

◆ *The History and Economics of Open Access*

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Speakers:

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With speakers from widely disparate organizations, this session gave a kaleidoscopic view of the varied resource bases and constraints that have shaped publishers' provisions for open electronic access. Although all seemed to agree that open access is desirable as early as possible after publication, their definitions of open access and of what is economically possible differed on many points. Whether the disparate definitions will converge to produce global free access to scientific information—the presumed future end point of the open-access timeline presented by Richard W Newman—one can only guess.

Economics, however, is a common determinant of the timing of open access and the type of access granted by the publisher. Nonprofit scientific-professional associations like The Endocrine Society, which exist solely to further scientific discovery and professional development, rely heavily on subscription sales of peer-reviewed research-

based articles to fund their efforts. The Endocrine Society gains substantial funding (54% of its gross revenue, or about \$5.6 million) from its print and online subscription sales. Nonetheless, responding to pressures (mainly from authors) for open access, it makes research articles that are cleared for publication but not yet in final format available immediately on the Web, free of charge. When the final, formatted version of an article is published, it remains under subscription access control for 12 months, after which it may be freely accessed.

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Given increasing publication costs and decreasing print subscription sales to academic libraries, however, The Endocrine Society and similar associations may eventually be forced to cease publishing print editions, so greater pressure may be brought to bear on online subscriptions to make up the difference. To counter those economic pressures and carry its open-access policy forward, the society is exploring ways both to decrease publication costs and to increase revenue. According to Lenne P Miller, one option would be to increase publication charges to the author from the \$900 current average per article to a much higher amount; a much less attractive option would be to raise membership dues to something like \$690, which would be untenable.

Because authors in the sciences tradi-

tionally have paid some costs of publication (for example, the cost of printing of four-color illustrations)—and perhaps also because much of the pressure for open access comes from authors themselves—the idea that authors should pay to support the costs of open access is generally accepted. The Public Library of Science (PLoS), an open-access startup with a \$9 million seed grant from the Gordon and Betty Moore Foundation and a number of smaller grants, charges authors a fee of \$1500 per article published in its online free-access journal *PLoS Biology*, which is in its first year of publication. Many authors receive research funding that covers or subsidizes that charge. Authors who do not have such funding can plead hardship and obtain an automatic waiver; PLoS has garnered financial support from about 100 institutional members, who “cost-share article-processing fees to various degrees”, according to Vivian Siegel.

For most publishers, of course, \$1500 does not even begin to cover the actual costs of publication—not only costs of peer review and copyediting but also, for such journals as *Nature*, commissioning fees and rewriting to maximize accessibility for a broad readership. The direct cost of publishing a single research article in *Nature* (not including indirect costs, such as author commissioning fees) is about \$18,000, according to Jayne Marks. Although several surveys have reported that most academic authors are willing to pay a nominal fee to guarantee open access to their work, Marks said, it is only fair that the burden of open access be borne also by others who traditionally have paid the costs of publication: individual and institutional subscribers, pay-per-view users, advertisers, and corporate clients (such as buyers of reprint rights). The Nature Publishing Group is testing various pricing models, including an “author-pays” component, in preparation for the launch of a new online open-access journal in 2005. ☪