**Open Access:**

What is it and what to consider when making a decision to publish in Open Access.

M Fabiana Kubke[[1]](#footnote-1),[[2]](#footnote-2)

“*For Science to be useful it needs to be re-usable”*

*Cameron Neylon*

# Introduction

## What is Copyright?

Copyright is a type of intellectual property that applies to creative works. The New Zealand Copyright Act of 1994[[3]](#footnote-3) defines copyright in original works in Section 14 as:

(1)Copyright is a property right that exists, in accordance with this Act, in original works of the following descriptions:

* (a)literary, dramatic, musical, or artistic works:
* (b)sound recordings:
* (c)films:
* (d)communication works:
* (e)typographical arrangements of published editions.

For scholarly research articles, copyright refers to the specific typographical arrangement of the manuscript itself (text, figures and datasets) whereas data, ideas, etc., are covered by other types of intellectual property.

**What is Open Access?**

*“Open Access (OA) literature is digital, online, free of charge
and free of most copyright and licencing restrictions”*

*(Peter Suber, Open Access, p. 4)[[4]](#footnote-4)*

The term was first formally defined by the Budapest Open Access Initiative in February 2002.

**Green vs Gold**

Gold OA: OA to the scholarly work provided by the journal, regardless of the specific business model.

Green OA: Self-archiving of the scholarly work through a central or institutional repository (e.g., PubMedCentral or ResearchSpace at UoA).

**Gratis vs Libre**

Gratis OA: Access that is free of charge to the reader but not necessarily free of copyright and licensing restrictions.

Libre OA: Access to the scholarly work is both free of charge, and free of at least some copyright and licensing restrictions (e.g., through a Creative Commons Licence).

# The changing landscape of scientific publishing

Prior to the internet, scholarly publishers provided an efficient and reliable method of disseminating research results. The majority of the costs of publication were incurred by the journals, and these were recuped through individual or institutional subscription fees, article purchase fees and licences to reuse material. This continues to be how most publishers operate.

The digital age transformed the ease with which information can be disseminated. Although technical barriers have fallen dramatically, cultural and institutional barriers still favour pre-digital practices. This has created tension between those who support the role of academics to disseminate their findings as widely as possible and without restrictions to all stakeholders (especially when these arise from public funding), and those who argue that the sustainability of the scientific publishing industry still needs the traditional ‘toll access’ model.

Open Access publishing offers a mechanism for retaining the traditional services of publishers (in the form of peer-review, editorial, copy-editing, indexing services, etc.), while also providing the added benefit of making the published article available to everyone, everywhere, through the internet. Internationally, many funding bodies now require that derived research outputs be made available under Open Access.

The focus of this short review is on how the work can be shared or re-used and the ownership of and restrictions due to copyright, differ between different publishers.

**The cost of publishing in Open Access**

The cost of Open Access Publishing is sometimes (but not always[[5]](#footnote-5)) funded by Article Processing Charges (APCs), that cover the publisher’s costs. These charges replace the traditional income from subscription rates, single article purchase fees, copyright permissions (institutional or individual), and the sale of re-prints for commercial purposes. The cost of APCs is generally covered by the researchers’ institution funding agencies.

APC charges can be substantially more than traditional pages charges alone, although this is not always the case. However, it is important to balance the cost of publishing in OA with potential savings to researchers and institutions such as:

* Article processing fees
* Institutional Copyright Clearance agreements that allow the re-use for education
* Library subscriptions copyrighted material
* Pay per view costs incurred by stakeholders
* Copyright fees for reproduction of third party material for research or education
* Reprint purchase of published articles for commercialisation of research outputs
* Other costs related to accessing the research outputs

This highlights the critical point that costs associated with access to copyrighted material by Institutions and their members and by other stakeholders can be high. The University of Auckalnd alone spends over $15M per annum[[6]](#footnote-6) on licences for access and limited re-use of copyrighted material for research or educational purposes. Some of these costs are covered through grant overheads or from other sources of income. Dr Cameron Neylon suggested that the cost of publishing all New Zealand research outputs as Open Access would be approximately $30M per annum.[[7]](#footnote-7) Recent reports from Europe estimated that a move to Open Access would represent an overall saving of EUR 70 million in Denmark, EUR 133 million in The Netherlands and EUR 480 in the UK per annum,[[8]](#footnote-8) partly as a result of cost savings for small and medium enterprises that utilise the research findings. The cost of accessing research outputs has direct implications for the broader national knowledge-based economy and the savings from moving to an Open Access model could potentially release funds that can be re-directed to the research sector.

