



Editorial

Spread the word

The success of Open Access journals is based heavily on the widespread acceptance throughout the research community that these journals should become the default pathway for publication. Both BioMed Central and the Public Library of Science have realized that one way to achieve this is to take a 'grass-roots approach' by creating a network of Open Access advocates who help these two publishers to 'spread the word' throughout the corridors of the academic and research establishments.

To entice our readers further, BioMed Central is offering the chance to win a limited edition T-shirt featuring the *Open Access Now* logo designed by the artist Andrzej Krauze.

You can see full details of BioMed Central's advocacy program and find out more about the competition at:

www.biomedcentral.com/info/about/t-shirt
E-mail photos, feedback and advocate details to t-shirtwinner@biomedcentral.com

Becoming an Open Access advocate gives researchers a unique opportunity to play a role in accelerating the transition to Open Access publishing. Whether you need a new T-shirt or not, it is imperative that awareness about Open Access spreads as quickly as possible. Every researcher, old or young, can make an impact by ensuring that their colleagues know about the importance of Open Access.



**Meet the editors:
interviews
with the editors of
Journal of Biology
and *PLoS Biology***



See inside...

News

Ants and Open Access

Ants have impressed biologists for years by their remarkable capacity to carry loads many times their own weight. Now ants have taken on a larger burden than usual – traditional academic publishers.



There are 11,500 known species of ant worldwide, all of which are cataloged at Antbase (www.antbase.org). This portal is centered on a complete, continually updated, list of all the species that have ever been described (and their synonyms). Antbase supports conservation efforts, providing links to other ongoing projects of regional scope, such as AntWeb (www.antweb.org) which focuses on ants in California and Madagascar, and major collections of digital images of ants. It also feeds its information into global initiatives such as the Global Biodiversity Information Facility, aiming to provide a global one-stop service for biodiversity information.

Open Access is critical to the success of biodiversity database projects such as Antbase. An initial goal of Antbase is to make the entire published record of ant systematics openly accessible online, including around 3,800 printed publications (over 80,000 pages). Copyright restrictions imposed by publishers limit the number of publications that can be included, however. Also, most of the articles that are available take the form of PDFs scanned in from a print publication. These 'article images' lack the searchability and

reusability of structured XML. The team behind Antbase would ultimately like to build a database that incorporates descriptions of all species, in a standardized, structured XML form, but this will require a major shift in the policy of publishers.

The field of ant taxonomy is enjoying something of a renaissance, with over 130 current contributors to Antbase. Although most ant researchers agree on the importance of making taxonomic descriptions openly accessible online, the projects have come into conflict with the commercial publishers who print taxonomy monographs, large volumes that contain important information about new ant species. The publishers oblige authors to sign contracts restricting the online publication of taxonomy data, as they fear that web publishing will reduce sales of the costly monographs. For example, Brian Fisher, an entomologist at the California Academy of Sciences in San Francisco who led the team that developed AntWeb, is trying to get permission from Harvard University Press to publish his data on the ants of Madagascar online prior to their publication of his monograph.

Donat Agosti, from the American Museum of Natural History in New York, is an outspoken critic of the publishers' restrictive policies. "They raise serious issues about an academic publisher's obligations to make biodiversity data freely available for non-commercial research, education and conservation," says Agosti. "It also makes the taxpayer pay twice for research, first to produce the results, and second to have access to them." He has called for greater collaboration and data-sharing standards.

"The inaccessibility of published records frustrates efforts to compile lists of the world's living species, and to develop the next generation of tools and data repositories," says Agosti. "This information is critical for biodiversity monitoring and future conservation projects, and to attract the critical mass of young talented students."

www.antbase.org
www.antweb.org

Meet the editors

There is general agreement that researchers need high-impact Open Access journals that will publish the very best science. BioMed Central's *Journal of Biology* and Public Library of Science's *PLoS Biology* aim to attract the type of articles that authors usually send to the traditional 'top three' journals. *Journal of Biology* published its first article last year and *PLoS Biology* has just published its first papers online ahead of the first issue in October. *Open Access Now* talked to the editors of these Open Access 'top' journals.



"Authors told us they needed a high-impact Open Access journal for their best work," says Theo Bloom

Theodora Bloom, PhD, is Deputy Editorial Director of BioMed Central. Before rejoining the Current Science Group (CSG), which includes BioMed Central, she was the Deputy Editor of *Current Biology*, established by CSG and sold to Elsevier Science in 1997. With

undergraduate and PhD degrees from Cambridge University, UK, she worked on the cell cycle as a post-doctoral fellow at Harvard Medical School before joining the biology staff at *Nature*. In 1992 she joined *Current Biology* as its Deputy Editor and later became editorial/publishing manager for *Current Biology*, *Structure* and *Chemistry & Biology*. She rejoined CSG in 1999 as editor of *Genome Biology* and is now also editor of *Journal of Biology*. *Open Access Now* talked to Theo about her role and latest journal.

