

## Director's Matters

By H. Frederick Dylla, Executive Director

### R&D and economic growth

A key individual in the oversight of the U.S. economy is the chairman of the Federal Reserve System, a position currently held by Ben Bernanke. Federal Reserve chairs have significant influence over the nation's economy and their actions are closely watched by the financial community and lawmakers on Capitol Hill. I don't recall an instance in recent years when a holder of this important office expounded on the value of R&D to the nation's economy. Bernanke did just that in a lengthy address to attendees of a special conference, "New Building Blocks for Jobs and Economic Growth: Intangible Assets as Sources of Increased Productivity and Enterprise Value," held in Washington, D.C., last month.

Bernanke's address focused on the government's role in promoting scientific research and development. I draw your attention to six key points in his presentation:

- Technological progress has been a vital component to increases in our nation's economic productivity.
- Government has an important role in R&D because the private market does not adequately support all types of research, particularly basic or fundamental research.
- Support for basic research by the federal government and the private sector has declined when compared to applied R&D spending.
- International spending on R&D, particularly in emerging markets such as China and India, has increased sharply.
- More needs to be done to increase the number of students in STEM professions.
- Talented STEM immigrants enhance productivity and employment opportunities for those now living in the United States.

"However it is channeled, government support for innovation and R&D will be more effective if it is thought of as a long-run investment," Bernanke said.

AIP's science policy analyst, Richard Jones, has written an extended summary of Bernanke's address in a recent [FYI](#).

I offer additional points in support of federal investment in R&D that are well known within the scientific community:

- Approximately half of our economy is traceable to previous investments in science.
- Many of these investments were made decades ago in basic science.
- Basic science has the highest potential for innovative discoveries, but the return on this investment is often measured in terms of decades.
- Funding for scientific research in the United States has been relatively stable for

the last few decades (on the order of 2.5% of the nation's GNP), but during the last 20 years the fraction devoted to basic research has decreased.

Our nation's lawmakers will be making crucial decisions in the next few months that will determine if our nation continues to make these critical investments. They should bear in mind what Bernanke told the conference, "Big new ideas are often rooted in well-executed R&D."

## PUBLISHING MATTERS

### 100,000th paper for AIP Conference Proceedings

# AIP | Conference Proceedings



AIP recently published the 100,000th paper in its Conference Proceedings series, a watershed event in the program's history. This milestone is a testament to the value of this prestigious series, as well as to its continued relevance for today's researchers.

The series has experienced enormous growth in the past decade—more than doubling the number of volumes it publishes yearly. Today, more than 1,330 proceedings volumes are available online. Along with this accomplishment comes the appointment of a new leadership team to oversee the program's activities.

Headed by Alison Waldron, the new acquisitions editor for AIP Conference Proceedings, the program will focus on strategic development as we begin publication of the next 100,000 papers. Waldron will be responsible for development of the AIP Conference Proceedings program and enhancing its service to the research community.

## PHYSICS RESOURCES CENTER MATTERS

### SPS Marsh White Awards fuel science outreach... and rockets!

One of the most effective ways the Society of Physics Students (SPS) engages its chapters in effective public outreach is through the [Marsh W. White Outreach Award](#) program. The awards "support projects designed to promote interest in physics among students and the general public." They were first made in 1975 and were named in honor of Marsh W. White for his long years of service to SPS and Sigma Pi Sigma, the physics honor society.

Twenty-one SPS chapters were granted Marsh White Awards for the 2010-11 academic year. Texas State University (TSU) used their award to fund a physics camp for 9 to 12-year-olds. Thirty-six kids attended the camp, which lasted five full days. Demonstrations and hands-on

activities included electricity and magnetism, light and sound waves, forces and friction, and buoyancy. One of the best-received activities occurred on the final day of the camp, when the group learned about space and rocketry, and used vinegar, baking soda, and corks to make their own rockets. [You can read a more comprehensive account of TSU's physics camp on the SPS website](#), where you'll also find project abstracts, group photos, and project reports from all of the winning chapters.



Texas State University's Physics Camp attendees were eager to launch their baking soda and vinegar bottle rockets.



Demonstrating Bernoulli's Principle with an air blower.



All of the physics campers and the SPS members and counselors who made it possible.

## WHAT'S HAPPENING THIS WEEK

Sunday – Wednesday, June 12 – 15

- Special Libraries Association annual conference (Philadelphia, PA)

Wednesday, June 15

- ACP picnic 12 – 2pm (College Park, MD)

Through June 30

- Food drive with Long Island Cares. A collection box is located in the lunchroom of the Publishing Center. (Melville, NY)

We invite your feedback to this newsletter via email to [aipmatters@aip.org](mailto:aipmatters@aip.org).

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