

ers and will continue to attract others, including those new to *APL*. *APL Online* will be available via the Internet or direct dial-in connections.

One immediate advantage of the new system for *APL* will be its ability to provide a so-called hyperlink jump to references in AIP's SPIN bibliographic database, where in addition to basic information—journal, article and author—an article abstract is available for immediate reading.

What is planned as a user-friendly system has not proved friendly to produce. As they anticipated, Ingoldsbey and colleagues have encountered many unexpected problems, but their enthusiasm has not dampened. "The reason we started with this journal," says Ingoldsbey, "was to learn what changes would be required in our overall publishing process to publish electronically." Once the journal has been prepared in electronic form, manipulation is easy. For example, since individuals as well as libraries often buy a journal for archival use, *APL Online* will offer a year's issues on CD-ROM for an additional fee.

An equally enthusiastic Kelly echoes the notion that these early attempts should be described as "experiments." Kelly spoke of the choice between designing a system of the lowest common denominator versus a more sophisticated technology, which would be more powerful but inaccessible to some. Many *PRL* subscriptions come from overseas, where online technology is not as robust. "We have to be concerned with that," says Kelly.

Both Kelly and Ingoldsbey stress that APS and AIP want to give people choices and not lock anyone out. A wide range of platforms and technologies exists. The strategy, Kelly says, is to "position APS in such a way that we'll be able to take advantage of technology as it unfolds and matures."

Kelly sees increased cooperation among publishers because they realize that physicists, although certainly happy about possible new search capabilities, are more concerned with the ease (or lack thereof) of a single user interface. Publishers must avoid presenting a Tower of Babel, Kelly says.

AIP REPORTS ON US HIGH SCHOOL PHYSICS TEACHERS

The American Institute of Physics has recently published a report of its second survey of high school physics teachers, undertaken in 1989–90. From the responses of a representative sample of more than 2300

How to improve and expand high school physics programs*

%	Suggested change
47	Improve lab, lab equipment
20	Make course easier, accessible to more students
12	Improve student background and/or skills
11	Revamp science curriculum and physics's place within it
8	Pay teachers more; reduce their load
7	Raise requirements; encourage more students to take physics
6	Change administration attitudes, support for teachers
5	Improve teacher backgrounds
3	Improve textbooks
2	More extracurricular activities
2	More parent and community involvement
14	Other suggestions

*Of the 80% of respondents who offered suggestions, proportion that suggested various methods. Adapted from "Physics in the High Schools II."

teachers, "Physics in the High Schools II" presents a mixed picture of high school physics education in the US. On the positive side, the report maintains that "the image often evoked of deep systemwide crisis and widespread failure seems overdrawn." Nevertheless, it found that many of the problems highlighted in AIP's first high school survey, conducted in 1986, continue unabated. (See *PHYSICS TODAY*, November 1988, page 93 and August 1989, page 30.)

Michael Neuschatz, who coauthored the report with Lori Alpert, says that one persistent problem is the degree to which high school physics teachers feel a sense of isolation. A major cause may be that in 90% of the schools that offer physics, only one person teaches it. Remoteness from the discipline itself is reinforced because most physics teachers spend the bulk of their time teaching other subjects, even if their training centered on physics.

The survey underlined the need for better equipped physics labs. As the table above shows, when asked how to expand enrollment and improve their programs, far more teachers mentioned increased funding for lab facilities and equipment over any other factor.

Even a casual acquaintance with newspapers or TV news would lead one to think that education in the US, and science education in particular, is finally receiving adequate attention and support. This report finds, how-

ever, that "political pronouncements and catchy acronyms notwithstanding, real change [for physics] has thus far been slow in coming."

The good news, Neuschatz told *PHYSICS TODAY*, is that teachers "seem better qualified than we thought and that despite problems such as isolation, morale seems better, too." The overwhelming majority of respondents reported that they enjoy teaching physics and want to teach it as often as possible.

The report is distributed by the Education and Employment Statistics Division of AIP, at One Physics Ellipse, College Park MD 20740. Single copies are free, and multiple copies may be provided on request.

SOCIETIES ADVISE DEPARTMENTS ON ADVISING AND HIRING

The council of the American Physical Society and the council of the American Mathematical Society have each issued statements that show an awareness of the "realities of the job market"—the phrase is common to both—faced by graduating PhDs.

APS's 72-word missive, adopted in late April and entitled "On Current Employment Opportunities for Physicists," focuses on advising physics students. APS wants "physics departments and their individual faculty members to make all their undergraduate and graduate students aware of the realities of the job market and to encourage them to prepare for a broad range of careers." Further, departments are urged to take another look at their programs "in the light of changing opportunities."

The longer and more specific statement by AMS, "Supportive Practices and Ethics in the Employment of Young Mathematicians," was passed unanimously by the council in January. With language similar to APS, it too touches on the importance of preparing students for a "broad range of jobs" and of being forthright with them about job prospects. The resolution notes the gulf between the supply and demand of recent math PhDs and sees "no indication that the situation will ease significantly in the future."

The main focus of the AMS statement, however, is on how the professional development of young PhDs can be adversely affected by short-term hires: departments making one-year appointments to fill regular teaching positions or, worse, hiring unemployed PhDs "by the course, without integrating them into the