ACP Publishing Policy

31 August 2019

During the ACP general assemblies of CP 2016 and CP 2018, the question was raised of moving the CP proceedings from Springer LNCS to another form of publishing. A discussion group was set up to do some research on this topic, bring arguments forward and come up with alternative plans. This document, whose writing was a collaborative effort coordinated by **Yves Deville** and **Eugene Freuder**, is a report on its outcome; it contains:

1. A report of these discussions with arguments in favor of a change in Section A and arguments against in Section B.
2. Two projects, one describing how fair open access solutions may be implemented in Section C and one giving recommendations to promote open access within the current system in section D.

The content of this report will be discussed during the general assembly of CP 2019 in order to refine the terms of a vote on the alternative projects to be held online after the conference.

A. Why should we forsake commercial publishers?

The need for and the advantages of Open Access (OA)

A large part of the research in universities is carried out with public funds and therefore its results should be available to all, freely and without any barriers. Currently, 99.5% of the world's population does not have free access to the results of publicly funded research. Open access is the immediate, online, and free availability of research outputs.

The main advantages of OA are *visibility* and *impact*. OA articles are much more read than those which are not freely available on the web. A better visibility induces more citations: 65% of the conducted studies [5] concluded that there is a significant citation advantage for OA articles. They are cited much sooner and a study in [5] showed up to three times higher citation counts. OA articles are also freely available for researchers from poorer institutions and developing countries. OA is encouraged by many organizations, such as the United Nations and the European Research Council (ERC). OA is required for ERC funded research. PlanS is a European initiative launched in 2018 by an international consortium of research funders: it requires that,

from 2021 on, scientific publications that result from research funded by their public grants must be published in compliant OA journals or platforms [6].

Some facts on commercial publishers

The five giants of scientific publishing (Elsevier, Springer, Wiley, Kluwer and Thomson-Reuters) now account for not only two thirds of the scientific papers published in the world but also about 95% of university documentation budgets [1]. The science-publishing industry generated $9.4 billion in revenue in 2011 and published around 1.8 million English-language articles [3], that is an average revenue per article of roughly 5,000$, mainly paid through library subscriptions. In the period 1983–2013, prices are estimated to have outpaced inflation at 250% [9]. The scientific publishing industry is known as one of the sectors with the highest profit margins, between 20% and 30%, but reaches 40% to 50% in science, technology and medicine [3]. The money spent on publishing is not spent on research. It should be noted that some well-known universities are now reducing their subscriptions to commercial publishers.

Fair Open Access

Publishers are now offering OA alternatives to authors, often called **Gold OA**: all articles are freely available upon the authors paying an **article processing charge** (APC), which may vary from nothing to more than 5,000$. Some publishers propose **hybrid journals**, where authors can opt for OA for their paper, but with APC. In this scenario, a publisher benefits twice: from the authors through APC, and from libraries for (usually bundled) subscriptions to that journal.

In order to avoid a replay on OA journals of what commercial publishers did on traditional journals, that is using their monopoly to increase unfairly the costs, a group of scholars and librarians proposed that OA journals should follow the **Fair OA** principles [7]. These principles add to the OA principles that journals are controlled by and responsive to the scholarly community, authors retain the copyright of their articles, an explicit OA license is used (such as Creative Commons [CC-BY](#)), and APC should be low and transparent (their level should be justified).

The Springer experience in CP

Springer LNCS publishes the proceedings of the CP and CPAIOR conferences. Springer also publishes the *Constraints* journal (abbreviated CONS here). In all three cases, the authors must transfer their copyright to Springer. Participants of those conferences must pay for a copy of the proceedings (electronic and/or paper), but some have already paid for them through library overheads on their research grants and cannot opt out of also buying a personal copy when

registering for the conference. Springer accepts that authors put a preprint on their website immediately on publication, but there is an embargo of 12 months for institutional and funder repositories. The list prices for buying the LNCS proceedings of CP 2018 are 83 Euros (eBook) and 101 Euros (paper). Some researchers in the CP community do not (or no longer) have access to LNCS proceedings through their university library.

The impact factor of CONS currently is [1.106](#), which is quite low.

For CONS, Springer proposes an OA option, which makes CONS a hybrid journal. The authors keep the copyright (CC-BY) and the APC is 2,690$ per article.

In the CP community, most if not all the editorial work is done by the authors. Some editing process is done by Springer to produce the final version, for example for the uniform appearance of bibliographies and tables. Many authors experienced that Springer introduces errors in both LNCS and CONS. A perfect uniformity of all the articles does not justify the cost, especially when errors are introduced in the process.

