

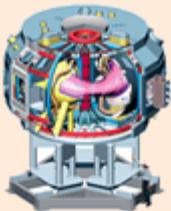


## Director's Matters

### Science: Excitement and disappointment

During the past week, several remarkable events illustrated the emotional highs and lows of scientific discovery. Some of our best science is a product of scientists' persistence and hard work. Sometimes scientific discovery is a result of probabilities aligning in scientists' favor—what some would call plain good luck.

In the May 22 issue of *Nature* magazine, we learn that an astronomy team from Princeton University, led by Alicia Soderberg, managed to observe for the first time the initial seconds of an exploding star—a supernova—through the fortunate positioning of an x-ray-observing satellite. Supernovas are not rare events on astronomical time scales; they occur about once a century in any given galaxy. Yet they are usually not detected by earthbound observers until weeks after the stellar explosion, when the first optical light of the explosion appears. The good fortune of the Princeton astronomers to catch the x-ray signature of the initial explosion will enable a better understanding of supernovas, which are now understood to be the source of the heavy elements in the universe. (See this week's [Physics News Update](#) for an excellent summary.)



At the same time another group of Princeton scientists was lamenting the cancellation of a major project—the National Compact Stellarator Experiment under construction at the [Princeton Plasma Physics Laboratory](#) (PPPL). Since 1952 PPPL has been a flagship national laboratory for research and development on high-temperature plasmas—gases heated to temperatures of stellar interiors—of more than 10 million degrees. The ultimate goal of the research was to reproduce in practical-sized magnetic confinement devices the conditions of stellar interiors so that hydrogen fusion, the energy source of main sequence stars, can be harnessed.

After a half-century of effort by the Princeton team and other groups worldwide, complicated devices called tokamaks in England, the United States, and Japan have approached the conditions necessary to produce net energy output for a few seconds at a time. A large demonstration project to extend energy production for much longer periods began two years ago in France as part of the [ITER project](#). For the past five years, PPPL has devoted considerable effort to the design and construction of a new type of magnetic bottle. This "compact stellarator" would have portended a simplification of the overall design at the expense of making one particular element—the confining magnets—more complex. Unfortunately, the magnets proved so complicated to design and build that the cost to complete the machine exceeded projections and could not be supported by today's tightly constrained science budgets. The Princeton team is deeply disappointed that the fruits of their labors are not likely to be completed or tested. They will have to regroup and redirect efforts to applying what has been learned to existing fusion energy projects. Developing realistic cost projections on unique frontier science experiments is difficult but necessary, especially when it involves the expenditure of public funds.

Scientific discovery has its ups and downs. One team at Princeton is celebrating the good fortune of having its satellite pointed at the right spot at the exact moment a star exploded; another watched in disappointment as funding for its star machine fizzled. One star dies and another is born. With a hooray and a sigh, science marches on.

Sincerely,

*Fred*

## Publishing Matters

Expanding international presence



The Abdus Salam  
International Centre for Theoretical Physics

AIP is pleased to announce that *Proceedings of the Sixth International Conference on Perspectives in Hadronic Physics* will be published as part of the AIP Conference Proceedings series. This prestigious conference will be held this month in Trieste, Italy. Sponsors, all based in Italy, include the Abdus Salam International Centre for Theoretical Physics (ICTP), INFN-the National Institute of Nuclear Physics, the University of Perugia physics department, and the Physics Consortium. The ICTP was founded by Nobel laureate [Abdus Salam](#) and is a United Nations family organization, operating on a tripartite agreement between the government of Italy and two major UN agencies, UNESCO and the International Atomic Energy Agency. Publication of the proceedings demonstrates the growing international character of the [AIP Conference Proceedings](#) program.

### New York Academy of Sciences website unveiled



After more than a year's worth of intense work, AIP is now providing customer service, meetings management, and publications, donations, and membership services for more than 45,000 customers of the [New York Academy of Sciences](#) (NYAS). Business Systems & Operations and Fulfillment & Marketing staff created a custom website for NYAS that is tightly integrated with its home page and website. The site allows customers to become members, renew their membership, make donations, buy publications, and register for more than 150 NYAS meetings a year. Single sign-on capability for users and real-time customer status are provided through a SOAP (Simple Object Access Protocol) interface between NYAS and the AIP/MACS database. NYAS staff can also look up customers, run membership and event reports, check in meeting attendees, and enter other meeting information directly into MACS. AIP is already working on phase two enhancements for the project.

## Physics Resource Center Matters

### IEEE Computer Society joins *Physics Today* Career Network



Last month the [IEEE Computer Society](#), the world's leading organization for computing professionals, launched an [online job board](#) as part of the [Physics Today Career Network](#). PTCN will manage customer service, sales and marketing, and site administration for its newest partner. With nearly 85,000 members around the world (AIP serves a global audience of 120,000 scientists and engineers), the IEEE Computer Society is the largest organization to join PTCN. Its addition will broaden the scope of the existing network, which includes APS, AAPT, AVS, and *Physics Today*'s online and print classified employment advertising.

### AIP hosts MRSEC Student Science Conference

AIP Education hosted the Materials Research Science and Engineering Center's Annual Student Science Conference on May 16. For 10 of its 11 years, the conference has been held at the American Center for Physics in College Park. The program draws middle-school students from diverse backgrounds. It allows students to improve their science abilities, presentation skills and their perceptions of science, while engaging their families and working closely with mentors.



### Summer is here . . . time to get to work!

The 2008 Society of Physics Students summer interns are starting today. Maryland staff, please extend a warm welcome if you encounter them during their building tour of ACP. We'll introduce the interns formally in next week's *AIP Matters*.

## Around AIP

### **Employeease and saving trees**

In support of the ongoing effort to "go green," AIP is continually looking for ways to reduce paper consumption. Beginning this week, each employee whose annual review has come up at the most recent Personnel Committee Meeting will receive an e-mail, in lieu of a letter, stating where to look in the [Employeease Network](#) for updated salary information and the effective date of the increase. In some special cases, such as promotions, letters will still be generated. With Employeease, you'll always have your salary information (and more) at your fingertips.



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

For past issues of this newsletter, visit the [AIP Matters archives](#).