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### PeerJ

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Composite Score: ★★★★★ 1/4

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## Abstract

PeerJ is the Open Access (OA) publisher of a biomedical journal, also called *PeerJ*. In addition to its peer-reviewed flagship, it runs a preprint server, PeerJ Preprints, to which authors can submit draft, incomplete, and final papers for informal peer review, and to establish precedent. The company's chief innovation, however, is a novel if untried business model: extending to authors lifetime publication privileges in exchange for a one-time fee. This strategy adheres to the basic formula of fee-based Gold OA in that an upfront charge pays for the operations of the journal. PeerJ diverges from its predecessors in that it collects this fee only once, at a cost that is hundreds, even thousands of dollars less than the Gold options of other commercial publishers. This review describes PeerJ's business model in greater depth and considers the end user experience of finding and reading literature on its platform.

## Pricing Options

*PeerJ* is an Open Access journal. Readers can download and reuse its articles at no cost.

Author memberships start at \$99, a one-time fee that allows an individual to publish one article per year, for life. At \$199, that number increases to two articles per year for life. A payment of \$299 entitles a member to publish without limit. PeerJ concedes that "people are not necessarily used to paying on submission," so authors do not have to be members at the time of submission. Non-members pay a premium of \$40 on top of the base rates upon acceptance, however. Additionally, authors are required to perform review duties every 12 months, or else "at our discretion your publishing plan will lapse and you will need to pay \$99 to reactivate your plan the next time you want to publish with PeerJ." The publisher broadly defines "review" to include "an informal comment on a submission to PeerJ PrePrints; a formally requested peer review of a paper submitted to *PeerJ*; or an informal comment on a published paper."

Institutional plans are also available for purchase, though the details (number of memberships and cost of each) are negotiated privately (full disclosure: my employer, Trinity University, is one such subscriber).

## Product Description

Important milestones in the development of Open Access (OA) stretch back as far as 1966, but 2002 was the year in which the movement began to gather steam. It was the year of the Budapest Open Access Initiative, which drew together stakeholders in order to discuss how collaboration could make more of the world's research articles freely available.

Eleven years later Open Access is, if not ubiquitous, then commonplace. The debate is no longer whether OA is desirable but rather how it should be implemented. Not surprisingly, the economics are contentious. Gold OA, journals that make articles free to read upon publication, is made murky by inconsistent terminology, wide disparity in fees, and a welter of business models. Author-side fees fund some journals while institutions, scholarly societies, and volunteers subsidize others.

Green OA, or the practice whereby scholars archive their peer-reviewed manuscripts in disciplinary or institutional repositories, has its own hurdles. It suffers from uneven rates of deposit, the slow adoption of self-archive mandates by universities and funders, and contract permissions that vary in restrictiveness from publisher to publisher.

Some advocates believe that, at least for the moment, no contest should exist between these confusing color-coded pathways. Stevan Harnad, a cognitive scientist and tireless champion of Green OA, holds that fee-based Gold "is premature, as are plans by universities and research funders to pay its costs." Harnad has written that the "asking price for Gold OA is still arbitrary and high", that fee-based publishing "may inflate acceptance rates and lower quality standards", and that Gold OA "has provided an irresistible opportunity to create junk journals and dupe authors into feeding their publish-or-perish needs via pay-to-publish under the guise of fulfilling the growing clamour for OA" (Harnad 2013).<sup>2</sup>

Premature or not, commercial publishers keen to capitalize on the "growing clamour" have rolled out their own Gold options. Just this week I received an e-mail from IEEE announcing three Open Access options, each contingent on a \$1,750 article processing charge. Springer charges \$3,000 to make a single article free to read within a subscription-based journal, and Elsevier's fees range from \$500 to \$5,000 for the same option. Even PLoS, the world's most successful OA publisher, charges fees ranging from \$1,350 to \$2,900. It's a contested space, frothy with activity, beset by uncertainty, and dominated by established and well-funded players. Not the most inviting playground for a new kid.

