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UC to launch open-access journals

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In a trend that could permanently alter the nature of scholarly publishing, several top research universities are setting up electronic superarchives to store and share their researchers' data. Some universities see these "institutional repositories" simply as a way to capture their intellectual output, but others aim to use their repositories as a means of launching open-access alternatives to conventional academic journals.

This fall, the University of California (UC) plans to unveil just such an option for its researchers: the ability to create and run an open-access, peer-reviewed journal within the framework of its [eScholarship Repository](#).

The repository, which is open to all users, will provide software tools to automate the process of sending out papers for peer review; the journal editors will determine the editorial policies and the publication schedule. "We are trying to provide the continuum of publishing alternatives," said Suzanne Samuel, eScholarship Program coordinator for the California Digital Library, which runs the repository for the UC system. (The eScholarship site already contains one open-access journal, [Dermatology Online Journal](#), which was launched in 1995 and later moved to the UC site.)

The idea for institutional repositories arose out of the need to archive the increasing amount of data researchers now store on their hard drives or display on their web sites. The data in the repository are indexed with meta-tags that allow a variety of search strategies, and the repository software provides the framework for checking data in, storing it, and retrieving it via a web interface. A repository can also serve as a preprint server, where researchers can solicit comments on unpublished work.

An important development in the creation of repositories came last fall with the launch of [DSpace](#), a repository software platform developed at the Massachusetts Institute of Technology (MIT) in collaboration with Hewlett-Packard. The DSpace software can be downloaded for free, and about 3400 individuals and institutions have now done so.

A consortium of universities, called the DSpace Federation, is beta-testing the software. The Federation includes Columbia University, Cornell University, [Ohio State University](#), University of Rochester, University of Washington, University of Toronto, and [Cambridge University](#).

The DSpace software contains no rules on who can enter data, what kinds of data can be accepted, or who can access them. Instead, the DSpace users set up "communities" and establish their own terms of use.

One federation member that plans to use DSpace to further its goal of providing free access to peer-reviewed content is Cornell University. Among the reasons for doing this is the feeling that the existing publishing model isn't serving universities well, said J. Robert Cooke, professor of agricultural and biological engineering and dean of the faculty at Cornell. "Long ago we outsourced publishing to [commercial] publishers," said Cooke. "Now we need to take it back."

Repositories can serve as a bargaining chip for universities in the debate over the future of scholarly publishing, believes Hal Abelson, MIT Class of 1922 professor of computer science. "We [the universities] have something to bring to the table," said Abelson.

But Harold Varmus, president and chief executive officer of Memorial Sloan-Kettering Cancer Center in New York City and cofounder of the Public Library of Science - which later this year [plans to publish two new open-access biomedical journals](#) - is skeptical about the idea that repositories themselves will help to bring about change. He emphasized that journals, not repositories, are the primary record of science. "They [repositories] are not going to replace the idea of having an investigator write up results," said Varmus.

Repositories won't make journals go away, agreed Rick Johnson, enterprise director at the [Scholarly Publishing and Academic Resources Coalition](#) (SPARC), a group that advocates an open model of scientific publishing. But, said Johnson, "They begin a process of change that will bring about emergence of different business models that support science communication."

Johnson thinks the availability of preprints, data sets, and images will spur communication and feedback among fellow scientists. "People will say, 'Gee, my research is hidden behind toll gates today. If it was not hidden, imagine what kind of impact it could have.'"

At the very least, these superarchives will draw universities into the ongoing debate over who should be the gatekeeper of scientific information. But Pieter Bolman, vice president and director of science, technology, and medical relations for Elsevier Science is bullish about the continuing importance of subscription journals. He said that although scientists may no longer need journals for peer-review - as they can set up their own systems for reviewing papers - they will continue to seek publication in the journals with the best reputation.

One issue that the emergence of repositories brings to the fore is that of copyright. Most scholarly journals acquire copyright from the author and grant certain rights in return. The exact terms of this agreement vary widely, said Jane Ginsburg, an expert in copyright law at Columbia Law School in New York.

Many journals grant authors the right to post the article on a personal or university web site. However, "It is one thing if a bunch of individual professors put papers on their web sites, but it might be another matter if a university does it," said Ginsburg.

Mary Waltham, a former publisher of the *Nature* journals and now a consultant for the publishing industry, can see that happening. "Search tools are becoming better, and my own personal view is that at some point, one will be able to search the Internet and find copies of these articles in repositories," said Waltham.

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