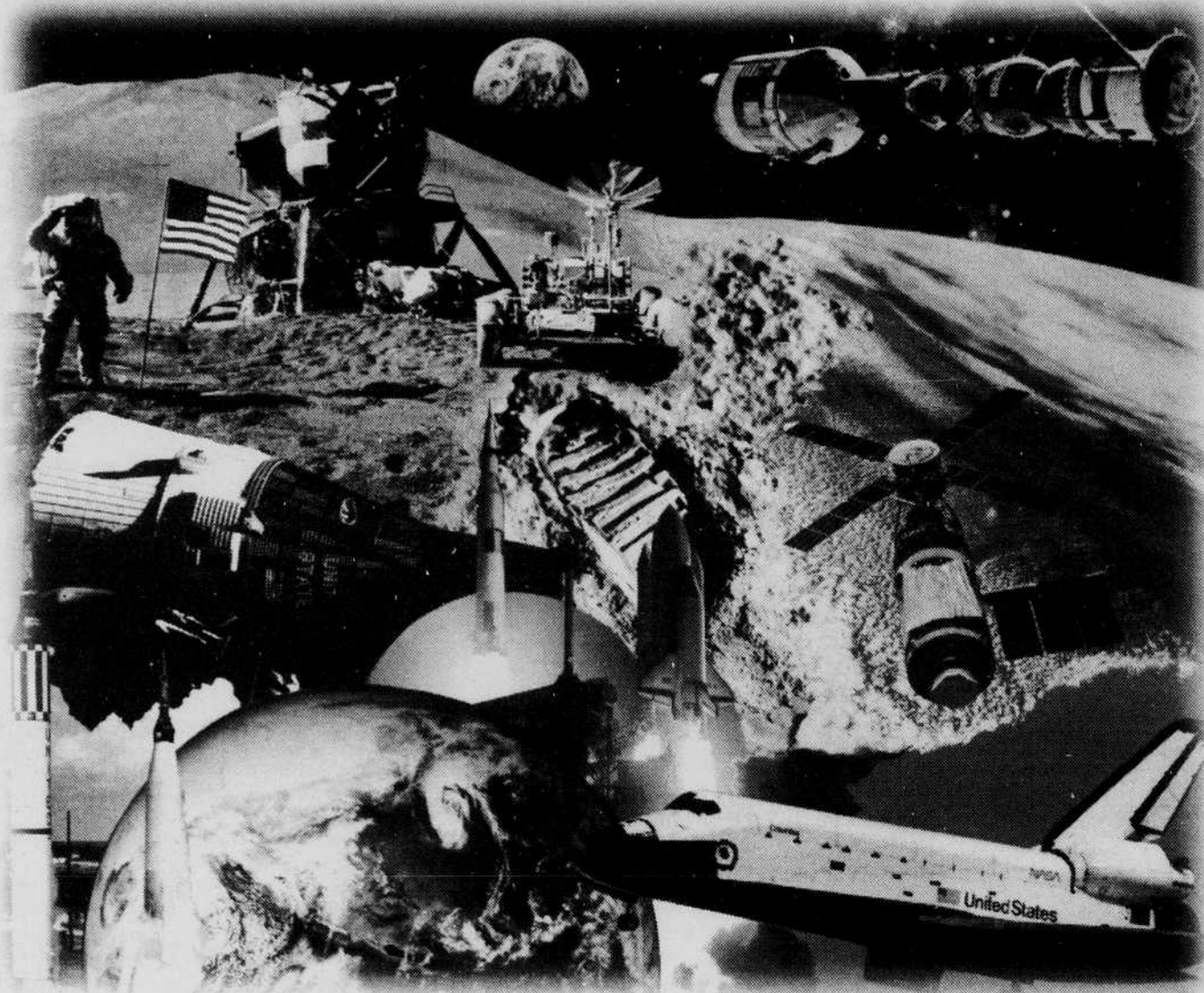


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# OPINION

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## SPACE: The Final Frontier?