Existing fruitful experiences and models

The *Journal of Machine Learning Research* ([JMLR](#)) is an OA journal (CC-BY license) without APC. Its impact factor currently is [5.312](#). It was founded in 2010 after most of the editorial board of the *Machine Learning* journal (Kluwer) resigned to set up an OA journal through a scholarly nonprofit company [8]. Paper copies can be bought through an independent printing company. JMLR also hosts the proceedings of various machine-learning conferences (such as ICML) and workshops.

The *Journal of Artificial Intelligence Research* ([JAIR](#)) is another OA journal without APC, hosted by the AI Access Foundation since 1993. Its 2017 impact factor is [3.398](#). Printed volumes are available for purchase from AAAI Press.

The Open Journal System ([OJS](#)) is an open-source system supporting the management, reviewing, editing and publishing process of scientific journals, some of which levy APC. It is possible to have an ISSN and DOIs for articles. In 2018, some 9,412 journals (with more than five papers per year) used OJS, with a total of 4.6 million articles. There are also **hosting services** with OJS, where the system is on the cloud and is used by the editors.

[LIPIcs](#) (Leibniz International Proceedings in Informatics) and [OASIcs](#) (OpenAccess Series in Informatics) are series of high-quality OA conference proceedings, with an ISSN, across all fields in informatics. The proceedings are OA with an APC of 60 euros per paper. They are hosted by Schloss Dagstuhl – Leibniz Center for Informatics in Germany. Several conferences, such as Concur, ECOOP, ECALP, STACS, and ICLP, have gone from commercial publishers (such as LNCS) to LIPIcs or OASIcs in the past few years. The [EPiC](#) (EasyChair Proceedings and Collections)

series, introduced and maintained by EasyChair, has similar properties; its APC is not published. In all these models, proceedings series can have an ISSN and each paper can have a DOI.

The **overlay journal** model is an OA journal model where articles are archived in open repositories (such as [arXiv](#) or [HAL](#)). When an article is accepted, its final version is posted in an open repository and permanently linked to from the journal website. Articles can be updated easily and free-of-charge. [Episciences](#) is an example of overlay journal platform hosting various journals in computer science, mathematics and humanities. Each journal has an ISSN and each paper has a DOI. Such an overlay journal model could also be used for conference proceedings.

B. Why should we remain with Springer as publisher?

Summary

The main argument for leaving Springer is open access. The world is moving to open access, which is a good thing. However:

- A small community like ours does not need to take the risks involved in being a pioneer.
- Plan S — https://www.coalition-s.org — will soon require most everything to be open access. Plan S addresses fee, copyright, and licensing issues. Springer already provides some degree of open access, and Plan S will presumably push it further. It may be that in the end Springer does not go far enough for us. But it is better to wait a bit and see rather than going to all the trouble of setting up an alternative only to find that Plan S has propelled Springer into a model that is sufficiently open for us anyway.
- There are, if anything, perhaps too many open access publishing options now. We can afford to wait until the landscape clarifies; we do not want to bet on the wrong horse.

The other reason to consider leaving Springer is the errors their editing process has introduced. However, Michela Milano, the *Constraints* journal editor says that she has talked to Springer about this and in the last 6 months has not received any complaints so supposes the issue is solved. If problems do remain, since we would like Springer to do *less* copyediting, this seems like something they should be open to accommodate.

Current Accessibility

Springer is already a "green" publisher, with a pretty generous preprint/postprint archiving policy. See https://www.springer.com/gp/open-access/authors-rights.

The *Constraints* journal currently has a "hybrid" open access model, or "open choice", where individual articles can be published open access for a fee. Plan S only supports a "hybrid" model "as a transitional pathway towards full Open Access within a clearly defined timeframe, and only as part of transformative arrangements". So Springer will presumably have to go further.

Springer also currently supports fee-based open access conference proceedings on an entire volume or a paper by paper basis. And again, we should wait and see where Springer ends up once Plan S has had its full effect.

For CP 2019, attendees receive electronic proceedings with their registration and optionally can pay $25 for a physical proceedings. (Springer is a sponsor of the conference.) An individual subscription to the *Constraints* journal is 66.39 euro (plus VAT). Of course, many libraries will have the proceedings as part of the LNCS series, and a subscription to the journal.

Authors' preprint and postprint rights allow their research to be made available even to those without access to the journal or the proceedings — while the Springer website conveniently allows prospective readers to search for keywords or authors within the journal or the conference series, provides previews, and provides author contact email addresses for those who need to request copies.

When Peter van Beek was Editor-in-Chief of the *Constraints* journal he obtained permission from the publisher to provide a parallel website with all of the contents of the journal, a complete record. It could post new papers right away, the authors' final versions, not the typeset version for the journal but close. This was kept up for a while after Peter stepped down, but at some point disappeared. It could presumably be revived if there was a call for it, and something similar might be done for the CP conference as well. This would essentially provide open access from the reader's point of view without leaving Springer.

