

**Reclaiming our Intellectual Property: the views of a physicist-publisher  
Martin Blume, Editor-in-Chief, The American Physical Society  
September 25, 2002**

Recorder: Delight Jobe

American Physical Society Editor-in-Chief Martin Blume asserts the purpose of the American Physical Society is to advance and diffuse the knowledge of physics. It is neither for profit nor loss, and copyright should be negotiated fairly with this purpose in mind.

Blume traced the development of the prestigious *Physical Review*, which began in 1893 as a fledgling publication, at a time when American physics was considered a “backwater science” and one of the first articles was a discussion of the relationship between the yard and the meter. Since then, such scientific breakthroughs as X-ray in 1895, radiation in 1896, electron in 1897, radium in 1898, quantum theory in 1900, and subsequent milestones have changed not only our view of the universe but also our way of life. For example, Sir Owen Richardson’s article published in the *Physical Review* in 1908 led to the Nobel Prize in 1928 for his work on thermionic emissions. Oppenheimer and Snyder’s article published in *Physical Review* in 1939 led to the black hole theory. *Physics Review Letters*, which published announcements of the transistor and the laser, has become the flagship and most prestigious physics publication in the world and has transformed a publishing trickle to a deluge by the 1930s, which continues to this day. In 1970, *Physics Review* was cut into four, and later, five sections, A through E. In 1993, a CD of the centenary collection containing 200 important *Physical Review* papers, was produced with technology gleaned from the laser discovery.

The views, policy, and issuance of copyright with APS are part of the transformation of physics publishing in the electronic age. The APS wants to take copyright instead of to accept licenses. The following request for transfer of copyright for electronic delivery of an author’s article published in *Harvard Mental Health Letter* illustrates how licensure may become problematic: “we request the sole and exclusive right to print, publish, distribute, and sell your article in *The Harvard Mental Health Letter* in all languages throughout the world, and in all formats and media now known or hereinafter devised.” The contract was refused because it would have been unenforceable in other countries, and an author can’t be asked to give up what is unknown.

According to Blume, the APS regards itself as a benevolent publisher with a liberal copyright policy. The American Physical Society’s Transfer of Copyright Agreement for prospective authors gives copyright to the APS for an author’s work for hire. In return, the author has a nonexclusive right to give third parties permission to publish without APS permission if the APS version isn’t used. The author also agrees not to publish the same article in another physics journal. After publication, the author may use the article for reprints, lecture, classroom use, or a web page. The author may also post and update the non-APS formatted version of the article on e-print servers if a link to

the APS abstract or entry page is included. If the article was prepared on U.S. government contract, the government is granted its contractual rights.

APS pricing policies are designed to stimulate the use of electronic delivery. Online access is available for all print journals to institutional subscribers at no extra charge, as are abstracts. If an institution must drop a subscription, then a CD, which comes with license for use on the Intranet, may be provided for \$50 for one year of PDF files without linking to APS.

APS recovers publication costs through non-member subscriptions. The online cost is \$35 per journal. A student gets one free online journal and a free membership. This produces enough revenue to meet auditor-recommended one percent “profit” reserve fund.

APS cuts costs by using only electronic files. Currently, ten percent of APS subscriptions are electronic only. For the future, APS is considering going out of the print distribution business entirely and providing solely downloadable files. The cost of printing would be transferred to the user. An anecdote of an occurrence at the University of Minnesota illustrates the challenge to “print v. electronic.” When print journals were moved to the gymnasium during building renovation, faculty were asked for a show of hands of how many used the electronic versions of the journals after the print journals had been moved to the gym, and all hands went up. Faculty members were next asked how many used the print journals in the gym, and no hands went up. Faculty members were then asked how many wanted to drop the print subscriptions, and no hands went up.

As the rate of article submissions continues to climb, APS looks for ways to maintain quality, yet keep costs low. The cost of peer review, while adding value to the publications, dominates publication and pricing policy. Charts representing several years’ of *Physical Review* and *Physical Review Letters* submissions, receipts, published articles, and pages produced show the growth rate from fewer than 10,000 submissions in 1983 to 25,000 in 2001. The number of pages rose from 2,500 in 1965 to 100,000 in 2002. Currently, 28 percent of submissions are from the U.S., 30 percent from Western Europe, and 42 percent from the rest of the world. About 57% of the articles submitted are accepted by the editorial staff, which numbers 140. Despite cost-cutting efforts, a substantial increase in costs for print will likely result in a price increase in 2004.