The broader economic impact of the traditional publishing models has led some governments to encourage (or mandate) that research outputs resulting from public funding should be made publicly and freely available. The UK Research Councils has, in addition, recommended that the research outputs should be made available under a Creative Commons licence that minimises restrictions (and thus potential costs) for reuse.

New Zealand’s commitment to Open Access is lagging significantly behind international trends, and is currently limited to government agencies through NZGOAL. While there are no open access mandates in New Zealand at present for scholarly articles, local researchers should consider building an Open Access publishing reputation in order to remain competitive in the international funding arena. Individual researchers or teams that collaborate with institutions or foreign funding agencies with OA mandates will need to comply with these mandates. New Zealand researchers should become if not open access compliant, at least open access ready if we wish to remain competitive in the international funding and collaboration landscapes. Thus is it is important to understand the rather confusing options that are available to us.

## How is copyright negotiated at the time of publishing?

The University of Auckland copyright policy states that authors of scholarly articles retain the copyright of their work and thus, researchers are free to transfer copyright to publishing houses. When publishing a research article author(s) traditionally grant the journal publisher the right to publish and distribute the work in the form of a ***copyright transfer agreement*** or a ***licence to publish***. These agreements state the different rights retained by the author(s) and the rights extended to third parties (non-authors) regarding distribution, use, or re-use.

In a copyright transfer agreement the authors transfer the copyright of the work to the publisher whereas in the ‘licence to publish’ agreement the authors retain the copyright over the work. However, in both types of agreement the rights of the authors are limited and well defined, and differences in author’s or third party rights depend more on the publishing houses/journals than on the type of agreement entered.

## How does this affect your (and other’s) ability to re-use or distribute your published work(s)?

Because the rights retained by the author(s) of a manuscript do not necessarily extend to the Institution or other members of the institution, the University can only distribute the published articles in compliance with the copyright or licence to publish agreements entered by the authors.

The copyright transfer or publishing agreement extends to all authors of the manuscript and they should be carefully considered when research students are involved. In particular, these agreements may limit the ways in which ‘theses by publication’ may be archived, distributed and/or re-used.

Copyright transfer or licence to publish agreements usually specify the terms and conditions for re-use of the published material for educational and/or commercial purposes by the authors, their colleagues, their institutions and other stakeholders. Most publishers restrict the re-use of the material for commercial purposes, but have fewer restrictions for educational purposes. However, some argue Universities that charge fees constitute commercial enterprises (whether they are for profit or non-profit).[[9]](#footnote-9)

The University of Auckland purchases a licensing contract that grants its members limited use for educational purposes of otherwise restricted material, but these rights do not extend beyond the University limiting the legal right to use certain educational material outside of the institution (i.e., when guest lecturing).

A copyright licensing scheme offered by Creative Commons allows authors to grant users specific rights and restrictions over the ways in which the work can be reused in contrast to the default ‘all rights reserved’ copyright.

Therefore, when opting for Open Access publishing, authors should take into consideration not only the cost but also the copyright licence under which the article is being published. That is, authors should consider the rights retained by the authors, their institutions and other stake-holders and avoid, as much as possible, granting exclusive rights to publishing houses.

# Choosing where and how to publish

While it is said that publishing in traditional models is much cheaper for the author, this is not necessarily the case. Many journals impose submission fees, page charges, colour figure charges, etc, in addition to charges to third-parties to access the article through subscription or pay per view fees. Some society journals offer society members discounts or fee waivers, but these membership costs need to be factored into the cost of publishing.

