Live Long and Prosper
By Neil Patel

On April 21, 1997, the ashes of Star Trek creator Gene Roddenberry were launched into space. The symbolic launching reflected upon the man that created the television series about space exploration which inspired many Americans abut the possibilities of space travel and the secrets of the final frontier. We have all wondered what it would be like to travel with the stars. But with the current situation of science in the United States, that dream could still be very far away.

The fact that the United States is falling behind in the fields of science and engineering are irrefutable. All statistics indicate the failure of the United States to maintain its high status as the science hub of the world. The scores of U.S. high school students on Advanced Placement tests have dropped since the last decade. A total of 62,676 tests for Calculus AB were administered in 1990. That number has increased to 170,330 in 2004. Despite the increase in tests, the number of students that passed the exam has dropped from 71.7% in 1990 to a mere 59.0% in 2004. The same is the case with the with the AP Chemistry exam. A total of 19,289 exams were administered in 1990 which grew to 69,032 in 2004. Unfortunately, only 56.4% of the tests passed in 2004 compared to 64.1% in 1990. The failure of the U.S. in the science is not only seen on the high school level, but also at the professional level. In 1988, approximately 175,000 articles were written by U.S. scientists compared to the 145,000 articles written by Western European scientists. Since then, the number of articles written by European scientists has increased about 55% to 225,000 while the number of U.S. articles has grown a mere 14% to 200,000. The statistics clearly show how Americans are falling behind in science on both the domestic and international level.

In order to find a solution to this predicament, we must first identify its causes. One of the causes is the lack of interest in science on both the federal and public level. In 2003, the federal government spent about .75% of the GDP on research and development, decreasing from a high of about 1.9% in 1964. Fortunately, private industries have taken the burden of paying for research and development. Private industry spent about 1.8% of the GDP for research and development up

from about 0.6% in 1953. If the government were to allocate more resources to development, it would help scientists improve their research and lead to more advancements in the fields of science. The government has demonstrated its influence on the science before during the epic Space Race of the sixties. As the U.S. aspired to land a man on the moon before the Soviet Union, the Apollo Project was set up which in the end achieved its goal of landing on the moon with a total budget of $19,408,134,000. When Neil Armstrong became the first man to set foot on the moon, he announced, “That’s one small step for man but one giant leap for mankind.” However, mankind has not been able to make another leap of the same magnitude as the federal government started decreasing its funding for research and development. If the federal government were to increase its funding, we could see many more advancements like we have seen before.

The public has also lost its interest in the sciences. In a survey taken in 1977, 66% of the participants ranked the occupation of scientist as beings “Very prestigious”. The same survey was done in 2004 and only 52% of the participants ranked scientist as “very prestigious”. The decrease in the status of a scientist is because currently there is no political incentive to endorse science. In the seventies, competition with the Soviet Union resulted in both space and military advancements. Back then, Americans wanted to keep their glory over the world and show to the rest of the world that you are the world’s greatest superpower. A great example of a political incentive that helped improve the sciences is in China. In the seventies, China’s state run government shut down nearly all education opportunities fearing the security of its power. But in the eighties, the Chinese people demanded reform and the government had to meet the demands. In the May 1985 National Conference on Education, the Chinese government set up educational reforms which were meant to produce “more able people”. The Chinese people took the incentive immediately. In China in 1985, practically no one earned a doctorate degree in science or engineering. But since the reforms have been introduced, about 750,000 people earned a doctorate degree in China in 2001.

On the contrary, there are not many political incentives in science in the U.S. In fact, the government has discouraged new fields of research as President Bush expressed his opposition to stem cell research and has down played global warming. The government should encourage more friend, scientific, competition with foreign nations. Such a contest would be the incentive to gain popular support for science. Americans would want to show how great their country is by accomplishing a great scientific feat. It would not end their as the competitor would attempt to achieve something greater and the American people would need to respond to it.

Such a competition provides the incentive to achieve great scientific advances. People should also realize that these advancements have the potential of improving society as a whole. Further research with stem cells may lead to cures to many of the most crippling diseases of mankind such as paralysis, Alzheimer's, and diabetes. If we learn more about global warming we can discover the factors that affect our environment and how we can help protect it. Science can also create new technologies which make our lives easier. The internet and cell phones have helped improve communication in the world. Science has an incredible potential in the future and as a society, we should help encourage its growth above all other things. We have gone from The Stone Age to modern times so what's stopping us from reaching the technology of Star Trek.

It is also my personal belief that science can help bring about world peace. Certain feats are impossible for just one nation to accomplish. When that happens, the global scientific community works together to accomplish the feat. A great example is the International Space Station. Many countries, including the once rivals, Russia and U.S., are working together to build the craft. And when society realizes how much is possible through working together, we may finally be able to put our differences aside and make great advancements in our world. Through medical breakthroughs, environmental conservation, new technology, and possibly space travel, science holds the key to the long life and prosperity of mankind. May science "Live Long and Prosper."