

# SUPPORT SERVICE FOR PUBLICATION OF OPEN ACCESS JOURNALS

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## **Abstract**

Since 1997 LiU E-Press has published five electronic journals and provided a support service to the editorial team of one further journal that is published by Elsevier. Two examples are (*Hygiea Internationalis* (<http://www.ep.liu.se/ej/hygiea/>) and *International Journal of Ageing and Later Life* (IJAL - <http://www.ep.liu.se/ej/ijal/index.html>)). What became apparent early on was that the process of keeping track of papers, referees and the reviewing process took a substantial amount of time. In 2004, LiU E-Press developed an internet-based, editorial support service, Journal Article Review Support System (JARSS) to be used by editorial teams to assist in keeping track of submitted articles. The users for the system include authors, reviewers, and editors and each user has access only to that information and those tools which are relevant to them. For example, an editor sees when an article is submitted and can then draw from a list of reviewers to begin the refereeing process. The editorial window also allows an editor to see the status on reviews (whether they have come in, whether they are overdue, *etc.*) and on the paper (whether it has been revised *etc.*). Of particular note is the integration of email communication and the handling of attachments and other files (*e.g.* reviewers comments). JARSS has been tested extensively on *Artificial Intelligence Journal* (AIJ), published by Elsevier and LiU E-Press is now offering this Journal Publication Service to anyone wishing to publish an open access journal.

In some research areas, notably the humanities, there is a strong interest in niche journals publishing two or three issues a year in a highly specialized area. Coupled with electronic publishing, novel concepts such as interactive articles, poster-journals, advanced media articles, *etc.*, the arguments for a university research area to seriously consider operating an international journal and gaining the increased visibility that goes with it are strong and in fact we are seeing significant interest.

## Introduction

There is a noticeable, growing interest in starting and running Open Access journals. This is particularly true in the Humanities and Social Sciences, where there is a place for profiled, niche journals which serve a relatively small number of researchers but still play an important role in collecting results that would otherwise be defused widely and be hard to keep track of. A further incentive is beginning to come from funding agencies, which have the vision that publicly-funded research should be publicly available; it is nearly certain that over the next few years that contracts for funding from government organizations will require Open Access publication of the resulting research. There are also examples of university leaders implementing policies that require researchers to publish, where possible, in Open Access journals. By publishing such a journal on the internet, with free access, the potential visibility and hence impact of articles is greatly increased, and for a manageable amount of work. Typically, one looks at two or three issues per year, and so a small editorial staff (typically three or four people) can cope. The start up period can be the most difficult; however, for niche journals originating from a relatively compact research community, it is often not so difficult to solicit articles for the first couple of issues, particularly if the journal begins with a number of theme articles. If high standards are maintained from the very beginning, then articles soon begin to flow in unsolicited and the journal becomes self-sustaining.

The advantages of Open Access journals go beyond the limited circulation of print-based or subscription-based journals. These days most journals are available on the internet, however, most traditional journals are still subscription-based with the reader, effectively in some form or another, having to pay to have access to articles (most frequently this is through university libraries paying the subscription and then only making the journal easily available to employees of the university). With pressures for cutting costs, the number of subscriptions that a library can maintain decreases and so access to these types of journals also decreases, decreasing the circulation of a researcher's work and hence decreasing its impact. Open Access journals use a different business model, beginning with the fact that often their operating costs are significantly lower, but also relying on publication fees from authors (costs that can be built into many funding grants), sponsorship *etc.*, but avoiding any type of reader fee. Beyond, the circulation advantages, however, the biggest (and yet still not fully realized) advantage of internet-based journal, is the possibility to make use of the electronic publishing medium. Articles no longer need to be text and static figures only. Video, animation, sound, interactive simulations, *etc.* all are easily possible. The limitations are really only an author's imagination and creativity. Simple examples of how to exploit electronic publication include replacing a couple of pages of text trying to describe a particular heart rhythm with a 30 second sound clip, replacing a number of complex figures of a mechanical device showing it from all angles with a single rotatable figure where the reader can use her/his mouse to change the viewing angle as they desire; including actual interviews so that readers can observe facial expression and body language as well as getting the words spoken; and so on.