Why did you choose to start working on Open Access journals?

"I remain very proud of the work I did with *Current Biology*, helping it develop from a fledgling two-monthly review journal to a very successful fortnightly journal of reviews and original research. But my personal style is better suited to working in the innovative atmosphere of a 'start-up company' rather than a large business-oriented corporation, and in 1999, when Harold Varmus, Pat Brown and others circulated the 'E-Biosci' proposal, it became clear to me that the future would lie in Open Access publishing. As the 'genomics revolution' was also evident by then, the opportunity to go back to square one and start *Genome Biology* as an Open Access forum for research in this new field seemed too good to miss."

How did you come to start *Journal of Biology*?

"When I rejoined the Current Science Group the ideas that led to what is now BioMed Central – the first major biomedical publisher to offer Open Access to all research – were just crystallizing. We decided that, in addition to journals like *Genome Biology* that cover one field, we wanted to provide a complete series of Open Access journals – the BMC series – that cover all biological and medical disciplines. These journals have to date published hundreds of papers of interest to those in closely related fields. But as the Open Access movement gained momentum – with the Public Library of Science (PLOS) Open Letter and related initiatives – many authors told

us that they also needed a high-impact Open Access journal for their best work. Potential authors and editorial advisors told us what features they felt were missing from the 'big three' journals where they traditionally publish their most interesting work (most often to do with the peer-review process) – as well as what works well (mostly to do with wide distribution and with colleagues' perception of status). We set out to establish *Journal of Biology* to meet their needs. We were delighted when Martin Raff (University College London) agreed to serve as Editor-in-Chief; Martin's views have been central to the policies and working practices we have developed for this new journal."

What are the special challenges for a new high-impact journal?

"One obvious challenge is persuading potential authors to take a chance on something new. But many people already realize the benefits of Open Access to the scientific community at large and to the future of research. An immediate benefit to authors is knowing how many people read their articles: *Journal of Biology*'s first research article has had close to 20,000 downloads from our site and doubtless many more via PubMed Central and other full-text repositories."

"Another challenge is persuading authors and readers that all articles really will be of high quality and impact, and we have chosen to do that by publishing relatively few articles in the early issues and ensuring that all of them receive the highest possible recommendations from referees (and, where appropriate, the Editorial Board). So far we have declined to publish 15-20 articles for every one we have accepted for publication. Some authors worry about perceived fashions in the taste of editors of high-profile journals, or they sense that the peer-review process in those journals is not fair. But they can be reassured by *Journal of Biology*'s combination of a respected academic Editor-in-Chief and a professional editor working together to bring the best of speed and consistent professionalism along with the intellectual rigor and fairness they may associate with an academic editor. Every article that is published by *Journal of Biology* represents a joint

decision between the in-house team and the Editor-in-Chief."

What makes *Journal of Biology* different from other journals?

"In some ways all high-profile journals want the same thing – to publish exceptionally interesting and important research and to bring it to the widest possible readership. One difference is *Journal of Biology*'s decision to publish on a somewhat erratic schedule, which depends only on when each exceptional research article becomes ready, rather than making some articles wait for an issue date, or risking padding an issue with some articles of less interest or importance. There is no shortage of space in the online journal, so we can publish as many great articles as come along and at the necessary length (or brevity); and consistent with the ethos of Open Access, we encourage authors to provide all supporting data with each article. The journalistic coverage and minireview published with each research article helps to explain the significance of the article to readers in more distant fields. And although the journal is fully accessible online, we are glad to be able to distribute print issues to a very broad audience (currently over 80,000 life scientists) so that those who prefer the old-fashioned feel of a journal in their hands can read each article and its associated commentary in print. And like all of BioMed Central's journals, *Journal of Biology* is committed to continuing to evolve to use the best possible new tools and technologies, to make the process of publishing as painless as possible for authors and peer-reviewers."

"It has been really exciting to witness *Journal of Biology*'s development during its first year of publication. As well as the buzz of working with great scientists in a wide variety of cutting-edge research fields, the whole team is really relishing the opportunity to build a flagship journal. The Open Access movement as a whole is at present receiving a tremendous boost from new and existing activities, and the coming year promises to be at least as exciting as the last – if not more so."

jbiol.com
www.biomedcentral.com

“We are all trying to be catalysts for change,” says Vivian Siegel

Vivian Siegel, PhD, is the Executive Director at the Public Library of Science. Before joining PLoS, Siegel was the editor of *Cell*. A graduate of Bowdoin College, she received her PhD in genetics from the Department of Biochemistry and Biophysics of the University of California, San Francisco, and worked at *Cell* for five years before being promoted to the top editorial position in 1999. *Open Access Now* talked to Vivian about her new job.

