

RESEARCH IS AN ESSENTIAL PART OF EDUCATION.

You know firsthand that students are expected to cite articles from scholarly journals when they write research papers. You've probably used journal articles in your coursework. You've probably also encountered journal articles that you wanted to read — potentially important articles — but couldn't get access to.

It doesn't have to be this way.

OPEN ACCESS —

the principle that research should be accessible online, for free, immediately after publication — is improving the way scholarly information is shared.

Get behind **OPEN ACCESS** to improve access to research — and make your life and work as a student easier.

You're not able to access some of the articles you want to read online because many scholarly journals are available only to subscribers. Journal subscriptions — especially in science, technology, and medicine - can cost thousands of dollars each year, and some cost more than \$20,000. Your library pays for many of these subscriptions (with support in part from your tuition) and some universities actually spend millions of dollars annually on journals — but they still can't afford access to everything their students and faculty need.

There's an alternative to the closed, subscription access model: Open Access. Open Access is free, unrestricted access on the Internet to the same type of high-quality, peer-reviewed scholarship that is available by subscription. Authors can make their articles openly accessible by publishing in an open-access journal or posting copies of their articles on an open Web site or repository after they've been published in a traditional journal.

With Open Access, the costs of publishing an article are covered by other sources — with sponsorships, publication fees, advertising, or a wide variety of possible combinations — so that everyone in the world can read the latest research online without paying an access fee. That's why so many researchers, libraries, and universities support Open Access, and why more authors and journals continue to make the switch. (See "Open Access in Operation," p. 7).

Students — who read, rely on, and write for scholarly publications have the power to change the way research is exchanged.

¹ The 2008 annual subscription price for the journal Brain Research is \$21,744.

PUBLISHED BIOCHIMICA ET BIOPHYSICA ACTA \$15,5 **EUROPEAN JOURNAL OF PHARMACOLOGY \$10,117.87 UN** COMPARE WATER, AIR, AND SOIL POLLUTION \$8,921.11 | DOMAIN METHODS IN ENZYMOLOGY \$8.919 ACADEI INTERNATIONAL JOURNAL FOR NUMERICAL M ANALYSIS UNIVERSITY JOURNAL OF GEOPHYSICA **JOURNAL OF APPLIED POLYMER SCIENCE \$16,859.67 BC** CAN OPEN-ACCESS JOURNALS SURVIVE WITHOUT SUBSCRIPTION INCOME? Yes. While open-access journals don't rely on subscription income, they do need revenue to operate. The 3,000 peer-reviewed journals listed in the Directory of Open Access Journals (http://www.doaj.org) thrive on a variety of different revenue models, including: endowment, sponsorship, advertising, author publication fees, donations, membership, university- or department-sponsorship, and others.

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Why do subscriptions cost so much?

The authors of journal articles, including researchers like your professors and many graduate students, aren't paid by publishers for the articles they write. They contribute their papers for free (and sometimes pay) to advance the state of scholarship in their fields and to make a name for themselves as scholars and scientists. What's more, these scholars also freely contribute their time to review and often edit other articles before they're published. While some journals (particularly those published by scholarly societies and other non-profit entities) charge fair prices for access, the highest subscription costs pay instead for some commercial publishers' 30% profit margins.

2008 annual journal subscription prices, provided by SPARC member libraries.

WHAT DOES OPEN ACCESS DO FOR STUDENTS?

SCHOOLWORK IS EASIER

It's a familiar story: You're writing a paper for class and you need to cite articles from peer-reviewed journals. Eventually, you find an article that looks good — maybe via a search engine, a footnote from another source, or a reference in an index. You search the Web for the full text, but you can't get past the abstract. You look on your library's Web site but they don't have a subscription. You're stuck. Maybe that article would have been a major source for your work — you'll never know. You don't have access.

Open Access changes that. No more worrying about whether you're on the campus network or if your library has a subscription. If you're online, you have access, period — anywhere in the world.

Open Access puts research instantly at the fingertips of anyone who cares to read. Researchers can find and access any relevant work from anywhere in the world with no price barrier. That means science and discovery will advance faster.

EVERYONE HAS ACCESS

Open Access isn't just for students and academics. With Open Access, everyone can read the latest research. Think of how important that could be to:

- · A patient looking for information on a treatment his or her doctor has ordered or on a trial of a drug that could treat a disease...
- · A small business startup researching the latest related technological developments...
- · Any one of us interested in better understanding global warming.