To run an Open Access journal (or any other type) takes a lot of work. However, experience has shown that the amount of effort required is often increased through not using or having available tools that would assist with the more mechanical aspects. For the smaller, niche-type journals, it is often individual research groups or professors at a university which are the main actors. Typically, there is an abundance of enthusiasm and a good feeling for the needs of the research community but very little experience with running a journal. In a university environment, there is often a unit, perhaps a part of the library, which offers some form of electronic publishing, however, it is often limited to the technical aspects of making files available on the internet and little in the way of support (document formatting, final proof-reading *etc.*) is offered. The result is that more onus falls on the professor leading the journal than might for a commercially published journal. The result is that sheets of paper or Excel is used to try and keep track of the submitted articles, the reviewers and the stages that both are at

with respect to each and every paper. Similarly, email communication is usually handled through a personal email address, with all communication for all articles arriving in the same inbox. Confusion usually prevails with extra effort being required to keep some form of order. What is needed, is a tool or service that handles articles, provides a work flow and facilitates communication; in other words a tool is needed that takes care of the mechanics of running a journal, allowing the editorial staff to focus on the academic issues. This is where Linköping University Electronic Press's (LiU E-Press) JARSS, Journal Article Review Support System, comes in.

### **LiU E-Press's Journal Article Review Support System**

Linköping University Electronic Press was founded in 1996 to publish Ph.D. and Licentiate theses and undergraduate reports produced at Linköping University (LiU). Very early in its history, LiU E-Press also began publishing electronic journals (*e.g.* Electronic Transactions on Artificial Intelligence (<http://www.ep.liu.se/ej/etai/>), Hygiea Internationalis, (<http://www.ep.liu.se/ej/hygiea/>) and International Journal of Ageing in Later Life (<http://www.ep.liu.se/ej/ijal/index.html>)). Furthermore LiU E-Press publishes article series and conference proceedings, with the volume expanding rapidly since inception.

In 2004 LiU E-Press became an independent department within the library, with its own Board of Directors reporting to the Rector of LiU, with the objective of making the activities of LiU as visible as possible. Initially, the focus of E-Press activities was on publishing as many of the Ph.D. and licentiate theses and undergraduate reports as possible. In parallel with this, however, there has been the development of user support services. One of these support services is for those running a scientific journal (and could equally well be used for larger conferences as well), to help keep track of articles as they progress from submission to publication and so JARSS was developed [Sandewall *et al.*, 2006].

Development work on JARSS began in 2002, in order to support the operations of Artificial Intelligence Journal (AIJ). The Editor-in-Chief was LiU E-Press's Director, Erik Sandewall, who ran AIJ for Elsevier and it has been used since then for AIJ operations. Now that JARSS has been demonstrated to work reliably over a number of years, LiU E-Press is extending the usage of JARSS by offering it as a service to other Open Access journals.