Why did you choose to leave *Cell*?

“I had become interested in opening up access to the literature over the last several years. It became clear to me that that would be very difficult to do from within Cell Press. I felt that in the long term Open Access is inevitable and I wanted to be a part of that transition. The goal of a journal is to find and publish the best science out there – how to get good papers, how to recognize good papers and how to publish good papers. These are not necessarily the goals of large corporate publishers who are most interested in maximizing profits. I found it increasingly hard to reconcile these competing demands. It came to a head over the issues of Open Access.”

How did you come to PLoS?

“When PLoS decided to launch journals they approached me and it was a good match – I had the background that they felt was important to get the project taken seriously and I really believed in the underlying principles behind it. I wanted to be in a position where I could act according to my principles and speak honestly about the things I care about... I have always been motivated by the desire to be doing something good. That’s what brought me into biomedical science to begin with and then drove me into an editing career where I felt that I could use my talents to help scientists in different disciplines publish the very best work they could. And that’s what drove

me here. Probably for the first time I feel every day that I get up that I am working for something I believe in. And that’s important for me.”

What are the challenges of recruiting papers for a new journal?

“Recruiting papers for *PLoS Biology* is going pretty well. We have some very good papers that are coming through the pipeline. Each recruitment is much more of an effort than it was at *Cell*. But one of the reasons that we have a reasonably large staff at *PLoS Biology* is to give us the time to have those multiple hour-long conversations with people who are trying to balance the reservations they might have about publishing in a brand new journal with the benefit that they and the community would gain by making that decision. The first papers come from people who share our ideals and passionately believe that it’s the right thing to do. These authors have confidence in themselves and their work and realize that if work is really good it doesn’t need the prestige of a journal to be recognized. They recognize that the real risk is much smaller than the perceived risk of doing something new – and get a thrill out of doing something that can make a difference, not just to their own personal careers but to science as a whole. It’s great to work with those people and see the excitement that they get out of participating in this project.”

What makes *PLoS Biology* different from other journals?

“Our goal is to have a journal of the highest possible profile. But we hope our standards will be based on the science and not other subjective factors. The challenge of a good editor is to become as well-versed as possible in the different areas so that they know when to get excited about a paper in a specific field. PLoS editors work very closely with academic editors. PLoS is attempting to formalize the best possible working relationship, which sometimes exists informally at other journals, so that every decision about a



paper is a shared decision. This process involves a professional editor who has experience in issues such as consistency and objectivity, coupled with an academic editor who really understands that field deeply and can recognize when a discovery is long sought-after advance for the field. Our goal is to couple those two people to be as constructive as possible to choose papers that should be read by everybody. This is a shared discussion - we will never reject a paper without including an academic editor. The communication challenges around explaining why that paper is interesting must be met by the authors and the editors, but it should not by itself be a criterion for publication. I think that distinguishes us from the existing high-profile journals [where the burden of proof lies with the author

convincing the editor that the article is interesting].”

“Our goal is to develop our reputation and keep things similar to what people recognize and value. There are currently several high-profile journals published by conventional publishers. There is certainly room for many Open Access journals – the world doesn’t have enough of them now. The more of us who are out there talking actively with the scientific community about why it’s such an important issue and why they should contribute their work, the faster it will happen. We are all trying to be catalysts for change.”

www.plosbiology.org
www.plos.org

Tell us what you think. Do you agree?

Really good work doesn’t need the prestige of a journal to be recognized.

We want to hear from you. Send us your views. We will publish selected letters in the print edition of *Open Access Now* and on our website.

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Research news from BioMed Central journals

From diagnostic tool to cancer therapy

Cancer patients could be benefiting more than they realize from scans to evaluate advanced tumors. Research published in *Breast Cancer Research* shows that radioactive fluorine-labeled glucose, widely used in PET imaging, can kill breast tumor cells in mice.

Ekaterina Dadachova, who carried out the work, said, "Metabolic trapping of fluorine-18-labeled glucose is an attractive mechanism to deliver radioactivity to tumors, as cancer cells have enhanced rates of glucose utilization." This preferential uptake meant the cancerous breast tissue of five women contained sufficient radioactivity to kill tumor cells even when the radioactive glucose was injected at doses that are acceptable to the bone marrow.