Many traditional publishers offer authors the opportunity to make the particular article ‘Open Access’. Care should be taken however, to determine the conditions of publication. Firstly, in many instances the journal makes the article freely available after a specified embargo time, so the purchase of the Open Access option only changes ‘when’ the article becomes available. Secondly, in some instances, the purchase of the Open Access option still requires a copyright transfer or licence to publish agreement, where the author (and third parties) have similar restrictions on distribution and re-use than in the non-open access model, that is to say the OA may be not ‘Libre’. Open Access publishers also differ in their licences – not all open access publishers offer creative commons licences, or offer creative commons licences with high level of restrictions.

The choice of publishing in open access in a particular journal, regardless of the journal’s business model, should therefore consider:

1. ***When will the article become available to the public?***Many journals are making their articles freely available 6-12 months after publication. An article processing fee in this case determines not *if* an article becomes Open Access but *when*  this happens. Whether the results warrant avoiding any delay before making the results publicly available can only be assessed on a case by case basis, but see issues with copyright below.
2. ***Who owns the copyright of the article and what is the precise copyright licence?***

The ability to distribute and reuse the published article will be defined by the copyright agreement signed at the time of publishing. In some cases, the option to publish in Open Access is such that the journal retains copyright of the work, in others, the authors are allowed to retain copyright in the form of a creative Commons licence (with different degrees of restrictions).

1. ***Will the published article be ‘free’ or ‘libre’?***

 The licencing scheme separates *libre* from *gratis* open access. Ideally, any restrictions on reuse should be avoided.

1. ***What is the actual cost of publication?***

Article level publishing fees exist outside the Article Processing Fees associated with Open Access. Many journals charge authors in the form of non-refundable submission fees, page charges, colour figure charges, charges per character or per table. In some instances the cost of publishing a colour figure in a print journal can be the same as the total publishing fees in an Open Access journal.

1. ***Where is the journal article indexed?***

Visibility of an article is greatly increased if it is indexed in databases such as PubMed or Google Scholar. Indexing of the journals in these databases is also important, in order to be able to track the number of citations an article receives, and so measure individual researcher’s h-factor and article level metrics.

1. ***Are you planning to do a press release?***

When journalists look at covering a science story they often need to have access to the original article. For printed media, they often wish to have accompanying artwork or illustrations. The licence under which the article was published determines whether they can reuse the images from the original publication or whether new artwork needs to be supplied by the individual researcher. If the journal has exclusive publication rights, and / or the article was published under a non-commercial clause, figures from the original article cannot be reused.

1. ***Are you planning on commercialising your findings?***

When commercialising a product, companies often wish make copies of an article for a meeting, or to incorporate a copy of a research article to share among their workers, or to distribute copies of research articles that show the effects of their product. Traditionally, these companies will purchase these articles from the publisher. As an example, a recent WSJ article reports an estimated revenue of near USD$700,000 from the sale of commercial reprints of a single article published in the New England Journal of Medicine. In contrast, if the article is licenced with a Creative Commons licence with no non-commercial clause, companies would be able to reproduce the material in-house or through more economically efficient means.

# Implications for University of Auckland

Although the University of Auckland does not operate under Open Access, Open Data or Data Sharing mandates, many researchers are affected by mandates as part of collaborations (national and/or international) or receiving funding from specific funding bodies. Some examples (not all inclusive):

New Zealand Government:

* NZGOAL: Applies to government agencies (e.g. DOC)
* OECD agreement (not locally enforced for publicly funded research)

International Government

* AUSGOAL
* OECD [Principles and Guidelines for Access to Research Data from Public Funding](http://www.oecd.org/document/2/0%2C3746%2Cen_2649_34269_38500791_1_1_1_1%2C00.html) and [OECD report on the research publishing industry](http://www.oecd.org/document/1/0%2C2340%2Cen_2649_201185_35397879_1_1_1_1%2C00.html)

International Funder’s mandates

*(visit* [*ROARMAP*](http://roarmap.eprints.org/) *for a comprehensive listing of international mandates)*

