It is hard to believe that, with the arrival of 2015, Biology Open (BiO) begins its fourth year of publication. We’d like to take this moment to look back on what we have learned since the first issue was published by The Company of Biologists in January 2012. BiO was launched with the aim of reducing the ‘pain to publish’ that many authors experience. By publishing all papers that address a valid scientific question, are technically sound, and where the conclusions are adequately supported by the data, BiO provides a welcoming home for solid, well-executed research papers. We have helped authors to avoid additional rounds of submission and review for papers described as “interesting, but no new mechanistic insight” or “interesting, but an insufficient advance” and saved them countless hours of additional experiments thought up by reviewers simply to increase the ever-elusive “impact” of the work. Since its launch, BiO has published more than 450 freely accessible articles.

**Turn-around time and quality of review**
One of the foremost objectives of BiO was to address the speed and quality of review. Review procedures at BiO are fast and simple, but also rigorous. We ask reviewers to complete their reviews within seven working days, and our average time for completing peer review in 2014 was nine days. Almost no articles are accepted without some changes being requested, but new experiments are only insisted upon if these are essential to support the key conclusions of the paper; we do not ask our reviewers to suggest experiments that would simply increase the impact of the work. Articles are published online on average 25 working days after acceptance.

**Reviewer fatigue**
The multiple rounds of review, revision and resubmission often required before a paper is finally accepted has led to substantial reviewer fatigue, with large numbers of reviewers often involved with the peer review process for a single article. BiO accepts articles and any accompanying reviews from the other Company of Biologists’ journals. In addition, we have an agreement in place with eLife, the journal published by the Wellcome Trust, Howard Hughes Medical Institute and the Max Planck Society, whereby their rejected authors are given the opportunity to transfer to BiO. We are negotiating similar deals with other journals. We will also consider peer review reports from other journals. Such transfer of reviews and articles speeds up editorial decisions and reduces the number of rounds of review.

**Ethical publication**
Publishers have an increasing array of tools to help identify possible unethical practices, such as the iThenticate software, which detects plagiarism, and processes that reveal potential figure manipulation. Recently, the increasing number of reports of ‘fake’ reviews, whereby authors manipulate the review process to enable them to review their own work (http://www.nature.com/news/publishing-the-peer-review-scam-1.16400), has led us to review our own procedures. We will ensure that any author-suggested reviewers with a non-institutional e-mail address (such as Gmail or Yahoo) are indeed valid and associated with a ‘real’ scientist. Publishing peer reviews eradicates weak or nonexistent peer review practices adopted by so-called predatory publishers (http://scholarlyoa.com/publishers/), who seem to publish anything for a fee? We continue to be actively involved in this debate with other reputable publishers.

**Recognition and reward**
Many publishers are wrangling with the issue of reviewer support, reward and incentive. Increasing numbers of articles are being published and the demand for peer review has never been greater. How is the quality of peer review to be maintained in such an environment? Are senior investigators able to dedicate their valuable time to mentoring early career scientists in the art of peer review? BiO encourages the involvement of postdocs and other early career scientists in the peer review process. We simply ask that: the name of the co-reviewer is reported to the Editor; the same rules of confidentiality and conflict of interest be applied; there is a genuine mentoring process; and the senior invited reviewer takes responsibility for the report delivered to the journal. Taking on the role of reviewer is usually not acknowledged by institutes and funders as a research output, but it is a cornerstone of the publication process. We continue to campaign with other publishers for this vital service to be properly recognized as an important academic contribution. Should reviewers be paid or is there in effect a payment in kind, an altruistic understanding that acting as a peer reviewer supports the community? This conversation will continue, with journals undertaking experiments to improve or refine the peer review process, and investigating ways to reward peer reviewers. Today, as we do every year, we take a small step in this direction by publishing the names of all those who completed a review for BiO during 2014, with our sincere thanks for their expertise and time. We hope the community will join us in thanking these people properly for their considerable effort.

Alejandro Aballay, Duke University, USA
Peter Aerts, University of Antwerp, Belgium
Kami Ahmad, Harvard Medical School, USA
Takahiko Akematsu, York University, Toronto, Canada
Scott Alper, National Jewish Health, USA
Jeffrey Amack, SUNY Upstate Medical University, USA
Enrique Amaya, University of Manchester, UK
Jack Arbiser, Emory University, USA
Maria Eugenia Arnone, Stazione Zoologica Anton Dohrn, Italy
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