Breast Cancer Research 2003, 5:R199-R205

Bacterial receptors surface

An article in *BMC Genomics* describes two new families of seven-pass transmembrane receptors in bacteria. The diversity of their intracellular domains may give clues to understanding non-G-protein-coupled signalling mechanisms in eukaryotes.

To find new multipass transmembrane receptors, Drs Anantharaman and Aravind scoured the many sequenced bacterial genomes and used comparative genomics and sequence profile analysis to make functional predictions. Many of the extracellular domains looked likely to recognize carbohydrate moieties. The predicted functions of the intracellular regions ranged from histidine phosphorylation to DNA binding.

Before this research, the only known prokaryotic seven-pass transmembrane receptors were the sensory rhodopsins; it seemed surprising that there were so few of these receptors in bacteria, given that they form some of the largest multigene families in vertebrate and nematode genomes.

BMC Genomics 2003, 4:34

Open Access journals: use them, read them, cite them and submit to them

For more information, visit the BioMed Central website.
www.biomedcentral.com

Letters

"It is the article that really matters, not the journal"

25 August 2003

Dear Sir,

I couldn't agree more. The whole problem comes from those who are supporting the research. They are interested in giving money to people who are reputable and trustworthy. But how can they judge the scientists? The easiest way [is to use the] Impact Factors of the journals where their papers are published. The scientific community, instead of being a pioneer, is left behind. We trust the most unfair system that has not been tested scientifically (occasionally I have seen references that made me question why they were present in the article as they were at least unnecessary). Instead of having wide open access to symposiums by Internet where government funded work is unveiled, some elite scientists are the only ones who are present.

Who, What & Why?



Lund University hosts the DOAJ

As a short guide to the players, stakeholders and technical terms relevant to Open Access publishing, 'Who, What & Why?' keeps readers informed about the world of Open Access.

What is DOAJ?

The Directory of Open Access Journals (DOAJ) aims to provide a comprehensive list of all Open Access scientific and scholarly journals that use a quality-control system (peer-review or editorial quality control) to guarantee the content. All subject areas and languages are covered. The Directory defines Open Access journals as those that use a funding model that does not charge readers or their institutions for access. The definition includes a requirement that users can read, download, copy, distribute, print, search, or link to the full texts of these articles. In short, DOAJ is a one-stop shop for users of Open Access journals.

I hope you, together with PLoS, turn the tide, because I have a hard time finding articles for my work.

Ioannis Zacharioudakis

"Open Access publication of fund- ed research should be a condition of any grant"

20 August 2003

Dear Sir,

I have a concern about Open Access publication of government-funded research. I fear that it will result in an overemphasis being placed on government-funded research that must be in the public domain versus privately funded studies that are not. When evaluating any science, it is important to compare and contrast everything that is known, not just the portion that is freely available. Non-scientists, in particular, might get an unbalanced view of a particular topic.

Who is behind DOAJ?

The idea of creating a comprehensive directory of Open Access Journals was discussed at the First Nordic Conference on Scholarly Communication in Lund/Copenhagen (www.lub.lu.se/nsc2002). The meeting concluded that it would be a valuable service for the global research and education community. The Directory is hosted by Lund University Libraries Head Office, Lund, Sweden. The project is funded by Open Society Institute (OSI) in Budapest, and also supported by the Scholarly Publishing and Academic Resources Coalition (SPARC; see *Open Access Now*, 25 August 2003).

Why does DOAJ exist?

The aim of the Directory is to increase the visibility and ease of use of Open Access scientific and scholarly journals, thereby promoting their increased usage and impact.

The Directory addresses the problem that many online journals and electronic archives are difficult to overview and to integrate into the library and the information services provided by libraries for their user constituency. Available technologies make it possible to collect and organize these resources in a way that allows libraries worldwide to integrate them into existing services, thus offering value both for the providers of

Thank you

Laura Stokowski RN MS
Fairfax Station, VA, USA.

13 August 2003

Dear Sir,

If public money is used to finance research what possible objection can there be to the fruits of that research being made available to the public?

As a private researcher, without institutional access and without the funding to pay for online fees charged by publishers, my greatest hurdle is to obtain up-to-date research information in my chosen field.

Making publicly funded research 'Open Access' would largely solve this problem.

G.A. 'Sammy' Bates, BA. BSc. MSc.
PGCE

Send your letters to:
openaccess@biomedcentral.com

the resources and for the global research and education community.

DOAJ believes that increased visibility leads to increased usage and that there is a practical need and vested interest for the community to support new Open Access journals. The DOAJ service should also contribute substantially to securing a future for Open Access journals and to the push towards changes in scholarly communication.

www.doaj.org

Open Access Now

Open Access Now is a newsletter informing researchers in the life sciences about the issues involved in Open Access publishing.

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