* National Institutes of Health (NIH) USA
* National Science Foundation (NSF) USA
* Wellcome Trust (UK)
* [Research Councils UK:](http://www.rcuk.ac.uk/documents/documents/RCUK%20_Policy_on_Access_to_Research_Outputs.pdf) Policy on Access to Research Outputs: Requires that publications (peer-reviewed Journal Articles and Conference Proceedings resulting from partial or full funding from UK research Councils should be placed under Open Access (with a preference for CC-BY) (<http://www.rcuk.ac.uk/research/Pages/outputs.aspx>). Includes 7 research councils:
* [Australian Research Council](http://www.arc.gov.au/applicants/open_access.htm)

Publication agreements with journals

Many publishers require that data and unique materials behind published articles be freely shared on request. A solid data management and materials sharing policy needs to be put in place to comply with these requirements. Some things to consider are that the electronic data formats need to be readable outside of the software that generated them and to be attached to the relevant metadata in order to preserve the integrity of the data, that personal data be de-identified and that data sharing formats comply with national and international privacy regulations.

**Cost of Publishing in different models[[10]](#footnote-10) - Examples**

**Toll Publishers and their Open Access options**

**Table 1:** Standard copyright agreements with “toll” journals and the benefits of opting for their Open Access Option (abbreviations on next page)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Rights[[11]](#footnote-11)** | **Elsevier** | **Springer** | **Karger**  | **NPG** | **Wiley** |
| Personal use/ personal teaching | Y | Y | Y | Y | Up to 250 words and with changes noted |
| Preprint server | PPV | PPV, AAM | ? | ? | n |
| Personal/institutional webpage (public) | PPV/AAM | PPV | PPV/AAM | AAM | PPV |
| Institutional/Public repository | Conditional | PPV | ? | AAM | No or PPV |
| Public re-use | Limited | Limited | Limited | Limited | Limited |
| Commercial | N | N | N | N | N |
| Copyright | CTA, ©J | CTA, ©J | CTA, ©J | LTP, ©A | CTA, ©J |
| Cost | Page charges, colour figures,etc may apply | Page charges, colour figures,etc may apply | Page charges, colour figures,etc may apply | ? | Page charges, colour figures,etc may apply |
| Other | “The posting of the PJA to websites to fulfill drug regulation authority approval of therapeutic agents is not permitted” |  |  |  |  |
| Open access Option |
| Added rights | No embargo | No embargo on self archiving | ? | ? | As per licence |
| Copyright | CC-BY, CC-BY-NC-SA, CC-BY NC-ND (Elsevier retains exclusiv right to publish and distribute) | CC-BY or CC-BY-NC | CC-BY-NC or CC-By if mandated | CC-NC-SA | CC-BY, CC-BY-NC or CC-BY-NC-ND (holder?) |
| Commercial use | As per licence | As per licence | As per licence | ? | As per licence |
| Cost | ~USD 3,000 | USD 3,000 | CHF 3,000  | ? | USD 3,000 |

**Open Access Options**

A reasonably comprehensive list of Open Access Journals[[12]](#footnote-12) can be found at the Directory of Open Access Journals ([DOAJ](http://www.doaj.org/)) which also provides details about the copyright licence that the journal uses. Not all open access Journals use Creative Commons licences, and when they do these may impose different restrictions for reuse. Some examples are provided in Table 2

**Table 2:** Examples of re-use rights associated with different Open Access Journals.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Rights[[13]](#footnote-13) | PLOS series | PeerJ | BMC series(research articles) | eLIFE | International J of Biological and Medical Res.  |
| Personal use/ personal teaching | Y | Y | Y | Y | None defined in CTA |
| Preprint server | Y | Y | Y | Y | None defined in CTA |
| Personal/institutional webpage (public) | Y | Y | Y | Y | None defined in CTA |
| Institutional/Public repository | Y | Y | Y | Y | None defined in CTA |
| Public re-use | Y | Y | Y | Y | N |
| Commercial | Y | Y | Y | Y | N |
| Copyright | CC-BY (authors) | CC-BY (authors) | CC-BY | CC-BY | ©J |
| Cost | USD 1,250-2,900 | Starting at USD 99 | USD 685-2,700 | Currently waived | Not disclosed |