Yet here comes PeerJ, a Gold OA publisher not quite a year old that has published 200 articles as of this writing. Its hook—and you'd need a good one—is that authors spend less to publish than they would with PeerJ's competitors. Rather than pay to free a single article, PeerJ charges a smaller fee, one time only. In exchange, its authors are awarded a lifetime membership and may publish once (\$99), twice (\$199), or an unlimited number of times per year (\$299), depending on the membership tier at which they join.

PeerJ oversees a journal of the same name that accepts articles from the biological, health, and medical sciences. Competing in a space where reputation (read: prestige), scrupulousness, and quality are ev-

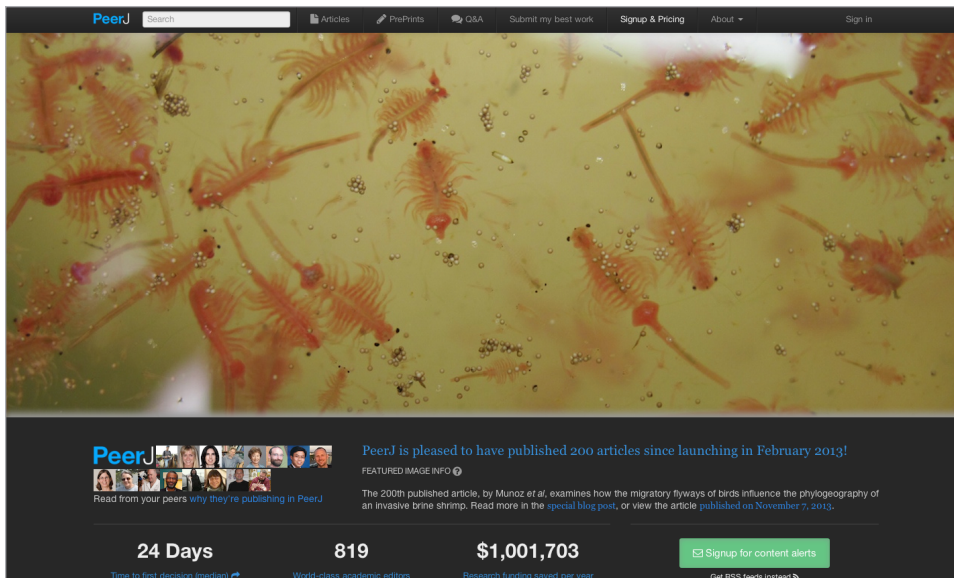


FIGURE 1 PeerJ Front Page

### Critical Evaluation

PeerJ’s responsive Web design compacts gracefully when resized, and it looks great on mobile devices. An attractive cover photo dominates the front page, and above it a navigation bar and search field link to the major sections of the Web site. (Figure 1.) Scrolling downward reveals a news feed on the left and a grid of the latest peer-reviewed articles on the right. With its mess of boldface titles and illustrations, this busy cluster breaks with the otherwise clean design of the Web site.

Most visitors will never see this section, however. More likely they will head straight for the articles. Here the look is all flat design: not a gradient, drop shadow, or beveled edge in sight.

A minimalist two-tone aesthetic of charcoal and cerulean creates a clean and readable layout. The Articles portal has a Google-style keyword search (no advanced field searching here) that can optionally return fuzzy matches (i.e., misspelled words and variants), and readers can refine by document type or opt for a less-focused browse by exploring subject areas (e.g., bioinformatics, ecology).