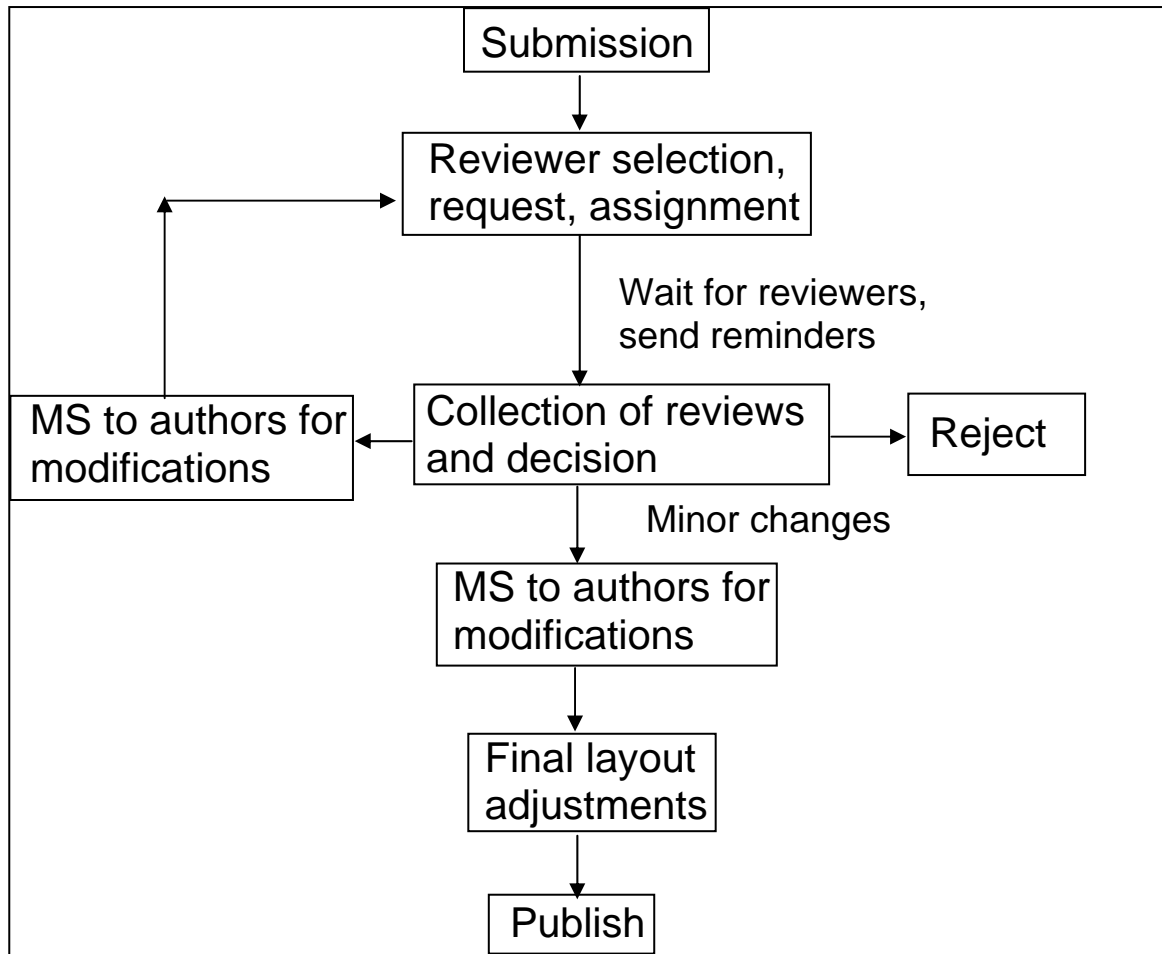
JARSS is internet-based, which means that those involved in the publication process (authors, reviewers, editors and administrators) can all access the system from any computer that is internet-connected. JARSS effectively couples to key features: a completely flexible workflow to follow articles, keeping track of manuscripts (difference versions as they come in), reviewers (their expertise, track record, workload and whether they have completed their reviews) and time schedules (with warnings for late activities); the workflow is then linked with an email communication system which automatically assigns replies from reviewers and authors to the relevant mail box for a given article.

### **The Editorial Process**

A typical, small academic journal comprises an Editor-in-Chief, an administrator and perhaps an assistant or associate editor; these comprise the staff of the journal. Additionally there is usually an editorial board whose role can be anything from full editorial duties to occasional reviewing (together with guiding the academic direction of the journal). In addition to the journal's staff, authors and reviewers are also important parts of the publication chain.

The publication process, which is summarized schematically in Fig. 1, begins with an (usually) unsolicited article being sent by an author to the Editor-in-Chief. The latter checks that the article falls within the interest area of the journal and then begins the process of trying to find

reviewers for the article. Initially one needs to make a short list of those that have the academic expertise to comment on the article. One must also check when was the last time they were asked to review an article (if ever) and how timely they were with their response. An enquiry must be sent to several reviewers to ascertain if they would be willing to review the article. If there response is positive then they are given a time in which it would be desirable to have the review completed by. This date needs to be marked clearly so that a reminder can be sent, if necessary.



*Fig. 1: Schematic Diagram of a Simplified Workflow for a Small Journal*

With time, the reviewers' comments are received. When one has a number of articles in the system at the same time (typically 10 to 20, for a small journal), then it is important that the reviewers' comments are associated with the correct article, so that the article and comments can be reviewed together and a decision about publication reached. Typically, the decision can follow one of three options: accept with minor revisions, return to the author for major modifications or reject. For the first alternative, the reviewers' comments are sent to the author and a modified manuscript is waited for (again, it is important that a date is noted after which a reminder can be sent out, for cases where a response is delayed). The modified manuscript, once received can then be sent directly for formatting and final language checks and then to publishing. For the alternative where major revisions to an article are required, then the author

is notified and the process halted until a new manuscript is received. At this point, the article is usually sent out to reviewers again (often the same as in the initial review) and the process effectively repeats itself from that point. Eventually, a manuscript of sufficient quality to publish is received and it follows the work flow for the “minor revisions” case.