**Abbreviations:**

|  |  |  |
| --- | --- | --- |
| PPV: Preprint versionAAM: Accepted Author’s ManuscriptPJA: Published Journal Article | CTA Copyright Transfer AgreementLTP Licence to Publish | ©J All rights reserved copyright to publisher©A All rights reserved copyright with authorsCC-BY: Creative Commons Attribution licence NC: No commercial use, ND: No derivatives, SA: Share alike[[14]](#footnote-14).  |

? Unable to find information on publisher’s webs

1. This document was produced at the request of Prof AJ Gunn (Physiology) who provided critical comments throughout the process. A prior version of the document was viewed and commented by Dr C Neylon (Public Library of Science) and Dr S Wiles (FMHS). [↑](#footnote-ref-1)
2. **Full Disclosure:** Dr M Fabiana Kubke serves on the Editorial Board of PLOS ONE, PeerJ and served on the editorial board of Brain Behavior and Evolution (Karger). She also serves on (and Chairs) the Advisory panel of Creative Commons Aotearoa New Zealand. [↑](#footnote-ref-2)
3. Copyright Act 1994 No 143 (as at 07 October 2011), Public Act – New Zealand Legislation. (n.d.). Retrieved September 19, 2012, from http://www.legislation.govt.nz/act/public/1994/0143/latest/whole.html?search=ts\_act\_copyright\_resel\_25\_h&p=1 [↑](#footnote-ref-3)
4. Suber, Peter. MIT Press Essential Knowledge : Open Access.Cambridge, MA, USA: MIT Press, 2012. p 176. <http://site.ebrary.com/lib/auckland/Doc?id=10571237&ppg=189> Copyright © 2012. MIT Press. All rights reserved. [↑](#footnote-ref-4)
5. Solomon, D. J., & Björk, B.-C. (2012). A study of open access journals using article processing charges. *Journal of the American Society for Information Science and Technology*, *63*(8), 1485–1495. doi:10.1002/asi.22673 [↑](#footnote-ref-5)
6. Provided by Melanie Johnson, Vice-Chacellor’s Office, University of Auckland [↑](#footnote-ref-6)
7. “Scientists say open access research inevitable in NZ”, Radio New Zealand, Morning Report. 25 July 2012 [[link]](http://www.radionz.co.nz/national/programmes/morningreport/audio/2526108/scientists-say-open-access-research-inevitable-in-nz) [↑](#footnote-ref-7)
8. Knowledge Exchange - Costs and Benefits of Open Access. (n.d.). Retrieved March 10, 2013, from http://www.knowledge-exchange.info/default.aspx?id=316 [↑](#footnote-ref-8)
9. Some publications list a range of authors’ rights on their websites where these are not listed in the specific copyright transfer agreements that the authors sign. [↑](#footnote-ref-9)
10. Snapshot as of May 2013. Conditions may vary from Journal to Journal, and special agreements ma be in place for Society Journals. [↑](#footnote-ref-10)
11. Only rights that are automatically granted by the standard agreement are included. Some rights might vary between specific journals. [↑](#footnote-ref-11)
12. Journals with questionable standards are found in both the toll model as in the OA model. There is a tracking list for “predatory OA journals” kept by Jeffrey Beall at <http://scholarlyoa.com/individual-journals/> . Criteria applied for choosing a journal in which to publish an article should be independent of the publication model. [↑](#footnote-ref-12)
13. Only rights that are automatically granted by the standard agreement are included. Some rights might vary between specific journals. [↑](#footnote-ref-13)
14. For a tutorial of the use of these licences you can watch the Creative Commons Aotearoa New Zealand [video](http://creativecommons.org/videos/creative-commons-kiwi) or visit <http://www.creativecommons.org.nz/> [↑](#footnote-ref-14)