Just as the Internet has democratized information, Open Access will promote sharing knowledge for the public good.

Any subject you might think of anything at all — you can look it up on Google or Yahoo! and learn about it. Open Access adds a massive inventory of reliable, scholarly sources to that free global library - quality ensured by the process of peer review.

No more worrying about whether you're on the campus network or if your library has a subscription. If you're online, you have access, period.

RESEARCH IS ADVANCED

Conducting research is expensive. No researcher wants to waste time and money conducting a study if they know it has been attempted elsewhere. But, duplication of effort is all-too-possible when researchers can't effectively communicate with one another and make results known to others in their field and beyond. Consider, also, how much faster discovery can happen with open access to all available research. Researchers on the World Health Organization's pandemic flu taskforce said exactly this. How could they effectively research and fight this virus without access to available data?1

Open Access puts research instantly at the fingertips of anyone who cares to read. Researchers can find and access any relevant work from anywhere in the world with no price barrier. That means science and discovery will advance faster.

¹ Branswell, Helen. (September 26, 2006) "Experts urge WHO to get countries on side for routine H5N1 virus sharing." Canadian Press.

Open Access adds a massive inventory of reliable, scholarly sources to that free global library — quality ensured by the process of peer review.

BETTER VISIBILITY FOR YOUR SCHOLARSHIP

You may be thinking of going into academia. If so, you'll be writing publishable papers someday — if you aren't already. Maybe you're the editor of a student journal.

When you choose Open Access, you make your work available to anyone who might search for your topic. That means more readers, more recognition, and more impact for your ideas. In fact, recent studies have shown that openaccess articles are cited by other authors more frequently than comparable articles that aren't openly available.2

² Eysenbach, G. (May 16, 2006). "Citation Advantage of Open Access Articles," PLoS Biology Vol. 4, No. 5.



Here are just a few examples of the thousands of outlets that provide open access to research:

- arXiv (launched in 1991)
- Stanford Encyclopedia of Philosophy (1995)
- AgEcon Search (1997)
- Public Library of Science (2000)
- BMC Cell Biology (2000)
- Directory of Open Access Journals (2002)
- Repository 66.org Repository Maps mashup (2007)

WHAT CAN I DO **TO SUPPORT OPEN ACCESS?**

USE OPEN-ACCESS RESEARCH

There are 3,000 peer-reviewed open-access journals currently in publication. Find and use the openaccess journals and archives in your field. Visit the SPARC Students Web site for places to start.

SHARE YOUR WORK

Writing an article for a journal? Working on your thesis or dissertation? Are you the editor of a student journal? Gain more exposure for your work and ideas learn how to make your work openaccess at the SPARC Students site.

TAKE ACTION

Take action for Open Access on vour campus. Check out the student action kit at the SPARC Students site for ideas. Learn how to write a letter to the editor of your local newspaper, organize an event on campus, pass a resolution in your student government, or ask your student organization to support Open Access.

SHOW YOUR SUPPORT

Tell the world you want Open Access to research. Visit the SPARC Students Web site for information about buttons, stickers, adding us on your favorite social networking site, and other ways to show your support.

GET IN THE LOOP

Join the SPARC email discussion network to share views with other students and get all the news you need on Open Access from SPARC.



For more information about the topics in this brochure, to learn more about how Open Access affects you, or to see a showcase of student leaders taking action on Open Access, visit the SPARC Students site at http://www.arl.org/sparc/students.

Talk to your librarian. Let him or her know that you're interested in finding out more about Open Access and scholarly communication. Librarians are the best source of information on journals and are strong supporters of Open Access.



SPARC, the Scholarly Publishing and Academic Resources Coalition, is an international alliance of hundreds of academic libraries and research institutions. SPARC promotes new scholarly communication models that use the Internet to expand sharing of information.

SPARC is a founder of the Alliance for Taxpayer Access, representing taxpayers, patients, physicians, researchers, and institutions that support open public access to research funded with taxpayer dollars.

Membership in SPARC is open to libraries that share an interest in creating a more open and diverse marketplace for scholarly communication. Visit our Web site for details.

SPARC is on the Web at http://www.arl.org/sparc

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