



Free the Science

Since the dawn of modern science, the key to scientific advancement has been the exchange of knowledge in publications, meetings, and through other collaborations; and in the past decade we have experienced a significant change in the way

this scientific exchange occurs. Digital information and the Internet have dramatically improved our ability to disseminate science on a worldwide scale and should lead to global advances at a pace never considered before. But there are obstacles because these technological advancements in the digital age have come at a high cost to scholarly publishing; not for producing scientific content but for the cost of dissemination incurred by users of the research and their institutions.

The inexorable changes wrought by bringing publications activities into an electronic world have changed the entire publishing ecosystem. Just as the Internet has reshaped the music industry (among others), developments in technology have re-configured the established morés of scholarly communication. This reconfiguration has advanced a natural consolidation in the publishing industry and has led to the systematic extinction of small scholarly publishers who are unable to compete on the scale achieved by commercial enterprises. Because societies cannot compete, they are often forced to strike agreements with commercial publishers that undermine or eliminate their scientific independence. Commercial publishers have learned that the subscription-based model could be played to their enormous benefit, placing a further cost on the scholarly publishing system. There has been a proliferation of new journals being added to subscription packages, burdening library budgets with additional journals and without providing reciprocal scientific value. This has been coupled with the excessively high prices being charged by many scientific publishers for the dissemination of technical knowledge, and collectively the money now being extracted from the process is stifling scientific advancement. In 2012 Elsevier, the world's leading science publisher, posted profits of £780m from revenues of £2.1 billion for the payment of important knowledge in the scientific, technical, and medical fields.¹

ECS - The Electrochemical Society is a global, nonprofit, scholarly society that has sustained a consistent and powerful mission to advance the science through dissemination of technical information. ECS continues to focus on its mission with even greater urgency because electrochemical processes can help to solve worldwide challenges in energy and clean water. These challenges have become two of the greatest

burdens mankind is facing. It is this urgency for advancement that drives our compelling goal—to *free the science*—to drive its advancement so that scientists around the globe can exchange knowledge, without obstacles, to solve these imminent world challenges.

ECS has had a reasonably stable existence for more than a century, and in that time has established itself as an important and reliable contributor to the exchange of information in its technical fields. The Society currently publishes four highly-regarded journals in the fields of electrochemistry and solid state science, but with the changing developments, its future and the future of the entire scholarly publishing world is unclear. What is clear is that an important part of the future is the increasing adoption of Open Access.² Acknowledgment—and in some cases, the embracing of—this change is profoundly affecting the way that publishers, funders, institutions, and researchers approach their various functions. Meanwhile, institutional budgets are tightened, with subscriptions spending coming under increasing pressure, and competition from other publishers—both new and established—who are exploiting the opportunities an electronic-only environment delivers, continues to grow.

In October 2013, the ECS Board of Directors boldly committed to an... *“Open Access plan that would enable the dissemination of content from the ECS Digital Library at no cost to authors, readers, libraries, or funding agencies.”* This requires that ECS move from the traditional subscription-based model of publishing to a platform where individuals and institutions can access the ECS Digital Library content without paying any fees (see OA article on page 9). The intended goal is to enable authors to reach readers without the for-profit selling of their work, and enable readers everywhere to access scholarly papers free from the burden of over-priced subscriptions charged by the profit-minded publishers.

As a nonprofit publisher and steward of the science, ECS intends to maintain a high-quality peer review process, an editorial structure aimed at engaging the best content in our technical domain, and the platform necessary for the broadest and most useful dissemination of that content. Maintaining this editorial integrity, deep searchability, and content usability in an Open Access publishing environment will require ECS to create a new model for financial support and management of the ECS Digital Library. ECS is highly committed to Open Access and we have initiated a campaign to generate institutional and endowment type financial support for the ECS Digital Library. We need assistance from members, authors, institutions, and foundations to support this important new model of publication and create free dissemination of research and enable uninhibited scientific advancement.

1. These figures were taken from “No Peeking...,” *The Economist*, January 11, 2014, p. 67.

2. The concept of Open Access as it is being used in scholarly publishing means that an article is freely available online to anyone who wishes to see it, so the reader doesn't have to pay for it, nor does the reader have to belong to an institution that subscribes to the journal or publication in which the article appears.

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