The layout of a PeerJ article is familiar and attractively displayed. Split into three panes, the article text is sandwiched between navigation options on the left and discovery options on the right. Many readers will find content alerts and lists of similar papers superfluous, but the left pane, in addition to featuring a table of contents and download options, features a link to each article’s peer review history, which authors can choose to publish alongside their articles. (Figure 2.) This welcome feature allows readers to see the major and minor revisions an article had to meet in order to gain acceptance, and transparently reveals the rigor to which an article was held.<sup>4</sup>

Another notable contribution is the author’s profile page. Authors can elect to upload a picture, describe their work details, or link to personal and related Web sites. But the real attraction is what PeerJ calls academic contribution, a score that authors earn based on their activity across the journal. As the publisher puts it, “Everyone from authors, editors, reviewers, and visitors to PeerJ are contributing in some way. Often, these are ‘hidden’ contributions to the body of science that can go unrecognized. The points that we are starting to show on profile pages are just a light way to surface this participation” (PeerJ 2013). Some examples of activities that are “surfaced” include writing or reviewing a

everything, PeerJ’s bona fides close the confidence gap. Its cofounders are Peter Binfield, a veteran of academic publishing who developed *PLoS ONE* into the largest journal in the world, and Jason Hoyt, formerly of Mendeley, who turned that “social network for scholars” into a big data community providing insights into how, where, and with whom scholars are doing research. \$950,000 of startup capital and an endorsement from the technologist Tim O’Reilly didn’t hurt either (Griffith 2012).

In addition to a median turnaround time of 24 days, PeerJ boasts that its model has already saved academia more than \$1 million in research funding.<sup>3</sup> Because it judges only for validity, rather than novelty or subjective estimations of importance, the journal may be attractive to authors who suspect their manuscripts won’t play in exclusive journals (eLife, another new OA player, is forthright about its desire to publish only what it deems “outstanding” and “influential” research).

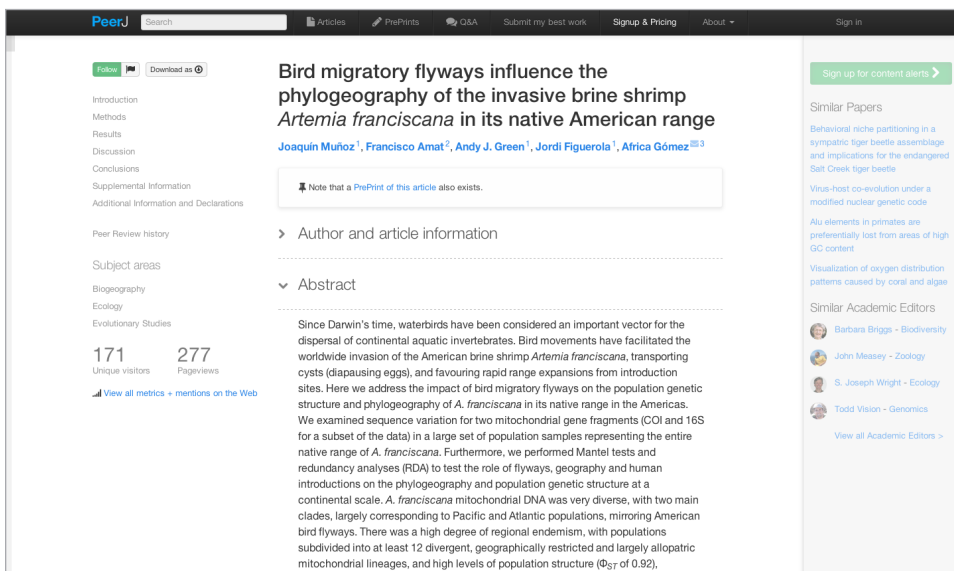


FIGURE 2 PeerJ Article Layout



## PeerJ Review Scores Composite: ★★★★★ 1/4

The maximum number of stars in each category is 5.

### Content: ★★★★★ 1/2

PeerJ publishes in many biomedical sub-disciplines, so to some extent the value of the content will vary from article to article depending on its authors, the quality of the peer review process, and the information needs of its readership. This score does not reflect the validity or usefulness of the information, which is beyond my expertise. Instead, it reflects a considered opinion on the value of the peer review system that PeerJ has erected. Based on PeerJ's description of the process, the number of academic editors it has assembled, and the move to publish review comments alongside published articles, the journal's content is likely to be of use to researchers in the biomedical sciences.