### OPINION



Chris Hutchinson

*The U.S. space program provides a wide range of benefits for everyone for a very reasonable cost.*

The United States is the world's leader in space exploration and use. From civil space to national security, U.S. programs have dominated the field. On Sept. 19, 1996, President Clinton announced a new space policy that commits our nation to a strong and stable space program in the coming years. The policy is a valuable document for understanding current space goals and activities and their effect on national security, foreign policy, economic growth, environmental, scientific and technical excellence.

Civil space activities include space science, earth observation with remote sensing, human space flight to conduct scientific as well as exploratory activities and space technology applications. National Aeronautics and Space Administration (NASA) is the lead agency for research and development in civil space activities.

Our nation's achievements in civil space have benefited the economy, the environment, science and technology. These achievements have and will continue to require government funding. Sometimes it's hard to understand the benefits of a government program, and the taxpayers of our country question the need for a space program.

Our outer space operations have advanced mankind and changed our lives. The space program is only three decades old, but it has become a permanent entity in our world. Almost \$14 billion of the federal budget will be used by the space program in fiscal year 1997. Do the benefits of the civil space program justify the public expense to conduct it?

An important area of the civil space program is space science, which includes robotic and human exploration to enhance knowledge of our solar system, universe and fundamental scientific and physical

sciences. Experimentation and observation of the earth with satellites has revolutionized geographic, atmospheric, ionospheric and meteorological sciences.

Exploration of the solar system utilizes deep-space probes and earth-orbiting satellites like the Hubble telescope. The Hubble is an observatory orbiting the earth that has clearer resolution than any earth-based telescope because it doesn't have to look through the atmosphere. Recent Mars fossil findings in rocks suggest the possibility of life on the red planet. If we could find and observe life on other planets, it would help us better comprehend life here on earth and how we came into existence.

Environmental monitoring from space is important in helping us to understand our planet and its natural processes better. Meteorological satellites allow scientists to view cloud patterns in a way that offers new insight into the weather process. Satellite remote sensing brings the weather to your home every night on the evening news.

Earth observation helps scientists better understand the effects of both human and natural influences on the environment. Enhanced satellite imagery helps the forest service detect landslides after recent widespread flooding in the Pacific Northwest. Satellites take enhanced digital photographs of the flood areas, and when combined with geologic, soil information and previous images, these can be used to assess flood damage.

Space communication satellite systems have revolutionized communication, allowing everything from cellular phone calls and precise global positioning data to television and information transfer to become commonplace.

Without U.S. achievements in space, the world would be a primitive place. A citi-

zen of this country benefits from space every time he or she turns on the television set, uses a laptop, makes a phone call, uses a product that contains Teflon, slaps together velcro or uses a host of other product spin-offs. Space product spin-offs are products originally designed for use in space that have been found to have applications here on earth as well.

In the end, the economic impacts and advantages of the space program are numerous. The space program positively impacts the United States in four ways: 1) Economically: It alters the sales and employment levels in the space industry. 2) Technologically: It changes the structure of products, techniques and materials via advancements and discoveries and promotes progress. 3) Scientifically: It increases the understanding of our earth and solar system, and fosters further investigation when discoveries are made. 4) Socially: Influences the quality of life by creating new spin-off products.

Over its three-decade existence, the civil space program has had many successes and a few failures. It has been the catalyst for many new discoveries about ourselves, our planet and the universe. It is hard to imagine a world without a strong space program, because it indirectly benefits us in so many ways throughout the course of our lives.

When it is viewed in context of economic and scientific value added to our society, the U.S. space program is definitely a bargain worthy of continued taxpayer support.

*Chris Hutchinson, a sophomore majoring in fine arts, is a guest columnist for the Emerald. His views do not necessarily represent those of the newspaper. E-mail: chrhutch@gladstone.uoregon.edu*

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