There are three lessons to be drawn here:

1. Springer has been flexible about working with us.
2. Consistency and maintenance in self-publishing is an issue.
3. There was presumably no great outcry when this website was eliminated, raising the question of just how important this form of access is to people anyway (or perhaps of how aware people were of this feature).

In any case, while considering the way forward, we should also bear in mind the issue of access to the extensive back catalogue of the existing journal, which a new journal will presumably not have.

In summary, with regard to open access, the current situation is not too bad. Of course, there is room for improvement, but we should wait to see if Plan S moves Springer to provide sufficient improvement, or if we can do so ourselves while remaining with Springer. If not, we can decide if achieving further openness is worth giving up the benefits Springer provides and taking on the commitments and the risks involved in going off on our own.

Benefits and Risks

Springer provides services and infrastructure: marketing, editing, formatting, submission tracking, DOI, metrics, production, sales and distribution, etc. They provide an extensive website with search and other services. They provide visibility online and at conferences. They have been a reliable archive for electronic versions of the papers, and high quality physical copies are readily available for libraries or personal use. As Michela Milano, the current editor-in-chief of the *Constraints* journal puts it: "the burden of the publication process is in their [Springer's] hands".

We could, of course, provide much of this for ourselves eventually, with the aid of open source platforms or tools, and perhaps we could even do some of it better. But there is a lot involved, and some specific individuals have to do it. And they have to recruit successors to continue doing it.

The process for publishing the conference proceedings must be sufficiently robust to support a situation where the conference organizers are a new team every year. The idea of making the proceedings an issue of a journal has been floated, but ignores the still important distinction between conference and journal publication. (And presumably universities that wish to make a distinction between conference and journal publication would not want to recognize papers in such an "issue" as journal publications.)

Above all Springer provides assurance, continuity and stability.

Yes, there are success stories like *JAIR* and *JMLR*. Take a look at their websites. Before you vote to leave Springer, ask yourself how much work you will volunteer towards building and maintaining such a website. Are you going to be the equivalent of *JAIR*'s Production Supervisor? Will the ACP pay for professional help?

Building, and above all maintaining, infrastructure is challenging. Consider the ACP website. A great service to the community and to be applauded. But also in this context a bit of a cautionary tale. Check out when the last issue of the Newsletter was posted. Has the Constraint Archive been kept up to date? The Success Stories feature was a great idea; how many entries does it have?

An open access constraints journal has actually been tried; another cautionary tale. *Constraint Programming Letters* lasted two years. The website contains thanks for the reuse of *JMLR* ideas and materials; the success of *JMLR* clearly does not guarantee similar open access success for other ventures. *Constraint Programming Letters* doesn't appear to have gotten to the point of being recognized by indexing services. DBLP and Semantic Scholar don't appear to list papers published there.

An open access publisher is not necessarily a panacea. The ICAPS conference, whose community overlaps with ours, has published its proceedings open access through AAAI Press. We have been told that "ICAPS is very seriously considering moving away

from AAAI Press, perhaps as early as next year. Among other issues, they have roughly doubled their fees this year".

Springer and the journal have an established reputation. Will your institution recognize LNCS but not a self-published conference; does your institution or country include *Constraints* in a list of recognized or ranked journals? Springer has put the journal through the process of being granted recognition by many abstracting/indexing services.

Regarding impact statistics for the journal and the conference proceedings, this is a complex issue, and open source is no panacea. To compare the impact factors of the *Constraints* journal with that of journals that serve much larger communities is to compare apples and oranges. Google Scholar provides impact data. Here is some h5-index data:

	Publication	h5-index	h5-median
1	International Conference on Principles and Practice of Constraint Programming	22	26
2	Constraints	17	21
3	International Conference on Integration of AI and OR Techniques in Constraint Programming	15	20

The conference actually ranks higher in this regard than the journal.

Engineering Applications of Artificial Intelligence, an Elsevier journal, with a hybrid open access policy, like *Constraints*:

Engineering Applications of Artificial Intelligence	50	68

The *Journal of Artificial Intelligence and Soft Computing Research*, an open access journal:

Journal of Artificial Intelligence and Soft Computing Research	18	2

Springer owns the *Constraints* journal. To establish a new journal we would be starting from scratch. With two journals in our small community, both would suffer. It is not known whether the editorial board of *Constraints* would resign to start a new journal. When asked about this, the current editor-in-chief, Michela Milano, said:

My term will end soon. I really don't like being the EiC that has "closed" the Constraints journal. I think we have created a high reputation in 20 years disregarding the up and down of the IF. It is really a pity to change even if I understand the points of those that want to change.

No Brexit

If the CP community does vote on whether to change our publisher, it should be a vote about a very specific proposal. We do not want a "CP Brexit" referendum. The devil is in the details. For example, will there be a publishing fee for authors, if so what will the provision be for those who cannot pay? A team should be in place who have accepted the responsibility of getting the new publishing process up and running, and maintaining it for an initial period of time.