PeerJ has published more than 200 articles since February 2013. While an average of 20 articles per month is notable, this is a new and developing resource. Consequently, the depth and breadth are not what they will be in the months and years to come. Only time and effort will prove how deep and valuable the journal becomes, and for that reason a perfect score was not awarded.

### User Interface/Searchability: ★★★★★ 1/2

PeerJ is a handsome journal and easy to browse. The simple but effective search engine highlights key words in results, and the fuzzy search worked well against the typos I threw at it. With just 200 articles to comb, advanced search isn't necessary at the moment. But should PeerJ realize its mega-journal ambitions, it's only a matter of time before more sorting options will be necessary to narrow cumbersome result sets.

A note on ADA compliance: Running *PeerJ* through the WAVE Accessibility Tool reveals areas for improvement. Some images are missing alternative text, and some areas of low contrast between fore- and background colors may present difficulties for readers with low vision. As of this writing, no text-to-speech feature is available, though PeerJ is hardly unique in this regard. It would be nice to see more platforms adopt this feature, as EBSCOhost has done.

### Pricing: ★★★★★

No-fee Gold notwithstanding, PeerJ is among the most affordable OA publishers going. Despite the misleading phrase, "author fee" is not an assumption that individuals will pay out of pocket to publish. But PeerJ is inexpensive enough that an author could manage the fee in the unlikely event that institutional or grant dollars wouldn't.

### Contract Options: ★★★★★

By definition an OA publisher must allow authors to retain copyright, and PeerJ is no exception. The CC-BY 3.0 license applied to its articles respects author rights while preserving the public's right to "copy, distribute and transmit the work," and to adapt or "make commercial use of the work" provided attribution is given.

paper, making your manuscript reviews public, and asking or answering questions on an article's Q&A page. In a nod to the social aspects of Mendeley, this contribution score provides a small incentive, not unlike gamification mechanics, to contribute to the larger PeerJ project on a regular and ongoing basis. Over time this may help to engender a community of reader-responders, widening the pool from which editors can solicit reviews. Phil Davis notes that building this "community of informed reciprocity" is one of PeerJ's greatest challenges. "When the community is small," he writes, "it may be very difficult to enlist a competent member-reviewer for a submitted manuscript. PeerJ will need to go outside to the rest of the author community for review help, and this may be difficult to do if the quality of the submitted manuscripts are [*sic*] poor" (Davis 2013). It remains to be seen how compelling PeerJ's social features will be in attracting and maintaining a stable community of authors, readers, and reviewers.

If *PeerJ* is the publisher's premiere attraction, the second of its products deserves special mention. The PeerJ Preprints server is a repository of "living" articles similar to arXiv, the preprint server in physics.

Its tagline is "rapid communication and early findings," five words that summarize its purpose. Authors can submit draft, incomplete, and final papers for free, provided they adhere to the journal's policies, make no therapeutic claims, and aren't junk science. In return, a scholar can establish precedent for her research and solicit feedback from other scholars. Authors are then free to integrate feedback, make improvements, and create different versions until arriving at a paper ready for peer review. Final preprints can be submitted to *PeerJ* or to another peer-reviewed journal, but no formal peer review is conducted on articles in the preprint server.

But innovative features aside, why should an author submit to *PeerJ* over an established and prestigious journal? Although PeerJ has applied with Web of Science for an impact factor, a publication record of at least three years is required, so would-be authors do not yet have access to this controversial but still influential metric.<sup>5</sup> Moreover, untenured faculty and prestige seekers of all stripes are more likely to favor the top journals in their disciplines, not least for the exposure and bragging rights, but also because no fee is required in order to

## Contact Information

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publish. The aforementioned roadblock of “novelty” may alone drive some authors to *PeerJ*. It was reason enough for Jeremy Bruenn of the International Committee on the Taxonomy of Viruses. As he explained in an interview, “both [my coauthor] Derek and I were fed up with ‘elite’ journals unable to recognize what is novel” (Bruenn 2013). *PeerJ*, like *PLoS ONE* before it, believes that researchers and readers are best equipped to make such a determination.

