

## **Sputnik: It's time for another science education drive in the United States**

*This commentary appeared in the October 7, 2007, edition of the Sunday Gazette-Mail (Charleston).*

By Paul L. Hill and Jay Cole

Thursday marked the 50th anniversary of the Soviet launch of Sputnik I — the world's first artificial satellite. A watershed event, it caught the U.S. public off-guard and marked the start of the space age and the U.S.-Soviet space race.

Sputnik captured the world's attention, both as a singular technical achievement and as a symbol of overall Soviet superiority in scientific and technical fields. The Soviets had defeated the Americans in the first leg of the space race, so the launch created a real sense of urgency about improving math and science education in this country.

As a result of public and political outcry, the U.S. Congress passed and President Eisenhower signed the National Defense Education Act in 1958. One of the primary purposes was to produce more and better math and science students — the next generation of scientists and engineers who would ensure America was able to compete with the Soviet Union.

Fifty years later, the world is a very different place. The Soviet Union no longer exists. And, thanks to extraordinary achievements such as the space shuttles, the International Space Station and the Mars Rover missions, space exploration has come light years since Sputnik.

But the need to improve math and science education in America is more urgent than ever. Instead of Sputnik as a single, simple, galvanizing event, we now confront more numerous and complex forces — climate change, human genomics, terrorism, disease, energy dependence and technological revolutions. As great as the challenge of Sputnik was, these challenges are far greater and require a larger commitment and level of investment in order to produce the next generation of scientists and engineers who will ensure the continued progress of human civilization.

The U.S. Congress recently took decisive action to achieve this goal with the passage of the America COMPETES Act. It will be to the first half of the 21st century what the National Defense Education Act was to the second half of the 20th century — a landmark piece of legislation that will affect the lives of millions of students and thousands of teachers in every school district and on every college campus across the country.

The act authorizes doubling the budgets of the National Science Foundation, the foundation's Experimental Program to Stimulate Competitive Research (EPSCoR) and the Department of Energy's Office of Science. It will increase funding for young researchers and significantly expand the foundation's funding for the Noyce Teacher Scholarship Program and its Math and Science Partnerships. The bill also includes a number of science, technology, en-



1018 Kanawha Blvd. East Suite 1101  
Charleston, West Virginia 25301-2025

phone 304 558 4128 fax 304 558 2321

[www.wvresearch.org](http://www.wvresearch.org)

gineering and mathematics education initiatives to ensure students are prepared for the needs of higher education and the workplace.

What a victory for science and for the entire United States! Even though the appropriations cycle is not yet complete and we do not know how much will be set aside for these initiatives, it is certain that the America COMPETES Act is a major step forward for our country and its future.

Here in West Virginia, academic leaders from kindergarten through college have already begun working together to ensure an overall state strategy that will allow us to gain the maximum benefits from the act. We must not miss out on the opportunities the act affords. The stakes are simply too high.

West Virginia's own Senators Robert Byrd and Jay Rockefeller were co-sponsors of the Senate version of the America COMPETES Act. We should be proud of their leadership on this vital issue.

*Hill is the vice chancellor for science and research at the West Virginia Higher Education Policy Commission and the executive director of West Virginia EPSCoR. Cole is the education policy adviser to Gov. Joe Manchin III.*