C. Project 1: Leaving Springer

The objectives

The following properties are desirable for publications, both for proceedings and for journals:

- (O) Open. The papers must be freely accessible, without any barrier (money or login), for all readers. The authors should keep the copyright of their papers.
- (C) Cheap. The cost to publish should be low for authors and transparent (their level should be justified).
- (S) Sustainable. The publishing platform should be reliable and sustainable.
- (R) Reviewing. The papers should be properly evaluated by reviewing.
- (F) Famous. The publication should improve the reputation of the author.

Property (R) is mostly independent of the publishing model. It depends on the editorial board (for a journal) and the program committee (for a conference). However, most existing commercial publishers have IT infrastructure that follows the usual blind reviewing model where reviewers and reviews remain anonymous. Having this under control would allow us to explore original configurations such as in the Open Reviews system (where reviews may become public).

The OA option and OA journals proposed by commercial publishers do not meet property (C). Journals such as JMLR and JAIR meet all properties. For proceedings, the LIPIcs, OASIcs and EPiC models meet all properties, but property (F) is subjective. Some authors feel that having a commercial publisher improves (F), but it is also very much influenced by the quality of the editorial board, reviews, etc. JMLR and JAIR are nice counter-examples.

The condition to leave Springer for the CONS journal

As the CP community is small, it is hard to imagine having one more journal. So, if a new journal needs to be born, then another one should weaken. One solution would be that the entire existing editorial board of CONS shifts to a new journal. The [statement](#) signed by more than 3,500 researchers in the ML community when shifting to JMLR was very helpful to the success of JMLR.

Proposal P.1. CP proceedings leaving LNCS for LIPIcs, OASIcs or EPiC

This meets all the objectives, although (F) is debatable, and is easy to implement. The ACP Executive Board should ask the Leibniz Center for Informatics or EasyChair to accept the forthcoming CP proceedings in their collection. The APC (60 euros for LIPIcs and OASIcs, unknown for EPiC) could be paid by the authors, or pushed to the participant registration cost of the conference.

Proposal P.2. CP proceedings leaving LNCS for an overlay model

This meets all the objectives, although property (F) is more subjective. It is easy to implement if done within the [Episciences](#) platform or any similar platform. As such platforms are mainly dedicated to journals, perhaps the CP proceedings could be considered as an overlay journal. This would solve the problem of non-recognized proceedings papers at journal-bean-counting institutions, and could even attract new authors.

Proposal J.1. CONS journal leaving Springer for a fair OA journal

This meets all the objectives, although property (F) is more subjective. A new fair-OA journal is set up and supervised by the ACP. The idea is to reproduce the JMLR and JAIR experience. It could be implemented using the Open Journal System ([OJS](#)), either in a dedicated instance or in the OJS hosting service.

Proposal J.2. CONS journal leaving Springer for an overlay model

This meets all the objectives, although property (F) is more subjective. This could easily be implemented within the [Episciences](#) platform or any similar platform.

Proposal P+J. CP proceedings becoming a special issue of a new journal

This combines proposals P.2 and J.2, i.e. having only one publishing venue, with the CP proceedings (as special issues) within the new overlay journal. This should also be possible with proposal J.1.

D. Project 2: Remaining with Springer

Recommendations

1. ACP establishes a Communications Chair, responsible for, among other things, the ongoing response to the issues discussed in this report, coordination with the *Constraints* journal Editor-in-Chief, and continuity of communications with Springer regarding the conference proceedings. The Communications Chair invites assistance from additional members of the executive committee or the community to serve on a Communications Committee.
2. The Communications Committee can also oversee maintenance and improvement of the ACP website, social media presence, press relations, community outreach, etc., and can work with the *Constraints* journal Editor-in-Chief to enhance the visibility of the journal papers.
3. Revive, and maintain at the ACP website, a posting of (final author's versions of) all *Constraints* journal papers.
4. Seek permission to do something similar for the CP conference papers. Integrate an updated and maintained Constraints Archive search engine.
5. The *Constraints* journal Editor-in-Chief and the ACP Communications Chair together negotiate with Springer over any desired improvements. (This might include a relaxing of formatting requirements.)
6. Determine how much further Plan S will move Springer on open access, and communicate this to the ACP community.
7. The ACP polls the community for feedback on the journal and the conference, and specifically as to whether there is sufficient dissatisfaction with Springer's full response to Plan S to justify the costs and risks of leaving Springer.
8. If there is, the ACP, in consultation with the *Constraints* journal Editor-in-Chief and Advisory Board, and recent CP conference chairs, evaluates alternatives, chooses one, puts a team in place willing and able to implement that alternative, and prepares a proposal for a vote of the ACP community.

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