For articles that are rejected, the author is notified and often that is the end. However, in some cases, the decision is contested and the Editor-in-Chief must take a closer look at the article and justify the decision taken.

### **JARSS in Action**

Because the workflow for a journal can be specific for a particular journal, JARSS allows a great deal of flexibility when it is being set up for a journal. In part, the workflow is defined by the statuses that an article can have from when it is initially submitted to a journal until it is finally published. Continuing the example illustrated in Fig. 1, a typical workflow, or series of statuses for an article would be:

- Pre-received: an article has been sent by an author but not introduced into the journal’s operations;
- Received: an article is judged to fall within the academic area of the journal, be in an appropriate file format, etc. so that it can be sent to reviewers;
- Under Review
- Returned to Author: for modifications;
- Received-2
- Under Review-2: necessary for cases requiring major revisions after the first review;
- Provisionally accepted: for cases of requiring only minor changes;
- Accepted
- Delivered to Publisher
- Published
- Rejected
- Challenged: for cases where the authors do not agree with a “Rejected” decision.

As a simplified overview a paper begins at the top of the list and is moved downwards. At any point the editorial staff can get lists of papers under any of the status headings.

As with the articles, the reviewers and their activities must be easily checked. In a similar way to the articles, reviewers are assigned statuses, from when they are first asked to do a review until they have finally submitted their comments:

- Requested
- Agreed
- Reminded
- Comments Received
- Review Refused.

These statuses are specific to a given article, so if a reviewer happens to be reviewing more than one paper at any given time, their status on each paper is recorded separately and linked to the appropriate manuscript.

To submit a paper, an author registers themselves with JARSS and is emailed a user name and password, which allows them to see the status of their article as it moves through the process. Logging into JARSS allows an author to upload their article to the system, at which time it shows up as “Pre-received” for the journal’s staff. The Editor-in-Chief should check the “Pre-received” articles on a daily basis and go to the system’s database for reviewers to find appropriate people to review the article. Each reviewer’s “file” has information about when they last reviewed and article, how many they have reviewed in total and has room for

comments about their timeliness *etc.* Using standard emails, a request can be sent to a reviewer asking them whether they would be willing to review the article. A (potential) reviewer can also register with JARSS and hence login to the system from where they can download the article. A reply from a reviewer is automatically sorted by JARSS into a mailbox specially allocated to an article. In this way a complete record of correspondence about an article is kept together with the article. As the request to the reviewer is sent, the status of the reviewer is automatically updated to “Requested”. Once a reply has been received, and assuming it is positive, an acknowledgement triggers a change in status of both the paper, “Under Review”, and the reviewer “Agreed”. At the same time the review period is set to an appropriate length of time (for example 30 days) and if this time expires without hearing from the reviewer, the system reminds the journal staff and a reminder can be sent to the reviewer (and again this is recorded as a change in status of the reviewer).

Eventually, the reviews are received (the system is again used to send pre-formatted “thank you”) and the journal staff is required to make a decision. The authors are notified and relevant changes to the manuscript requested. The article’s status is changed to “Returned for modifications” or perhaps “Provisionally accepted”, depending on the extent of the changes required. In this manor, an article continues to move through the publishing process until it is finally ready to be sent to the publisher (which can be done in-house or by an external publisher).

Experience with the operation of JARSS for AIJ has shown that one of its greatest strengths is the close coupling between the workflow and the email communication system. A communication with a reviewer or author often indicates a progression of an article and correspondingly triggers a change in status of the article, automatically. With the database of articles and communication stored centrally, all users (editorial staff) can see exactly at what stage any and all articles are at and can also easily see where there attention needs to be focused. JARSS also has an extensive internal communication (or perhaps commenting) system, which allows notes to be sent back and forth between editors and administrators, coupled with a relevant article. In this way editors working time zones apart can quickly assess the changing priorities and effectively determine what needs do at what point.

JARSS has proven itself to be a great success and a tool which makes the editorial work of journal production much more efficient, making it feasible for a professor at a university to start and operate a academic journal and not have it consume all of her/his working time. If anyone is interested in operating a journal and making use of JARSS, please feel free to contact LiU E-Press ([www.ep.liu.se](http://www.ep.liu.se); [davla@ep.liu.se](mailto:davla@ep.liu.se)) .

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### **Reference**

Sandewall, E., Bergström, D. & Husberg, B., 2006, Internal Report, <http://www.ida.liu.se/ext/caisor/pm-archive/adept/001/index.html>