But PeerJ is still a sapling in the mature forest of scholarly publishing. Its business model is bold enough to make headlines, but does it have legs? Phil Davis questions the journal’s sustainability, drawing an analog to the so-called “deadbeats” of the credit card industry. Authors who pay the lifetime fee and perform the minimal labor required to maintain membership are not the kinds of customers PeerJ will need in order to remain viable. Davis “assume[s] that PeerJ’s goal is to build a real, vibrant, and collegial community that will translate into bringing in new paying members,” but worries that: “the incentive to review may change when it flips from a voluntary market to an economic exchange. In order to remain a PeerJ member, you have to either continue to submit papers, review others, or leave post-publication comments. It says nothing about competence. Peer review doesn’t need bodies, it needs competent peers. Attracting those peers will be the most difficult challenge of PeerJ” (Davis 2013).

For authors, the motivation to publish in journals like *PeerJ* will probably come not from conscience, social features, or from rejection by another venue, but from funder mandates. The Wellcome Trust, for example, is the largest funder of medical research in the United Kingdom, and since 2005 has required its grant recipients to make their publications free to access. In the United States, the bipartisan FASTR<sup>6</sup> Act would accomplish the same for any publications resulting from funding awarded by government agencies with annual research budgets of \$100 million or more.<sup>7</sup> Faced with such a mandate, an author must do one of two things: negotiate with a publisher to allow for copyright retention, the first step to Green OA, or shop for a publisher like PeerJ, which makes research free to access upon publication. Its one-time fees, never higher than \$299, may be covered by grants that regularly run into the hundreds of thousands of dollars, and many universities are now paying into funds to subsidize Open Access publishing.<sup>8</sup>

By electing to publish in journals like *PeerJ*, authors apply a measure of competitive pressure against journals that charge steeper fees to make articles Open Access. That alone is reason to anticipate PeerJ’s next 200 papers.

## Contract Provisions and Authentication

PeerJ’s articles are published under a Creative Commons CC-BY 3.0 license, which grants readers the right to share, remix, and make commercial use of the work provided attribution is made. To ensure long-term preservation, PeerJ contracts with CLOCKSS (Controlled LOCKSS), who maintain a decentralized dark archive. In other

words, PeerJ’s articles will remain in the cultural record should the publisher cease to be.

No authentication is required.

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## Author’s Notes

1. A timeline maintained by the Open Access Directory begins with the establishment of the Educational Resources Information Center (ERIC).
2. These scams are well documented by Jeffrey Beall, a librarian at the University of Colorado, Denver, who maintains a list of predatory Open Access publishers.
3. PeerJ provides a breakdown of this cost-savings estimate at <<https://peerj.com/about/FAQ/#cost-savings>>
4. Reviewers can choose whether or not to disclose their identities.
5. The San Francisco Declaration on Research Assessment, issued by a group of publishers and editors during last year’s Annual Meeting of The American Society for Cell Biology, asked that academe and funding institutions “not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist’s contributions, or in hiring, promotion, or funding decisions.”
6. Fair Access to Science and Technology Research
7. FASTR would require Open Access after a publisher-friendly embargo of six months.
8. See, for example, the Compact for Open-Access Publishing Equity, which includes Harvard, Duke University, and MIT among its 20 signatories.

## About the Author

**Michael Hughes** is an Instruction/Liaison Librarian at Trinity University in San Antonio, Texas. He works with the departments of Communication, Computer Science, Engineering Science, Philosophy, and Film Studies. ■